

BANK OF NOVA SCOTIA
Form 424B5
July 24, 2018

Product Prospectus Supplement No. EQUITY SUN-1
(To Prospectus dated February 1, 2017
and Prospectus Supplement dated February 13, 2017)
July 24, 2018

Filed Pursuant to Rule
424(b)(5)
Registration No.
333-215597

Market-Linked Step Up Notes Linked to One or More Equity Indices or Exchange Traded Funds

Market-Linked Step Up Notes (the “notes”) are unsubordinated and unsecured liability obligations of The Bank of Nova Scotia (the “Bank”). Any payments due on the notes, including any repayment of principal, will be subject to the credit risk of the Bank.

The notes do not guarantee the return of principal at maturity, and we will not pay interest on the notes. Instead, the return on the notes will be based on the performance of an underlying “Market Measure,” which will be an equity index (an “Index”), an exchange traded fund (an “Underlying Fund”), or a basket of the foregoing.

The notes provide an opportunity to receive the greater of a fixed return or a return based on the positive performance of the Market Measure. However, you will be exposed to any negative performance of the Market Measure below the Threshold Value (as defined below) on a 1-to-1 basis. If specified in the applicable term sheet, your notes may be subject to an automatic call, which will limit your return to a fixed amount if the notes are called.

If the value of the Market Measure does not change or increases from its Starting Value to its Ending Value up to and including the Step Up Value (each as defined below), you will receive at maturity a cash payment per unit (the “Redemption Amount”) that equals the principal amount plus the Step Up Payment (as defined below). If the Ending Value is greater than the Step Up Value, you will receive a return on the notes equal to the percentage increase in the value of the Market Measure from the Starting Value to the Ending Value or, if applicable, a multiple of that percentage.

If the value of the Market Measure decreases from its Starting Value to its Ending Value but not below the Threshold Value, then the Redemption Amount will equal the principal amount. However, if the Ending Value is less than the Threshold Value, you will be subject to 1-to-1 downside exposure to the decrease of the Market Measure below the Threshold Value. In such a case, you may lose all or a significant portion of the principal amount of your notes.

If specified in the applicable term sheet, your notes may be subject to an automatic call. In that case, the notes will be automatically called if the Observation Level on any Observation Date is greater than or equal to the Call Level (each as defined below). If called, you will receive a cash payment per unit (the “Call Amount”) that equals the principal amount plus the applicable Call Premium (as defined below).

This product prospectus supplement describes the general terms of the notes, the risk factors to consider before investing, the general manner in which they may be offered and sold, and other relevant information.

For each offering of the notes, we will provide you with a pricing supplement (which we refer to as a “term sheet”) that will describe the specific terms of that offering, including the specific Market Measure, the Step Up Value, the Step Up Payment, the Threshold Value, and certain related risk factors, and if the notes are subject to an automatic call, the Call Level, the Call Amount and the Call Premium for each

Observation Date. The term sheet will identify, if applicable, any additions or changes to the terms specified in this product prospectus supplement.

The notes will be issued in denominations of whole units. Unless otherwise set forth in the applicable term sheet, each unit will have a principal amount of \$10. The term sheet may also set forth a minimum number of units that you must purchase.

Unless otherwise specified in the applicable term sheet, the notes will not be listed on a securities exchange or quotation system.

Merrill Lynch, Pierce, Fenner & Smith Incorporated (“MLPF&S”) and one or more of its affiliates may act as our agents to offer the notes and MLPF&S will act in a principal capacity in such role.

The notes are unsecured and are not savings accounts or insured deposits of a bank. The notes are not insured by the Canada Deposit Insurance Corporation, the U.S. Federal Deposit Insurance Corporation (the “FDIC”) or any other governmental agency of the United States, Canada, or any other jurisdiction. Potential purchasers of the notes should consider the information in “Risk Factors” beginning on page PS-7 of this product prospectus supplement, page S-2 of the accompanying prospectus supplement, and page 6 of the accompanying prospectus. You may lose all or a significant portion of your investment in the notes.

None of the Securities and Exchange Commission (the “SEC”), any state securities commission, or any other regulatory body has approved or disapproved of these securities or passed upon the adequacy or accuracy of this product prospectus supplement, the prospectus supplement, or the prospectus. Any representation to the contrary is a criminal offense.

Merrill Lynch & Co.

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SUMMARY

The information in this “Summary” section is qualified in its entirety by the more detailed explanation set forth elsewhere in this product prospectus supplement, the prospectus supplement, and the prospectus, as well as the applicable term sheet. Neither we nor MLPF&S have authorized any other person to provide you with any information different from the information set forth in these documents. If anyone provides you with different or inconsistent information about the notes, you should not rely on it.

Key Terms:

The notes are unsubordinated and unsecured liability obligations of the Bank, are not guaranteed or insured by the Canada Deposit Insurance Corporation or the FDIC, and are not, either directly or indirectly, an obligation of any third party. They rank equally with all of our other unsubordinated and unsecured liability obligations of the Bank from time to time outstanding. Any payments due on the notes, including any repayment of principal, are subject to our credit risk.

General:

The return on the notes will be based on the performance of a Market Measure and there is no guaranteed return of principal at maturity. Therefore, you may lose all or a significant portion of your investment if the notes are not automatically called prior to maturity, if applicable, and the value of the Market Measure decreases from the Starting Value to an Ending Value that is less than the Threshold Value.

Each issue of the notes will mature on the date set forth in the applicable term sheet, unless, if applicable, the notes are automatically called on an earlier date. You should be aware that if the automatic call feature applies to your notes, it may shorten the term of an investment in the notes, and you must be willing to accept that your notes may be called prior to maturity.

You will not receive any interest payments.

The Market Measure may consist of one or more of the following:

Market Measure:

- Underlying Funds;
- U.S. broad-based equity indices;
- U.S. sector or style based equity indices;
- non-U.S. or global equity indices; or
- any combination of the above.

The Market Measure may consist of a group, or “Basket,” of the foregoing. We refer to each Index or Underlying Fund included in any Basket as a “Basket Component.” If the Market Measure to which your notes are linked is a Basket, the Basket Components will be set forth in the applicable term sheet.

Market Measure Performance:

The performance of the Market Measure will be measured according to the percentage change of the Market Measure from its Starting Value to its Ending Value or, if applicable, its Observation Level.

Unless otherwise specified in the applicable term sheet:

In the case of an Index, the “Starting Value” will be the closing level of the Index on the date when the notes are priced for initial sale to the public (the “pricing date”).

In the case of an Underlying Fund, the “Starting Value” will be the Closing Market Price, as defined under “Description of the Notes— Closing Market Price for Underlying Funds”, of the Underlying Fund on the pricing date.

If the Market Measure consists of a Basket, the Starting Value will be equal to 100. See “Description of the Notes—Basket Market Measures.”

The “Threshold Value” will be a value of the Market Measure that equals a specified percentage (100% or less) of the Starting Value. The Threshold Value will be determined on the pricing date and set forth in the term sheet. If the Threshold Value is equal to 100% of the Starting Value, you will be exposed to any decrease in the value of the Market Measure from the Starting Value to the Ending Value on a 1-to-1 basis, and you may lose all of your investment in the notes.

In the case of an Index, the “Ending Value” will equal the closing level of the Index on the calculation day (as defined below).

In the case of an Underlying Fund, the “Ending Value” will equal the Closing Market Price of the Underlying Fund on the calculation day.

If the applicable term sheet specifies that the notes will be subject to an automatic call:

The “Call Level” will be a value of the Market Measure that equals a specified percentage of the Starting Value.

In the case of an Index, the “Observation Level” will equal the closing level of the Index on the applicable Observation Date. In the case of an Underlying Fund, the Observation Level will equal the Closing Market Price of the Underlying Fund on the applicable Observation Date multiplied by the Price Multiplier (as defined below) on that day. The “Observation Dates” will be set forth in the applicable term sheet, subject to postponement in the event of Market Disruption Events (as defined below). The final Observation Date will be prior to the calculation day. See “Description of the Notes—Automatic Call.”

If the Market Measure consists of a Basket, the Ending Value will be the value of the Basket on the calculation day, and if applicable, each Observation Level will be the value of the Basket on the applicable Observation Date, determined as described in “Description of the Notes—Basket Market Measures—Observation Level or Ending Value of the Basket.”

If a Market Disruption Event occurs and is continuing on the calculation day or an Observation Date, if applicable, or if certain other events occur, the calculation agent will determine the Ending Value or Observation Level as set forth in the section “Description of the Notes—Automatic Call,” “—The Starting Value, the Observation Level and the Ending Value—Ending Value,” and “—Basket Market Measures—Observation Level or Ending Value of the Basket.”

Step Up Value: A value of the Market Measure that is a specified percentage (over 100%) of the Starting Value, as set forth in the applicable term sheet.

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Step Up Payment:	A dollar amount that will be equal to a percentage of the principal amount. This percentage will equal the percentage by which the Step Up Value is greater than the Starting Value. The Step Up Payment will be determined on the pricing date and set forth in the applicable term sheet.
Price Multiplier:	<p>Unless otherwise set forth in the term sheet, the “Price Multiplier” for each Underlying Fund will be 1, and will be subject to adjustment for certain events relating to an Underlying Fund described below under “Description of the Notes—Anti-Dilution and Discontinuance Adjustments Relating to Underlying Funds.”</p> <p>Unless the notes are subject to an automatic call and are automatically called prior to the maturity date, at maturity, you will receive a Redemption Amount that is greater than the principal amount if the value of the Market Measure does not change or increases from the Starting Value to the Ending Value. If the value of the Market Measure decreases from the Starting Value to the Ending Value but not below the Threshold Value, you will receive a Redemption Amount equal to the principal amount. If the Ending Value is less than the Threshold Value, you will be subject to 1-to-1 downside exposure to the decrease in the value of the Market Measure below the Threshold Value, and will receive a Redemption Amount that is less than the principal amount and, if the Threshold Value is equal to 100% of the Starting Value, could be zero.</p>
Redemption Amount at Maturity:	<p>Any payments due on the notes, including any repayment of principal, are subject to our credit risk as issuer of the notes.</p> <p>The Redemption Amount, denominated in U.S. dollars, will be calculated as follows:</p> <p>If specified in the term sheet, your notes may provide at maturity a leveraged return if the Ending Value is greater than the Step Up Value. In this case, a Participation Rate (as defined below) will be specified in the term sheet.</p>
Participation Rate:	The Participation Rate, if applicable, will be set forth in the applicable term sheet and is the rate at which investors participate in any increase in the value of the Market Measure if the Ending Value is greater than the Step Up Value.

Automatic Call Prior to Maturity:	If specified in the applicable term sheet, your notes may be subject to an automatic call. In that case, the notes will be automatically called on an Observation Date if the Observation Level of the Market Measure on that Observation Date is greater than or equal to the Call Level. If not called, see “Redemption Amount at Maturity” above.
Call Amount:	If your notes are subject to an automatic call and are called on an Observation Date, you will receive the Call Amount applicable to that Observation Date. The Call Amount will be equal to the principal amount per unit plus the applicable “Call Premium.” Each Call Premium will be a percentage of the principal amount and will be set forth in the applicable term sheet. The Call Amount, if payable, will be payable on the applicable “Call Settlement Date” set forth in the applicable term sheet.
Principal at Risk:	You may lose all or a significant portion of the principal amount of the notes. Further, if you sell your notes prior to maturity, you may find that the market value per note is less than the price that you paid for the notes.
Calculation Agent:	The calculation agent will make all determinations associated with the notes. Unless otherwise set forth in the applicable term sheet, we will appoint MLPF&S or one of its affiliates to act as calculation agent for the notes. See the section entitled “Description of the Notes—Role of the Calculation Agent.”
Agents:	MLPF&S and one or more of its affiliates will act as our agents in connection with each offering of the notes and will receive an underwriting discount based on the number of units of the notes sold. None of the agents is your fiduciary or advisor solely as a result of the making of any offering of the notes, and you should not rely upon this product prospectus supplement, the term sheet, or the accompanying prospectus or prospectus supplement as investment advice or a recommendation to purchase the notes.
Listing:	Unless otherwise specified in the applicable term sheet, the notes will not be listed on a securities exchange or quotation system.

This product prospectus supplement relates only to the notes and does not relate to any Index or Underlying Fund that composes the Market Measure described in any term sheet. You should read carefully the entire prospectus, prospectus supplement, and product prospectus supplement, together with the applicable term sheet, to understand fully the terms of your notes, as well as the tax and other considerations important to you in making a decision about whether to invest in any notes. In particular, you should review carefully the sections in this product prospectus supplement and the accompanying prospectus supplement and prospectus entitled “Risk Factors,” which highlight a number of risks of an investment in the notes, to determine whether an investment in the notes is appropriate for you. If information in this product prospectus supplement is inconsistent with the prospectus or prospectus supplement, this product prospectus supplement will supersede those documents. However, if information in any term sheet is inconsistent with this product prospectus supplement, that term sheet will supersede this product prospectus supplement. For example, we may offer notes in which the Step Up Payment will be paid if the Ending Value equals or exceeds the Threshold Value. You should carefully review the applicable term sheet to understand the specific terms of your notes.

Neither we nor any agent is making an offer to sell the notes in any jurisdiction where the offer or sale is not permitted.

Certain capitalized terms used and not defined in this product prospectus supplement have the meanings ascribed to them in the prospectus supplement and prospectus. Unless otherwise indicated or unless the context requires otherwise, all references in this product prospectus supplement to “we,” “us,” “our,” or similar references are to the Bank. You are urged to consult with your own attorneys and business and tax advisors before making a decision to purchase any notes.

RISK FACTORS

Your investment in the notes is subject to investment risks, many of which differ from those of a conventional debt security. Your decision to purchase the notes should be made only after carefully considering the risks, including those discussed below, in light of your particular circumstances. The notes are not an appropriate investment for you if you are not knowledgeable about the material terms of the notes or investments in equity or equity-based securities in general.

General Risks Relating to the Notes

Your investment may result in a loss; there is no guaranteed return of principal. There is no fixed principal repayment amount on the notes at maturity. The return on the notes will be based on the performance of the Market Measure and therefore, you may lose all or a significant portion of your investment if the notes are not automatically called, if applicable, and if the value of the Market Measure decreases from the Starting Value to an Ending Value that is less than the Threshold Value. If the Threshold Value is equal to 100% of the Starting Value, the Redemption Amount could be zero and you may lose all of your investment in the notes.

Your return on the notes may be less than the yield on a conventional fixed or floating rate debt security of comparable maturity. There will be no periodic interest payments on the notes as there would be on a conventional fixed-rate or floating-rate debt security having the same maturity. Any return that you receive on the notes may be less than the return you would earn if you purchased a conventional debt security with the same maturity date. As a result, your investment in the notes may not reflect the full opportunity cost to you when you consider factors, such as inflation, that affect the time value of money.

Your investment return may be less than a comparable investment directly in an Underlying Fund or the securities included in the Market Measure, as applicable. Unless otherwise set forth in the applicable term sheet, the value of the Market Measure will not reflect the value of dividends paid, or distributions made, on an Underlying Fund or the securities included in the Market Measure or any other rights associated with those securities. Thus, any return on the notes will not reflect the return you would realize if you actually owned the securities underlying the Market Measure.

Additionally, the Market Measure may consist of one or more Indices or Underlying Funds that include securities traded in a non-U.S. currency. If any such Indices are calculated in such non-U.S. currency and the value of that currency strengthens against the U.S. dollar during the term of your notes, you may not obtain the benefit of that increase, which you would have received if you had owned the securities included in those Indices.

If the notes are subject to an automatic call and are called prior to maturity, your investment return will be limited to the return represented by the Call Premium. If the notes are subject to an automatic call, and if the Observation Level of the Market Measure on an Observation Date is greater than or equal to the specified Call Level, we will automatically call the notes. If the notes are automatically called, your return will be limited to the applicable Call Premium, regardless of the extent of the increase in the value of the Market Measure.

Reinvestment Risk. If the notes are subject to an automatic call and are automatically called prior to maturity, the term of the notes will be short. There is no guarantee that you would be able to reinvest the proceeds from an investment in the notes at a comparable return for a similar level of risk in the event the notes are called prior to maturity.

Payments on the notes are subject to our credit risk, and actual or perceived changes in our creditworthiness are expected to affect the value of the notes. The notes are our unsubordinated and unsecured liability obligations, and are not, either directly or indirectly, an obligation of any third party. As a result, your receipt of any payment on the notes is dependent upon our ability to repay our obligations on the applicable payment date, regardless of whether the Market Measure increases from the Starting Value to the Ending Value, or the Observation Level, if applicable. No assurance can be given as to what our financial condition will be on the applicable payment date. If we become unable to meet our financial obligations as they become due, you may not receive the amount payable under the terms of the notes.

In addition, our credit ratings are an assessment by ratings agencies of our ability to pay our obligations. Consequently, our perceived creditworthiness and actual or anticipated decreases in our credit ratings or increases in the spread between the yield on our securities and the yield on U.S. Treasury securities (the “**credit spread**”) prior to the maturity date may adversely affect the market value of the notes. However, because your return on the notes depends upon factors in addition to our ability to pay our obligations, such as the value of the Market Measure, an improvement in our credit ratings will not reduce the other investment risks related to the notes.

Our initial estimated value of the notes will be lower than the public offering price of the notes. Our initial estimated value of the notes is only an estimate. The public offering price of the notes will exceed our initial estimated value because it includes costs associated with selling and structuring the notes, as well as hedging our obligations under the notes with a third party, which may include MLPF&S or one of its affiliates. These costs include the underwriting discount and an expected hedging related charge.

Our initial estimated value of the notes does not represent future values of the notes and may differ from others’ estimates. Our initial estimated value of the notes is determined by reference to our internal pricing models when the terms of the notes are set. These pricing models consider certain factors, such as our internal funding rate (which is the rate we would pay to borrow funds through the issuance of market-linked notes, such as the notes) on the pricing date, the expected term of the notes, market conditions and other relevant factors existing at that time, and our assumptions about market parameters, which can include volatility, dividend rates, interest rates and other factors. Different pricing models and assumptions could provide valuations for the notes that are different from our initial estimated value. In addition, market conditions and other relevant factors in the future may change, and any of our assumptions may prove to be incorrect. On future dates, the market value of the notes could change significantly based on, among other things, the performance of the Market Measure, changes in market conditions, our creditworthiness, interest rate movements and other relevant factors. These factors, together with various credit, market and economic factors over the term of the notes, are expected to reduce the price at which you may be able to sell the notes in any secondary market and will affect the value of the notes in complex and unpredictable ways. Our initial estimated value does not represent a minimum price at which we or any agents would be willing to buy your notes in any secondary market (if any exists) at any time.

Our initial estimated value is not determined by reference to credit spreads or the borrowing rate we would pay for our conventional fixed-rate debt securities. The internal funding rate used in the determination of our initial estimated value of the notes generally represents a discount from the credit spreads for our conventional fixed-rate debt securities and the borrowing rate we would pay for our conventional fixed-rate debt securities. If we were to use the interest rate implied by the credit spreads for our conventional fixed-rate debt securities, or the borrowing rate we would pay for our conventional fixed-rate debt securities, we would expect the economic terms of the notes to be more favorable to you. Consequently,

our use of an internal funding rate for the notes would have an adverse effect on the economic terms of the notes, the initial estimated value of the notes on the pricing date, and the price at which you may be able to sell the notes in any secondary market.

We cannot assure you that there will be a trading market for your notes. If a secondary market exists, we cannot predict how the notes will trade, or whether that market will be liquid or illiquid. The development of a trading market for the notes will depend on various factors, including our financial performance and changes in the value of the Market Measure. The number of potential buyers of your notes in any secondary market may be limited. There is no assurance that any party will be willing to purchase your notes at any price in any secondary market.

We anticipate that one or more of the agents or their affiliates will act as a market-maker for the notes, but none of them is required to do so and may cease to do so at any time. Any price at which an agent or its affiliate may bid for, offer, purchase, or sell any of the notes may be higher or lower than the applicable public offering price, and that price may differ from the values determined by pricing models that it may use, whether as a result of dealer discounts, mark-ups, or other transaction costs. These bids, offers, or transactions may adversely affect the prices, if any, at which those notes might otherwise trade in the market. In addition, if at any time any entity were to cease acting as a market-maker for any issue of the notes, it is likely that there would be significantly less liquidity in that secondary market. In such a case, the price at which those notes could be sold likely would be lower than if an active market existed.

Unless otherwise stated in the term sheet, we will not list the notes on any securities exchange. Even if an application were made to list your notes, we cannot assure you that the application will be approved or that your notes will be listed and, if listed, that they will remain listed for their entire term. The listing of the notes on any securities exchange will not necessarily ensure that a trading market will develop, and if a trading market does develop, that there will be liquidity in the trading market.

Payment on the notes will not reflect changes in the value of the Market Measure other than on the calculation day or the Observation Dates, if applicable. Changes in the value of the Market Measure during the term of the notes other than on the calculation day, or the Observation Dates, if applicable, will not be reflected in the calculation of the Redemption Amount or the determination of whether the notes will be automatically called, if applicable. To make that calculation or determination, the calculation agent will refer only to the value of the Market Measure on the calculation day, or the Observation Dates, if applicable. No other values of the Market Measure will be taken into account. As a result, even if the value of the Market Measure has increased at certain times during the term of the notes, your notes will not be called if the Observation Level on each Observation Date is less than the Call Level, if applicable, and you will receive a Redemption Amount that is less than the principal amount if the Ending Value is less than the Threshold Value.

If your notes are linked to a Basket, changes in the levels of one or more of the Basket Components may be offset by changes in the levels of one or more of the other Basket Components. The Market Measure of your notes may be a Basket. In such a case, changes in the levels of one or more of the Basket Components may not correlate with changes in the levels of one or more of the other Basket Components. The values of one or more Basket Components may increase, while the levels of one or more of the other Basket Components may decrease or not increase as much. Therefore, in calculating the value of the Market Measure at any time, increases in the level of one Basket Component may be moderated or wholly offset by decreases or lesser increases in the levels of one or more of the other Basket Components. If the weightings of the applicable Basket Components are not equal, adverse changes in the levels of the Basket Components which are more heavily weighted would have a greater impact upon the return on your notes.

The respective publishers of the applicable Indices may adjust those Indices in a way that affects their levels, and these publishers have no obligation to consider your interests. Unless otherwise specified in the term sheet, we, the agents and our respective affiliates have no affiliation with any publisher of an Index to which your notes are linked (each, an “Index Publisher”). Consequently, we have no control of the actions of any Index Publisher. The Index Publisher can add, delete, or substitute the securities included in that Index or make other methodological changes that could change its level. A new security included in an Index may perform significantly better or worse than the replaced security, and the performance will impact the level of the applicable Index. Additionally, an Index Publisher may alter, discontinue, or suspend calculation or dissemination of an Index. Any of these actions could adversely affect the value of your notes. The Index Publishers will have no obligation to consider your interests in calculating or revising any Index.

Exchange rate movements may impact the value of the notes. If any security included in a Market Measure is traded in a currency other than U.S. dollars and, for purposes of an applicable Index, is converted into U.S. dollars, then the value of the Market Measure may depend in part on the relevant exchange rates. If the value of the U.S. dollar strengthens against the currencies of the applicable Market Measure, the value of the applicable Market Measure may be adversely affected and the payment on the notes may be reduced. Exchange rate movements may be particularly impacted by existing and expected rates of inflation and interest rate levels; political, civil, or military unrest; the balance of payments between countries; and the extent of governmental surpluses or deficits in the countries relevant to the applicable Index and the United States. All of these factors are in turn sensitive to the monetary, fiscal, and trade policies pursued by the governments of those countries and the United States and other countries important to international trade and finance.

If you attempt to sell the notes prior to maturity, their market value, if any, will be affected by various factors that interrelate in complex ways, and their market value may be less than the principal amount. The notes are not designed to be short-term trading instruments. The limited protection, if any, against the risk of losses provided by the Threshold Value will only apply if you hold the notes to maturity. You have no right to have your notes redeemed at your option prior to maturity. If you wish to liquidate your investment in the notes prior to maturity, your only option would be to sell them. At that time, there may be an illiquid market for your notes or no market at all. Even if you were able to sell your notes, there are many factors outside of our control that may affect their market value, some of which, but not all, are stated below. The impact of any one factor may be offset or magnified by the effect of another factor. The following paragraphs describe a specific factor’s expected impact on the market value of the notes, assuming all other conditions remain constant.

Value of the Market Measure. We anticipate that the market value of the notes prior to maturity generally will depend to a significant extent on the value of the Market Measure. In general, it is expected that the market value of the notes will decrease as the value of the Market Measure decreases, and increase as the value of the Market Measure increases. However, as the value of the Market Measure increases or decreases, the market value of the notes is not expected to increase or decrease at the same rate. If you sell your notes when the value of the Market Measure is less than, or not sufficiently above, the Starting Value, then you may receive less than the principal amount of your notes. In addition, if the notes are subject to an automatic call, because the amount payable on the notes upon an automatic call will not exceed the applicable Call Amount, we do not expect that the notes will trade in any secondary market prior to any Observation Date at a price that is greater than the applicable Call Amount.

Volatility of the Market Measure. Volatility is the term used to describe the size and frequency of market fluctuations. Increases or decreases in the volatility of the Market Measure may have an adverse impact on the market value of the notes. Even if the value of the Market Measure increases after the applicable pricing date, if you are able to sell your notes before their maturity date, you may receive substantially less than the amount that would be payable upon an automatic call, if applicable, or at maturity based on that value because of the anticipation that the value of the Market Measure will continue to fluctuate until the notes are automatically called, if applicable, or the calculation day.

Economic and Other Conditions Generally. The general economic conditions of the capital markets in the United States, as well as geopolitical conditions and other financial, political, regulatory, and judicial events and related uncertainties that affect stock markets generally, may adversely affect the value of the Market Measure and the market value of the notes. If the Market Measure includes one or more indices that have returns that are calculated based upon securities prices in one or more non-U.S. markets (a “**non-U.S. Market Measure**”), the value of your notes may also be adversely affected by similar events in the markets of the relevant foreign countries.

Interest Rates. We expect that changes in interest rates will affect the market value of the notes. In general, if U.S. interest rates increase, we expect that the market value of the notes will decrease, and conversely, if U.S. interest rates decrease, we expect that the market value of the notes will increase. In general, we expect that the longer the amount of time that remains until maturity, the more significant the impact of these changes will be on the value of the notes. In the case of non-U.S. Market Measures, the level of interest rates in the relevant foreign countries may also affect their economies and in turn the value of the non-U.S. Market Measure, and, thus, the market value of the notes may be adversely affected.

Dividend Yields. In general, if the cumulative dividend yields on the securities included in the Market Measure increase, we anticipate that the market value of the notes will decrease; conversely, if those dividend yields decrease, we anticipate that the market value of your notes will increase.

Exchange Rate Movements and Volatility. If the Market Measure of your notes includes any non-U.S. Market Measures, changes in, and the volatility of, the exchange rates between the U.S. dollar and the relevant non-U.S. currency or currencies could have a negative impact on the value of your notes, and the payment on the notes may depend in part on the relevant exchange rates. In addition, the correlation between the relevant exchange rate and any applicable non-U.S. Market Measure reflects the extent to which a percentage change in that exchange rate corresponds to a percentage change in the applicable non-U.S. Market Measure, and changes in these correlations may have a negative impact on the value of your notes.

Our Financial Condition and Creditworthiness. Our perceived creditworthiness, including any increases in our credit spreads and any actual or anticipated decreases in our credit ratings, may adversely affect the market value of the notes. In general, we expect the longer the amount of time that remains until maturity, the more significant the impact will be on the value of the notes. However, a decrease in our credit spreads or an improvement in our credit ratings will not necessarily increase the market value of the notes.

Time to Maturity or, if Applicable, the Next Observation Date. There may be a disparity between the market value of the notes prior to maturity, or if applicable, prior to an Observation Date, and their value at maturity or as of the next Observation Date, if applicable. This disparity is often called a time “value,” “premium,” or “discount,” and reflects expectations concerning the value of the Market Measure during the term of the

notes. As the time to maturity, or if applicable, the next Observation Date, decreases, this disparity may decrease, such that the value of the notes will approach the expected Redemption Amount to be paid at maturity, or if applicable, the Call Amount to be paid at the next Call Settlement Date.

Trading and hedging activities by us, the agents, and our respective affiliates may affect your return on the notes and their market value. We, the agents, and our respective affiliates may buy or sell the securities included in the Market Measure, or futures, options contracts, or exchange-traded instruments on the Market Measure or its component securities or other instruments whose value is derived from the Market Measure or its component securities. We, the agents, or our respective affiliates may execute such purchases or sales for our own or their own accounts, for business reasons, or in connection with hedging our obligations under the notes. These transactions could adversely affect the value of these securities and, in turn, the value of a Market Measure in a manner that could be adverse to your investment in the notes. On or before the applicable pricing date, any purchases or sales by us (including those for the purpose of hedging some or all of our anticipated exposure in connection with the notes), the agents, and our respective affiliates, or others on our or their behalf may increase the value of a Market Measure or its component securities. Consequently, the values of that Market Measure or the securities included in that Market Measure may decrease subsequent to the pricing date of an issue of the notes, adversely affecting the market value of the notes.

We, the agents, or one or more of our respective affiliates may also engage in hedging activities that could increase the value of the Market Measure on the applicable pricing date. In addition, these activities may decrease the market value of your notes prior to maturity, including on the calculation day, or if applicable, on each Observation Date, and may reduce the payment on the notes. We, the agents, or one or more of our respective affiliates may purchase or otherwise acquire a long or short position in the notes, and may hold or resell the notes. For example, the agents may enter into these transactions in connection with any market making activities in which they engage. We cannot assure you that these activities will not adversely affect the value of the Market Measure, the market value of your notes prior to maturity, or the payment on the notes.

Our trading, hedging and other business activities, and those of the agents or one or more of our respective affiliates, may create conflicts of interest with you. We, the agents, or one or more of our respective affiliates may engage in trading activities related to the Market Measure and to securities included in the Market Measure that are not for your account or on your behalf. We, the agents, or one or more of our respective affiliates also may issue or underwrite other financial instruments with returns based upon the applicable Market Measure. In addition, in the ordinary course of their business activities, the agents and their affiliates may hold and trade our or our affiliates' debt and equity securities (or related derivative securities) and financial instruments (including bank loans) for their own account and for the accounts of their customers. Certain of the agents or their affiliates may also have lending or other capital markets relationships with us. In order to hedge such exposure, the agents may enter into transactions such as the purchase of credit default swaps or the creation of short positions in our or our affiliates' securities, including potentially the notes. Any such positions could adversely affect future trading prices of the notes. These trading and other business activities may present a conflict of interest between your interest in the notes and the interests we, the agents and our respective affiliates may have in our proprietary accounts, in facilitating transactions, including block trades, for our or their other customers, and in accounts under our or their management. These trading and other business activities, if they influence the value of the Market Measure or secondary trading in your notes, could be adverse to your interests as a beneficial owner of the notes.

We, the agents, and our respective affiliates expect to enter into arrangements or adjust or close out existing transactions to hedge our obligations under the notes. We, the agents, or our respective affiliates also may enter into hedging transactions relating to other notes or instruments that we or they issue, some of which may have returns calculated in a manner related to that of a particular issue of the notes. We may enter into such hedging arrangements with one or more of our subsidiaries or affiliates, or with one or more of the agents or their affiliates. Such a party may enter into additional hedging transactions with other parties relating to the notes and the applicable Market Measure. This hedging activity is expected to result in a profit to those engaging in the hedging activity, which could be more or less than initially expected, but could also result in a loss. We, the agents, and our respective affiliates will price these hedging transactions with the intent to realize a profit, regardless of whether the value of the notes increases or decreases, whether the notes will be automatically called, if applicable, or whether the Redemption Amount on the notes is more or less than the principal amount of the notes. Any profit in connection with such hedging activities will be in addition to any other compensation that we, the agents, and our respective affiliates receive for the sale of the notes, which creates an additional incentive to sell the notes to you.

There may be potential conflicts of interest involving the calculation agent. We have the right to appoint and remove the calculation agent. We expect to appoint MLPF&S or one of its affiliates as the calculation agent for the notes and, as such, it will determine the Starting Value, the Step Up Value, the Threshold Value, the Ending Value, the Redemption Amount, and if applicable, each Observation Level and whether the notes will be automatically called. As the calculation agent, MLPF&S or one of its affiliates will have discretion in making various determinations that affect your notes, such as when a Market Disruption Event occurs or an Index is discontinued. The exercise of this discretion by the calculation agent could adversely affect the value of your notes and may present the calculation agent with a conflict of interest of the kind described under “—Trading and hedging activities by us, the agents, and our respective affiliates may affect your return on the notes and their market value” and “—Our trading, hedging and other business activities, and those of the agents or one or more of our respective affiliates, may create conflicts of interest with you” above.

The U.S. federal income tax consequences of an investment in the notes are uncertain, and may be adverse to a noteholder. Significant aspects of the tax treatment of the notes are uncertain. There is no direct legal authority as to the proper U.S. federal income tax treatment of the notes, and we do not plan to request a ruling from the Internal Revenue Service (the “IRS”) or any Canadian authorities regarding the tax treatment of the notes, and the IRS, the Canada Revenue Agency or a court may not agree with the tax treatment described in this product prospectus supplement or the term sheet. If the IRS were successful in asserting an alternative treatment for the notes, the timing and/or character of income on the notes could be materially and adversely affected.

Further, there exists a risk (and in certain circumstances, a substantial risk) that an investment in notes that are linked to shares of an Underlying Fund, PFIC, REIT or other “pass-thru entity” or a basket that contains Underlying Funds, PFICs, REITs or other “pass-thru entities” could be treated as a “constructive ownership transaction”, which could result in part or all of any long-term capital gain realized by you being recharacterized as ordinary income and subject to an interest charge (or, in the case of a gold or silver Underlying Fund, subject to a maximum tax rate of 28% applicable to “collectibles”).

In addition, in 2007, the IRS released Notice 2008-2 that may affect the U.S. federal income tax treatment of “prepaid forward contracts” and similar instruments, and the IRS and the U.S. Treasury Department (the “Treasury”) are actively considering various issues relating to such instruments. Any Treasury regulations or other guidance promulgated after consideration of these issues could materially and adversely affect the tax consequences of an investment in the notes Securities, possibly with retroactive effect. Prospective investors should

review the discussion under “Material U.S. Federal Income Tax Consequences” and the discussion in the term sheet relating to an offering of the notes for a discussion of the tax treatment and possible alternative treatments of the notes.

Both U.S. and non-U.S. holders should consult their tax advisors regarding the U.S. federal income tax consequences of an investment in the notes (including possible application of Section 1260, alternative treatments and the issues presented by Notice 2008-2), as well as any tax consequences arising under the laws of any state, local or non-U.S. taxing jurisdiction (including that of any issuer of a Market Measure and/or any component security of a Market Measure, as applicable).

Please read carefully the sections entitled “Material U.S. Federal Income Tax Consequences” in this product prospectus supplement and the term sheet and the sections “Certain Income Tax Consequences” in the prospectus supplement and “United States Taxation” in the accompanying prospectus. For a more complete discussion of the Canadian federal income tax consequences of investing in the notes, please see “Canadian Taxation” in the accompanying prospectus, “Certain Income Tax Consequences — Certain Canadian Income Tax Considerations” in the accompanying prospectus supplement and any further Canadian tax discussions in the term sheet. You should consult your tax advisors about your own tax situation and the consequences of acquiring, holding and disposing of the notes and receiving the payments that might be due under the notes.

Any conclusion that no portion of the interest paid or credited or deemed to be paid or credited on a note will be “Participating Debt Interest” (as defined below) subject to Canadian withholding tax is based in part on the current published administrative position of the Canada Revenue Agency (the “CRA”). There cannot be any assurance that CRA’s current published administrative practice will not be subject to change, including potential expansion in the current administrative interpretation of Participating Debt Interest subject to Canadian withholding tax. If, at any time, the interest paid or credited or deemed to be paid or credited on a note is subject to Canadian withholding tax, you will receive an amount that is less than the Redemption Amount. **You should consult your own adviser as to the potential for such withholding and the potential for reduction or refund of part or all of such withholding, including under any bilateral Canadian tax treaty the benefits of which you may be entitled.**

Risks Relating to the Market Measures

You must rely on your own evaluation of the merits of an investment linked to the applicable Market Measure. In the ordinary course of business, we, the agents, and our respective affiliates may have expressed views on expected movements in a Market Measure or the securities included in the Market Measure, and may do so in the future. These views or reports may be communicated to our clients and clients of these entities. However, these views are subject to change from time to time. Moreover, other professionals who deal in markets relating to a Market Measure may at any time have significantly different views from our views and the views of these entities. For these reasons, you are encouraged to derive information concerning a Market Measure and its component securities from multiple sources, and you should not rely on our views or the views expressed by these entities.

You will have no rights that a holder of an Underlying Fund or the securities represented by the Market Measure may have, you will have no rights to receive any of the securities represented by the Market Measure, and you will not be entitled to dividends or other distributions by the issuers of these securities. The notes are our debt securities. They are not equity instruments, shares of stock, or securities of any other issuer. Investing in the notes will not make you a holder of any Underlying Fund or of the securities represented by the Market Measure. You will not have any voting rights, any rights to receive

dividends or other distributions, or any other rights with respect to those securities. As a result, the return on your notes may not reflect the return you would realize if you actually owned those securities and received the dividends paid or other distributions made in connection with them. Additionally, the levels of certain indices reflect only the prices of the securities included in that Index and do not take into consideration the value of dividends paid on those securities. Your notes will be paid in cash and you have no right to receive any of these securities.

If the Market Measure to which your notes are linked includes equity securities traded on foreign exchanges, your return may be affected by factors affecting international securities markets. The value of securities traded outside of the U.S. may be adversely affected by a variety of factors relating to the relevant securities markets. Factors which could affect those markets, and therefore the return on your notes, include:

Market Liquidity and Volatility. The relevant foreign securities markets may be less liquid and/or more volatile than U.S. or other securities markets and may be affected by market developments in different ways than U.S. or other securities markets.

Political, Economic, and Other Factors. The prices and performance of securities of companies in foreign countries may be affected by political, economic, financial, and social factors in those regions. Direct or indirect government intervention to stabilize a particular securities market and cross-shareholdings in companies in the relevant foreign markets may affect prices and the volume of trading in those markets. In addition, recent or future changes in government, economic, and fiscal policies in the relevant jurisdictions, the possible imposition of, or changes in, currency exchange laws, or other laws or restrictions, and possible fluctuations in the rate of exchange between currencies, are factors that could negatively affect the relevant securities markets. The relevant foreign economies may differ from the U.S. economy in economic factors such as growth of gross national product, rate of inflation, capital reinvestment, resources, and self-sufficiency.

In particular, many emerging nations are undergoing rapid change, involving the restructuring of economic, political, financial and legal systems. Regulatory and tax environments may be subject to change without review or appeal, and many emerging markets suffer from underdevelopment of capital markets and tax systems. In addition, in some of these nations, issuers of the relevant securities face the threat of expropriation of their assets, and/or nationalization of their businesses. The economic and financial data about some of these countries may be unreliable.

Publicly Available Information. There is generally less publicly available information about foreign companies than about U.S. companies that are subject to the reporting requirements of the SEC. In addition, accounting, auditing, and financial reporting standards and requirements in foreign countries differ from those applicable to U.S. reporting companies.

Unless otherwise set forth in the applicable term sheet, we and the agents do not control any company included in any Market Measure and have not verified any disclosure made by any other company. We, the agents, or our respective affiliates currently, or in the future may, engage in business with companies included in a Market Measure, and we, the agents, or our respective affiliates may from time to time own securities of companies included in a Market Measure. However, none of us, the agents, or any of our respective affiliates has the ability to control the actions of any of these companies or has undertaken any independent review of, or made any due diligence inquiry with respect to, any of these companies, unless (and only to the extent that) the securities of us, the agents, or our respective affiliates are represented by that Market Measure. In addition, unless otherwise set

forth in the applicable term sheet, none of us, the agents, or any of our respective affiliates is responsible for the calculation of any Index represented by a Market Measure, or any Index underlying an Underlying Fund (an “**Underlying Index**”). Unless otherwise specified therein, any information in the term sheet regarding the Market Measure is derived from publicly available information. You should make your own investigation into the Market Measure.

Unless otherwise set forth in the applicable term sheet, none of the Index Publishers, Underlying Fund investment advisers, publishers of an Underlying Index, their affiliates, or any companies included in the Market Measure will be involved in any offering of the notes or will have any obligation of any sort with respect to the notes. As a result, none of those companies will have any obligation to take your interests as holders of the notes into consideration for any reason, including taking any corporate actions that might adversely affect the value of the securities represented by the Market Measure or the value of the notes.

Our business activities and those of the agents relating to the companies represented by a Market Measure or the notes may create conflicts of interest with you. We, the agents, and our respective affiliates, at the time of any offering of the notes or in the future, may engage in business with the companies represented by the Market Measure, including making loans to, equity investments in, or providing investment banking, asset management, or other services to those companies, their affiliates, and their competitors.

In connection with these activities, any of these entities may receive information about those companies that we will not divulge to you or other third parties. We, the agents, and our respective affiliates have published, and in the future may publish, research reports on one or more of these companies. The agents may also publish research reports relating to our or our affiliates’ securities, including the notes. This research is modified from time to time without notice and may express opinions or provide recommendations that are inconsistent with purchasing or holding your notes. Any of these activities may adversely affect the value of the Market Measure and, consequently, the market value of your notes. None of us, the agents, or our respective affiliates makes any representation to any purchasers of the notes regarding any matters whatsoever relating to the issuers of the securities included in a Market Measure. Any prospective purchaser of the notes should undertake an independent investigation of the companies included in the Market Measure to a level that, in its judgment, is appropriate to make an informed decision regarding an investment in the notes. The composition of the Market Measure does not reflect any investment recommendations from us, the agents, or our respective affiliates.

Other Risk Factors Relating to the Applicable Market Measure

The applicable term sheet may set forth additional risk factors as to the Market Measure that you should review prior to purchasing the notes.

Additional Risks Relating to Underlying Funds

There are liquidity and management risks associated with an Underlying Fund. Although shares of any Underlying Fund to which your notes are linked will be listed for trading on a securities exchange and a number of similar products have been traded on various exchanges for varying periods of time, there is no assurance that an active trading market will continue for the shares of that Underlying Fund or that there will be liquidity in the trading market.

Underlying Funds are subject to management risk, which is the risk that the investment adviser’s investment strategy, the implementation of which is subject to a number of constraints, may not produce the intended results.

The respective sponsor, publisher, or investment adviser of an Underlying Fund or an Underlying Index (each, a “Market Measure Publisher”) may adjust the Underlying **Fund or the Underlying Index in a way that affects its value, and they have no obligation to consider your interests.** A Market Measure Publisher can change the investment policies of the applicable Underlying Fund or the policies concerning the calculation of the applicable Underlying Fund’s net asset value, or add, delete, or substitute the underlying assets held by the Underlying Fund or the components included in an Underlying Index, as the case may be, or make other methodological changes that could change the value of that Underlying Fund or Underlying Index. Additionally, a Market Measure Publisher may alter, discontinue, or suspend calculation or dissemination of the price of its Underlying Fund, the net asset value of its Underlying Fund, or the level of its Underlying Index, as the case may be. Any of these actions could adversely affect the value of your notes. This could also result in the early redemption of your notes. See “Description of the Notes—Anti-Dilution and Discontinuance Adjustments Relating to Underlying Funds—Discontinuance of or Material Change to an Underlying Fund.” The Market Measure Publishers will have no obligation to consider your interests in calculating or revising any Underlying Fund or Underlying Index.

The performance of an Underlying Fund and the performance of its Underlying Index may vary. If an exchange traded fund is designed to track the performance of an Underlying Index, the performance of the Underlying Fund and that of its Underlying Index generally will vary due to, for example, transaction costs, management fees, certain corporate actions, and timing variances. Moreover, it is also possible that the performance of an Underlying Fund may not fully replicate or may, in certain circumstances, diverge significantly from the performance of its Underlying Index. This could be due to, for example, the Underlying Fund not holding all or substantially all of the underlying assets included in the Underlying Index and/or holding assets that are not included in the Underlying Index, the temporary unavailability of certain securities in the secondary market, the performance of any derivative instruments held by the Underlying Fund, differences in trading hours between the Underlying Fund (or the underlying assets held by the Underlying Fund) and the Underlying Index, or due to other circumstances. This variation in performance is called the “tracking error,” and, at times, the tracking error may be significant.

In addition, because the shares of an Underlying Fund are traded on a securities exchange and are subject to market supply and investor demand, the market price of one share of the Underlying Fund may differ from its net asset value per share; shares of the Underlying Fund may trade at, above, or below its net asset value per share.

For the foregoing reasons, the performance of an Underlying Fund may not match the performance of its Underlying Index over the same period. Because of this variance, the return on the notes to the extent dependent on the performance of the Underlying Fund may not be the same as an investment directly in the underlying assets included in the Underlying Index or the same as a debt security with a return linked to the performance of the Underlying Index.

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Risks associated with the applicable Underlying Index, or underlying assets of an Underlying Fund, will affect the value of that Underlying Fund and hence, the value of the notes. Exchange traded funds are funds which may hold a variety of underlying assets, and which performance may be designed to track the performance of an Underlying Index. While the notes are linked to an Underlying Fund and not to its underlying assets or Underlying Index, risks associated with its underlying assets or Underlying Index will affect the share price of that Underlying Fund and hence the value of the notes. Some of the risks that relate to an Underlying Index include those discussed below in this product supplement in relation to equity based- and commodity-based Underlying Funds, which you should review before investing in the notes.

You will have no rights as a security holder, you will have no rights to receive any shares of any Underlying Fund or any underlying assets held by any Underlying Fund, and you will not be entitled to dividends or other distributions by any Underlying Fund. The notes are our debt securities. They are not equity instruments, shares of stock, or securities of any other issuer. Investing in the notes will not make you a holder of shares of any Underlying Fund or any of its underlying assets. You will not have any voting rights, any rights to receive dividends or other distributions, any rights against the investment advisor or manager of any Underlying Fund, or any other rights with respect to any Underlying Fund or those underlying assets. As a result, the return on your notes may not reflect the return you would realize if you actually owned shares of the Underlying Fund or its underlying assets and received the dividends paid or other distributions made in connection with them. Your notes will be paid in cash and you have no right to receive delivery of shares of any Underlying Fund or any of its underlying assets.

If an Underlying Fund holds underlying assets traded on foreign exchanges, time zone differences may create discrepancies between the values of those underlying assets and the value of the notes. As a result of the time zone difference, if applicable, between the cities where the underlying assets held by an Underlying Fund trade and the cities in which shares of that Underlying Fund are traded, there may be discrepancies between the values of the relevant underlying assets and the trading prices of that Underlying Fund. In addition, there may be periods when the foreign exchange markets are closed for trading (for example during holidays in a country other than the United States) that may result in the values of the relevant non-U.S. underlying assets remaining unchanged for multiple Market Measure Business Days in the locations where the notes (or any related Underlying Fund) trade. Conversely, there may be periods in which the foreign exchange markets are open, but the securities markets in which the notes (or any related Underlying Fund) trade are closed.

The payment on the notes will not be adjusted for all events that could affect an Underlying Fund. The Price Multiplier(s), the Observation Levels, the Ending Value, the Redemption Amount, and other terms of the notes may be adjusted for the specified events affecting any Underlying Fund, as described in the section entitled “Description of the Notes—Anti-Dilution and Discontinuance Adjustments Relating to Underlying Funds.” However, these adjustments do not cover all events that could affect the market price of an Underlying Fund. The occurrence of any event that does not require the calculation agent to adjust the applicable Price Multiplier or the amount paid to you at maturity or upon a call may adversely affect the Closing Market Price of any Underlying Fund, the Observation Levels, the Ending Value, whether the notes will be called, and the Redemption Amount, and, as a result, the market value of the notes.

Risks Relating to Equity-Based Underlying Funds

If an Underlying Fund holds equity securities traded on foreign exchanges, your return may be affected by factors affecting international securities markets. The value of securities traded outside of the U.S. may be adversely affected by a variety of factors relating to

the relevant securities markets. Factors which could affect those markets, and therefore the return on your notes, include:

Market Volatility. The relevant foreign securities markets may be more volatile than U.S. or other securities markets and may be affected by market developments in different ways than U.S. or other securities markets.

Political, Economic, and Other Factors. The prices and performance of securities of companies in foreign countries may be affected by political, economic, financial, and social factors in those regions. Direct or indirect government intervention to stabilize a particular securities market and cross-shareholdings in companies in the relevant foreign markets may affect prices and the volume of trading in those markets. In addition, recent or future changes in government, economic, and fiscal policies in the relevant jurisdictions, the possible imposition of, or changes in, currency exchange laws, or other laws or restrictions, and possible fluctuations in the rate of exchange between currencies, are factors that could negatively affect the relevant securities markets. The relevant foreign economies may differ from the U.S. economy in economic factors such as growth of gross national product, rate of inflation, capital reinvestment, resources, and self-sufficiency.

In particular, many emerging nations are undergoing rapid change, involving the restructuring of economic, political, financial and legal systems. Regulatory and tax environments may be subject to change without review or appeal, and many emerging markets suffer from underdevelopment of capital markets and tax systems. In addition, in some of these nations, issuers of the relevant securities face the threat of expropriation of their assets, and/or nationalization of their businesses. The economic and financial data about some of these countries may be unreliable.

Publicly Available Information. There is generally less publicly available information about foreign companies than about U.S. companies that are subject to the reporting requirements of the SEC. In addition, accounting, auditing, and financial reporting standards and requirements in foreign countries differ from those applicable to U.S. reporting companies.

Unless otherwise set forth in the applicable term sheet, we and the agents do not control any Underlying Fund or any company whose securities are held by an Underlying Fund and have not verified any disclosure made by any Market Measure Publisher or any other company. We, the agents, and/or our respective affiliates currently, or in the future, may engage in business with the Market Measure Publishers and companies whose securities are held by an Underlying Fund, and we, the agents, and/or our respective affiliates may from time to time own securities of those companies. However, none of us, the agents, or any of our respective affiliates has the ability to control the actions of any Market Measure Publisher or any of those companies or has undertaken any independent review of, or made any due diligence inquiry with respect to, any Market Measure Publisher or any of those companies, unless (and only to the extent that) the securities of us, the agents, and/or our respective affiliates are held by an Underlying Fund. You should make your own investigation into each Underlying Fund.

Unless otherwise set forth in the applicable term sheet, none of the money you pay us, the agents and/or our respective affiliates will go to any company whose underlying assets are included in the Market Measure. In addition, none of the Market Measure Publishers, their affiliates, or any companies included in the Market Measure will be involved in any offering of the notes or will have any obligation of any sort with respect to the notes. As a result, none of those companies will have any obligation to take your interests as holders of the notes into

consideration for any reason, including taking any corporate actions that might affect the value of the underlying assets represented by the Market Measure or the value of the notes.

Our business activities and those of the agents relating to any companies whose securities are held by an Underlying Fund or the notes may create conflicts of interest with you. We, the agents, and/or our respective affiliates, at the time of any offering of the notes or in the future, may engage in business with any companies whose securities are held by an Underlying Fund, including making loans to, equity investments in, or providing investment banking, asset management, or other services to those companies, their affiliates, and their competitors.

In connection with these activities, any of these entities may receive information about those companies that we will not divulge to you or other third parties. We, the agents, and/or our respective affiliates have published, and in the future may publish, research reports on one or more of these companies. The agents may also publish research reports relating to our or our affiliates' securities, including the notes. This research is modified from time to time without notice and may express opinions or provide recommendations that are inconsistent with purchasing or holding your notes. Any of these activities may affect the value of the Market Measure and, consequently, the market value of your notes. None of us, the agents, or any of our respective affiliates makes any representation to any purchasers of the notes regarding any matters whatsoever relating to any companies whose securities are held by an Underlying Fund. Any prospective purchaser of the notes should undertake an independent investigation of those companies to a level that, in its judgment, is appropriate to make an informed decision regarding an investment in the notes. The selection of an Underlying Fund does not reflect any investment recommendations from us, the agents, or our respective affiliates.

No Market Measure Publisher will have any obligations relating to the notes. No Market Measure Publisher will have any financial or legal obligation with respect to the notes or the amounts to be paid to you, including any obligation to take our needs or the needs of noteholders into consideration for any reason, including taking any actions that might affect the value of any Underlying Fund or the value of the notes. No Market Measure Publisher will receive any of the proceeds from any offering of the notes, and no Market Measure Publisher will be responsible for, or participate in, the offering of the notes. No Market Measure Publisher will be responsible for, or participate in, the determination or calculation of the amount receivable by holders of the notes.

Neither we nor any agent has made any independent investigation as to the completeness or accuracy of publicly available information regarding any Underlying Fund or as to the future performance of any Underlying Fund. Any prospective purchaser of the notes should undertake such independent investigation of any Underlying Fund as in its judgment is appropriate to make an informed decision with respect to an investment in the notes.

Risks Relating to Commodity-Based Underlying Funds

The prices of commodities held by an Underlying Fund may change unpredictably, affecting the value of your notes in unforeseeable ways. Trading in commodities and futures contracts is speculative and can be extremely volatile. Their market prices may fluctuate rapidly based on numerous factors, including: changes in supply and demand relationships; weather; trends in agriculture; trade, fiscal, monetary and exchange control programs; domestic and foreign political and economic events and policies; disease, pestilence and technological developments; changes in interest rates, whether through governmental action or market movements; currency exchange rates; volatility from speculative activities; the development, availability and/or decrease in price of substitutes; monetary and other

governmental policies, action and inaction; macroeconomic or geopolitical and military events, including political instability in some oil-producing countries or other countries in which the production of particular commodities may be concentrated; and natural or nuclear disasters. These factors may affect the value of an Underlying Fund in varying ways, and different factors may cause the levels and volatilities of commodity prices to move in inconsistent directions at inconsistent rates. Additionally, certain Underlying Funds may be concentrated in only a few, or even a single industry (e.g., energy). These Underlying Funds are likely to be more volatile than those that hold a broad base of commodities.

If the liquidity of the components of any Underlying Fund is limited, the notes would likely be impaired.

Commodities and derivatives contracts on commodities may be difficult to buy or sell, particularly during adverse market conditions. Reduced liquidity on the Observation Dates would likely have an adverse effect on the value of any such Underlying Fund and, therefore, on the return, if any, on your notes. Limited liquidity relating to the components of an Underlying Fund may also result in the Market Measure Publisher being unable to determine the value of its Underlying Fund using its normal means. The resulting discretion by the Market Measure Publisher of an Underlying Fund in determining the value could adversely affect the value of the notes.

Suspension or disruptions of market trading in the applicable commodities and related futures contracts may adversely affect the value of your notes. The commodity markets are subject to disruptions due to various factors, including the lack of liquidity in the markets, the participation of speculators, and government regulation and intervention. In addition, U.S. futures exchanges and some foreign exchanges have regulations that limit the amount of fluctuation in futures contract prices that may occur during a single business day. These limits are generally referred to as “daily price fluctuation limits,” and the maximum or minimum price of a contract on any given day as a result of these limits is referred to as a “limit price.” Once the limit price has been reached in a particular contract, no trades may be made at a different price. Limit prices have the effect of precluding trading in a particular contract or forcing the liquidation of contracts at disadvantageous times or prices. Any such disruption, or any other force majeure (such as an act of God, fire, flood, severe weather conditions, act of governmental authority, labor difficulty, etc.) could have an adverse effect on the value of or trading in shares of an Underlying Fund and therefore, the value of the notes.

Legal and regulatory changes could adversely affect the return on and value of your notes. The value of the commodities held by an Underlying Fund could be adversely affected by new laws or regulations or by the reinterpretation of existing laws or regulations (including, without limitation, those related to taxes and duties on commodities and futures contracts) by one or more governments, courts, or other official bodies.

In the U.S., the regulation of commodity transactions is subject to ongoing modification by governmental and judicial action. For example, the U.S. Commodity Futures Trading Commission (“**CFTC**”) has interpreted the Dodd-Frank Wall Street Reform and Consumer Protection Act (“**Dodd-Frank**”), which was enacted in July 2010, to require the CFTC to impose limits on the size of positions that can be held by market participants in futures contracts and OTC derivatives on certain physical commodities. The CFTC’s rules providing for such position limits have been, and may in the future be, subject to litigation challenging their validity, the potential final outcome of which cannot be known at this time. While the ultimate scope and effect of any final and implemented position limit rules are not yet known, these limits will likely restrict the ability of many market participants to trade in the commodities markets to the same extent as they have in the past, including affecting their ability to enter into or maintain hedge positions in the applicable commodity or futures contracts. These rules and various other legislative and regulatory requirements may, among other things, reduce liquidity, increase market volatility, and increase costs in these markets. These consequences could adversely affect an Underlying Fund and the value of your notes.

In addition, other governmental or regulatory bodies (such as the European Commission) have proposed or may propose in the future legislation or regulations containing restrictions similar to those contemplated by Dodd-Frank, or other legislation or regulations containing other restrictions that could adversely impact the liquidity of and increase costs of participating in the commodities markets. If such legislation or regulations are adopted or other legislation or regulations are adopted in the future, they could have an adverse effect on the value of the applicable Underlying Fund and your notes.

The notes will not be regulated by the CFTC. The notes will not be interests in a commodity pool nor will they be regulated by the CFTC as a commodity pool. Further, we will not be registered with the CFTC as a commodity pool operator. The notes will not constitute investments by you or by us on your behalf in futures contracts traded on regulated futures exchanges, which may only be transacted through a person registered with the CFTC as a “futures commission merchant” (“FCM”). We are not registered with the CFTC as an FCM, and you will not benefit from the CFTC’s or any other non-U.S. regulatory authority’s regulatory protections for persons who trade in futures contracts or who invest in regulated commodity pools.

An Underlying Fund may include commodities or futures contracts traded on foreign exchanges that are less regulated than U.S. markets and may involve different and greater risks than trading on U.S. exchanges. An Underlying Fund may own commodities or futures contracts that trade on exchanges located outside the U.S. The regulations of the CFTC do not apply to trading on foreign exchanges, and trading on foreign exchanges may involve different and greater risks than trading on U.S. exchanges. Certain foreign markets may be more susceptible to disruption than U.S. exchanges due to the lack of a government-regulated clearinghouse system. Trading on foreign exchanges also involves certain other risks that are not applicable to trading on U.S. exchanges. Those risks include: (a) exchange rate risk relative to the U.S. dollar; (b) exchange controls; (c) expropriation; (d) burdensome or confiscatory taxation; and (e) moratoriums, and political or diplomatic events. It may also be more costly and difficult for participants in those markets to enforce the laws or regulations of a foreign country or exchange, and it is possible that the foreign country or exchange may not have laws or regulations which adequately protect the rights and interests of investors in the relevant commodities or contracts. These factors could reduce the value of the applicable Underlying Fund and the value of your notes.

Other Risk Factors Relating to an Underlying Fund

The applicable term sheet may set forth additional risk factors as to an Underlying Fund that you should review prior to purchasing the notes.

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USE OF PROCEEDS and hedging

We will use the net proceeds we receive from each sale of the notes for the purposes described in the prospectus supplement under “Use of Proceeds.” In addition, we expect that we or our affiliates may use a portion of the net proceeds to hedge our obligations under the notes.

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DESCRIPTION OF THE NOTES

General

Each issue of the notes will be part of a series of medium-term notes entitled “Senior Note Program, Series A” that will be issued under the senior debt indenture, as amended and supplemented from time to time. The senior debt indenture is described more fully in the prospectus and prospectus supplement. The following description of the notes supplements and, to the extent it is inconsistent with, supersedes the description of the general terms and provisions of the notes and debt securities set forth under the headings “Description of the Notes” in the prospectus supplement and “Description of the Debt Securities We May Offer” in the prospectus. These documents should be read in connection with the applicable term sheet.

The maturity date of the notes and the aggregate principal amount of each issue of the notes will be stated in the term sheet. If the scheduled maturity date is not a business day, we will make the required payment on the next business day, and no interest will accrue as a result of such delay.

We will not pay interest on the notes. The notes do not guarantee the return of principal at maturity. The notes will be payable only in U.S. dollars.

Unless subject to an automatic call and automatically called prior to the maturity date, the notes will mature on the date set forth in the applicable term sheet. Prior to the maturity date, the notes are not redeemable at our option or repayable at the option of any holder. The notes are not subject to any sinking fund. The notes are not subject to the defeasance provisions described in the prospectus under the caption “Description of the Debt Securities We May Offer—Defeasance.”

The notes will be issued only in global form through The Depository Trust Company (“DTC”). We will issue the notes in denominations of whole units. Unless otherwise set forth in the applicable term sheet, each unit will have a principal amount of \$10. The CUSIP number for each issue of the notes will be set forth in the applicable term sheet. You may transfer the notes only in whole units.

Payment at Maturity

If the notes are not subject to an automatic call or if the notes are subject to an automatic call but are not called, then at maturity, subject to our credit risk as issuer of the notes, you will receive a Redemption Amount, denominated in U.S. dollars. The “**Redemption Amount**” will be calculated as follows:

- If the Ending Value is greater than the Step Up Value, then the Redemption Amount will equal:

If specified in the applicable term sheet, at maturity, your notes may provide a leveraged return if the Ending Value is greater than the Step Up Value. In this case, a Participation Rate will be specified in the term sheet.

If the Ending Value is greater than or equal to the Starting Value but is equal to or less than the Step Up Value, then the Redemption Amount will equal:

Principal Amount + Step Up Payment

- If the Ending Value is less than the Starting Value, but is greater than or equal to the Threshold Value, then the Redemption Amount will equal the principal amount.
- If the Ending Value is less than the Threshold Value, then the Redemption Amount will equal:

The Redemption Amount will not be less than zero.

The “**Step Up Value**” will be a value of the Market Measure that is a specified percentage (over 100%) of the Starting Value, as set forth in the applicable term sheet.

The “**Step Up Payment**” will be a dollar amount that will be equal to a percentage of the principal amount. This percentage will equal the percentage by which the Step Up Value is greater than the Starting Value. The Step Up Payment will be determined on the pricing date and set forth in the applicable term sheet.

The “**Threshold Value**” will be a value of the Market Measure that equals a specified percentage of the Starting Value, which will be less than or equal to 100%. The Threshold Value will be determined on the pricing date and set forth in the term sheet. If the Threshold Value is equal to 100% of the Starting Value, then the Redemption Amount for the notes will be less than the principal amount if there is any decrease in the value of the Market Measure from the Starting Value to the Ending Value, and you may lose all of your investment in the notes.

The “**Participation Rate**”, if applicable, is the rate at which investors participate in any increase in the value of the Market Measure if the Ending Value is greater than the Step Up Value.

Each term sheet will provide examples of Redemption Amounts based on a range of hypothetical Ending Values.

The term sheet will set forth information as to the specific Market Measure, including information as to the historical values of the Market Measure. However, historical values of the Market Measure are not indicative of its future performance or the performance of your notes.

An investment in the notes does not entitle you to any ownership interest, including any voting rights, dividends paid, or other distributions made, in the securities of any of the companies included in a Market Measure.

Automatic Call

If specified in the applicable term sheet, the notes may be subject to an automatic call. In that case, the notes will be called, in whole but not in part, if the Observation Level of the

Market Measure on any Observation Date is greater than or equal to the Call Level set forth in the applicable term sheet.

The “**Call Level**” will be a value of the Market Measure that equals a specified percentage of the Starting Value.

The “**Observation Dates**” will be set forth in the applicable term sheet, subject to postponement in the event of Market Disruption Events. The final Observation Date will be prior to the calculation day.

If the notes are automatically called on an Observation Date, for each unit of the notes that you own, we will pay you the Call Amount applicable to that Observation Date. The “**Call Amount**” will be equal to the principal amount plus the applicable Call Premium. The “**Call Premium**” will be a percentage of the principal amount.

The Observation Dates and the related Call Amounts and Call Premiums will be specified in the applicable term sheet.

If the notes are automatically called on an Observation Date, we will redeem the notes and pay the applicable Call Amount on the applicable Call Settlement Date. Each “**Call Settlement Date**” will occur on approximately the fifth business day after the applicable Observation Date, subject to postponement as described below.

If a scheduled Observation Date is determined by the calculation agent not to be a Market Measure Business Day (as defined below) by reason of an extraordinary event, occurrence, declaration, or otherwise, or if there is a Market Disruption Event on that day, the applicable Observation Date will be the immediately succeeding Market Measure Business Day during which no Market Disruption Event occurs or is continuing; provided that the Observation Level will not be determined on a date later than the fifth scheduled Market Measure Business Day after the scheduled Observation Date, and if that fifth day is not a Market Measure Business Day, or if there is a Market Disruption Event on that date, the calculation agent will determine (or, if not determinable, estimate) the Observation Level in a manner which the calculation agent considers commercially reasonable under the circumstances on that fifth scheduled Market Measure Business Day.

If, due to a Market Disruption Event or otherwise, a scheduled Observation Date is postponed, the relevant Call Settlement Date will be postponed to approximately the fifth business day following the Observation Date as postponed, unless otherwise specified in the applicable term sheet.

Unless otherwise specified in the term sheet, a “**business day**” means any day, other than Saturday or Sunday, that is neither a legal holiday nor a day on which banking institutions are authorized or required by law to close in New York City or Toronto.

The Starting Value, the Observation Level and the Ending Value

Starting Value

In the case of an Index, unless otherwise specified in the term sheet, the “**Starting Value**” will be the closing level of the Index on the pricing date.

In the case of an Underlying Fund, unless otherwise specified in the term sheet, the “**Starting Value**” will be the Closing Market Price (as defined below) of the Underlying Fund on the pricing date.

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Observation Level

In the case of an Index, the “**Observation Level**” will equal the closing level of the Index on the applicable Observation Date.

In the case of an Underlying Fund, the Observation Level will equal the Closing Market Price of the Underlying Fund on the applicable Observation Date multiplied by the Price Multiplier (as defined below) on that day.

Ending Value

In the case of an Index, the “**Ending Value**” will equal the closing level of the Index on the calculation day.

In the case of an Underlying Fund, the “**Ending Value**” will equal the Closing Market Price of the Underlying Fund on the calculation day.

The “**Closing Market Price**” for one share of an Underlying Fund (or one unit of any other security for which a Closing Market Price must be determined) on any Market Measure Business Day means any of the following:

if the Underlying Fund (or such other security) is listed or admitted to trading on a national securities exchange, the last reported sale price, regular way (or, in the case of The NASDAQ Stock Market, the official closing price), of the principal trading session on that day on the principal U.S. securities exchange registered under the Securities Exchange Act of 1934, as amended, on which the Underlying Fund (or such other security) is listed or admitted to trading;

if the Underlying Fund (or such other security) is not listed or admitted to trading on any national securities exchange but is included in the OTC Bulletin Board, the last reported sale price of the principal trading session on the OTC Bulletin Board on that day;

if the closing price of the Underlying Fund (or such other security) cannot be determined as set forth in the two bullet points above, and the Underlying Fund (or such other security) is listed or admitted to trading on a non-U.S. securities exchange or market, the last reported sale price, regular way, of the principal trading session on that day on the primary non-U.S. securities exchange or market on which the Underlying Fund (or such other security) is listed or admitted to trading (converted to U.S. dollars using such exchange rate as the calculation agent, in its sole discretion, determines to be commercially reasonable); or

if the Closing Market Price cannot be determined as set forth in the prior bullets, the mean, as determined by the calculation agent, of the bid prices for the Underlying Fund (or such other security) obtained from as many dealers in that security (which may include us, MLPF&S and/or any of its affiliates), but not exceeding three, as will make the bid prices available to the calculation agent. If no such bid price can be obtained, the Closing Market Price will be determined (or, if not determinable, estimated) by the calculation agent in its sole discretion in a commercially reasonable manner.

The initial “**Price Multiplier**” for each Underlying Fund will be one, unless otherwise set forth in the applicable term sheet. The Price Multiplier for each Underlying Fund will be subject to adjustment for certain events relating to that Underlying Fund described below under “—Anti-Dilution and Discontinuance Adjustments Relating to Underlying Funds.”

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The “**calculation day**” means a Market Measure Business Day shortly before the maturity date, on which a Market Disruption Event has not occurred. The calculation day will be set forth in the term sheet.

Unless otherwise specified in the applicable term sheet, a “**Market Measure Business Day**” means a day on which (1) the New York Stock Exchange (the “**NYSE**”) and The NASDAQ Stock Market, or their successors, are open for trading and (2) in the case of an Index, the Index or any successor is calculated and published. As to any Underlying Fund, the term shall mean a day on which the securities exchange on which that Underlying Fund has its primary listing is open for trading.

If on the scheduled calculation day the calculation agent determines that there is a Market Disruption Event on that day, the calculation day will be the immediately succeeding Market Measure Business Day during which no Market Disruption Event occurs or is continuing; provided that the Ending Value will be determined (or, if not determinable, estimated) by the calculation agent in a manner which the calculation agent considers commercially reasonable under the circumstances on a date no later than the second scheduled Market Measure Business Day prior to the maturity date, regardless of the occurrence of a Market Disruption Event on that day.

If the Market Measure consists of a Basket, the Starting Value, each Observation Level, if applicable, and the Ending Value of the Basket will be determined as described in “—Basket Market Measures.”

Market Disruption Events

As to any Index, a “**Market Disruption Event**” means any of the following events, as determined by the calculation agent in its sole discretion:

- (A) the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, on the primary exchange where the securities included in an Index trade (without taking into account any extended or after-hours trading session), in 20% or more of the securities which then compose the Index or any successor index;
- (B) the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, on the primary exchange that trades options contracts or futures contracts related to the Index (without taking into account any extended or after-hours trading session), whether by reason of movements in price otherwise exceeding levels permitted by the relevant exchange or otherwise, in options contracts or futures contracts related to the Index, or any successor index; or
- (C) the determination that a scheduled Observation Date is not a Market Measure Business Day by reason of an extraordinary event, occurrence, declaration, or otherwise.

For the purpose of determining whether a Market Disruption Event has occurred:

- (1) a limitation on the hours in a Market Measure Business Day and/or number of days of trading will not constitute a Market Disruption Event if it results from an announced change in the regular business hours of the relevant exchange;
- (2) a decision to permanently discontinue trading in the relevant futures or options contracts related to the Index, or any successor index, will not constitute a Market Disruption Event;

- a suspension in trading in a futures or options contract on the Index, or any successor index, by a major securities market by reason of (a) a price change violating limits set by that securities market, (b) an imbalance of orders relating to those contracts, or (c) a disparity in bid and ask quotes relating to those contracts will constitute a suspension of or material limitation on trading in futures or options contracts related to the Index;
- (3) a suspension of or material limitation on trading on the relevant exchange will not include any time when that exchange is closed for trading under ordinary circumstances; and
- (4) if applicable to indices with component securities listed on the NYSE, for the purpose of clause (A) above, any limitations on trading during significant market fluctuations under NYSE Rule 80B, or any applicable rule or regulation enacted or promulgated by the NYSE or any other self-regulatory organization or the SEC of similar scope as determined by the calculation agent, will be considered “material.”
- (5)

As to any Underlying Fund, a Market Disruption Event means any of the following events, as determined by the calculation agent in its sole discretion:

- (A) the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, of the shares of the Underlying Fund (or the successor underlying fund, as defined below) on the primary exchange where such shares trade, as determined by the calculation agent (without taking into account any extended or after-hours trading session);
- (B) the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, on the primary exchange that trades options contracts or futures contracts related to the shares of the Underlying Fund (or successor underlying fund) as determined by the calculation agent (without taking into account any extended or after-hours trading session), in options contracts or futures contracts related to the shares of the Underlying Fund;
- (C) with respect to an Underlying Fund that holds equity securities, the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, on the primary exchange where component stocks of the relevant Underlying Index (or the successor underlying index, as defined below) trade, as determined by the calculation agent (without taking into account any extended or after-hours trading session), in 20% or more of the stocks which then comprise the Underlying Index or any successor underlying index;
- (D) the suspension of or material limitation on trading, in each case, for more than two consecutive hours of trading, or during the one-half hour period preceding the close of trading, on the primary exchange that trades options contracts or futures contracts related to the relevant Underlying Index (or the successor underlying index) as determined by the calculation agent (without taking into account any extended or after-hours trading session), in options contracts or futures contracts related to the Underlying Index or any successor underlying index; or
- (E) the determination that a scheduled Observation Date is not a Market Measure Business Day by reason of an extraordinary event, occurrence, declaration, or otherwise.

The term sheet will identify, if applicable, any additions or changes to the Market Disruption Events for an Underlying Fund, including a commodity-based Underlying Fund.

For the purpose of determining whether a Market Disruption Event has occurred:

- a limitation on the hours in a Market Measure Business Day and/or number of days of trading will not constitute a
- (1) Market Disruption Event if it results from an announced change in the regular business hours of the relevant exchange;
 - (2) a decision to permanently discontinue trading in the shares of the Underlying Fund (or successor underlying fund) or the relevant futures or options contracts relating to such shares or the relevant Underlying Index (or any successor underlying index) will not constitute a Market Disruption Event;
 - (3) a suspension in trading in a futures or options contract on the shares of the Underlying Fund (or successor underlying fund) or the relevant Underlying Index (or any successor underlying index), by a major securities market by reason of (a) a price change violating limits set by that securities market, (b) an imbalance of orders relating to those contracts, or (c) a disparity in bid and ask quotes relating to those contracts, will each constitute a suspension of or material limitation on trading in futures or options contracts relating to the Underlying Fund;
 - (4) subject to paragraph (3) above, a suspension of or material limitation on trading on the relevant exchange will not include any time when that exchange is closed for trading under ordinary circumstances; and
 - (5) for the purpose of clauses (A) and (C) above, any limitations on trading during significant market fluctuations under NYSE Rule 80B, or any applicable rule or regulation enacted or promulgated by the NYSE or any other self-regulatory organization or the SEC of similar scope as determined by the calculation agent, will be considered “material.”

Adjustments to an Index

After the applicable pricing date, an Index Publisher may make a material change in the method of calculating an Index or in another way that changes the Index such that it does not, in the opinion of the calculation agent, fairly represent the level of the Index had those changes or modifications not been made. In this case, the calculation agent will, at the close of business in New York, New York, on each date that the closing level is to be calculated, make adjustments to the Index. Those adjustments will be made in good faith as necessary to arrive at a calculation of a level of the Index as if those changes or modifications had not been made, and calculate the closing level of the Index, as so adjusted.

Discontinuance of an Index

After the pricing date, an Index Publisher may discontinue publication of an Index to which an issue of the notes is linked. The Index Publisher or another entity may then publish a substitute index that the calculation agent determines, in its sole discretion, to be comparable to the original Index (a “**successor index**”). If this occurs, the calculation agent will substitute the successor index as calculated by the relevant Index Publisher or any other entity and calculate each Observation Level, if applicable, and/or the Ending Value as described under “—The Starting Value, the Observation Level and the Ending Value” or “—Basket Market Measure,” as applicable. If the calculation agent selects a successor index, the calculation agent will give written notice of the selection to the trustee, to us and to the holders of the notes.

If an Index Publisher discontinues publication of the Index before the calculation day and the calculation agent does not select a successor index, then on the day that would otherwise be the calculation day, or if applicable, an Observation Date, until the earlier to occur of:

the occurrence of an automatic call, if applicable;
the determination of the Ending Value; or
a determination by the calculation agent that a successor index is available,
the calculation agent will compute a substitute level for the Index in accordance with the procedures last used to calculate the Index before any discontinuance. The calculation agent will make available to holders of the notes information regarding those levels by means of Bloomberg L.P., Thomson Reuters, a website, or any other means selected by the calculation agent in its reasonable discretion.

If a successor index is selected or the calculation agent calculates a level as a substitute As to any Index, the successor index or level will be used as a substitute for all purposes, including for the purpose of determining whether a Market Disruption Event exists.

Notwithstanding these alternative arrangements, any modification or discontinuance of the publication of any Index to which your notes are linked may adversely affect trading in the notes.

Anti-Dilution and Discontinuance Adjustments Relating to Underlying Funds

As to any Underlying Fund, the calculation agent, in its sole discretion, may adjust the Price Multiplier (and as a result, the Observation Levels and the Ending Value), and any other terms of the notes (such as the Starting Value), if an event described below occurs after the pricing date and on or before the final Observation Date and if the calculation agent determines that such an event has a diluting or concentrative effect on the theoretical value of the shares of the applicable Underlying Fund or successor underlying fund.

The Price Multiplier resulting from any of the adjustments specified below will be rounded to the eighth decimal place with five one-billionths being rounded upward. No adjustments to the Price Multiplier will be required unless the adjustment would require a change of at least 0.1% in the Price Multiplier then in effect. Any adjustment that would require a change of less than 0.1% in the Price Multiplier which is not applied at the time of the event may be reflected at the time of any subsequent adjustment that would require a change of the Price Multiplier. The required adjustments specified below do not cover all events that could affect an Underlying Fund.

No adjustments to the Price Multiplier for any Underlying Fund or any other terms of the notes will be required other than those specified below. However, the calculation agent may, at its sole discretion, make additional adjustments or adjustments that differ from those described herein to the Price Multiplier or any other terms of the notes to reflect changes to an Underlying Fund if the calculation agent determines in good faith and a commercially reasonable manner that the adjustment is appropriate to ensure an equitable result.

The calculation agent will be solely responsible for the determination of any adjustments to the Price Multiplier for any Underlying Fund or any other terms of the notes and of any related determinations with respect to any distributions of stock, other securities or other property or assets, including cash, in connection with any event described below; its determinations and calculations will be conclusive absent a determination of a manifest error.

Following an event that results in an adjustment to the Price Multiplier for any Underlying Fund or any of the other terms of the notes, the calculation agent may (but is not required to) provide holders of the notes with information about that adjustment as it deems appropriate, depending on the nature of the adjustment. Upon written request by any holder of the notes, the calculation agent will provide that holder with information about such adjustment.

Anti-Dilution Adjustments

The calculation agent, in its sole discretion and as it deems reasonable, may adjust the Price Multiplier for any Underlying Fund and other terms of the notes, and hence any Observation Level and the Ending Value, as a result of certain events related to an Underlying Fund, which include, but are not limited to, the following:

Share Splits and Reverse Share Splits. If an Underlying Fund is subject to a share split or reverse share split, then once such split has become effective, the Price Multiplier for that Underlying Fund will be adjusted such that the new Price Multiplier will equal the product of:

the prior Price Multiplier; and

the number of shares that a holder of one share of the Underlying Fund before the effective date of the share split or reverse share split would have owned immediately following the applicable effective date.

For example, a two-for-one share split would ordinarily change a Price Multiplier of one into a Price Multiplier of two. In contrast, a one-for-two reverse share split would ordinarily change a Price Multiplier of one into a Price Multiplier of one-half.

Share Dividends. If an Underlying Fund is subject to a share dividend (i.e., an issuance of additional shares of Underlying Fund) that is given ratably to all holders of the Underlying Fund, then, once the dividend has become effective and the Underlying Fund is trading ex-dividend, the Price Multiplier for that Underlying Fund will be adjusted on the ex-dividend date such that the new Price Multiplier will equal the prior Price Multiplier plus the product of:

the prior Price Multiplier; and

the number of additional shares issued in the share dividend with respect to one share of the Underlying Fund; provided that no adjustment will be made for a share dividend for which the number of shares of the Underlying Fund paid or distributed is based on a fixed cash equivalent value, unless such distribution is an Extraordinary Dividend (as defined below).

For example, a share dividend of one new share for each share held would ordinarily change a Price Multiplier of one into a Price Multiplier of two.

Extraordinary Dividends. There will be no adjustments to the Price Multiplier of an Underlying Fund to reflect any cash dividends or cash distributions paid with respect to that Underlying Fund other than Extraordinary Dividends, as described below, and distributions described under the sections entitled “—Other Distributions” and “—Reorganization Events” below.

An “**Extraordinary Dividend**” means, with respect to a cash dividend or other distribution with respect to an Underlying Fund, a dividend or other distribution that the calculation agent determines, in its sole discretion, is not declared or otherwise made according to the relevant Underlying Fund’s then existing policy or practice of paying such dividends on a

quarterly or other regular basis. If an Extraordinary Dividend occurs, the Price Multiplier for that Underlying Fund will be adjusted on the ex-dividend date so that the new Price Multiplier will equal the product of:

the prior Price Multiplier; and

a fraction, the numerator of which is the Closing Market Price per share of the Underlying Fund on the Market Measure Business Day preceding the ex-dividend date and the denominator of which is the amount by which the Closing Market Price per share of the Underlying Fund on that preceding Market Measure Business Day exceeds the Extraordinary Dividend Amount.

The “**Extraordinary Dividend Amount**” with respect to an Extraordinary Dividend will equal:

in the case of cash dividends or other distributions that are paid as regular dividends, the amount per share of the applicable Underlying Fund of that Extraordinary Dividend minus the amount per share of the immediately preceding non-Extraordinary Dividend for that share; or

in the case of cash dividends or other distributions that are not paid as regular dividends, the amount per share of the applicable Underlying Fund of that Extraordinary Dividend.

To the extent an Extraordinary Dividend is not paid in cash, the value of the non-cash component will be determined by the calculation agent, whose determination will be conclusive. A distribution on the applicable Underlying Fund described under the sections entitled “—Other Distributions” and “—Reorganization Events” below that also constitutes an Extraordinary Dividend will only cause an adjustment under those respective sections.

Other Distributions. If an Underlying Fund, after the pricing date, declares or makes a distribution to all holders of the shares of the applicable Underlying Fund of any class of its securities (other than shares of the applicable Underlying Fund), evidences of its indebtedness or other non-cash assets, including, but not limited to, transferable rights and warrants, then, in each of these cases, once the distribution has become effective and the shares are trading ex-dividend, the Price Multiplier for such Underlying Fund will be adjusted such that the new Price Multiplier will equal the product of:

the prior Price Multiplier; and

a fraction, the numerator of which will be the Current Market Price per share of the applicable Underlying Fund, and the denominator of which will be the Current Market Price per share of the applicable Underlying Fund, less the fair market value, as determined by the calculation agent, as of the time the adjustment is effected of the portion of the capital stock, evidences of indebtedness, rights or warrants, or other non-cash assets so distributed or issued applicable to one share of the applicable Underlying Fund.

The “**Current Market Price**” of any Underlying Fund means the arithmetic average of the Closing Market Prices of one share of such Underlying Fund for the five Market Measure Business Days prior to the Market Measure Business Day immediately preceding the ex-dividend date of the distribution requiring an adjustment to the Price Multiplier.

“**Ex-dividend date**” means the first Market Measure Business Day on which transactions in the shares of any Underlying Fund trade on the relevant exchange without the right to receive that cash dividend or other cash distribution.

The “**fair market value**” of any such distribution means the value of such distributions on the ex-dividend date for such distribution, as determined by the calculation agent. If such distribution consists of property traded on the ex-dividend date on a U.S. national securities exchange, the fair market value will equal the Closing Market Price of such distributed property on such ex-dividend date.

Reorganization Events

If after the pricing date and on or prior to the final Observation Date, as to any Underlying Fund, the Underlying Fund, or its successor, has been subject to a merger, combination, consolidation, or statutory exchange of securities with another exchange traded fund, and the Underlying Fund is not the surviving entity, then, on or after the date of such event, the calculation agent shall, in its sole discretion, make an adjustment to the Price Multiplier for such Underlying Fund or any other terms of the notes as the calculation agent, in its sole discretion, determines appropriate to account for the economic effect on the notes of that event (including adjustments to account for changes in volatility, expected dividends, stock loan rate, or liquidity relevant to the Underlying Fund or to the notes), and determine the effective date of that adjustment. If the calculation agent determines that no adjustment that it could make will produce a commercially reasonable result, then the calculation agent may deem the Underlying Fund to be de-listed, liquidated, discontinued, or otherwise terminated, the treatment of which is described below under “—Discontinuance of or Material Change to an Underlying Fund.”

Discontinuance of or Material Change to an Underlying Fund

If shares of an Underlying Fund are de-listed from its primary securities exchange (or any other relevant exchange), liquidated, or otherwise terminated, the calculation agent will substitute an exchange traded fund that the calculation agent determines, in its sole discretion, is comparable to the discontinued Underlying Fund (that exchange traded fund being referred to herein as a “**successor underlying fund**”). In that event, the calculation agent will adjust the applicable Price Multiplier, as necessary, such that the successor underlying fund closely replicates the performance of the Underlying Fund.

If an Underlying Fund (or a successor underlying fund) is de-listed, liquidated, or otherwise terminated and the calculation agent determines that no adequate substitute for the Underlying Fund (or a successor underlying fund) is available, then the calculation agent will, in its sole discretion, calculate the Closing Market Price of that Underlying Fund (or a successor underlying fund) by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate that Underlying Fund (or a successor underlying fund). If the calculation agent determines that no such computation methodology will produce a commercially reasonable result, then the calculation agent, in its discretion, may cause the maturity date of the notes to be accelerated as described below.

If a successor underlying fund is selected or the calculation agent calculates the Closing Market Price by a computation methodology that the calculation agent determines will as closely as reasonably possible replicate the Underlying Fund (or a successor underlying fund), that successor underlying fund or substitute computation methodology, as applicable, will be substituted for the Underlying Fund (or that successor underlying fund) for all purposes of the notes.

If at any time:

an Underlying Index (or the underlying index related to a successor underlying fund) is discontinued or ceases to be published and (i) the Market Measure Publisher of the Underlying Index or another entity does not publish a successor or

substitute underlying index that the calculation agent determines, in its sole discretion, to be comparable to the Underlying Index (a “**successor underlying index**”) or (ii) the Market Measure Publisher of the Underlying Fund does not announce that the Underlying Fund will track the successor underlying index; or an Underlying Fund (or a successor underlying fund) in any way is modified (including, but not limited to, a material change in the investment policies, objectives or methodology of the Underlying Fund, or a material change to the related Underlying Index) so that the Underlying Fund does not, in the opinion of the calculation agent, fairly represent the price per share of that Underlying Fund (or that successor underlying fund) had those changes or modifications not been made; then, from and after that time, the calculation agent will make those calculations and adjustments that, in the good faith judgment of the calculation agent, may be necessary in order to arrive at a Closing Market Price of that Underlying Fund (or that successor underlying fund) as if those changes or modifications had not been made. The calculation agent also may determine that no adjustment is required. If the calculation agent determines that no such calculation or adjustment will produce a commercially reasonable result, then the calculation agent, in its discretion, may cause the maturity date of the notes to be accelerated as described below.

The calculation agent will be solely responsible for the method of calculating the Closing Market Price of the Underlying Fund (or any successor underlying fund) and of any related determinations and calculations, and its determinations and calculations with respect thereto will be conclusive in the absence of manifest error.

Notwithstanding these alternative arrangements, any modification or discontinuance of the Underlying Fund or the related Underlying Index may adversely affect trading in the notes.

If the calculation agent determines that no adjustment that it could make will produce a commercially reasonable result, then the calculation agent, in its discretion, may cause the notes to be accelerated to the fifth business day (the “**date of acceleration**”) following the date of that determination and the amount payable to you will be calculated as though the date of acceleration were the stated maturity date of the notes and as if the calculation day were five Market Measure Business day prior to the date of acceleration. Additionally, if the notes are accelerated, the Call Premium shall equal the Call Premium on the immediately preceding Observation Date, if any, *plus* the difference between the Call Premium for the immediately preceding Observation Date, if any, and the Call Premium for the immediately following Observation Date, pro-rated according to the period of time elapsed between the immediately preceding Observation Date and the date of acceleration.

Basket Market Measures

If the Market Measure to which your notes are linked is a Basket, the Basket Components and if necessary, the definition of Market Measure Business Day will be set forth in the term sheet. We will assign each Basket Component a weighting (the “**Initial Component Weight**”) so that each Basket Component represents a percentage of the Starting Value of the Basket on the pricing date. We may assign the Basket Components equal Initial Component Weights, or we may assign the Basket Components unequal Initial Component Weights. The Initial Component Weight for each Basket Component will be stated in the term sheet.

Determination of the Component Ratio for Each Basket Component

The “**Starting Value**” of the Basket will be equal to 100. We will set a fixed factor (the “**Component Ratio**”) for each Basket Component on the pricing date, based upon the weighting of that Basket Component. The Component Ratio for each Basket Component will equal:

the Initial Component Weight (expressed as a percentage) for that Basket Component, multiplied by 100; *divided by* the closing level or Closing Market Price, as applicable, of that Basket Component on the pricing date. Each Component Ratio will be rounded to eight decimal places.

The Component Ratios will be calculated in this way so that the Starting Value of the Basket will equal 100 on the pricing date. The Component Ratios will not be revised subsequent to their determination on the pricing date, except that the calculation agent may in its good faith judgment adjust the Component Ratio of any Basket Component in the event that Basket Component is materially changed or modified in a manner that does not, in the opinion of the calculation agent, fairly represent the value of that Basket Component had those material changes or modifications not been made.

The following table is for illustration purposes only, and does not reflect the actual composition, Initial Component Weights, or Component Ratios, which will be set forth in the term sheet.

Example: The **hypothetical** Basket Components are Underlying Fund ABC, Index XYZ, and Index RST, with their Initial Component Weights being 50.00%, 25.00% and 25.00%, respectively, on a **hypothetical** pricing date:

Basket Component	Initial Component Weight	Hypothetical Closing Level or Closing Market Price ⁽¹⁾	Hypothetical Component Ratio ⁽²⁾	Initial Basket Value Contribution
Underlying Fund ABC	50.00%	500.00	0.10000000	50.00
Index XYZ	25.00%	2,420.00	0.01033058	25.00
Index RST	25.00%	1,014.00	0.02465483	25.00
Starting Value				100.00

(1) This column sets forth the **hypothetical** closing level or Closing Market Price, as applicable, of each Basket Component on the **hypothetical** pricing date.

(2) The **hypothetical** Component Ratio for each Basket Component equals its Initial Component Weight (expressed as a percentage) multiplied by 100, and then divided by the closing level or Closing Market Price, as applicable, of that Basket Component on the **hypothetical** pricing date, with the result rounded to eight decimal places.

Unless otherwise stated in the term sheet, if a Market Disruption Event occurs on the pricing date as to any Basket Component, the calculation agent will establish the closing level or Closing Market Price, as applicable, of that Basket Component (the “**Basket Component**”).

Closing Level”), and thus its Component Ratio, based on the closing level or Closing Market Price, as applicable, of that Basket Component on the first Market Measure Business Day following the pricing date on which no Market Disruption Event occurs for that Basket Component. In the event that a Market Disruption Event occurs for that Basket Component on the pricing date and on each day to and including the second scheduled Market Measure Business Day following the pricing date, the calculation agent (not later than the close of business in New York, New York on the second scheduled Market Measure Business Day following the pricing date) will estimate the Basket Component Closing Level, and thus the applicable Component Ratio, in a manner that the calculation agent considers commercially reasonable. The final term sheet will provide the Basket Component Closing Level, a brief statement of the facts relating to the establishment of the Basket Component Closing Level (including the applicable Market Disruption Event(s)), and the applicable Component Ratio.

For purposes of determining whether a Market Disruption Event has occurred as to any Basket Component, “Market Disruption Event” will have the meaning stated above in “—Market Disruption Events.”

Observation Level or Ending Value of the Basket

The calculation agent will calculate the value of the Basket by summing the products of the Closing Levels or Closing Market Prices, as applicable, of each Basket Component, on the relevant Market Measure Business Day (multiplied by its Price Multiplier on that day, if applicable) and the Component Ratio for each Basket Component. The value of the Basket will vary based on the increase or decrease in the value of each Basket Component. Any increase in the value of a Basket Component (assuming no change in the value of the other Basket Component or Basket Components) will result in an increase in the value of the Basket. Conversely, any decrease in the value of a Basket Component (assuming no change in the value of the other Basket Component or Basket Components) will result in a decrease in the value of the Basket.

The “**Observation Level**” of the Basket, if applicable, will be the value of the Basket on the relevant Observation Date.

The “**Ending Value**” of the Basket will be the value of the Basket on the calculation day.

Unless otherwise specified in the term sheet, if, for any Basket Component (an “**Affected Basket Component**”), (i) a Market Disruption Event occurs on the scheduled calculation day, or if applicable, on an Observation Date, or (ii) any such date is determined by the calculation agent not to be a Market Measure Business Day by reason of an extraordinary event, occurrence, declaration, or otherwise (any such day in either (i) or (ii) being a “**non-calculation day**”), the calculation agent will determine the closing levels or Closing Market Prices, as applicable, of the Basket Components for such non-calculation day, and as a result, the Ending Value or the relevant Observation Level, if applicable, as follows:

The closing level or Closing Market Price, as applicable, of each Basket Component that is not an Affected Basket Component will be its closing level or Closing Market Price, as applicable, on such non-calculation day.

The closing level or Closing Market Price, as applicable, of each Basket Component that is an Affected Basket Component for the applicable non-calculation day will be determined in the same manner as described in the seventh paragraph of subsection “—Automatic Call” or the fourth paragraph of subsection “—The Starting Value, the Observation Level and the Ending Value—Ending Value,” as applicable.

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Role of the Calculation Agent

The calculation agent has the sole discretion to make all determinations regarding the notes as described in this product prospectus supplement, including determinations regarding the Starting Value, the Step Up Value, the Threshold Value, the Ending Value, the Market Measure, the Redemption Amount, any Market Disruption Events, a successor index, Market Measure Business Days, business days, the calculation day, non-calculation days, determinations related to any adjustments to, or the discontinuance of, any Index or Underlying Fund, and if applicable, the Call Level, the Observation Level of the Market Measure on each Observation Date, and whether the notes will be automatically called. Absent manifest error, all determinations of the calculation agent will be conclusive for all purposes and final and binding on you and us, without any liability on the part of the calculation agent.

We expect to appoint MLPF&S or one of its affiliates as the calculation agent for each issue of the notes. However, we may change the calculation agent at any time without notifying you. The identity of the calculation agent will be set forth in the applicable term sheet.

Same-Day Settlement and Payment

The notes will be delivered in book-entry form only through DTC against payment by purchasers of the notes in immediately available funds. We will pay the amount payable on the notes in immediately available funds so long as the notes are maintained in book-entry form.

Events of Default and Acceleration

Events of default are defined in the senior debt indenture. Subject to the below paragraph, if such an event occurs and is continuing, unless otherwise stated in the term sheet, the amount payable to a holder of the notes upon any acceleration permitted under the senior debt indenture will be equal to the payment described under the caption “—Payment at Maturity,” determined as if the date of acceleration were the maturity date of the notes and as if the calculation day were the fifth Market Measure Business Day prior to the date of acceleration.

If the notes are subject to an automatic call, and an event of default occurs on or prior to the final Observation Date (i.e., not during the period from the final Observation Date to the original maturity date of the notes), then the payment on the notes will be determined as described under the caption “—Automatic Call,” as if the next scheduled Observation Date were five Market Measure Business Days prior to the date of acceleration; provided that the applicable Observation Level as of that date is greater than or equal to the Call Level. In such a case, the calculation agent shall pro-rate the applicable Call Premium and Call Amount according to the period of time elapsed between the settlement date of the notes and the date of acceleration. For the avoidance of doubt, if the Observation Level of the Market Measure as of that date is less than the Call Level, the payment on the notes will be calculated as set forth in the prior paragraph.

If a bankruptcy proceeding is commenced in respect of us, your claim may be limited under applicable bankruptcy law. In case of a default in payment of the notes, whether at their maturity or upon acceleration, they will not bear a default interest rate. For additional discussion of these matters, please see the discussion in the prospectus under the headings “Description of the Debt Securities We May Offer—Modification and Waiver of the Debt Securities” beginning on page 23 and “—Events of Default” beginning on page 27.

Listing

Unless otherwise specified in the applicable term sheet, the notes will not be listed on a securities exchange or quotation system.

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SUPPLEMENTAL PLAN OF DISTRIBUTION

MLPF&S and one or more of its affiliates may act as our agents for any offering of the notes, and MLPF&S will act in a principal capacity in such role, unless otherwise specified in the applicable term sheet. Each agent will be a party to the distribution agreement described in the “Supplemental Plan of Distribution (Conflicts of Interest)” beginning on page S-23 of the accompanying prospectus supplement.

Each agent will receive an underwriting discount that is a percentage of the aggregate principal amount of the notes sold through its efforts, which will be set forth in the applicable term sheet. You must have an account with the applicable agent in order to purchase the notes.

None of the agents is acting as your fiduciary or advisor solely as a result of the making of any offering of the notes, and you should not rely upon this product prospectus supplement, the term sheet, or the accompanying prospectus or prospectus supplement as investment advice or a recommendation to purchase any notes. You should make your own investment decision regarding the notes after consulting with your legal, tax, and other advisors.

MLPF&S and its affiliates may use this product prospectus supplement, the prospectus supplement, and the prospectus, together with the applicable term sheet, in market-making transactions for any notes after their initial sale solely for the purpose of providing investors with the description of the terms of the notes that were made available to investors in connection with the initial distribution of the notes. Secondary market investors should not, and will not be authorized to rely on these documents for information regarding the Bank or for any purpose other than that described in the immediately preceding sentence.

Selling Restrictions

European Economic Area

MLPF&S has represented and agreed, and each further dealer appointed under the program will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available the notes to any retail investor in the European Economic Area. Consequently no key information document required by the PRIIPs Regulation for offering or selling the notes or otherwise making the notes available to retail investors in the European Economic Area has been prepared and therefore offering or selling the notes or otherwise making them available to any retail investor in the European Economic Area may be unlawful under the PRIIPs Regulation. For the purposes of this provision:

(a) the expression “**retail investor**” means a person who is one (or more) of the following:

- a. a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “**MiFID II**”); or
- b. a customer within thratically. Downside risks remain, including high unemployment, reduced consumer spending, high deficit spending by governments, turbulent financial markets (particularly in the euro area), tighter monetary policies (particularly in emerging markets) and continuing uncertainty over U.S. fiscal policy, commonly referred to as the “fiscal cliff.” Although the U.S. Congress recently took action to avert certain of the immediate tax concerns associated with the fiscal cliff, it only delayed potential U.S. government spending cuts known as sequestration. Continued uncertainty concerning U.S. fiscal policy is likely to continue to adversely affect global economic activity which may adversely affect demand for our products.

We are currently facing a challenging environment for our products, particularly our Industrial Materials products, as a result of global economic conditions.

Based on the International Monetary Fund's April 16, 2013 report, the estimate for global GDP growth has been reduced to 3.25 percent in 2013, a reduction from its January estimate of 3.5 percent. The reported GDP growth figure for 2012 was 3.2%. We believe that in the graphite electrode markets the capacity utilization rate was approximately 83% in 2011 and 73% in 2012. While improved compared to 2009 levels, these lower capacity utilization rates may continue to be driven by a challenging environment for our customers which would negatively

impact demand for our Industrial Materials products and may adversely affect our results of operations for 2013. We are dependent on the global steel industry and also sell products used in the transportation, semiconductor, solar, petrochemical, electronics, and other industries which are susceptible to global and regional economic downturns. We sell our Industrial Materials products, which accounted for about 82% of our total net sales in 2012, primarily to the EAF steel production industry. Many of our other products are sold primarily to the electronics, transportation, alternative energy, and oil and gas exploration industries. These are global basic industries, and they are experiencing various degrees of contraction, growth and consolidation. Customers in these industries are located in every major geographic region. As a result, our customers are affected by changes in global and regional economic conditions. This, in turn, affects overall demand and prices for our products sold to these industries. As a result of changes in economic conditions, demand and pricing for our products sold to these industries has fluctuated and in some cases declined significantly, which could have a material adverse effect on our results of operations. Demand for our products sold to these industries may be adversely affected by improvements in our products as well as in the manufacturing operations of customers, which reduce the rate of consumption or use of our products. Our customers, including major steel producers, are experiencing and may continue to experience downturns or financial distress that could adversely impact our ability to collect our accounts receivable or to collect them on a timely basis. Sales volumes and prices of our products sold to these industries are impacted by the supply/demand balance as well as overall changes in demand, excess capacity and growth of and consolidation within, the end markets for our products. In addition to the factors mentioned above, the supply/demand balance is affected by factors such as business cycles, rationalization, and increases in capacity and productivity initiatives within our industry and the end markets for our products, and certain of such factors are affected by decisions by us. Changes in the supply/demand balance could have a material adverse effect on our results of operations. The steel industry, in particular, has historically been highly cyclical and is affected significantly by general economic conditions. Significant customers for the steel industry include companies in the automotive, construction,

appliance, machinery, equipment and transportation industries, all of which continue to be affected by the general economic downturn and the deterioration in financial markets, including severely restricted liquidity and credit availability.

In addition, a continuation of the current difficult economic conditions may lead current or potential customers of our Engineered Solutions business to delay or reduce technology purchases or slow their adoption of new technologies. This may result in a continued reduction, or slower rate of recovery, of sales of our Engineered Solutions products and increased price competition, which could materially and adversely affect our financial position and results of operations.

Our indebtedness could limit our financial and operating activities, and adversely affect our ability to incur additional debt to fund future needs.

As of March 31, 2013, we had approximately \$554 million of total indebtedness outstanding, including approximately \$83 million of secured indebtedness outstanding under the Revolving Facility, \$300 million of Original Notes, and approximately \$167 million (\$200 million due at maturity in 2015) of Senior Subordinated Notes. Additionally, at March 31, 2013, we had approximately \$461 million of unused borrowing capacity under the Revolving Facility (after considering financial covenants restrictions and the outstanding letters of credit of approximately \$6.8 million).

This substantial amount of indebtedness could:

- require us to dedicate a substantial portion of our cash flow to the payment of principal and interest, thereby reducing the funds available for operations and future business opportunities;
- make it more difficult for us to satisfy our obligations with respect to the notes, including our repurchase obligations;
- limit our ability to borrow additional money if needed for other purposes, including working capital, capital expenditures, debt service requirements, acquisitions and general corporate or other purposes, on satisfactory terms or at all;
- limit our ability to adjust to changing economic, business and competitive conditions;
- place us at a competitive disadvantage with competitors who may have less indebtedness or greater access to financing;
- make us more vulnerable to an increase in interests rates, a downturn in our operating performance or a decline in general economic conditions; and
- make us more susceptible to changes in credit ratings, which could impact our ability to obtain financing in the future and increase the cost of such financing.

If compliance with our debt obligations under the Revolving Facility materially limits our financial or operating activities, or hinders our ability to adapt to changing industry conditions, we may lose market share, our revenue may decline and our operating results may be negatively affected.

The terms of the Revolving Facility and the indenture governing the notes include covenants that could restrict or limit our financial and business operations.

The Revolving Facility and the indenture governing the notes contain a number of restrictive covenants that, subject to certain exceptions and qualifications, restrict or limit GTI's ability and the ability of GTI's subsidiaries to, among other things:

- incur, repay or refinance indebtedness;
- create liens on or sell our assets;
- engage in certain fundamental corporate changes or changes to our business activities;

• make investments or engage in mergers or acquisitions;
• engage in sale-leaseback transactions;
• pay dividends or repurchase stock;
• engage in certain affiliate transactions;
• enter into agreements or otherwise restrict GTI's subsidiaries from making distributions or paying dividends to the borrowers under the Revolving Facility; and
• repay intercompany indebtedness owed to GTI or make distributions or pay dividends to GTI.

The Revolving Facility also contains certain affirmative covenants and requires us to comply with financial coverage ratios regarding both our cash interest expense and our senior secured debt relative to our EBITDA (as defined in the Revolving Facility).

These covenants and restrictions could affect our ability to operate our business, and may limit our ability to react to market conditions or take advantage of potential business opportunities as they arise. Additionally, our ability to comply with these covenants may be affected by events beyond our control, including general economic and credit conditions and industry downturns.

If we fail to comply with the covenants in the Revolving Facility and are unable to obtain a waiver, or amendment, an event of default would result, and the lenders could, among other things, declare outstanding amounts due and payable, refuse to lend additional amounts to us, require deposit of cash collateral in respect of outstanding letters of credit, or refuse to waive any restrictive covenants in the Revolving Facility, including the restriction which prohibits dividends and distributions from GTI's subsidiaries to GTI to fund payment of indebtedness, including the notes, during a default or event of default. If we were unable to repay or pay the amounts due, the lenders could, among other things, proceed against the collateral granted to them to secure such indebtedness, which includes substantially all of the assets of GTI and its U.S. subsidiaries and certain assets of certain of GTI's foreign subsidiaries.

Our cash flows may not be sufficient to service our indebtedness, and if we are unable to satisfy our obligations under our indebtedness, we may be required to seek other financing alternatives, which may not be successful. Our ability to make timely payments of principal and interest on our debt obligations, including the notes and our obligations under the Revolving Facility, depends on our ability to generate positive cash flows from operations, which is subject to general economic conditions, competitive pressures and certain financial, business and other factors beyond our control. If our cash flows and capital resources are insufficient to make these payments, we may be required to seek additional financing sources, reduce or delay capital expenditures, sell assets or operations or refinance our indebtedness. These actions could have a material adverse effect on our business, financial conditions and results of operations. In addition, we may not be able to take any of these actions, and, even if successful, these actions may not permit us to meet our scheduled debt service obligations. Our ability to restructure or refinance the debt under the Revolving Facility will depend on, among other things, the condition of the capital markets and our financial condition at such time. There can be no assurance that we will be able to restructure or refinance any of our indebtedness on commercially reasonable terms or at all. If we cannot make scheduled payments on our debt, we will be in default and the outstanding principal and interest on our debt could be declared to be due and payable, in which case we could be forced into bankruptcy or liquidation or required to substantially restructure or alter our business operations or debt obligations.

Borrowings under the Revolving Facility bear interest at a variable rate, which subjects us to interest rate risk, which could cause our debt service obligations to increase significantly.

All of our borrowings under the Revolving Facility are at variable rates of interest and expose us to interest rate risk. If interest rates increase, our debt service obligations on this variable rate indebtedness would increase even though the amount borrowed remained the same.

We may not be able to raise the funds necessary to finance a change of control repurchase.

Upon the occurrence of a change of control repurchase event under the indenture governing the notes, holders of notes may require us to purchase their notes. However, it is possible that we would not have sufficient funds at that time to make the required purchase of notes. We cannot assure you that we will have sufficient financial resources, or will be able to arrange financing, to pay the repurchase price in cash with respect to any notes tendered by holders for repurchase upon a change of control. Our failure to repurchase the notes when required would result in an event of default under the indenture governing the notes which could, in turn, constitute a default under the terms of our other indebtedness, if any.

The terms of the Revolving Facility include covenants that could restrict or limit our ability to repurchase the notes in a change of control repurchase event.

Upon the occurrence of a change of control repurchase event under the indenture governing the notes, holders of notes may require us to purchase their notes. The Revolving Facility contains a restrictive covenant on the repurchase or retirement of indebtedness, which could limit or restrict our ability to make the required repurchase of notes. If the repurchase of notes does violate covenants in the Revolving Facility and if we are unable to obtain a waiver or amendment, an event of default would occur if we repurchased the notes, and the lenders under the Revolving Facility could, among other things, declare outstanding amounts thereunder due and payable, refuse to lend additional amounts to us, and require a deposit of cash collateral in respect of outstanding letters of credit. If we were unable to repay or pay the amounts due, the lenders could, among things, proceed against the collateral granted to them to secure such indebtedness, which includes substantially all of the assets of GTI and GTI's U.S. subsidiaries and certain assets of certain of GTI's foreign subsidiaries.

A lowering or withdrawal of the ratings assigned to our debt securities by rating agencies may increase our future borrowing costs and reduce our access to capital.

Any rating assigned to our debt could be lowered or withdrawn entirely by a rating agency if, in that rating agency's judgment, future circumstances relating to the basis of the rating, such as adverse changes, so warrant. Any future lowering of our ratings likely would make it more difficult or more expensive for us to obtain additional debt financing.

Disruptions in the capital and credit markets, which may continue indefinitely or intensify, could adversely affect our results of operations, cash flows and financial condition, or those of our customers and suppliers.

Disruptions in the capital and credit markets may adversely impact our results of operations, cash flows and financial condition, or those of our customers and suppliers. Disruptions in the capital and credit markets as a result of uncertainty, changing or increased regulation, reduced alternatives or failures of significant financial institutions could adversely affect our access to liquidity needed to conduct or expand our businesses or conduct acquisitions or make other discretionary investments, as well as our ability to effectively hedge our currency or interest rate risks and exposures. Such disruptions may also adversely impact the capital needs of our customers and suppliers, which, in turn, could adversely affect our results of operations, cash flows and financial condition.

We are subject to risks associated with operations in multiple countries.

A substantial majority of our net sales are derived from sales outside the U.S., and a majority of our operations and our total property, plant and equipment and other long-lived assets are located outside the U.S. As a result, we are subject to risks associated with operating in multiple countries, including:

- currency devaluations and fluctuations in currency exchange rates, including impacts of transactions in various currencies, impact on translation of various currencies into dollars for U.S. reporting and financial covenant compliance purposes, and impacts on results of operations due to the fact that costs of our foreign subsidiaries are primarily incurred in local currencies while their products are primarily sold in dollars and euros;
- imposition of or increases in customs duties and other tariffs;
- imposition of or increases in currency exchange controls, including imposition of or increases in limitations on conversion of various currencies into dollars, euros, or other currencies, making of intercompany loans by subsidiaries or remittance of dividends, interest or principal payments or other payments by subsidiaries;
- imposition of or increases in revenue, income or earnings taxes and withholding and other taxes on remittances and other payments by subsidiaries;

imposition of or increases in investment or trade restrictions by the U.S. or by non-U.S. governments or trade sanctions adopted by the U.S.;

inability to definitively determine or satisfy legal requirements, inability to effectively enforce contract or legal rights and inability to obtain complete financial or other information under local legal, judicial, regulatory, disclosure and other systems; and

nationalization or expropriation of assets, and other risks which could result from a change in government or government policy, or from other political, social or economic instability.

We cannot assure you that such risks will not have a material adverse effect on us or that we would be able to mitigate such material adverse effects in the future.

In addition to the factors noted above, our results of operations and financial condition are affected by inflation, deflation and stagflation in each country in which we have a manufacturing facility. We cannot assure you that future increases in our costs will not exceed the rate of inflation or the amounts, if any, by which we may be able to increase prices for our products.

Our ability to grow and compete effectively depends on protecting our intellectual property. Failure to protect our intellectual property could adversely affect us.

We believe that our intellectual property, consisting primarily of patents and proprietary know-how and information, is important to our growth. Failure to protect our intellectual property may result in the loss of the exclusive right to use our technologies. We rely on patent, trademark, copyright and trade secret laws and confidentiality and restricted use agreements to protect our intellectual property. Some of our intellectual property is not covered by any patent or patent application or any such agreement.

Patents are subject to complex factual and legal considerations. Accordingly, there can be uncertainty as to the validity, scope and enforceability of any particular patent. Therefore, we cannot assure you that:

- any of the U.S. or foreign patents now or hereafter owned by us, or that third parties have licensed to us or may in the future license to us, will not be circumvented, challenged or invalidated;
- any of the U.S. or foreign patents that third parties have non-exclusively licensed to us, or may non-exclusively license to us in the future, will not be licensed to others; or
- any of the patents for which we have applied or may in the future apply will be issued at all or with the breadth of claim coverage sought by us.

Moreover, patents, even if valid, only provide protection for a specified limited duration.

We cannot assure you that agreements designed to protect our proprietary know-how and information will not be breached, that we will have adequate remedies for any such breach, or that our strategic alliance suppliers and customers, consultants, employees or others will not assert rights to intellectual property arising out of our relationships with them against us.

In addition, effective patent, trademark and trade secret protection may be limited, unavailable or not applied for in the U.S. or in any of the foreign countries in which we operate.

Further, we cannot assure you that the use of our patented technology or proprietary know-how or information does not infringe the intellectual property rights of others.

Intellectual property protection does not protect against technological obsolescence due to developments by others or changes in customer needs.

The protection of our intellectual property rights may be achieved, in part, by prosecuting claims against others whom we believe have misappropriated our technology or have infringed upon our intellectual property rights, as well as by

defending against misappropriation or infringement claims brought by others against us. Our involvement in litigation to protect or defend our rights in these areas could result in a significant expense to us, adversely affect the development of sales of the related products, and divert the efforts of our technical and management personnel, regardless of the outcome of such litigation.

If necessary, we may seek licenses to intellectual property of others. However, we can give no assurance to you that we will be able to obtain such licenses or that the terms of any such licenses will be acceptable to us. Our failure to obtain a license from a third party for its intellectual property that is necessary for us to make or sell any of our products could cause us to incur substantial liabilities and to suspend the manufacture or shipment of products or use of processes requiring the use of such intellectual property.

Our current and former manufacturing operations are subject to increasingly stringent health, safety and environmental requirements.

We use and generate hazardous substances in our manufacturing operations. In addition, both the properties on which we currently operate and those on which we have ceased operations are and have been used for industrial purposes. Further, our manufacturing operations involve risks of personal injury or death. We are subject to increasingly stringent environmental, health and safety laws and regulations relating to our current and former properties, neighboring properties, and our current raw materials, products, and operations. These laws and regulations provide for substantial fines and criminal sanctions for violations and sometimes require evaluation and registration or the installation of costly pollution control or safety equipment or costly changes in operations to limit pollution or decrease the likelihood of injuries. It is also possible that the impact of such regulations on our suppliers could affect the availability and cost of our raw materials. In addition, we may become subject to potential material liabilities for the investigation and cleanup of contaminated properties, for claims alleging personal injury or property damage resulting from exposure to or releases of hazardous substances, or for personal injury as a result of an unsafe workplace. Further, alleged noncompliance with or stricter enforcement of, or changes in interpretations of, existing laws and regulations, adoption of more stringent new laws and regulations, discovery of previously unknown contamination or imposition of new or increased requirements could require us to incur costs or become the basis of new or increased liabilities that could be material.

We may face risks related to greenhouse gas emission limitations and climate change.

There is growing scientific, political and public concern that emissions of greenhouse gases (“GHG”) are altering the atmosphere in ways that are affecting, and are expected to continue to affect, the global climate. Legislators, regulators and others, as well as many companies, are considering ways to reduce GHG emissions. GHG emissions are regulated in the European Union via an Emissions Trading Scheme (“ETS”), otherwise known as a “Cap and Trade” program. In the United States, environmental regulations issued in 2009 and 2010 require reporting of GHG emissions by defined industries, activities and suppliers, and regulate GHG as a pollutant covered under the New Source Review, Prevention of Significant Deterioration (“PSD”) and Title V Operating Permit programs of the Clean Air Act Amendments. It is possible that some form of regulation of GHG emissions will also be forthcoming in other countries in which we operate or market our products. Regulation of GHG emissions could impose additional costs, both direct and indirect, on our business, and on the businesses of our customers and suppliers, such as increased energy and insurance rates, higher taxes, new environmental compliance program expenses, including capital improvements, environmental monitoring, and the purchase of emission credits, and other administrative costs necessary to comply with current requirements and potential future requirements or limitations that may be imposed, as well as other unforeseen or unknown costs. To the extent that similar requirements and limitations are not imposed globally, such regulation may impact our ability to compete with companies located in countries that do not have such requirements or do not impose such limitations. The company may also realize a change in competitive position relative to industry peers, changes in prices received for products sold, and changes to profit or loss arising from increased or decreased demand for products produced by the company. The impact of any future GHG regulatory requirements on our global business will be dependent upon the design of the regulatory schemes that are ultimately adopted and, as a result, we are unable to predict their significance to our operations at this point in time.

The potential physical impacts of climate change on the company's operations are uncertain and will likely be particular to the geographic circumstances. These physical impacts may include changes in rainfall and storm patterns, shortages of water or other natural resources, changing sea levels, and changing global average temperatures. For instance, our Seadrift facility and our Calais facility, are located in geographic areas less than 50 feet above sea level. As a result, any future rising sea levels could have an adverse impact on their operations and on their suppliers. Due to these uncertainties, any future physical effects of climate change may or may not adversely affect the operations at each of our production

facilities, the availability of raw materials, the transportation of our products, the overall costs of conducting our business, and our financial performance.

We face certain litigation and legal proceedings risks that could harm our business.

We are involved in various product liability, occupational, environmental, and other legal claims, demands, lawsuits and other proceedings arising out of or incidental to the conduct of our business. The results of these proceedings are difficult to predict. Moreover, many of these proceedings do not specify the relief or amount of damages sought. Therefore, as to a number of the proceedings, we are unable to estimate the possible range of liability that might be incurred should these proceedings be resolved against us. Certain of these matters involve types of claims that, if resolved against us, could give rise to substantial liability, which could have a material adverse effect on our financial position, liquidity and results of operations.

We are dependent on supplies of raw materials and energy. Our results of operations could deteriorate if that supply is substantially disrupted for an extended period.

We purchase raw materials and energy from a variety of sources. In many cases, we purchase them under short term contracts or on the spot market, in each case at fluctuating prices. The availability and price of raw materials and energy may be subject to curtailment or change due to:

- limitations which may be imposed under new legislation or regulation;
- supplier's allocations to meet demand of other purchasers during periods of shortage (or, in the case of energy suppliers, extended cold weather);
- interruptions or cessations in production by suppliers; and
- market and other events and conditions.

Petroleum and coal products, including decant oil, petroleum coke and pitch, our principal raw materials, and energy, particularly natural gas, have been subject to significant price fluctuations.

We have in the past entered into, and may continue in the future to enter into, derivative contracts and short duration fixed rate purchase contracts to effectively fix a portion of our exposure to certain products.

A substantial increase in raw material or energy prices which cannot be mitigated or passed on to customers or a continued interruption in supply, particularly in the supply of decant oil, petroleum coke or energy, would have a material adverse effect on us.

Seadrift could be impacted by a reduction in the availability of low sulfur decant oil or an increase in the pricing of needle coke feedstocks.

Seadrift uses low sulfur decant oil in the manufacture of needle coke. There is no assurance that Seadrift will always be able to obtain an adequate quantity of suitable feedstocks or that capital would be available to install equipment to allow for utilization of higher sulfur decant oil, which is more readily available in the United States, in the event that suppliers of lower sulfur decant oil were to become more limited in the future. Seadrift purchases approximately 1.5 million barrels of low sulfur decant oil annually. The prices paid by Seadrift for such feedstocks are governed by the market for heavy fuel oils, which prices can fluctuate widely for various reasons including, among other things, worldwide oil shortages and cold winter weather. Seadrift's needle coke is used in the manufacture of graphite electrodes, the price of which is subject to rigorous industry competition thus restricting Seadrift's ability to pass through raw material price increases.

We engage in acquisitions and may encounter unexpected difficulties identifying, pricing or integrating these businesses.

We have pursued growth, in part, through strategic acquisitions that are intended to complement or expand our businesses, and expect to continue to do so in the future. The success of this strategy will depend on our ability to identify, price, finance and complete these transactions. Success will also depend on our ability to integrate the businesses acquired in

these transactions. We may encounter unexpected difficulties in completing and integrating acquisitions with our existing operations, and in managing strategic investments. Furthermore, we may not realize the degree, or timing, of benefits we anticipated when we first entered into a transaction. Any of the foregoing could adversely affect our financial position, liquidity and results of operations.

We have significant goodwill on our balance sheet that is sensitive to changes in the market which could result in impairment charges.

Our annual impairment test of goodwill was performed in the fourth quarter of 2012. The estimated fair values of our reporting units were based on discounted cash flow models derived from internal earnings forecasts and assumptions. The assumptions and estimates used in these valuations incorporated the current and expected economic environment. Our model was based on our internally developed forecast and based on these valuations, the fair value substantially exceeded our net asset value. In addition, to the quantitative analysis, we have qualitatively assessed our reporting units and we believe that the quantitative analysis supporting the fair value in excess of the carrying value is appropriate. However, a further significant deterioration in the global economic environment or in any of the input assumptions in our calculation could adversely affect the fair value of our reporting units and result in an impairment of some or all of the goodwill on the balance sheet. See Item 7 “Management’s Discussion and Analysis of Financial Conditions and Results of Operations – Critical Accounting Policies” in our Annual Report to the SEC on Form 10-K for the year ended December 31, 2012 (the “2012 10-K”) for further information regarding goodwill.

Our results of operations could deteriorate if our manufacturing operations were substantially disrupted for an extended period.

Our manufacturing operations are subject to disruption due to extreme weather conditions, floods, hurricanes and tropical storms and similar events, major industrial accidents, cybersecurity attacks, strikes and lockouts, adoption of new laws or regulations, changes in interpretations of existing laws or regulations or changes in governmental enforcement policies, civil disruption, riots, terrorist attacks, war, and other events. We cannot assure you that no such events will occur. If such an event occurs, it could have a material adverse effect on us.

We have non-dollar-denominated intercompany loans and have had in the past, and may in the future have, foreign currency financial instruments and interest rate swaps and caps. The related gains and losses have in the past been, and may in the future be, significant.

As part of our cash management, we have non-dollar denominated intercompany loans between our subsidiaries. These loans are deemed to be temporary and, as a result, remeasurement gains and losses on these loans are recorded as currency gains / losses in other income (expense), net, on the Consolidated Statements of Income. Additionally, we have in the past entered into, and may in the future enter into, interest rate swaps and caps to attempt to manage interest rate expense. We have also in the past entered into, and may in the future enter into, foreign currency financial instruments to attempt to hedge global currency exposures. We may purchase or sell these financial instruments, and open and close hedges or other positions, at any time. Changes in currency exchange rates or interest rates have in the past resulted, and may in the future result, in significant gains or losses with respect thereto. These instruments are marked-to-market monthly and gains and losses thereon are recorded in Other Comprehensive Income in the Consolidated Balance Sheets.

There may be volatility in our results of operations between quarters.

Sales of our products fluctuate from quarter to quarter due to such factors as changes in economic conditions, changes in competitive conditions, scheduled plant shutdowns by customers, national vacation practices, changes in customer production schedules in response to seasonal changes in energy costs, weather conditions, strikes and work stoppages at customer plants and changes in customer order patterns including those in response to the announcement of price increases or price adjustments. We have experienced, and expect to continue to experience, volatility with respect to demand for and prices of our industrial material products, specifically graphite electrodes, both globally and regionally. We have also experienced volatility with respect to prices of raw materials and energy, and we expect to experience volatility in such prices in the future. Accordingly, results of operations for any quarter are not necessarily indicative of the results of operations for a full year.

The graphite and carbon industry is highly competitive. Our market share, net sales or net income could decline due to vigorous price and other competition.

Competition in the graphite and carbon products industry (other than, generally, with respect to new products) is based primarily on price, product differentiation and quality, delivery reliability, and customer service. Electrodes, in particular, are subject to rigorous price competition. In such a competitive market, changes in market conditions, including customer demand and technological development, could adversely affect our competitiveness, sales and/or profitability.

Competition with respect to new products is, and is expected to be, generally based primarily on product innovation, price, performance and cost effectiveness as well as customer service.

Competition could prevent implementation of price increases, require price reductions or require increased spending on research and development, marketing and sales that could adversely affect us.

We have significant deferred income tax assets in multiple jurisdictions, and we may not be able to realize any benefits from those assets.

At December 31, 2012 we had \$136.4 million of gross deferred income tax assets, of which \$26.3 million required a valuation allowance. In addition, we had \$135.5 million of gross deferred income tax liabilities. Our valuation allowance means that we do not believe that these assets are more likely than not to be realized. Until we determine that it is more likely than not that we will generate sufficient taxable income to realize our deferred income tax assets, income tax benefits in each current period will be fully reserved.

Our valuation allowance, which is predominantly in the U.S. tax jurisdiction, does not affect our ability and intent to utilize the deferred income tax assets as we generate sufficient future profitability. We are executing current strategies and developing future strategies, to improve sales, reduce costs and improve our capital structure in order to improve U.S. taxable income of the appropriate character to a level sufficient to fully realize these benefits in future years.

THE EXCHANGE OFFER

General

We are offering to exchange up to \$300,000,000 in aggregate principal amount of Exchange Notes for a like principal amount of Original Notes, properly tendered and not validly withdrawn before the expiration date. Unlike the Original Notes, the Exchange Notes will be registered under the Securities Act. We are making this exchange offer for all of the Original Notes. Your participation in this exchange offer is voluntary, and you should carefully consider whether to accept this offer.

On the date of this prospectus, \$300,000,000 in aggregate principal amount of Original Notes are outstanding. Our obligations to accept Original Notes for Exchange Notes pursuant to this exchange offer are limited by the conditions listed below under “—Conditions to the Exchange Offer.” We currently expect that each of the conditions will be satisfied and that no waivers will be necessary.

Purpose of the Exchange Offer

In connection with the issuance and sale of the Original Notes on November 20, 2012, we entered into a registration rights agreement with the initial purchasers for the benefit of the holders of the Original Notes. Under the registration rights agreement, we agreed, among other things, to use our commercially reasonable efforts to file and to have declared effective an exchange offer registration statement under the Securities Act and to consummate an exchange offer. We are conducting this exchange offer to satisfy these obligations under the registration rights agreement.

The Exchange Notes will be issued in a like principal amount and will be identical in all material respects to the Original Notes, except that the Exchange Notes will be registered under the Securities Act, will be issued without a restrictive legend, will bear different CUSIP numbers than the Original Notes and will not be entitled to the rights of the Original Notes under the registration rights agreement, including additional interest. Consequently, subject to certain exceptions, the Exchange Notes, unlike the Original Notes, may be resold by a holder without any restrictions on their transfer under the Securities Act, except as noted below in the case of a holder that is a broker-dealer.

Holders of Original Notes who do not tender their Original Notes or whose Original Notes are tendered but not accepted will have to rely on an applicable exemption from the registration requirements under the Securities Act and applicable state securities laws in order to resell or otherwise transfer their Original Notes. The exchange offer is not being made to, nor will we accept tenders for exchange from, holders of Original Notes in any jurisdiction in which the exchange offer or the acceptance of tenders would not be in compliance with the securities or blue sky laws of such jurisdiction.

Resale of Exchange Notes

Based on existing interpretations of the Securities Act by the staff of the SEC set forth in several no-action letters to third parties, and subject to the immediately following sentence, we believe that the Exchange Notes issued pursuant to this exchange offer may be offered for resale, resold and transferred by the holders thereof without further compliance with the registration and prospectus delivery requirements of the Securities Act. However, any holder of Original Notes who is an affiliate of ours or who intends to participate in this exchange offer for the purpose of distributing the Exchange Notes, or any participating broker-dealer who purchased Original Notes from us or one of our affiliates to resell pursuant to Rule 144A or any other available exemption under the Securities Act:

- will not be able to rely on the interpretations of the staff of the SEC set forth in the above-mentioned no-action letters;
- will not be able to tender its Original Notes in this exchange offer; and
- must comply with the registration and prospectus delivery requirements of the Securities Act in connection with any sale or transfer of the Original Notes, unless such sale or transfer is made pursuant to an exemption from such requirements.

We do not intend to seek our own no-action letter, and there is no assurance that the staff of the SEC would make a similar determination with respect to the Exchange Notes as it has in such no-action letters to third parties. The information

described above concerning interpretations of and positions taken by the staff of the SEC is not intended to constitute legal advice, and holders should consult their own legal advisors with respect to these matters.

Each holder of Original Notes, other than certain specified holders, who wishes to exchange Original Notes for Exchange Notes pursuant to this exchange offer will be required to represent that:

- it is not our affiliate (as defined in Rule 405 under the Securities Act) or, if it is our affiliate, that it will comply with the registration and prospectus delivery requirements of the Securities Act to the extent applicable to it;
- if it is not a broker-dealer, that it is not engaged in (and does not intend to engage in) the distribution of the Exchange Notes;

- the Exchange Notes to be received by it will be acquired in the ordinary course of its business; and

at the time of the commencement and consummation of this exchange offer, it has no arrangement or understanding with any person to participate in the distribution (within the meaning of the Securities Act) of the Exchange Notes in violation of the provisions of the Securities Act.

In addition, in connection with resales of Exchange Notes, any broker-dealer who acquired Original Notes for its own account as a result of market-making activities or other trading activities must deliver a prospectus (or, to the extent permitted by law, make available a prospectus) meeting the requirements of the Securities Act. The staff of the SEC has taken the position that such broker-dealers may fulfill their prospectus delivery requirements with respect to the Exchange Notes (other than a resale of Exchange Notes acquired in exchange for Original Notes comprising an unsold allotment from the original sale of the Original Notes) with this prospectus. Under the registration rights agreement, we will be required to allow such broker-dealers to use this prospectus, for up to 180 days, subject to certain “black out” periods, following this exchange offer, in connection with the resale of Exchange Notes received in exchange for Original Notes acquired by such broker-dealers for their own account as a result of market-making or other trading activities. See “Plan of Distribution.”

Terms of the Exchange Offer

Upon the terms and subject to the conditions set forth in this prospectus and in the letter of transmittal, we will accept for exchange any Original Notes validly tendered and not withdrawn before expiration of this exchange offer. The date of acceptance for exchange of the Original Notes and completion of this exchange offer is the exchange date, which will be as soon as practicable after the expiration date. The Original Notes may be tendered only in minimum denominations of \$2,000 and integral multiples of \$1,000. We will issue \$1,000 principal amount of Exchange Notes in exchange for each \$1,000 principal amount of Original Notes surrendered under this exchange offer. The Exchange Notes will be delivered on the earliest practicable date following the expiration date.

The form and terms of the Exchange Notes will be substantially identical to the form and terms of the related series of Original Notes, except the Exchange Notes:

- will be registered under the Securities Act;
- will not bear legends restricting their transfer;
- will bear different CUSIP numbers than the related series of Original Notes; and
- will not be entitled to the rights of holders of Original Notes under the registration rights agreement, including additional interest.

The Exchange Notes will evidence the same debt as the Original Notes. The Exchange Notes will be issued under and entitled to the benefits of the indenture, as described below, under which the Original Notes were issued such that the Exchange Notes and the Original Notes will be treated as a single series of senior debt securities under the indenture.

The exchange offer for Original Notes is not conditioned upon any minimum aggregate principal amount of Original Notes being tendered for exchange. This prospectus and the accompanying letter of transmittal are being sent to all registered

holders of outstanding Original Notes. There will be no fixed record date for determining registered holders of Original Notes entitled to participate in this exchange offer.

We intend to conduct this exchange offer in accordance with the applicable requirements of the registration rights agreement, the Securities Act, the Exchange Act and the related rules and regulations of the SEC. Original Notes that are not exchanged in this exchange offer will:

• remain outstanding;

• continue to accrue interest; and

• be entitled to the rights and benefits their holders have under the indenture relating to the Original Notes and Exchange Notes.

However, any Original Notes that are not exchanged will not be freely tradable because they will continue to be subject to transfer restrictions as unregistered securities. Holders of Original Notes do not have any appraisal or dissenters rights under the indenture in connection with this exchange offer. Except as specified in the registration rights agreement, we are not obligated to, nor do we currently anticipate that we will, register the Original Notes under the Securities Act. See “—Consequences of Failure to Exchange” below.

We will be deemed to have accepted for exchange validly tendered Original Notes when we have given oral (promptly confirmed in writing) or written notice of the acceptance to the exchange agent. The exchange agent will act as agent for the holders of Original Notes who surrender them in this exchange offer for the purposes of receiving Exchange Notes from us and delivering Exchange Notes to their holders. The exchange agent will make the exchange as promptly as practicable after the expiration date. We expressly reserve the right to amend or terminate either exchange offer and not to accept for exchange any Original Notes not previously accepted for exchange, upon the occurrence of any of the conditions specified below under “—Conditions to the Exchange Offer.”

Holders who tender Original Notes in this exchange offer will not be required to pay brokerage commissions or fees or, subject to the instructions in the letter of transmittal, transfer taxes with respect to the exchange of Original Notes. We will pay all charges and expenses, other than applicable taxes described below, in connection with this exchange offer. It is important that you read “—Solicitation of Tenders; Fees and Expenses” and “—Transfer Taxes” below for more details regarding fees and expenses incurred in this exchange offer.

If any tendered Original Notes are not accepted for exchange for any reason, such Original Notes will be returned, without expense, to the tendering holder thereof as promptly as practicable after the expiration date.

Expiration Date; Extension; Termination; Amendment

The exchange offer for the Original Notes will expire at 5:00 p.m., New York City time, on [], 2013, unless we have extended the period of time that the exchange offer is open.

We reserve the right to extend the period of time that the exchange offer is open, and delay acceptance for exchange of the Original Notes, by giving oral (promptly confirmed in writing) or written notice to the exchange agent and by timely public announcement no later than 9:00 a.m., New York City time, on the next business day after the previously scheduled expiration date. During any extension, all the Original Notes previously tendered will remain subject to the exchange offer unless validly withdrawn.

We also reserve the right, in our sole discretion, subject to applicable law and the terms of the registration rights agreement, to:

• terminate the exchange offer and not to accept for exchange any Original Notes not previously accepted for exchange upon the occurrence of any of the events specified below under “—Conditions to the Exchange Offer” that have not been waived by us; or

• amend the terms of the exchange offer in any manner.

If any termination or amendment occurs, we will give oral (promptly confirmed in writing) or written notice to the exchange agent and will either make a public announcement or give oral or written notice to holders of Original Notes as promptly as practicable. Without limiting the manner in which we may choose to make a public announcement of any extension, amendment or termination of the exchange offer, we will not be obligated to publish, advertise or otherwise communicate any such public announcement, other than by making a timely press release.

Exchange Notes will only be issued after the exchange agent timely receives (i) a properly completed and duly executed letter of transmittal (or facsimile thereof or an agent's message (as hereinafter defined) in lieu thereof) and (ii) all other required documents. However, we reserve the absolute right to waive any defects or irregularities in the tender or conditions of this exchange offer.

Original Notes submitted for a greater principal amount than the tendering holder desires to exchange will be returned, without expense, to the tendering holder thereof as promptly as practicable after the expiration date.

Procedures For Tendering Original Notes

Valid Tender

Except as set forth below, in order for Original Notes to be validly tendered pursuant to this exchange offer, either (i) (a) a properly completed and duly executed letter of transmittal (or facsimile thereof) or an electronic message agreeing to be bound by the letter of transmittal properly transmitted through DTC's Automated Tender Offer Program ("ATOP") for a book-entry transfer, with any required signature guarantees and any other required documents, must be received by the exchange agent at the address or the facsimile number set forth under "—Exchange Agent" on or prior to the expiration date and (b) tendered Original Notes must be received by the exchange agent, or such Original Notes must be tendered pursuant to the procedures for book-entry transfer set forth below and a book-entry confirmation must be received by the exchange agent, in each case on or prior to the expiration date, or (ii) the guaranteed delivery procedures set forth below must be complied with. To receive confirmation of valid tender of Original Notes, a holder should contact the exchange agent at the telephone number listed under "—Exchange Agent."

If less than all of the Original Notes held by a holder are tendered, a tendering holder should fill in the amount of Original Notes being tendered in the appropriate box on the letter of transmittal. The entire amount of Original Notes delivered to the exchange agent will be deemed to have been tendered unless otherwise indicated.

If any letter of transmittal, endorsement, note power, power of attorney or any other document required by the letter of transmittal is signed by a trustee, executor, administrator, guardian, attorney-in fact, officer of a corporation or other person acting in a fiduciary or representative capacity, such person should so indicate when signing. Unless waived by us, evidence satisfactory to us of such person's authority to so act also must be submitted.

Any beneficial owner of Original Notes that are held by or registered in the name of a broker, dealer, commercial bank, trust company or other nominee is urged to contact such entity promptly if such beneficial holder wishes to participate in this exchange offer.

The method of delivering Original Notes, the letter of transmittal and all other required documents is at the option and sole risk of the tendering holder. Delivery will be deemed made only when actually received by the exchange agent. Instead of delivery by mail, it is recommended that holders use an overnight or hand delivery service. In all cases, sufficient time should be allowed to assure timely delivery and proper insurance should be obtained. No Original Note, letter of transmittal or other required document should be sent to us. Holders may request their respective brokers, dealers, commercial banks, trust companies or other nominees to effect these transactions for them.

Book-Entry Transfer

The exchange agent has established an account with respect to the Original Notes at DTC for purposes of this exchange offer. The exchange agent and DTC have confirmed that any financial institution that is a participant in DTC may utilize DTC's ATOP procedures to tender Original Notes. Any participant in DTC may make book-entry delivery of Original Notes by causing DTC to transfer the Original Notes into the exchange agent's account in accordance with DTC's ATOP procedures for transfer.

However, the exchange for the Original Notes so tendered will be made only after a book-entry confirmation of such book-entry transfer of Original Notes into the exchange agent's account and timely receipt by the exchange agent of an agent's message and any other documents required by the letter of transmittal. The term "agent's message" means a message, transmitted by DTC and received by the exchange agent and forming part of a book-entry confirmation, which states that DTC has received an express acknowledgment from a participant tendering Original Notes that are the subject of the book-entry confirmation that the participant has received and agrees to be bound by the terms of the letter of transmittal, and that we may enforce that agreement against the participant. Delivery of documents to DTC does not constitute delivery to the exchange agent.

Signature Guarantees

Certificates for Original Notes need not be endorsed and signature guarantees on a letter of transmittal or a notice of withdrawal, as the case may be, are unnecessary unless (i) a certificate for Original Notes is registered in a name other than that of the person surrendering the certificate or (ii) a registered holder completes the box entitled "Special Issuance Instructions" or "Special Delivery Instructions" in the letter of transmittal. In the case of (i) or (ii) above, such certificates for Original Notes must be duly endorsed or accompanied by a properly executed note power, with the endorsement or signature on the note power and on the letter of transmittal or the notice of withdrawal, as the case may be, guaranteed by a firm or other entity identified in Rule 17Ad-15 under the Exchange Act as an "eligible guarantor institution," including (as such terms are defined therein) (i) a bank, (ii) a broker, dealer, municipal securities broker or dealer or government securities broker or dealer, (iii) a credit union, (iv) a national securities exchange, registered securities association or clearing agency or (v) a savings association that is a participant in a Securities Transfer Association (each an "Eligible Institution"), unless an Original Note is surrendered for the account of an Eligible Institution. See Instruction 3 to the letter of transmittal.

Guaranteed Delivery

If a holder desires to tender Original Notes pursuant to this exchange offer and the certificates for such Original Notes are not immediately available or time will not permit all required documents to reach the exchange agent before the expiration date, or the procedures for book-entry transfer cannot be completed on a timely basis, such Original Notes may nevertheless be tendered, provided that all of the following guaranteed delivery procedures are complied with:

- (i) such tenders are made by or through an Eligible Institution;
- (ii) prior to the expiration date, the exchange agent receives from the Eligible Institution a properly completed and duly executed notice of guaranteed delivery, substantially in the form accompanying the letter of transmittal, or an electronic message through ATOP with respect to guaranteed delivery for book-entry transfers, setting forth the name and address of the holder of Original Notes and the amount of Original Notes tendered, stating that the tender is being made thereby and guaranteeing that within three New York Stock Exchange, Inc. trading days after the date of execution of the notice of guaranteed delivery, or transmission of such electronic message through ATOP for book-entry transfers, the certificates for all physically tendered Original Notes, in proper form for transfer, or a book-entry confirmation, as the case may be, together with a properly completed and duly executed letter of transmittal with any required signature guarantees, or a properly transmitted electronic message through ATOP in the case of book-entry transfers, and any other documents required by the letter of transmittal will be deposited by the Eligible Institution with the exchange agent; and
- (iii) the certificates (or book-entry confirmation) representing all tendered Original Notes, in proper form for transfer, together with a properly completed and duly executed letter of transmittal with any required signature guarantees, or a properly transmitted electronic message through ATOP in the case of book-entry transfers, and any other documents required by the letter of transmittal, are received by the exchange agent within three New York Stock Exchange, Inc. trading days after the date of execution of the notice of guaranteed delivery or transmission of such electronic message through ATOP with respect to guaranteed delivery for book-entry transfers.

Determination of Validity

We will determine in our sole discretion all questions as to the validity, form, eligibility, including time of receipt, acceptance and withdrawal of tendered Original Notes. Our determination will be final and binding. We reserve the absolute right to reject any Original Notes not properly tendered or any Original Notes the acceptance of which

would, in the opinion of our counsel, be unlawful. We also reserve the right to waive any defects, irregularities or conditions of tender as to

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particular Original Notes. Our interpretation of the terms and conditions of this exchange offer, including the instructions in the letter of transmittal, will be final and binding on all parties.

Unless waived, any defects or irregularities in connection with tenders of Original Notes must be cured within the time that we determine. Although we intend to notify holders of defects or irregularities with respect to tenders of Original Notes, neither we, the exchange agent nor any other person will incur any liability for failure to give notification. Tendere of Original Notes will not be deemed made until those defects or irregularities have been cured or waived. Any Original Notes received by the exchange agent that are not properly tendered and as to which the defects or irregularities have not been cured or waived will be returned by the exchange agent without cost to the tendering holder, unless otherwise provided in the letter of transmittal, as soon as practicable after withdrawal, rejection of tender or termination of this exchange offer.

Prospectus Delivery Requirement

Each broker-dealer that receives Exchange Notes for its own account in exchange for Original Notes, where such Original Notes were acquired by such broker-dealer as a result of market-making activities or other trading activities, must acknowledge that it will deliver a prospectus in connection with any resale of such Exchange Notes. See "Plan of Distribution."

Withdrawal Rights

You may withdraw your tender of Original Notes at any time before 5:00 p.m., New York City time, on the expiration date. In order for a withdrawal to be effective on or prior to that time, a written or facsimile transmission of a notice of withdrawal, or a computer-generated notice of withdrawal transmitted by DTC on behalf of the holder in accordance with the standard operating procedures of DTC, must be received by the exchange agent at its address set forth under "—Exchange Agent."

Any notice of withdrawal must:

- specify the name of the person that tendered the Original Notes to be withdrawn;
- identify the Original Notes to be withdrawn, including the certificate number or numbers (if in certificated form) and principal amount of such Original Notes;
- include a statement that the holder is withdrawing its election to have the Original Notes exchanged;
- be signed by the holder in the same manner as the original signature on the letter of transmittal by which the Original Notes were tendered or as otherwise described above, including any required signature guarantees, or be accompanied by documents of transfer sufficient to have the trustee under the indenture register the transfer of the Original Notes into the name of the person withdrawing the tender; and
- specify the name in which any of the Original Notes are to be registered, if different from that of the person that tendered the Original Notes.

The exchange agent will return the properly withdrawn Original Notes promptly following receipt of a notice of withdrawal. If Original Notes have been tendered pursuant to the procedure for book-entry transfer, any notice of withdrawal must specify the name and number of the account at DTC to be credited with the withdrawn Original Notes or otherwise comply with DTC's procedures.

Any Original Notes withdrawn will not have been validly tendered for exchange for purposes of this exchange offer. Any Original Notes that have been tendered for exchange but which are not exchanged for any reason will be returned to the holder without cost to the holder as soon as practicable after withdrawal, rejection of tender or termination of this exchange offer. In the case of Original Notes tendered by book-entry transfer into the exchange agent's account at DTC pursuant to its book-entry transfer procedures, the Original Notes will be credited to an account with DTC specified by the holder, as soon as practicable after withdrawal, rejection of tender or termination of this exchange offer. Properly withdrawn Original Notes may be retendered by following one of the procedures described under "—Procedures for Tendering Original Notes" above at any time on or before the expiration date.

Acceptance of Original Notes for Exchange; Delivery of Exchange Notes

Upon satisfaction or waiver of all of the conditions to the exchange offer, we will accept, promptly after the expiration date, all Original Notes validly tendered and will issue the Exchange Notes as promptly as practicable after the expiration date. Please refer to “—Conditions to the Exchange Offer” below. For purposes of this exchange offer, we will be deemed to have accepted validly tendered Original Notes for exchange when we give notice of acceptance to the exchange agent.

For each Original Note accepted for exchange, the holder of the Original Note will receive an Exchange Note having a principal amount at maturity equal to that of the surrendered Original Note. The Exchange Notes will be delivered on the earliest practicable date following the expiration date.

In all cases, delivery of Exchange Notes in exchange for Original Notes tendered and accepted for exchange pursuant to this exchange offer will be made only after timely receipt by the exchange agent of:

• Original Notes or a book-entry confirmation of a book-entry transfer of Original Notes into the exchange agent’s account at DTC;

• a properly completed and duly executed letter of transmittal or an electronic message agreeing to be bound by the letter of transmittal properly transmitted through ATOP with any required signature guarantees; and

• any other documents required by the letter of transmittal.

Conditions to the Exchange Offer

We are required to accept for exchange, and to issue Exchange Notes in exchange for, any Original Notes duly tendered and not validly withdrawn pursuant to this exchange offer and in accordance with the terms of this prospectus and the accompanying letter of transmittal.

We will not be required to accept for exchange, or to issue Exchange Notes in exchange for, any Original Notes, and we may terminate the exchange offer as provided in this prospectus before accepting any Original Notes for exchange, if:

• the exchange offer, or the making of any exchange by a holder of Original Notes, would violate applicable law or any applicable interpretation of the staff of the SEC; or

• any action or proceeding has been instituted or threatened in any court or by or before any governmental agency with respect to the exchange offer that, in our judgment, would reasonably be expected to impair our ability to proceed with that exchange offer.

In addition, we will not be required to accept for exchange, or to issue Exchange Notes in exchange for, any Original Notes tendered by a holder, if:

• such holder’s Original Notes are not tendered in accordance with the terms of this exchange offer; or

• such holder of Original Notes exchanged in this exchange offer has not represented that all Exchange Notes to be received by it shall be acquired in the ordinary course of its business, that it is not an affiliate of ours within the meaning of Rule 405 of the Securities Act (or if it is such an affiliate that it will comply with the registration and prospectus delivery requirements of the Securities Act to the extent applicable to it) and that at the time of the commencement and consummation of this exchange offer it shall have no arrangement or understanding with any person to participate in any distribution (within the meaning of the Securities Act) of the Exchange Notes in violation of the provisions of the Securities Act and shall not have made such other representations as may be reasonably necessary under applicable SEC rules, regulations or interpretations to render available the use of the registration statement of which this prospectus is a part.

In addition, we will not be obligated to accept for exchange the Original Notes of any holder who has not made to us the representations described under “—Resale of Exchange Notes” above and “Plan of Distribution.”

In addition, we will not accept for exchange any Original Notes tendered, and no Exchange Notes will be issued in exchange for those Original Notes, if at such time any stop order is threatened or in effect with respect to the registration statement of which this prospectus constitutes a part or the qualification of the indenture under the Trust Indenture Act of 1939. In any of those events we are required to use reasonable best efforts to obtain the withdrawal of any stop order at the earliest possible time.

Exchange Agent

We have appointed U.S. Bank National Association, as the exchange agent for this exchange offer. You should direct questions and requests for assistance, in each case, with respect to exchange offer procedures, requests for additional copies of this prospectus or of the letter of transmittal, requests for the notice of guaranteed delivery with respect to the exchange of Original Notes as well as all executed letters of transmittal, to the exchange agent at the address listed below:

U.S. Bank National Association
Corporate Trust Services
1350 Euclid Avenue CN OH RN11
Cleveland, OH 44115

Attention: Holly Pattison, Vice President

The Exchange Agent's telephone number is (800) 934-6802. The Exchange Agent's facsimile number is (651) 466-7372.

Delivery to an address other than as listed above, or transmissions to a facsimile number other than as listed above, will not constitute a valid delivery.

U.S. Bank National Association, is the trustee under the indenture governing the Original Notes and the Exchange Notes.

Solicitation of Tenders; Fees and Expenses

We will pay the expenses of soliciting tenders. The principal solicitation is being made by electronic delivery of the exchange materials or, if requested, by mail; however, additional solicitations may be made by facsimile, telephone or in person by officers and employees of ours and of our affiliates.

We have not retained any dealer manager in connection with this exchange offer and will not make any payments to brokers, dealers or others soliciting acceptances of this exchange offer. However, we will pay the exchange agent reasonable and customary fees for its services and will reimburse it for its reasonable out-of-pocket expenses in connection with this exchange offer.

We will pay the estimated cash expenses to be incurred in connection with this exchange offer, including the following:

fees and expenses of the exchange agent and the trustee;

SEC registration fees;

accounting and legal fees; and

printing and mailing expenses.

Transfer Taxes

We will pay all transfer taxes, if any, applicable to the exchange of Original Notes under this exchange offer. The tendering holder, however, will be required to pay any transfer taxes, whether imposed on the registered holder or any other person, if:

certificates representing Original Notes for principal amounts not tendered or accepted for exchange are to be delivered to, or are to be issued in the name of, any person other than the registered holder of Original Notes tendered;

Exchange Notes are to be delivered to, or issued in the name of, any person other than the registered holder of the Original Notes;

tendered Original Notes are registered in the name of any person other than the person signing the letter of transmittal; or

a transfer tax is imposed for any reason other than the exchange of Original Notes under this exchange offer.

If satisfactory evidence of payment of such transfer taxes is not submitted with the letter of transmittal, the amount of any transfer taxes will be billed to the tendering holder.

Accounting Treatment

The Exchange Notes will be recorded at the same carrying value as the Original Notes as reflected in our accounting records on the date of the exchange. Accordingly, we will recognize no gain or loss upon completion of the exchange offer. The costs of the exchange offer will be immediately expensed or amortized over the term of the Exchange Notes as appropriate under GAAP.

Consequences of Failure to Exchange

If you do not exchange your Original Notes for Exchange Notes pursuant to this exchange offer, you will continue to be subject to the restrictions on transfer of the Original Notes as described in the legend on the Original Notes. In general, the Original Notes may be offered or sold only if registered under the Securities Act, except pursuant to an exemption from, or in a transaction not subject to, the Securities Act and applicable state securities laws.

Your participation in this exchange offer is voluntary, and you should carefully consider whether to participate. We urge you to consult your financial and tax advisors in making a decision whether or not to tender your Original Notes. Please refer to the section in this prospectus entitled "Certain U.S. Federal Income Tax Considerations."

As a result of the making of, and upon acceptance for exchange of all validly tendered Original Notes pursuant to the terms of, this exchange offer, we will have fulfilled a covenant contained in the registration rights agreement. If you do not tender your Original Notes in this exchange offer, you will be entitled to all of the rights and limitations applicable to the Original Notes under the indenture, except for any rights under the registration rights agreement that by their terms end or cease to have further effectiveness as a result of the making of this exchange offer, including the right to require us to register your Original Notes. To the extent that Original Notes of a series are tendered and accepted in this exchange offer, the trading market for untendered, or tendered but unaccepted, Original Notes could be adversely affected. Please refer to the section in this prospectus entitled "Risk Factors—Risk Factors Relating to this Exchange Offer and the Exchange Notes—If you do not properly tender your Original Notes for Exchange Notes, you will continue to hold unregistered notes that are subject to transfer restrictions."

We may in the future seek to acquire untendered Original Notes in open market or privately negotiated transactions through subsequent exchange offers or otherwise. However, we have no present plans to acquire any Original Notes that are not tendered in this exchange offer or to file a registration statement to permit resales of any untendered Original Notes.

Holders of each series of Original Notes that remain outstanding after consummation of this exchange offer will vote together with any issued Exchange Notes of the related series as a single series for purposes of determining whether holders of the requisite percentage thereof have taken certain actions or exercised certain rights under the indenture.

RATIO OF EARNINGS TO FIXED CHARGES

The following table sets forth our ratios of consolidated earnings to fixed charges for the periods presented on a consolidated historical basis. For purposes of calculating the ratio of earnings to fixed charges, earnings consist of pre-tax income before adjustment for income or loss from equity investees, plus fixed charges. Fixed charges consist of interest

expense and the interest portion of rental expense (estimated to equal 1/3 of such expense, which is considered a reasonable approximation of the interest factor).

	Year ended December 31,					Three
	2008	2009	2010	2011	2012	Months ended
						March 31, 2013
Ratio of earnings to fixed charges	14.6x	15.6x	27.8x	8.5x	6.5x	1.7x

USE OF PROCEEDS

We will not receive any cash proceeds from the issuance of the Exchange Notes. In consideration for issuing the Exchange Notes, we will receive a like principal amount of Original Notes. The Original Notes surrendered in exchange for the Exchange Notes will be retired and canceled and cannot be reissued. Accordingly, issuance of the Exchange Notes will not result in any change in our capitalization.

SUMMARY CONSOLIDATED HISTORICAL FINANCIAL DATA

The following table sets forth our summary consolidated financial and other data. We derived the summary historical statements of operations, balance sheet data, cash flows and other financial data as of and for each of the years ended December 31, 2008, 2009, 2010, 2011 and 2012 from our audited consolidated financial statements included in this prospectus or filed with the SEC. We derived the historical statements of operations and cash flows and other financial data for the three months ended March 31, 2013 and the balance sheet data as of March 31, 2013 from our unaudited consolidated financial statements included elsewhere in this prospectus.

Our unaudited financial statements have been prepared on the same basis as our audited financial statements and, in our opinion, reflect all adjustments, consisting only of normal recurring adjustments, necessary for a fair presentation of this data in all material respects. The results for any interim period are not necessarily indicative of the results that may be expected for a full year.

You should read the following selected financial data in conjunction with our historical financial statements and the related notes and with, or incorporated by reference into, "Management's Discussion and Analysis of Financial Condition and Results of Operations," which are included elsewhere in this prospectus.

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	Year Ended December 31,					Three Months Ended	
	2008	2009	2010	2011	2012	March 31, 2012	2013
	(Dollars in thousands, except per share data)						
Statement of Operations Data:							
Net sales	\$1,190,238	\$659,044	\$1,006,993	\$1,320,184	\$1,248,264	\$240,938	\$253,727
Income from continuing operations (a)	184,157	15,708	174,660	153,184	117,641	17,529	4,210
Basic earnings per common share:							
Net income per share	\$1.65	\$0.13	\$1.42	\$1.06	\$0.85	\$0.12	\$0.03
Weighted average common shares outstanding (in thousands)	111,447	119,707	122,621	145,156	138,552	143,795	134,646
Diluted earnings per common share:							
Net income per share	\$1.60	\$0.13	\$1.41	\$1.05	\$0.84	\$0.12	\$0.03
Weighted average common shares outstanding (in thousands)	119,039	120,733	123,453	146,402	139,700	144,499	134,833
Balance sheet data (at period end):							
Total assets	\$943,129	\$892,608	\$1,913,183	\$2,168,366	\$2,297,915	\$2,239,701	\$2,262,148
Other long-term obligations (b)	118,272	108,267	114,728	131,300	125,005	127,113	121,587
Total long-term debt	50,557	1,467	275,799	387,624	535,709	443,187	551,886
Other financial data:							
Net cash (used in) provided by operating activities	\$248,636	\$170,329	\$144,922	\$76,597	\$101,400	\$(15,374)	\$17,999
Net cash used in investing activities	(209,858)	(60,110)	(321,552)	(161,966)	(119,962)	(27,748)	(10,975)
Net cash (used in) provided by financing activities	(80,215)	(72,875)	138,240	85,461	24,112	43,409	(12,934)

(a) Income by period includes (items listed are pre-tax in nature unless otherwise noted):

For the Year Ended December 31, 2008:

- a \$6.8 million loss on extinguishment on the repurchase of Redeemed Senior Notes,
 - a \$4.1 million gain on derecognition of our former convertible Senior Debentures (“Debentures”),
- a \$9.0 million expense for the Make-Whole provision in connection with the derecognition of the Debentures,
- a \$22.1 million expense for our incentive compensation program,
- a \$2.8 million benefit to our income tax provision for tax holidays, exemptions, and credits in various jurisdictions,
- a \$34.5 million write down of our investment in a non-consolidated affiliate and our \$1.7 million share of its losses, and
- a \$32.2 million loss for the MTM Adjustment for our pension and OPEB benefit plans.

For the Year Ended December 31, 2009:

- a \$52.8 million write down of our investment in a non-consolidated affiliate and our \$2.7 million share of its losses
- a \$4.3 million gain for the derecognition of our liability for Brazil excise tax,
- a \$1.0 million gain from the sale of our Caserta, Italy facility,
- a \$0.4 million loss on extinguishment on the repurchase of the remaining Redeemed Senior Notes outstanding,
- a \$5.1 million benefit to our income tax provision for tax holidays, exemptions, and credits in various jurisdictions,
- a \$22.8 million valuation allowance expense for deferred tax assets that might not be realized, and
- a \$1.7 million loss for the MTM Adjustment for our pension and OPEB benefit plans.

For the Year Ended December 31, 2010 (Seadrift and C/G are included in our Consolidated Financial Statements beginning as of December 1, 2010):

- \$15.2 million expense for Seadrift and C/G acquisition-related costs,
- \$4.9 million benefit from the equity in earnings of our then non-consolidated affiliate,
- \$9.6 million gain from the acquisition of the remaining 81.1% equity interest in our previously non-consolidated affiliate,
- \$16.8 million expense for our incentive compensation program,
- \$4.8 million benefit to our income tax provision for tax holidays, exemptions, and credits in various jurisdictions,
- \$30.3 million deferred tax asset valuation allowance release as a result of the 2010 acquisitions, and
- \$7.4 million loss for the MTM Adjustment for our pension and OPEB benefit plans.

For the Year Ended December 31, 2011 (Micron Research Corporation and Fiber Materials, Inc. are included in our Consolidated Financial Statements beginning as of February 10, 2011 and November 1, 2011, respectively):

- \$26.5 million income tax benefit primarily attributable to the release of valuation allowance for foreign tax credits carryforwards which are expected to be utilized in future years,
- a non-cash interest charge of \$10.0 million related to the amortization of the discount on the Senior Subordinated Notes,
- \$23.0 million charge related to the amortization of acquired intangible assets,
- \$9.0 million charge related to stock-based compensation during 2011, and
- \$22.3 million loss for the MTM Adjustment for our pension and OPEB benefit plans, driven primarily by a decrease in the discount rate due to lower interest rates.

For the Year Ended December 31, 2012:

- \$15.1 million charge related to our incentive compensation plans,
- a non-cash interest charge of \$10.7 million related to the amortization of the discount on the Senior Subordinated Notes,
- \$22.3 million charge related to the amortization of acquired intangible assets,
- \$9.6 million charge related to stock-based compensation during 2012, and
- \$8.8 million loss for the MTM Adjustment for our pension and OPEB benefit plans, driven primarily by a decrease in the discount rate due to lower interest rates.

(b) Represents pension and post-retirement benefits and related costs and miscellaneous other long-term obligations.

Quarterly Data:

The following quarterly selected consolidated financial data have been derived from the Consolidated Financial Statements for the periods indicated which have not been audited. The selected quarterly consolidated financial data set forth below should be read in conjunction with our historical financial statements and the related notes and with "Management's Discussion and Analysis of Financial Condition and Results of Operations" which are included elsewhere in, or incorporated by reference into, this prospectus.

2011	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(Dollars in thousands, except per share data)			
Net sales	\$ 306,137	\$ 320,231	\$ 345,832	\$ 347,984
Gross profit	72,935	75,159	92,744	83,708

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Net income (a)	27,263	28,569	40,297	57,055
Basic earnings per common share	\$ 0.19	\$ 0.20	\$ 0.28	\$ 0.39
Diluted earnings per common share	\$ 0.19	\$ 0.20	\$ 0.28	\$ 0.39

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2012	First Quarter	Second Quarter	Third Quarter	Fourth Quarter
	(Dollars in thousands, except per share data)			
Net sales	\$240,938	\$315,611	\$320,716	\$370,999
Gross profit	66,931	84,377	79,986	84,510
Net income (b)	17,529	41,847	29,626	28,639
Basic earnings per common share	\$0.12	\$0.30	\$0.22	\$0.21
Diluted earnings per common share	\$0.12	\$0.29	\$0.22	\$0.21
2013			First Quarter	
			(Dollars in thousands, except per share data)	
Net sales			\$253,727	
Gross profit			48,550	
Net income (c)			4,210	
Basic earnings per common share			\$0.03	
Diluted earnings per common share			\$0.03	

(a) Net income by quarter for 2011 includes the following:

First Quarter:

- A loss of \$0.6 million for currency losses due to the remeasurement of intercompany loans,
- Income of \$0.7 million resulting from the collection of an acquired account receivable at an amount in excess of its estimated fair value at the acquisition date, and
- Amortization of acquired intangibles totaling \$5.6 million.

Second Quarter:

- Amortization of deferred major maintenance and repair costs totaling \$0.4 million, and
- Amortization of acquired intangibles totaling \$5.6 million.

Third Quarter:

- A loss of \$1.2 million for currency losses due to the remeasurement of intercompany loans,
- Amortization of deferred major maintenance and repair costs totaling \$1.4 million, and
- Amortization of acquired intangibles totaling \$5.7 million.

Fourth Quarter:

- Amortization of deferred major maintenance and repair costs totaling \$1.4 million,
- Amortization of acquired intangibles totaling \$5.7 million,
- A \$26.5 million income tax benefit primarily attributable to the release of valuation allowance for foreign tax credits carryforwards which are expected to be utilized in future years, and
- A loss of \$22.3 million for the MTM Adjustment for our pension and OPEB benefit plans, driven primarily by a decrease in the discount rate due to lower interest rates.

(b) Net income by quarter for 2012 includes the following:

First Quarter:

- Amortization of acquired intangibles totaling \$5.6 million,
- The roll off of hedge gains related to foreign currency and commodity derivatives of \$3.5 million, and

Other income of \$4.0 million of insurance reimbursement claims related to flood damages sustained at our Clarksburg, West Virginia facility in 2011.

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Second Quarter:

- A \$10.5 million income tax benefit due to the release of valuation allowance, and
- Amortization of acquired intangibles totaling \$5.5 million.

Third Quarter:

- Amortization of acquired intangibles totaling \$5.5 million, and
- The roll off of hedge gains related to foreign currency and commodity derivatives of \$5.8 million.

Fourth Quarter:

- A loss of \$8.8 million for the MTM adjustment for our pension and OPEB benefit plans, driven primarily by a decrease in the discount rate due to lower interest rates,
- Amortization of acquired intangibles totaling \$5.5 million.

(c) Net income by quarter for 2013 includes the following:

First Quarter:

- Amortization of acquired intangibles totaling \$5.2 million; and
- The roll off of hedge gains related to foreign currency and commodity derivatives of \$2.1 million.

DESCRIPTION OF CERTAIN OTHER INDEBTEDNESS

Revolving Facility

On October 7, 2011, we successfully completed the refinancing of our principal Revolving Facility. Borrowers under the Revolving Facility are GrafTech Finance Inc. (“GrafTech Finance”) and GrafTech Switzerland S.A. (“Swissco”), both wholly owned subsidiaries. On April 20, 2012, as permitted by Section 9.19 of the October 7, 2011 Revolving Facility, we entered into an Amended and Restated Credit Agreement pursuant to which GrafTech Luxembourg II S.à.r.l. (“Luxembourg Holdco”) was added as a Borrower on August 28, 2012. After such date, the “Borrowers” under the Revolving Facility are GrafTech Finance, Luxembourg Holdco and Swissco (although after Luxembourg Holdco was designated as a Borrower on August 28, 2012, Swissco is no longer entitled to borrow Loans under the Revolving Facility but is entitled to request letters of credit thereunder only for its own use). On October 29, 2012 we further amended our credit agreement to permit issuance of the notes, among other things. All borrowings under our Revolving Facility are guaranteed by GTI and its U.S. subsidiaries. The borrowings and these guarantees are secured, with certain exceptions, by first priority security interests in substantially all of GTI’s assets and those of its U.S. subsidiaries, including the equity interests in our subsidiaries owned by us or any of our U.S. subsidiaries, except that no more than 65% of the capital stock or other equity interests in foreign subsidiaries held directly by our U.S. subsidiaries secure such obligations. GTI’s foreign subsidiaries do not guarantee any of GTI’s obligations or those of GTI’s U.S. subsidiaries under the Revolving Facility.

In addition to the guarantees given by GTI’s U.S. subsidiaries, the borrowings of Luxembourg Holdco, and any obligations of any foreign subsidiary (including Swissco), for example as the account party under a letter of credit, under the Revolving Facility are guaranteed by Luxembourg Holdco’s direct parent, Luxembourg I S.à.r.l. (“Luxembourg Parent”), and by Swissco. Luxembourg Holdco also has guaranteed the obligations under the Revolving Facility of its direct and indirect subsidiaries, including Swissco. Each of Luxembourg Holdco and Luxembourg Parent have granted first priority security interests in all of their assets which principally consist of equity interests in their subsidiaries and intercompany indebtedness to secure their obligations under the Revolving Facility and their guarantees. Swissco has granted a first priority security interest in the equity interests in its direct subsidiaries, intercompany indebtedness owed to it and certain other personal property to secure its obligations under the Revolving Facility, including under its guarantee.

The interest rate applicable to the Revolving Facility is, at GrafTech’s option, either LIBOR plus a margin ranging from 1.5% to 2.25% (depending on our total net leverage ratio and/or senior unsecured rating) or, in the case of dollar denominated loans, the alternate base rate plus a margin ranging from 0.50% to 1.25% (depending upon such ratio or rating). The alternate base rate is the highest of (i) the prime rate announced by JPMorgan Chase Bank, N.A., (ii) the federal fund effective rate plus one-half of 1.0% and (iii) the London interbank offering rate (as adjusted) for a one-month period plus 1.0%. GrafTech Finance, Luxembourg Holdco and Swissco pay a per annum fee ranging from 0.25% to 0.40% (depending on such ratio or rating) on the undrawn portion of the commitments under the Revolving Facility.

The Revolving Facility contains a number of significant covenants that, among other things, restrict GTI’s and its subsidiaries’ ability to incur additional debt, repay or refinance other debt including the notes or amend other debt instruments, create liens on or sell assets, make investments or engage in mergers or acquisitions, engage in sale-leaseback transactions, pay dividends or repurchase stock, engage in affiliate transactions or enter into agreements otherwise restrict GTI’s subsidiaries from making distributions or paying dividends to a Borrower or any subsidiary of a Borrower. The Revolving Facility also restricts the repayment of indebtedness owed to GTI and dividends and distributions to GTI. Dividends and distributions are permitted to GTI in order to pay regularly scheduled payments of interest and principal and prepayment of principal if certain conditions are met so long as no default or event of default exists under the Credit Agreement.

The financial covenants require us to maintain a minimum cash interest coverage ratio of 3.00 to 1.00 and a maximum senior secured leverage ratio of 2.25 to 1.00, subject to adjustment for certain events. As of March 31, 2013, we were in compliance with all financial and other covenants contained in the Revolving Facility, as applicable.

On October 29, 2012, we amended the Revolving Facility to permit the issuance and guarantee of the notes, as well as to permit GTI to loan the proceeds of the notes to GrafTech Finance and Luxembourg Holdco so that they can repay amounts outstanding under the Revolving Facility, and to permit those entities to repay the intercompany loans to us in order to fund payments on the notes and certain other indebtedness. In addition, we amended our Revolving Facility to permit

acquisitions (and related intercompany loans to fund such acquisitions) in the aggregate amount of \$400.0 million, in addition to those already permitted by the Revolving Facility and to increase the amount of debt we may incur to \$400.0 million under our general debt basket, to the extent we meet certain financial ratios.

Senior subordinated notes

On November 30, 2010, in connection with our acquisitions of Seadrift Coke L.P. and C/G Electrodes LLC, we issued the Senior Subordinated Notes with an aggregate face amount of \$200 million. Each Senior Subordinated Note will mature in 2015. For purposes of this discussion, unless otherwise specified, "GrafTech" or the "Company" refers only to GrafTech International Ltd. and not GrafTech International Ltd. together with its subsidiaries.

The Senior Subordinated Notes are non-interest bearing and are subordinated on a senior subordinated basis and are junior in right of payment to all senior debt of GrafTech and certain of its subsidiaries (including Seadrift and C/G). Senior debt includes: (i) indebtedness, obligations and guarantees under the Revolving Facility (including any amendments, supplements or modifications thereto or any indenture, credit facility, note, or other arrangement in replacement thereof) in an aggregate principal amount of up to \$390 million; (ii) indebtedness and obligations under foreign liquidity facilities in an aggregate principal amount of up to \$145 million; and (iii) other indebtedness for borrowed money (and related guarantees of subsidiaries) and indebtedness evidenced by notes, debentures, bonds or other similar instruments for the payment of which GrafTech or any of its subsidiaries is responsible or liable if, on the date of incurrence (or, if earlier, the date of entry into the agreement with respect to such indebtedness or guarantee) and after giving pro forma effect thereto, GrafTech's leverage ratio (its ratio of consolidated net debt for the most recent four consecutive fiscal quarters for which financial statements are publicly available to consolidated EBITDA for such period) would not exceed 4:00 to 1:00. If any indebtedness for borrowed money described in clause (iii) of the preceding sentence is incurred and after giving pro forma effect thereto GrafTech's leverage ratio would exceed 4:00 to 1:00, GrafTech and its subsidiaries will grant the holders of the Senior Subordinated Notes a security interest on a pari passu basis with any security interest granted to the holders of such indebtedness to the extent of such excess.

Upon any payment or distribution of the assets of the Company to creditors upon a partial or total liquidation or a partial or total dissolution in a bankruptcy or similar proceeding relating to the Company or its property, holders of senior debt are entitled to payment in full in cash of such senior debt (prior to the holders of the Senior Subordinated Notes receiving any payment). Additionally, until all senior debt is paid in full in cash, any payment or distribution to which the holders of the Senior Subordinated Notes would be entitled but for the subordination provisions, will be made to the senior debt holders (other than equity interests in the Company or debt securities of the Company that are subordinated to the senior debt, which holders of Senior Subordinated Notes may retain). If payment is made to a holder of a Senior Subordinated Note that should not have been made to them according to the subordination provisions in the Senior Subordinated Notes, then such holder shall hold such payment in trust for holders of senior debt and pay it over to them. Once all senior debt has been paid in full in cash and until the Senior Subordinated Notes are paid in full in cash, holders of Senior Subordinated Notes are subrogated to the rights of holders of senior debt to receive payments and distributions applicable to senior debt to the extent such payments otherwise payable to holders of the Senior Subordinated Notes would have been applied to the payment of senior debt.

The Senior Subordinated Notes also restrict the Company's ability to make payments on the Senior Subordinated Notes to the extent that any payment default under any senior debt has occurred, or any other default has occurred that accelerated such senior debt (unless, in either case, the applicable default or acceleration has been waived or rescinded or the applicable senior debt has been paid in full in cash).

During the continuance of any default under senior debt pursuant to which that senior debt can be accelerated without any further notice (other than a notice to effect such acceleration) or the expiration of applicable grace periods, commencing upon receipt by the Company of written notice of such default from a holder of any senior debt electing to effect a payment blockage period, the Company shall not pay the Senior Subordinated Notes. Such payment blockage period lasts for 179 days, but may be terminated prior to such date by written notice from the same holder delivering the initial notice if the applicable default is cured or no longer continuing or if the applicable senior debt has been paid in full in cash or otherwise discharged. Not more than one payment blockage period may

exist in any consecutive 360-day period.

If there is a default under the Senior Subordinated Notes and payment of such notes is accelerated, the Company must notify holders of senior debt of such acceleration and will not pay the Senior Subordinated Notes until 5 days after the senior debt holders have received such notice.

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GrafTech's significant U.S. subsidiaries ("Subsidiary Guarantors"), including Seadrift and C/G, have provided senior subordinated guarantees of the Senior Subordinated Notes, which are subordinated and secured to the same extent as GrafTech's obligations under the Senior Subordinated Notes.

GrafTech may redeem the Senior Subordinated Notes at any time, upon 30 days' notice, at 100% of the principal amount of the Senior Subordinated Notes.

The Senior Subordinated Notes may be accelerated upon the occurrence of certain events of default, and the Senior Subordinated Notes will be automatically accelerated upon an insolvency event of default with respect to GrafTech or any of the Subsidiary Guarantors. The holders of a majority in outstanding principal amount of the Senior Subordinated Notes may accelerate the Senior Subordinated Notes upon the occurrence of the following events of default: the failure of GrafTech or any of the Subsidiary Guarantors to comply with any term under the Senior Subordinated Notes for 30 days after written notice of default; the acceleration of senior debt of GrafTech, any significant subsidiary or any Subsidiary Guarantor in excess of \$50 million; or a change in control.

For purposes of the Senior Subordinated Notes, a change in control generally occurs on the date on which:

- any person or group becomes the beneficial owner of more than 35% of GrafTech's outstanding common stock or voting securities (not including securities held by its employee benefit plans or related trusts);

- any person or group acquires the right to vote on any matter, by proxy or otherwise, with respect to more than 35% of GrafTech's outstanding common stock or voting securities (not including securities held by its employee benefit plans or related trusts);

- GrafTech's stockholders approve a plan of dissolution or complete or substantially complete liquidation or its Board approves such a plan other than in connection with a reorganization, recapitalization or similar transaction following which all or a majority of the business of GrafTech and its subsidiaries (taken as a whole) are continued by GrafTech or any successor thereto;

- any consummation of a merger or other business combination unless, following such business combination, the beneficial owners of the common stock and the voting securities of GrafTech prior to such business combination beneficially own more than 50% of the common equity and voting securities of the surviving

- entity in substantially the same proportions as prior to such business combination, no person or group (excluding its employee benefit plans or related trusts) beneficially owns more than 50% of the common equity or voting securities of the surviving entity and at least a majority of the members of the board of directors of the surviving entity were members of GrafTech's Board prior to such business combination; or
- any consummation of a sale, lease or other transfer of all or substantially all of the assets of GrafTech, whether held directly or indirectly through one or more subsidiaries (excluding a grant of security interest, sale-leaseback or similar transaction in the ordinary course of business, or in connection with a credit facility or other financing, but including any foreclosure sale).

A change in control will not be deemed to have occurred for purposes of the Senior Subordinated Notes, however, to the extent that certain specified holders and their related parties initiate or participate in an event or circumstance prescribed by applicable standstill provisions, regardless of whether it would be permitted thereby.

The holders of a majority in outstanding principal amount of the Senior Subordinated Notes have the sole right to waive any default and any such waiver is binding on all holders. No holder of a Senior Subordinated Note may institute against GrafTech, or join with or assist any person in instituting against GrafTech, any bankruptcy or similar action.

DESCRIPTION OF THE NOTES

In this description of the notes, the terms “Company,” “we,” “us” and similar words refer only to GrafTech International, Ltd. and not to any of its subsidiaries. For purposes of this section, the term “notes” refers to the Original Notes and any Exchange Notes issued in exchange therefor. Certain other terms used in this description are defined under the subheading “—Definitions”.

The Original Notes were issued and the Exchange Notes will be issued under an indenture (the “indenture”) between us, the Subsidiary Guarantors party thereto and U.S. Bank National Association, as trustee. The terms of the notes include those stated in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as amended (the “Trust Indenture Act”). The following description is only a summary of the material provisions of the indenture, does not purport to be complete, and is qualified in its entirety by reference to the provisions of the indenture. We urge you to read the indenture because it, and not this description, defines your rights as holders of these notes. You may request copies of the indenture at our address as set forth under the heading “Where You Can Find More Information.”

General

The notes:

- are our senior unsecured obligations;
- are guaranteed by each Subsidiary Guarantor on a senior unsecured basis;
- will mature on November 15, 2020;
- are subject to earlier redemption at our option as described under “—Optional redemption”;
- do not have the benefit of any sinking fund;
- are not convertible into any other security;
- are issued in denominations of \$2,000 and in larger denominations in integral multiples of \$1,000;
- are represented by one or more registered notes in global form but in certain limited circumstances may be represented by notes in certificated form. See “Book-Entry System.”

Interest on the notes:

- accrues at the rate of 6.375% per annum;
- accrues from the most recent interest payment date on which interest was paid;
- is payable in cash semi-annually in arrears on May 15 and November 15 of each year, commencing on May 15, 2013;
- is payable to the holders of record on the May 1 and November 1 immediately preceding the related interest payment date; and
- is computed on the basis of a 360-day year comprised of twelve 30-day months.

If any interest payment date, redemption date, repurchase date or maturity date falls on a day that is not a business day, the required payment of principal or interest will be made on the next business day as if made on the date that payment was due, and no interest will accrue on that payment for the period from and after the interest payment date, redemption date, repurchase date or maturity date, as the case may be, to the date of the payment on the next business day.

Ranking

The notes are our senior unsecured indebtedness and rank equally with all of our other existing and future senior unsecured indebtedness. The guarantees are senior unsecured indebtedness of the Subsidiary Guarantors and rank equally with all of the other existing and future senior unsecured indebtedness of the Subsidiary Guarantors. The notes and the guarantees rank senior in right of payment to any future subordinated obligations of the Company and the Subsidiary Guarantors, respectively, and rank pari passu in right of payment with all existing and future senior indebtedness of the Company and the Subsidiary Guarantors, respectively. The notes and the guarantees effectively rank junior to any of our and the Subsidiary Guarantors' existing and future secured indebtedness (including all the indebtedness under the Credit Agreement) to the extent of the assets securing such indebtedness, and are structurally subordinated to any existing and future indebtedness, claims of holders of preferred stock and other liabilities of our Subsidiaries that are not guaranteeing the notes, including guarantees of indebtedness under the Credit Agreement by such of our Subsidiaries that are not Subsidiary Guarantors. The notes and the guarantees of the notes are "Senior Debt" under, and for purposes of, the Company's existing Senior Subordinated Notes.

All of our operations are conducted through our Subsidiaries. Some of our Subsidiaries are not guaranteeing the notes, and, as described below under "—Subsidiary Guarantees", Subsidiary Guarantors may be released under certain circumstances. In addition, our future Subsidiaries may not be required to guarantee the notes. Claims of creditors of such non-guarantor Subsidiaries, including trade creditors and creditors holding indebtedness or guarantees issued by such non-guarantor Subsidiaries, and claims of preferred stockholders of such non-guarantor Subsidiaries generally will have priority with respect to the assets and earnings of such non-guarantor Subsidiaries over the claims of our creditors, including holders of the notes. Accordingly, the notes will be effectively subordinated to creditors (including trade creditors) and preferred stockholders, if any, of such non-guarantor Subsidiaries.

The indenture does not limit the incurrence of indebtedness or issuance of preferred stock by our Subsidiaries. In addition, the notes will be structurally subordinated to all existing and future indebtedness and claims of holders of preferred stock and other liabilities (including guarantees of indebtedness under the Credit Agreement) of our Subsidiaries that are not Subsidiary Guarantors.

Additional issuances

We may issue additional notes, without limitation and without your consent; provided that at the time of such issuance, and after giving effect thereto, such additional notes would constitute Senior Debt under, and for purposes of, the Company's existing Senior Subordinated Notes if such Senior Subordinated Notes are then outstanding. If we issue additional notes under the indenture, they will have the same terms and conditions as the notes in all respects (except for the payment of interest accruing prior to the issue date of the additional notes) so that the additional notes may be consolidated and form a single series with the notes; provided, however, that any additional notes that are not fungible with the notes for U.S. federal income tax purposes will have a separate CUSIP or ISIN number so that they are distinguishable from the notes.

Optional redemption

On and after November 15, 2016, we may redeem the notes (which includes additional notes, if any), at our option, at any time in whole or from time to time in part, upon not less than 30 nor more than 60 days' notice, at the redemption prices (expressed in percentages of principal amount) listed below, plus accrued and unpaid interest on the notes, if any, to, but excluding, the applicable redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), if redeemed during the twelve-month period beginning on November 15 of the years indicated below.

Year	Percentage
2016.....	103.188%
2017.....	101.594%
2018 and thereafter.....	100.000%

In addition, any time prior to November 15, 2015, we may, at our option, on one or more occasions, upon not less than 30 nor more than 60 days' notice, redeem the notes (which includes additional notes, if any) in an aggregate principal amount not to exceed 35% of the aggregate principal amount of the notes (which includes additional notes, if any) originally issued at a redemption price (expressed as a percentage of principal amount) of 106.375%, plus accrued and unpaid interest to, but excluding, the redemption date (subject to the right of holders of record on the relevant record date to receive interest due on the relevant interest payment date), with the net cash proceeds from one or more Qualified Equity Offerings; provided, however, that

- at least 65% of such aggregate principal amount of notes (which includes additional notes, if any) remains
- (1) outstanding immediately after the occurrence of each such redemption (other than notes held, directly or indirectly, by the Company or its affiliates); and
 - (2) each such redemption occurs within 90 days after the date of the related Qualified Equity Offering.

Prior to November 15, 2016, we may, upon not less than 30 nor more than 60 days' notice, at our option, redeem all or a portion of the notes at a redemption price equal to 100% of the principal amount of the notes plus the Applicable Premium as of, plus accrued and unpaid interest to, but excluding, the redemption date (subject to the right of holders of notes on the relevant record date to receive interest due on the relevant interest payment date). "Applicable Premium" means, with respect to a note at any redemption date, the excess (if any) of (A) the present value at such redemption date of (1) the redemption price of such note on November 15, 2016 (such redemption price being described in the first paragraph in this "—Optional Redemption" section exclusive of any accrued interest) plus (2) all required remaining scheduled interest payments due on such note through November 15, 2016 (but excluding accrued and unpaid interest to, the redemption date), computed using a discount rate equal to the Adjusted Treasury Rate, over (B) the principal amount of such note on such redemption date.

"Adjusted Treasury Rate" means, with respect to any redemption date, (i) the yield, under the heading which represents the average for the immediately preceding week, appearing in the most recently published statistical release designated "H.15(519)" or any successor publication which is published weekly by the Board of Governors of the Federal Reserve System and which establishes yields on actively traded United States Treasury securities adjusted to constant maturity under the caption "Treasury Constant Maturities," for the maturity corresponding to the Comparable Treasury Issue (if no maturity is within three months before or after November 15, 2016, yields for the two published maturities most closely corresponding to the Comparable Treasury Issue shall be determined and the Adjusted Treasury Rate shall be interpolated or extrapolated from such yields on a straight line basis, rounding to the nearest month) or (ii) if such release (or any successor release) is not published during the week preceding the calculation date or does not contain such yields, the rate per year equal to the semi-annual equivalent yield to maturity of the Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the Comparable Treasury Price for such redemption date, in each case calculated on the third business day immediately preceding the redemption date, plus 0.50%.

"Comparable Treasury Issue" means the United States Treasury security selected by the Quotation Agent as having a maturity comparable to the remaining term of the notes from the redemption date to November 15, 2016, that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of a maturity most nearly equal to such remaining term.

"Comparable Treasury Price" means, with respect to any redemption date, if clause (ii) of the Adjusted Treasury Rate is applicable, the average of three, or such lesser number as is obtained by the Independent Investment Banker, Reference Treasury Dealer Quotations for such redemption date.

"Independent Investment Banker" means an independent investment banking or commercial banking institution of national standing appointed by the Company.

"Quotation Agent" means the Reference Treasury Dealer selected jointly by the Independent Investment Banker and the Company.

"Reference Treasury Dealer" means each of J.P. Morgan Securities LLC and its successors and assigns and two other nationally recognized investment banking firms selected by the Company that are primary U.S. Government securities dealers.

“Reference Treasury Dealer Quotations” means, with respect to each Reference Treasury Dealer and any redemption date, the average, as determined by the Independent Investment Banker, of the bid and asked prices for the Comparable Treasury Issue, expressed in each case as a percentage of its principal amount, quoted in writing to the Trustee by such Reference Treasury Dealer as of 5:00 p.m., New York City time, on the third business day immediately preceding such redemption date.

Notices of and conditions to redemption

The notes called for redemption become due on the date fixed for redemption. Notices of redemption will be mailed by first-class mail at least 30 but not more than 60 days before the redemption date to each holder of notes to be redeemed at its registered address, except that redemption notices may be mailed more than 60 days prior to the redemption date if the notice is issued in connection with a defeasance of the notes or a satisfaction and discharge of the notes. The notice of redemption for the notes will state the amount to be redeemed. On and after the redemption date, interest will cease to accrue on any notes that are redeemed. Any inadvertent defect in the notice of redemption, including an inadvertent failure to give notice, to any holder whose note has been selected for redemption will not impair or affect the validity of the redemption of any other note redeemed in accordance with the provisions of the indenture. If less than all of the notes are redeemed at any time, the trustee will select notes on a pro rata basis or by any other method the trustee deems fair and appropriate. We will issue a new note in a principal amount equal to the unredeemed portion of the original note in the name of the holder upon cancellation of the original note.

Any redemption may, in the Company’s discretion, be subject to the satisfaction of one or more conditions precedent.

Change of control offer

If a Change of Control Repurchase Event occurs, unless the Company has exercised its right to redeem the notes, the Company will be required to make an offer to each holder of the notes to repurchase all or any part (in excess of \$2,000 and in larger denominations in integral multiples of \$1,000) of that holder’s notes at a repurchase price in cash equal to 101% of the aggregate principal amount of the notes repurchased, plus any accrued and unpaid interest on the notes repurchased to, but excluding, the date of repurchase (subject to the right of holders of record on the relevant record date to receive interest on the relevant interest payment dates). Within 30 days following any Change of Control Repurchase Event or, at the option of the Company, prior to any Change of Control, but after the public announcement of the Change of Control, the Company will mail a notice to each holder, with a copy to the trustee, describing the transaction or transactions that constitute or may constitute the Change of Control Repurchase Event and offering to repurchase the notes on the payment date specified in the notice, which date will be no earlier than 30 days and no later than 60 days from the date such notice is mailed, and the instructions, as determined by us, consistent with the covenant described under this caption, that a holder must follow in order to have its notes repurchased. The notice shall, if mailed prior to the date of consummation of the Change of Control, state that the offer to repurchase is conditioned on a Change of Control Repurchase Event occurring on or prior to the payment date specified in the notice. The Company will comply with the requirements of Rule 14e-1 under the Securities Exchange Act of 1934, as amended (the “Exchange Act”), and any other securities laws and regulations to the extent those laws and regulations are applicable in connection with the repurchase of the notes as a result of a Change of Control Repurchase Event. To the extent that the provisions of any securities laws or regulations conflict with the Change of Control Repurchase Event provisions of the notes, the Company will comply with the applicable securities laws and regulations and will not be deemed to have breached its obligations under the Change of Control Repurchase Event provisions of the notes by virtue of such conflict or compliance.

On the repurchase date following a Change of Control Repurchase Event, the Company will, to the extent lawful:

- (1) accept for payment all the notes or portions of the notes properly tendered (and not withdrawn) pursuant to its offer;
- (2) deposit with the paying agent an amount equal to the aggregate purchase price in respect of all the notes or portions of the notes properly tendered (and not withdrawn); and
- (3) deliver or cause to be delivered to the trustee the notes properly accepted, together with an officers’ certificate stating the aggregate principal amount of notes being repurchased by the Company.

The paying agent will promptly mail to each holder of notes properly tendered (and not withdrawn), the purchase price for the notes, and the trustee will promptly authenticate and mail (or cause to be transferred by book-entry) to each holder a new note equal in principal amount to any unpurchased portion of any notes surrendered.

The Company will not be required to make an offer to repurchase the notes upon a Change of Control Repurchase Event if a third party makes such an offer in the manner, at the times and otherwise in compliance with the requirements for an offer made by the Company and such third party purchases all notes properly tendered (and not withdrawn).

The Change of Control Repurchase Event feature of the notes may in certain circumstances make more difficult or discourage a sale or takeover of the Company and, thus, the removal of incumbent management. The Change of Control Repurchase Event feature is a result of negotiations between the Company and the initial purchasers. The Company has no present intention to engage in a transaction involving a Change of Control, although it is possible that the Company could decide to do so at any time in the future. As contemplated by the definition of Change of Control, the Company could enter into certain transactions, including acquisitions, refinancings or other recapitalizations, that would not constitute a Change of Control under the indenture, but that could increase the amount of indebtedness outstanding at such time or otherwise affect the capital structure of the Company or credit ratings of the notes. Restrictions on the ability of the Company to incur Liens (as defined below) and enter into sale and leaseback transactions are contained in the covenants as described under the caption “—Covenants— Limitation on liens” and “—Covenants—Limitation on sale and leaseback transactions.” Except for the limitations contained in such covenants and the covenant relating to repurchases upon the occurrence of a Change of Control Repurchase Event, the indenture will not contain any covenants or provisions that may afford holders of the notes protection in the event of a highly leveraged transaction. In addition, holders of the notes may not be entitled to require the Company to repurchase the notes in certain circumstances involving a significant change in the composition of the Company’s board of directors, including in connection with a proxy contest, where the Company’s board of directors does not endorse a dissident slate of directors but approves them for purposes of the indenture.

Under certain circumstances, the Credit Agreement may prohibit us from repurchasing any notes. In addition, each of the Credit Agreement and the Senior Subordinated Notes provides that the occurrence of certain change of control events (including a Change of Control as defined in each respective document) with respect to the Company would constitute a default thereunder. Future indebtedness that we may incur may include similar prohibitions or default provisions, or both. If a Change of Control occurs at a time when we are prohibited from purchasing the notes, we may seek the consent of our lenders to purchase the notes or may attempt to refinance the indebtedness that contain such prohibitions or default provisions. If we do not obtain such consent or repay such indebtedness, we will continue to be restricted from purchasing the notes. In such case, our failure to offer to purchase notes would constitute a default under the indenture, which would, in turn, constitute a default under one or more of the Credit Agreement, the Senior Subordinated Notes and such future indebtedness.

Future indebtedness that we may incur may require the repurchase of such indebtedness upon certain change of control events or such change of control events could constitute a default under the documentation governing such indebtedness. The definition of a change of control event under the Credit Agreement and the Senior Subordinated Notes is, and under such future indebtedness may be, different than the definition of a Change of Control Repurchase Event under the indenture. We may become obligated to repay or make an offer to repurchase other indebtedness, even though we are not required to make an offer to repurchase the notes.

The exercise by the holders of the notes of their right to require us to repurchase their notes could cause a default under the Credit Agreement, the Senior Subordinated Notes or future indebtedness that we may incur, even if the Change of Control itself does not, due to the financial effect of such repurchase on us.

Our ability to pay cash to the holders of notes following the occurrence of a Change of Control Repurchase Event may be limited by our then existing financial resources. There can be no assurance that sufficient funds will be available when necessary to make any required repurchases.

The definition of “Change of Control” includes a disposition of all or substantially all of the assets of the Company to any Person. Although there is a limited body of case law interpreting the phrase “substantially all”, there is no precise established definition of the phrase under applicable law. Accordingly, in certain circumstances there may be a degree of uncertainty as to whether a particular transaction would involve a disposition of “all or substantially all” of the assets of the Company. As a result, it may be unclear as to whether a Change of Control has occurred and whether a holder of notes may require the Company to make an offer to repurchase the notes as described above.

For purposes of the foregoing discussion of a repurchase at the option of holders, the following definitions are applicable:

“Change of Control” shall occur if: (1) any “person” or “group” (as such terms are used in Sections 13(d) and 14(d) of the Exchange Act) is or becomes the “beneficial owner” (as defined in Rules 13d-3 and 13d-5 under the Exchange Act, except

that, for purposes of this clause (1), such person shall be deemed to have “beneficial ownership” of all shares that any such person has the right to acquire, whether such right is exercisable immediately or only after the passage of time or the giving of notice), directly or indirectly, of more than 35% of the then outstanding shares of common stock or more than 35% of the total voting power of the Voting Stock of the Company; (2) any “person” or “group” (as such terms are used in clause (1) of this definition) acquires by proxy or otherwise (whether such right is exercisable immediately or only after the passage of time or the giving of notice), the right to vote on any matter, of more than 35% of the then outstanding shares of common stock or more than 35% of the total voting power of the Voting Stock of the Company; (3) individuals who on the Issue Date constituted the Board of Directors (together with any new directors whose election by such Board of Directors or whose nomination for election by the stockholders of the Company was approved by a vote of 66²/₃% of the directors of the Company then still in office who were either directors on the Issue Date or whose election or nomination for election was previously so approved) cease for any reason to constitute a majority of the Board of Directors then in office; (4) stockholders of the Company approve a plan of dissolution or complete (or substantially complete) liquidation of the Company or the Board of Directors approves such a plan other than in connection with a reorganization, recapitalization, redomestication, reincorporation, restructuring or similar transaction following which all or a majority of the businesses of the Company and its Subsidiaries (taken as a whole) shall be continued by the Company or any successor thereto; (5) the reorganization, restructuring, recapitalization, reincorporation, merger, redomestication or consolidation of the Company (a “Business Combination”) unless, following such Business Combination, (A) all or substantially all of the persons who were the beneficial owners of the common stock and the Voting Stock of the Company outstanding immediately prior to such Business Combination beneficially own, directly or indirectly, more than 50% of the common equity securities or more than 50% of the combined voting power of the Voting Stock of the person resulting from such Business Combination outstanding after such Business Combination (including a person, which as a result of such Business Combination, owns the Company or all or substantially all of the assets of the Company) in substantially the same proportions as their ownership immediately prior to such Business Combination of the then outstanding common stock and the combined voting power of the then outstanding Voting Stock of the Company, respectively, (B) no “person” or “group” (as such terms are used in clause (1) of this definition) (excluding (x) any person resulting from such Business Combination and (y) any employee benefit plan (or related trust) of the Company or any person resulting from such Business Combination) beneficially owns more than 50% of the common equity securities or more than 50% of the combined voting power of the Voting Stock of the person resulting from such Business Combination outstanding after such Business Combination, except to the extent that such beneficial ownership existed prior to such Business Combination with respect to the then outstanding common stock and the then outstanding Voting Stock of the Company, and (C) at least a majority of the members of the board of directors (or similar governing body) of the person resulting from such Business Combination were members of the Board of Directors of the Company at the earliest of the time of the execution of the initial agreement providing for such Business Combination or at the time of the action of the Board of Directors of the Company approving such Business Combination or at the time of action of the stockholders of the Company approving such Business Combination; or (6) the sale, lease, exchange or other transfer (in one transaction or a series of related transactions) of all or substantially all the assets of the Company (determined on a consolidated basis) to another person.

“Change of Control Repurchase Event” means the occurrence of both a Change of Control and a Ratings Event.

“Investment Grade” means a rating of Baa3 or better by Moody’s (or its equivalent under any successor Rating Categories of Moody’s), a rating of BBB- or better by S&P (or its equivalent under any successor Rating Categories of S&P) and the equivalent Investment Grade credit rating from any additional Rating Agency or Rating Agencies selected by the Company.

“Moody’s” means Moody’s Investors Service Inc.

“Rating Agency” means (1) each of Moody’s and S&P and (2) if either of Moody’s or S&P ceases to rate the notes or fails to make a rating of the notes publicly available for reasons outside of the control of the Company, a “nationally recognized statistical rating organization” within the meaning of Section 3(a)(62) under the Exchange Act, selected by the Company (as certified by a resolution of the board of directors of the Company) as a replacement agency for

Moody's or S&P, or both, as the case may be.

“Rating Category” means: (i) with respect to S&P, any of the following categories: BBB, BB, B, CCC, CC, C and D (or equivalent successor categories); (ii) with respect to Moody's, any of the following categories: Baa, Ba, B, Caa, Ca, C and D (or equivalent successor categories); and (iii) the equivalent of any such category of S&P or Moody's used by another Rating Agency. In determining whether the rating of the notes has decreased by one or more gradations, gradations within Rating Categories (+ and - for S&P; 1, 2 and 3 for Moody's; or the equivalent gradations for another Rating Agency) shall be taken

into account (e.g., with respect to S&P, a decline in a rating from BB+ to BB, as well as from BB- to B+, will constitute a decrease of one gradation).

“Rating Date” means the date that is 60 days prior to the earlier of (i) a Change of Control or (ii) public notice of the occurrence of a Change of Control or of the intention by the Company to effect a Change of Control.

“Ratings Event” means the occurrence of the events described in (a) or (b) of this definition on, or within 60 days after the earlier of, (i) the occurrence of a Change of Control or (ii) public notice of the occurrence of a Change of Control or the intention by the Company to effect a Change of Control (which period shall be extended so long as the rating of the notes is under publicly announced consideration for a possible downgrade by any of the Rating Agencies): (a) if the notes are rated by both Rating Agencies on the Rating Date as Investment Grade, the rating of the notes shall be reduced so that the notes are rated below Investment Grade by both Rating Agencies, or (b) if the notes are rated below Investment Grade by at least one Rating Agency, the ratings of the notes by both Rating Agencies shall be decreased by one or more gradations (including gradations within Rating Categories, as well as between Rating Categories) and the notes are then rated below Investment Grade by both Rating Agencies.

“S&P” means Standard & Poor’s, a division of The McGraw-Hill Companies, Inc.

“Voting Stock” of any specified “person” (as that term is used in Section 13(d)(3) of the Exchange Act) as of any date means the capital stock of such person that is at the time entitled to vote generally in the election of the board of directors or other governing body of such person.

Subsidiary Guarantees

The Subsidiary Guarantors jointly and severally guarantee, on a senior unsecured basis, our obligations under the notes. The obligations of each Subsidiary Guarantor under its Subsidiary Guarantee are designed to be limited as necessary to prevent that Subsidiary Guarantee from constituting a fraudulent conveyance under applicable law, and, therefore, such Subsidiary Guarantee is specifically limited to an amount that such Subsidiary Guarantor could guarantee without such Subsidiary Guarantee constituting a fraudulent conveyance. This limitation, however, may not be effective to prevent such Subsidiary Guarantee from constituting a fraudulent conveyance. If a Subsidiary Guarantee were rendered voidable, it could be subordinated by a court to all other indebtedness (including guarantees and other contingent liabilities) of the applicable Subsidiary Guarantor, and, depending on the amount of such indebtedness, a Subsidiary Guarantor’s liability on its Subsidiary Guarantee could be reduced to zero. See “Risk Factors—Federal and state statutes could allow a court to void the notes or any of our subsidiaries’ guarantees of the notes under fraudulent transfer laws and require noteholders to return payments received by us or the subsidiary guarantors to us or the subsidiary guarantors or to a fund for the benefit of their respective creditors or subordinate the notes or the guarantees to other claims of us or the subsidiary guarantors.” As of the date hereof, the Subsidiary Guarantors are GrafTech Finance Inc., GrafTech Holdings Inc., GrafTech USA LLC, Seadrift Coke L.P., Fiber Materials Inc., GrafTech Global Enterprises Inc., GrafTech International Holdings Inc., GrafTech DE LLC, GrafTech Seadrift Holding Corp., GrafTech International Trading Inc., GrafTech Technology LLC, GrafTech NY Inc., Graphite Electrode Network LLC and Intermat.

Each Subsidiary Guarantor that makes a payment under its Subsidiary Guarantee will be entitled upon payment in full of all guaranteed obligations under the indenture to a contribution from each other Subsidiary Guarantor in an amount equal to such other Subsidiary Guarantor’s pro rata portion of such payment based on the respective net assets of all the Subsidiary Guarantors at the time of such payment determined in accordance with GAAP.

Pursuant to the indenture, a Subsidiary Guarantor may consolidate with, merge with or into, or transfer all or substantially all its assets to any other Person to the extent described under “—Covenants—Merger, consolidation or sale of assets”; provided, however, that, in the case of the consolidation, merger or transfer of all or substantially all the assets of such Subsidiary Guarantor, if such other Person is not the Company or a Subsidiary Guarantor, such Subsidiary Guarantor’s obligations under its Subsidiary Guarantee must be expressly assumed by such other Person, except that such assumption will not be required in the case of the consolidation or merger of a Subsidiary Guarantor or the sale or other transfer of Capital Stock of a Subsidiary Guarantor, following which such Subsidiary Guarantor is no longer, or the entity resulting from such consolidation or merger is not, a Domestic Subsidiary, or in the case of a sale or other transfer of all or substantially all of its assets to a person who is not following such sale or transfer, a Domestic Subsidiary. Upon any such sale or disposition, the obligor on the related Subsidiary Guarantee

will be released from its obligations thereunder.

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The Subsidiary Guarantee of a Subsidiary Guarantor also will be released:

- upon the unconditional release or discharge of all guarantees or indebtedness that would have required such
- (1) Subsidiary Guarantor to enter into a Guarantee Agreement pursuant to the covenant described under “—Covenants—Future Subsidiary Guarantors”; or
 - (2) if we exercise our legal defeasance option or our covenant defeasance option as described under “— Defeasance” or if our obligations under the indenture are discharged in accordance with the terms of the indenture.

Covenants

Except as described under “—Limitation on liens” and “—Limitation on sale and leaseback transactions,” neither the Company nor any of its Subsidiaries will be restricted by the indenture from:

- incurring any indebtedness or other obligation;
- paying dividends or making distributions on any Capital Stock; or
- purchasing or redeeming any Capital Stock.

In addition, the Company is not required to maintain any financial ratios or specified levels of net worth or liquidity or to repurchase, redeem or modify the terms of any of the notes upon a change of control or other events involving us or any of our Subsidiaries which may adversely affect the creditworthiness of the notes, except to the limited extent described under “—Change of control offer.” Among other things, the indenture does not contain covenants designed to afford holders of the notes any protections in the event of a highly leveraged or other transaction involving the Company that may adversely affect holders of the notes, except to the limited extent described under “—Change of control offer.”

The indenture contains the following principal covenants:

Limitation on liens

The Company will not incur, and will not permit any of its Subsidiaries to incur, any Indebtedness secured by a mortgage, security interest, pledge, lien, charge or other similar encumbrance (collectively, “Liens”) upon (a) any Principal Property of the Company or any Principal Property of a Subsidiary or (b) any shares of stock or other equity interests or Indebtedness of any Subsidiary that owns a Principal Property (whether such Principal Property, shares of stock or other equity interests or Indebtedness is now existing or owned or hereafter created or acquired), in each case, unless prior to or at the same time, the notes (together with (i) if required by the terms thereof existing on the Issue Date, the Senior Subordinated Notes and (ii) at the option of the Company, any other Indebtedness of the Company or any Subsidiary ranking equally in right of payment with the notes) are equally and ratably secured with or, at the option of the Company, prior to, such Indebtedness.

Any Lien created for the benefit of the holders of the notes pursuant to the preceding sentence shall provide by its terms that such Lien shall be automatically and unconditionally released and discharged upon the unconditional release and discharge of such Lien in respect of such other Indebtedness.

The foregoing restriction does not apply, with respect to any Person, to any of the following:

- deposits to secure public, statutory or regulatory obligations of such Person or deposits to secure surety, performance or appeal bonds to which such Person is a party, or deposits to secure the performance of bids, trade contracts (other than for Indebtedness) or leases (other than Capital Lease Obligations), or deposits as security
- (1) for contested taxes or import duties or for the payment of rent, in each case Incurred in the ordinary course of business, and deposits to secure obligations in respect of Interest/Exchange Rate Protection Agreements or Commodity Rate Protection Agreements;
- Liens imposed by law, such as carriers’, warehousemen’s, mechanics’, materialmen’s, repairmen’s, service provider’s
- (2) Liens or other like Liens arising in the ordinary course of business, in each case for sums not yet overdue by more than 30 days or being contested in good faith by appropriate proceedings, or Liens arising out of judgments or awards against such Person with respect to which such Person shall then be proceeding with an appeal or other

proceedings for review, or Liens arising solely by virtue of any statutory or common law provision or standard form of account agreement relating to banker's Liens, rights of set-off or similar rights and remedies as to deposit accounts or other funds maintained with a creditor depository institution; provided, however, that (A) such deposit account is not a dedicated cash collateral account and is not subject to restrictions against access by the Company in excess of those set forth by regulations promulgated by the Federal Reserve Board and (B) such deposit account is not intended by the Company to provide collateral to The Depository Trust Company, or DTC;

- (3) Liens for taxes, assessments or other governmental charges, levies or claims not yet delinquent, or which are for less than \$7.5 million in the aggregate, or which are being contested in good faith by appropriate proceedings, or for property taxes that the Company or the affected Subsidiary has determined to abandon if the sole recourse for such tax, assessment, charge levy or claim is to such property;
 - minor survey exceptions, minor encumbrances, easements, trackage rights or reservations of, or rights of others for, licenses, special assessments, rights-of-way, sewers, electric lines, telegraph and telephone lines and other
- (4) similar purposes, or zoning or other restrictions as to the use of real property or Liens incurred in the ordinary course of business and which do not in the aggregate materially adversely affect the value of the relevant properties or materially impair their use in the operation of the business of such Person;
 - Liens securing indebtedness incurred to finance the construction, purchase or lease of, or repairs, improvements or additions to, property, plant or equipment of such Person; provided, however, that no such Lien may extend to any other property owned by such Person at the time such Lien is Incurred (other than assets and property affixed
- (5) or appurtenant thereto, including improvements and accessions), and the indebtedness (other than any interest thereon) secured by such Lien may not be incurred more than 270 days after the later of the acquisition, completion of construction, repair, improvement, addition or commencement of full operation of the property subject to such Lien;
- (6) Liens existing on the Issue Date;
 - Liens on property or shares of Capital Stock of another Person at the time such other Person becomes a subsidiary of such Person; provided, however, that such Liens may not extend to any other property owned by
- (7) such Person (other than assets and property affixed or appurtenant thereto), the Company or any other Subsidiary;
- (8) Liens securing industrial revenue or pollution control bonds issued for the benefit of the Company or any Subsidiary;
 - Liens on property at the time such Person or any of its subsidiaries acquires the property, including any acquisition by means of a merger or consolidation with or into such Person or a subsidiary of such Person;
- (9) provided, however, that such Liens may not extend to any other property owned by such Person (other than assets and property affixed or appurtenant thereto, including improvements and accessions), the Company or any other Subsidiary;
- (10) Liens securing indebtedness or other obligations of a subsidiary of such Person owing to such Person or a wholly-owned subsidiary of such Person;
 - Liens to secure any Refinancing (or successive Refinancings) as a whole, or in part, of any indebtedness secured by any Lien referred to in clauses (5), (6), (7), (8), (9), (14), (20) or (24); provided, however, that: (A) such new Lien shall be limited to all or part of the same property and assets that secured or, under the written agreements pursuant to which the original Lien arose, could secure the original Lien (plus assets and property affixed or appurtenant thereto, including improvements and accessions to, such property or proceeds or
- (11) distributions thereof); and (B) the indebtedness secured by such Lien at such time is not increased to any amount greater than the sum of (x) the outstanding principal amount or, if greater, committed amount of the indebtedness described in clauses (5), (6), (7), (8), (9), (14), (20) or (24) at the time the original Lien became a Lien permitted under the indenture and (y) an amount necessary to pay any fees and expenses, including premiums, related to such refinancing, refunding, extension, renewal or replacement;
- (12) pledges and deposits made in the ordinary course of business in compliance with the Federal Employers Liability Act or any other worker's compensation, unemployment insurance and other social security laws or regulations or in respect of health, welfare, disability, retirement or other employee benefits and deposits

securing liability to insurance carriers under insurance or self-insurance arrangements in respect of such obligations;

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- (13) Liens securing reimbursement obligations in respect of trade-related letters of credit and covering the goods (or the documents of title in respect of such goods) financed by such letters of credit;
- (14) Liens consisting of interests of lessors under capital leases;
Liens arising by operation of law pursuant to Section 107(1) of CERCLA or pursuant to analogous state or foreign law, for costs or damages which are not yet due (by virtue of a written demand for payment by a Governmental Authority) or which are being contested in good faith, or on property that the Company or a
- (15) Subsidiary has determined to abandon if the sole recourse for such costs or damages is to such property; provided, however, that the aggregate liability of the Company and its Subsidiaries, with respect to the matters giving rise to all such Liens shall not, in the reasonable estimate of the Company (in light of all attendant circumstances, including the likelihood of contribution by third parties), exceed \$40.0 million;
Liens with respect to property and assets for any of the obligations securing cash management arrangements
- (16) between or among the Company and the Subsidiaries, or any combination thereof, as contemplated by the Credit Agreement (including guarantees, letters of credit and bank guarantees in respect thereof permitted thereunder) entered into in the ordinary course of business;
the sale of (and Liens that may arise relating to) (a) accounts receivable in connection with collection in the
- (17) ordinary course of business and Liens which might arise as a result of the sale or other disposition of accounts receivable or (b) accounts receivable factoring as and to the extent permitted by the Credit Agreement;
licenses of intellectual property (a) in the ordinary course of business that do not constitute
- (18) dispositions of intellectual property or (b) that constitute dispositions of such intellectual property made in accordance with the covenant described following the caption “—Covenants—Merger, consolidation or sale of assets”;
- Liens on machinery, equipment and construction in progress of Subsidiaries organized under the laws of Brazil
- (19) securing obligations not constituting Indebtedness in an aggregate amount for all such obligations at any time not to exceed \$5.0 million;
Liens arising out of capitalized or operating lease transactions permitted to be incurred as described under “—Covenants—Limitation on sale and leaseback transactions”, so long as such Liens (A) attach only to the property
- (20) sold in such transaction and any asset or property affixed or appurtenant thereto, including improvements and accessions and (B) do not interfere with the business of the Company or any of its Subsidiaries in any material respect;
- (21) any leases or subleases to other Persons of properties or assets owned or leased by the Company or a Subsidiary;
Liens (a) consisting of rights of first refusal, put/sale options and other customary arrangements with respect to, and restrictions on, the sale, pledge or other transfer of Capital Stock in Persons in which not all the Capital
- (22) Stock is owned by the Company and the other Subsidiaries, in each case to the extent such Liens do not secure indebtedness and (b) on any cash earnest money deposits in connection with any letter of intent or purchase agreement in connection with a transaction permitted under the indenture governing the notes;
- (23) Liens on assets subject to a sale and leaseback transaction securing Attributable Debt permitted to be incurred as described following the caption “—Covenants—Limitation on sale and leaseback transactions;” and
- (24) Liens on property and assets secured pursuant to, and in accordance with, the Credit Agreement.
- Notwithstanding the foregoing restrictions, the Company and its Subsidiaries are permitted to incur Indebtedness secured by a Lien which would otherwise be subject to the foregoing restrictions without equally and ratably securing the notes, if any; provided that, after giving effect to such Indebtedness, the aggregate amount of all Indebtedness secured by Liens (not including Liens permitted under clauses (1) through (22) above), together with all Attributable Debt outstanding pursuant to the second paragraph under “—Limitation on sale and leaseback transactions” does not exceed 15% of the Consolidated Net Tangible Assets of the Company calculated as of the date of the creation or incurrence of such Lien. The Company and its Subsidiaries also may, without equally and ratably securing the notes, create or incur Liens that extend, renew, substitute or

replace (including successive extensions, renewals, substitutions or replacements), in whole or in part, any Lien permitted pursuant to the preceding sentence.

Notwithstanding anything herein to the contrary, in no event shall the Company or any Subsidiary grant a security interest for the benefit of the holders of the Senior Subordinated Notes unless, prior to or at the same time, the notes are equally and ratably secured with the Senior Subordinated Notes; provided, however, that any security interest created for the benefit of the holders of the notes pursuant to this provision shall provide by its terms that such security interest shall be automatically and unconditionally released and discharged upon the unconditional release and discharge of the security interest for the benefit of the Senior Subordinated Notes.

Limitation on sale and leaseback transactions

The Company will not directly or indirectly, and will not permit any of its Subsidiaries that owns a Principal Property to, directly or indirectly, enter into any sale and leaseback transaction for the sale and leasing back of any Principal Property, whether now owned or hereafter acquired, unless:

- (1) such transaction was entered into prior to the Issue Date;
 - such transaction was for the sale and leasing back to the Company or one of its Subsidiaries of any property by
- (2) the Company or one of its Subsidiaries and the direct or indirect proceeds of the sale of such Principal Property to be leased are at least equal to their fair value, as determined by our board of directors;
 - the Company would be entitled to incur indebtedness secured by a Lien with respect to such sale and leaseback
- (3) transaction without equally and ratably securing the notes pursuant to the last paragraph under “—Limitation on liens”;
- (4) such transaction is for the sale of any property to, and leasing back to the Company or one of its Subsidiaries from, an industrial development authority or municipal equivalent thereof; or
 - the Company applies an amount equal to the net proceeds from the sale of such property (which shall be at least equal to their fair value, as determined by our board of directors) to the purchase of other property or assets used or useful in the business of the Company or its Subsidiaries or to the retirement of long-term indebtedness within
- (5) 365 days before or after the effective date of any such sale and leaseback transaction; provided that, in lieu of applying such amount to the retirement of long-term indebtedness, the Company may deliver notes (including additional notes, if any) to the trustee for cancellation, such notes to be credited at the cost thereof to it.

Notwithstanding the restrictions set forth in the preceding paragraph, the Company and its Subsidiaries may enter into any sale and leaseback transaction which would otherwise be subject to the foregoing restrictions, if after giving effect thereto the aggregate amount of all Attributable Debt with respect to such transactions, together with all Indebtedness outstanding pursuant to the last paragraph under “—Limitation on liens,” does not exceed 15% of the Consolidated Net Tangible Assets of the Company calculated as of the closing date of the sale and leaseback transaction.

Merger, consolidation or sale of assets

The Company will not, in a single transaction or through a series of related transactions, consolidate or merge with or into any other Person, or, directly or indirectly, sell or convey substantially all of its assets to another Person or group of affiliated Persons, except that the Company may consolidate or merge with, or sell or convey substantially all of its assets to another Person if (i) the Company is the continuing Person or the successor Person (if other than the Company) is organized and existing under the laws of the United States of America, any State thereof or the District of Columbia and such Person expressly assumes, by an indenture supplemental thereto in a form reasonably satisfactory to the trustee, all obligations of the Company under the indenture, including payment of the principal and interest on the notes, and the performance and observance of all of the covenants and conditions of the indenture to be performed by the Company and (ii) there is no default under the indenture. Upon such a succession, the Company will be relieved from any further obligations under the indenture. For purposes of this paragraph, “substantially all of its assets” means, at any date, a portion of the non-current assets reflected in the Company’s consolidated balance sheet as of the end of the most recent quarterly period that represents at least 66% of the total reported value of such assets.

Each of the Subsidiary Guarantors will not, and the Company will not permit any Subsidiary Guarantor to, in a single transaction or through a series of related transactions, consolidate or merge with or into, or directly or indirectly sell or convey substantially all of its assets to another Person or group of affiliated Persons, except (a) in the case of a Subsidiary Guarantor that has been disposed of in its entirety to another Person (other than to the Company or an affiliate of the Company), whether through a merger, consolidation or sale of Capital Stock or assets (in which case such Subsidiary Guarantor will be relieved from any further obligations under the indenture or a Guarantee Agreement) or (b) where (i) a Subsidiary Guarantor that is the continuing Person or the successor Person (if other than the Subsidiary Guarantor) is organized and existing under the laws of the United States of America, any State thereof or the District of Columbia and such Person expressly assumes, by a Guarantee Agreement in a form reasonably satisfactory to the trustee, all obligations of such Subsidiary Guarantor, if any, under the indenture, and (ii) there is no default under the indenture

Future subsidiary guarantors

The Company will not cause or permit (a) any of its Subsidiaries (other than a Foreign Subsidiary), directly or indirectly, to guarantee any Indebtedness of the Company or any other Subsidiary or (b) any Foreign Subsidiary, directly or indirectly, to guarantee any Indebtedness of the Company or any Subsidiary Guarantor unless such Subsidiary is a Subsidiary Guarantor or contemporaneously executes and delivers to the trustee a Guarantee Agreement pursuant to which such Subsidiary will guarantee payment of the notes on the same terms and conditions as those set forth in the indenture and applicable to the other Subsidiary Guarantors and delivers to the trustee an Opinion of Counsel (which may contain customary exceptions) that such Guarantee Agreement has been duly authorized, executed and delivered by such Subsidiary and constitutes a legal, valid, binding and enforceable obligation of such Subsidiary. For the avoidance of doubt, any Subsidiary of the Company that guarantees the Senior Subordinated Notes will be a Subsidiary Guarantor and will guarantee payment of the notes on the terms and conditions set forth in the indenture.

SEC reports

Whether or not the Company is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act, the Company will file with the SEC subject to the next sentence and provide the trustee and noteholders with such annual and other reports as are specified in Sections 13 and 15(d) of the Exchange Act and applicable to a U.S. corporation subject to such Sections, such reports to be so filed and provided at the times specified for the filings of such reports under such Sections and containing all the information, audit reports and exhibits required for such reports. If, at any time, the Company is not subject to the periodic reporting requirements of the Exchange Act for any reason, the Company will nevertheless continue filing the reports specified in the preceding sentence with the SEC within the time periods within which they would be required to be filed unless the SEC will not accept such a filing. The Company agrees that it will not take any action for the purpose of causing the SEC not to accept such filings. If, notwithstanding the foregoing, the SEC will not accept such filings for any reason, the Company will post the reports specified in the preceding sentence on its website within such time periods. For purposes of this paragraph, filing of reports on the website of the SEC or the Company's website shall be deemed to satisfy the delivery requirements with respect to the trustee and noteholders.

In addition, at any time when the Company is not subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act and the notes are not freely tradable under the U.S. Securities Act of 1933, as amended (the "Securities Act"), the Company will furnish to the holders of the notes and to prospective investors, upon the requests of such holders, any information required to be delivered pursuant to Rule 144A(d) under the Securities Act.

Events of default

Each of the following is an Event of Default:

- (1) a default in paying interest on the notes when due, and such default continues for 30 days;
- (2) a default in paying principal of or premium, if any, on any of the notes when due at its maturity, upon optional redemption, upon required purchase, upon declaration of acceleration or otherwise;
- (3) the failure by the Company to comply with its obligations under "—Covenants—Merger, consolidation or sale of assets";

- (4) the failure by the Company to repurchase notes tendered for repurchase following the occurrence of a Change of Control Repurchase Event in conformity with the covenant described under “—Change of control offer”;
- (5) a default in the performance, or breach, of any other covenant or warranty in the indenture by the Company or any Subsidiary Guarantor and such default continues for a period of 60 days after notice of such failure has been given to the Company as provided in the indenture;
- (6) Indebtedness of the Company, any Subsidiary Guarantor or any Significant Subsidiary is not paid within any applicable grace period after final maturity or is accelerated by the holders thereof because of a default and the total amount of such Indebtedness unpaid or accelerated exceeds \$50.0 million (the “cross acceleration provision”);
- (7) certain events of bankruptcy, insolvency, or reorganization occur (the “bankruptcy provision”);
- (8) any judgment or decree for the payment of money in excess of \$50.0 million is entered against the Company, any Subsidiary Guarantor or any Significant Subsidiary, remains outstanding for a period of 60 consecutive days following such judgment and is not discharged, waived or stayed (the “judgment default provision”);
- (9) any Subsidiary Guarantee ceases to be in full force and effect (other than in accordance with the terms of such Subsidiary Guarantee) or any Subsidiary Guarantor denies or disaffirms its obligations under its Subsidiary Guarantee; or
- (10) a default under the Senior Subordinated Notes.

A default under clause (5) will not constitute an Event of Default until the trustee or the holders of not less than 25% in principal amount of the outstanding notes notify the Company of the default and the Company does not cure such default within the time specified (not less than 60 days after such notice has been given to the Company) after receipt of such notice. Any default for the failure to deliver any report within the time periods prescribed in the covenant described under “—Covenants—SEC reports” or to deliver any notice or certificate pursuant to any other provision of the indenture shall be deemed to be cured upon the subsequent delivery of any such report, notice or certificate, even though such delivery is not within the prescribed time period specified.

If an Event of Default occurs and is continuing (other than an Event of Default described in clause (7) above), either the trustee or the holders of not less than 25% in principal amount of the outstanding notes may declare the principal of and accrued and unpaid interest on all the notes to be due and payable. Upon such a declaration, such principal and interest shall be due and payable immediately. If an Event of Default relating to certain events of bankruptcy, insolvency or reorganization of the Company occurs and is continuing, the principal of and interest on all the notes will ipso facto become and be immediately due and payable without any declaration or other act on the part of the trustee or any holders of the notes. Under certain circumstances, the holders of a majority in principal amount of the outstanding notes may rescind any such acceleration with respect to all of the notes and its consequences.

Subject to the provisions of the indenture relating to the duties of the trustee, in case an Event of Default occurs and is continuing, the trustee will be under no obligation to exercise any of the rights or powers under the indenture at the request or direction of any of the holders of the notes unless such holders have offered to the trustee reasonable indemnity or security against any loss, liability or expense. If an Event of Default occurs and is continuing, the trustee may use any sums that it holds under the indenture for its own reasonable compensation and expenses incurred prior to paying any sums to the holders of notes.

Before any holder of notes may institute action for any remedy, except to enforce the right to receive payment of principal, premium (if any) or interest when due, the holders of not less than 25% in principal amount of the outstanding notes must request the trustee to take action.

Subject to certain restrictions, the holders of a majority in principal amount of the outstanding notes are given the right to direct the time, method and place of conducting any proceeding for any remedy available to the trustee or of exercising any trust or power conferred on the trustee. The trustee, however, may refuse to follow any direction that conflicts with law or the

indenture or that the trustee determines is unduly prejudicial to the rights of any other holder of a note or that would involve the trustee in personal liability.

If a default occurs, is continuing and is known to the trustee, the trustee must mail to each holder of the notes notice of the default within 90 days after it occurs. Except in the case of a default in the payment of principal of or interest on any note, the trustee may withhold notice if and so long as a committee of its trust officers in good faith determines that withholding notice is not opposed to the interest of the holders of the notes. In addition, we are required to deliver to the trustee, within 120 days after the end of each fiscal year, a certificate indicating whether the signers thereof know of any default that occurred during the previous year. We are required to deliver to the trustee, within 30 days after the occurrence thereof, written notice of any event which would constitute certain defaults, their status and what action we are taking or propose to take in respect thereof.

Amendments and waivers

Subject to certain exceptions, the indenture may be amended with the consent of the holders of a majority in principal amount of the notes then outstanding (including consents obtained in connection with a tender offer or exchange offer for the notes) and any past default or compliance with any provisions may also be waived with the consent of the holders of a majority in principal amount of the notes then outstanding. However, without the consent of each holder of an outstanding note affected thereby, an amendment or waiver may not:

- change the fixed maturity of any notes or extend the time for payment of any installment of interest or premium on any notes, or reduce the principal amount of any notes, or reduce the rate of interest on any notes, or reduce the premium payable upon redemption of any notes, or reduce the amount of principal of an original issue
- (1) discount note that would be due and payable upon a declaration of acceleration of the maturity thereof, or change the currency in which the notes are payable or impair the right to institute suit for the enforcement of any payment after the maturity or the redemption date, if applicable, of any notes, or adversely affect any right of the holder of any notes to require the Company to repurchase or redeem that note;
- (2) reduce the percentage in principal amount of outstanding notes, the consent of the holders of which is required for any waiver or amendment;
- (3) modify the provisions of the indenture relating to the waiver of past defaults or the waiver provisions or make any change in the amendment provisions which requires each holder's consent;
- (4) make any change in the ranking or priority of any notes that would adversely affect the noteholders;
- (5) make any change in, or release other than in accordance with the indenture, any Subsidiary Guarantee that would adversely affect the noteholders; or
- (6) impair the right of any holder of notes to receive payment of principal of and interest on such holder's notes on or after the due dates therefor.

Notwithstanding the foregoing, without the consent of any holder of notes, the Company, the Subsidiary Guarantors and the trustee may amend the indenture:

- (1) to evidence the succession of another corporation to the obligations of the Company or any Subsidiary Guarantor under the indenture, the notes or a Subsidiary Guarantee, as applicable;
to add to the covenants of the Company or any Subsidiary Guarantor further covenants for the benefit or
- (2) protection of the holders of notes or to surrender any right or power conferred upon the Company or any Subsidiary Guarantor;
- (3) to add any additional events of default with respect to the notes;
- (4) to make any change that would provide additional rights or benefits to the holders of notes or does not adversely affect the rights of any holder of notes;

- (5) to comply with any requirement of the SEC in connection with the qualification of the indenture under the Trust Indenture Act;
 - to conform the text of the indenture to any provision of this “Description of the Notes” to the extent that such
- (6) provision in this “Description of the notes” was intended to be a verbatim recitation of a provision in the indenture, the notes or a Subsidiary Guarantee;
- (7) to secure the notes;
- (8) to evidence the appointment of a successor trustee and to add to or change provisions of the indenture necessary to provide for or facilitate the administration of the trusts under the indenture by more than one trustee;
 - to make any amendment to the provisions of the indenture relating to the transfer and legending of the notes;
- (9) provided, however, that (a) compliance with the indenture as so amended would not result in notes being transferred in violation of the Securities Act or any other applicable securities laws and (b) such amendment does not materially and adversely affect the rights of holders to transfer notes;
- (10) to add guarantees with respect to the notes, including any Subsidiary Guarantee;
 - to cure any ambiguity or omission, to correct or supplement any provision of the indenture which may be
- (11) defective or inconsistent with another provision of the indenture or to make other amendments that do not adversely affect the interests of the holders of notes; or
 - to provide for uncertificated notes in addition to or in place of certificated notes (provided that the
- (12) uncertificated notes are issued in registered form for purposes of Section 163(f) of the Code, or in a manner such that the uncertificated notes are described in Section 163(f)(2)(B) of the Code).

The consent of the holders of notes is not necessary under the indenture to approve the particular form of any proposed amendment. It is sufficient if such consent approves the substance of the proposed amendment.

After an amendment under the indenture becomes effective, we are required to mail to holders of notes a notice briefly describing such amendment. However, the failure to give such notice to all holders of notes, or any defect therein, will not impair or affect the validity of the amendment.

Neither the Company nor any affiliate of the Company may, directly or indirectly, pay or cause to be paid any consideration, whether by way of interest, fee or otherwise, to any holder for or as an inducement to any consent, waiver or amendment of any of the terms or provisions of the indenture or the notes unless such consideration is offered to all holders and is paid to all holders that so consent, waive or agree to amend in the time frame set forth in solicitation documents relating to such consent, waiver or agreement.

Satisfaction and discharge

The indenture shall be satisfied and discharged when (1) the Company delivers to the trustee all notes then outstanding for cancellation or (2) all outstanding notes not delivered to the trustee for cancellation shall have become due and payable, are to become due and payable within one year or are to be called for redemption within one year and the Company shall irrevocably deposit with the trustee an amount sufficient to pay the principal of, and premium, if any, and interest to the date of maturity, or redemption (or to the date of deposit, in the case of notes that have become due and payable) on, all notes then outstanding, provided that in either case the Company shall have paid all other sums payable under the indenture.

Defeasance

At any time, we may terminate all our obligations under the notes, the Subsidiary Guarantees and the indenture (“legal defeasance”), except for certain obligations, including those respecting the defeasance trust and obligations (except for the obligations to register the transfer or exchange of notes, to replace temporary or mutilated, destroyed, lost or stolen notes, to maintain an office or agency in respect of the notes and to hold moneys for payment in trust).

In addition, at any time, we may terminate our obligations under “—Change of control offer” and under the covenants described under “—Covenants”, the operation of the cross acceleration provision, the bankruptcy provisions with respect to Significant Subsidiaries and Subsidiary Guarantors and the judgment default provision described under “—Events of default” (“covenant defeasance”).

We may exercise our legal defeasance option notwithstanding our prior exercise of our covenant defeasance option. If we exercise our legal defeasance option, payment of the notes may not be accelerated because of an Event of Default with respect thereto. If we exercise our covenant defeasance option, payment of the notes may not be accelerated because of an Event of Default specified in clause (5), (6), (7) (with respect only to Significant Subsidiaries and Subsidiary Guarantors) or (8) described under “—Events of default.” If we exercise our legal defeasance option or our covenant defeasance option, each Subsidiary Guarantor will be released from all of its obligations with respect to its Subsidiary Guarantee.

In order to exercise either of our defeasance options, we must irrevocably deposit in trust (the “defeasance trust”) with the trustee money, and/or certain U.S. government obligations and/or certain state and local government obligations which through the payment of principal and interest in accordance with their terms will provide money, in an amount sufficient to pay the principal of, and premium, if any, and interest on the outstanding notes, on the scheduled due dates. In the case of defeasance, the holders of such notes are entitled to receive payments in respect of such notes solely from such trust. Such a trust may only be established if, among other things, the Company has delivered to the trustee an Opinion of Counsel to the effect that the holders of the notes affected thereby will not recognize income, gain or loss for Federal income tax purposes as a result of such legal defeasance or covenant defeasance and will be subject to Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such legal defeasance or covenant defeasance had not occurred. Such Opinion of Counsel, in the case of legal defeasance, must refer to and be based upon a ruling of the Internal Revenue Service or a change in applicable Federal income tax law occurring after the date of the indenture.

Trustee

U.S. Bank National Association is the trustee, registrar, paying agent and transfer agent for the notes. U.S. Bank National Association, in each of its capacities, including without limitation as trustee, registrar, paying agent and transfer agent, assumes no responsibility for and makes no representations regarding the accuracy or completeness of the information concerning the exchange offer, the notes, us or our affiliates or any other party contained in this document or the related documents or for any failure by us or any other party to disclose events that may have occurred and may affect the significance or accuracy of such information.

Governing law

The indenture provides that it and the notes are governed by, and construed in accordance with, the laws of the State of New York.

Exchange and transfer

You may exchange or transfer the notes in accordance with the indenture. The notes will be issued in registered form and will be transferable only upon the surrender of the notes being transferred for registration of transfer. You will not be required to pay a service charge to exchange or transfer the notes, but you may be required to pay for any tax or other governmental charge associated with certain exchanges or transfers.

Paying agents

U.S. Bank National Association acts as our paying agent for the notes. We may choose to pay interest by mailing checks or making wire transfers. Regardless of who acts as the paying agent, all money paid by us to a paying agent that remains unclaimed at the end of two years after the amount is due to noteholders will be repaid to us. After that two-year period, you may look only to us for payment and not to the trustee, any other paying agent or anyone else. We may also arrange for additional payment offices, and may cancel or change these offices, including any use of the trustee’s corporate trust office. We must notify you of changes in identities of the paying agents for the notes.

Definitions

The indenture contains the following defined terms:

“Attributable Debt” means, with respect to any sale and leaseback transaction, at the time of determination, the lesser of (1) the sale price of the property so leased multiplied by a fraction, the numerator of which is the remaining portion of the base term of the lease included in such transaction and the denominator of which is the base term of such lease, and (2) the total obligation (discounted to the present value at the implicit interest factor, determined in accordance with GAAP, included in the rental payments) of the lessee for rental payments (other than amounts required to be paid on account of property taxes as well as maintenance, repairs, insurance, water rates and other items which do not constitute payments for property rights) during the remaining portion of the base term of the lease included in such transaction.

“Capital Lease Obligation” means an obligation that is required to be classified and accounted for as a capital lease for financial reporting purposes in accordance with GAAP. The amount of Indebtedness represented by such obligation shall be the capitalized amount of such obligation determined in accordance with GAAP; and the stated maturity thereof shall be the date of the last payment of rent or any other amount due under such lease prior to the first date upon which such lease may be terminated by the lessee without payment of a penalty. For purposes of the covenant described under “—Covenants—Limitation on liens”, a Capital Lease Obligation will be deemed to be secured by a Lien on the property being leased.

“Capital Stock” of any Person means any and all shares, interests, rights to purchase, warrants, options, participations or other equivalents of or interests in (however designated) equity of such Person, including any preferred stock, any limited or general partnership interest and any limited liability company membership interest, but excluding any debt securities convertible into such equity.

“CERCLA” means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended.

“Code” means the Internal Revenue Code of 1986, as amended.

“Commodity Rate Protection Agreement” means any commodity hedging agreement or arrangement entered into by the Company or any Subsidiary of the Company and designed to protect against fluctuations in prices of commodities (including oil, petroleum coke, natural gas and electricity).

“Consolidated Net Tangible Assets” means, as of the time of determination, the aggregate amount of the consolidated assets of the Company and its consolidated Subsidiaries after deducting (1) all goodwill, trade names, trademarks, service marks, patents, unamortized debt discount and expense and other intangible assets and (2) all current liabilities, in each case as reflected on the most recent consolidated balance sheet prepared by the Company in accordance with GAAP contained in an annual report on Form 10-K or a quarterly report on Form 10-Q timely filed or any amendment thereto (and not subsequently disclaimed as not being reliable by the Company) pursuant to the Exchange Act by the Company prior to the time as of which “Consolidated Net Tangible Assets” is being determined.

“Credit Agreement” means that certain Amended and Restated Credit Agreement dated as of October 7, 2011, as amended and further restated pursuant to the First Amendment dated March 26, 2012 and as amended as of October 29, 2012, among the Company, GrafTech Finance Inc., the other borrowers party thereto, the LC Subsidiaries party thereto, the lenders party thereto, and JPMorgan Chase Bank, N.A., as administrative agent, including any related notes, guarantees and collateral documents, in each case as amended from time to time.

“Domestic Subsidiary” means a Subsidiary incorporated or organized under the laws of the United States of America, any state thereof or the District of Columbia.

“Foreign Subsidiary” means any Subsidiary that is not a Domestic Subsidiary.

“GAAP” means generally accepted accounting principles in the United States of America as in effect as of the Issue Date, including those set forth in the opinions and pronouncements of the Public Company Accounting Oversight Board and, to the extent not inconsistent therewith, Accounting Principles Board of the American Institute of Certified Public Accountants and statements and pronouncements of the Financial Accounting Standards Board or in such other statements by such other entity as may be approved by a significant segment of the accounting profession in the United States of America.

“Governmental Authority” means the government of the United States of America, any other nation or any political subdivision of any of them, whether state or local, and any agency, authority, instrumentality, regulatory body, court, central bank or other entity exercising executive, legislative, judicial, taxing, regulatory or administrative

powers or functions of or pertaining to government.

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“guarantee” means any obligation, contingent or otherwise, of any Person directly or indirectly guaranteeing any indebtedness of any other Person and any obligation, direct or indirect, contingent or otherwise, of such Person (1) to purchase or pay (or advance or supply funds for the purchase or payment of) such indebtedness (whether arising by virtue of partnership arrangements, or by agreement to keep well, to purchase assets, goods, securities or services, to take or pay or to maintain financial statement conditions or otherwise) or (2) entered into for purposes of assuring in any other manner the obligee of such indebtedness of the payment thereof or to protect such obligee against loss in respect thereof (in whole or in part); provided, however, that the term “guarantee” will not include endorsements for collection or deposit in the ordinary course of business. The term “guarantee,” when used as a verb, has a correlative meaning.

“Guarantee Agreement” means a supplemental indenture to the indenture, in a form reasonably satisfactory to the trustee, pursuant to which a Subsidiary Guarantor guarantees the Company’s obligations with respect to the notes on the terms provided for in the indenture.

“holder” means the Person in whose name a note is registered on the registry books for the notes.

“Incur” means issue, assume, guarantee or otherwise become liable for Indebtedness.

“Indebtedness” means, with respect to any Person, obligations of such Person for borrowed money (including without limitation, indebtedness for borrowed money evidenced by notes, bonds, debentures or similar instruments).

“Interest/Exchange Rate Protection Agreement” means any interest rate or currency hedging agreement or arrangement designed to protect against fluctuations in interest rates or currency exchange rates or to take advantage of reduced interest rates by converting fixed rate obligations to floating rate obligations.

“Issue Date” means November 20, 2012.

“Opinion of Counsel” means a written opinion from legal counsel who is reasonably acceptable to the trustee, and who may be an employee of or counsel to the Company or the trustee.

“Person” means any individual, corporation, partnership, limited liability company, joint venture, association, joint-stock company, trust, unincorporated organization, or any agency or government or political subdivision thereof or any other entity.

“Principal Property” means, at the time of determination, any manufacturing plant or manufacturing facility, in each case located in the United States and having a net book value in excess of 1% of Consolidated Net Tangible Assets.

“Qualified Equity Offering” means any public issuance and sale of the Company’s common stock by the Company.

Notwithstanding the foregoing, the term “Qualified Equity Offering” shall not include:

- (1) any issuance and sale with respect to common stock registered on Form S-4 or Form S-8; or
- (2) any issuance and sale to any Subsidiary of the Company.

“Refinance” means, in respect of any indebtedness, to (i) refinance, extend, renew, refund, repay, prepay, redeem, defease or retire such indebtedness, or (ii) issue or Incur other indebtedness in exchange or replacement for such indebtedness, in each case. “Refinanced” and “Refinancing” shall have correlative meanings.

“SEC” means the United States Securities and Exchange Commission.

“Senior Subordinated Notes” means the Company’s senior subordinated promissory notes due 2015 issued on November 30, 2010, for an aggregate total face amount of \$200.0 million.

“significant subsidiary” has the meaning set forth in Rule 1-02 of Regulation S-X under the Securities Act and the Exchange Act.

“Significant Subsidiary” means a significant subsidiary of the Company.

“subsidiary” of any Person (the “parent”) at any date, means any corporation, limited liability company, partnership, association or other entity, a majority of the shares or other interests having ordinary voting power for the election of directors or another governing body (other than shares or interests having such power only by reason of the happening of a contingency) are at the time beneficially owned ,directly or indirectly, through one or more intermediaries, or both, by the parent.

“Subsidiary” means a subsidiary of the Company.

“Subsidiary Guarantee” means a guarantee by a Subsidiary Guarantor of the Company’s obligations with respect to the notes in accordance with the indenture.

“Subsidiary Guarantor” means a Domestic Subsidiary that executes the indenture as a guarantor on the Issue Date and each other Domestic Subsidiary that thereafter guarantees the notes pursuant to the terms of the indenture.

BOOK-ENTRY SYSTEM

DTC will act as securities depository for the Exchange Notes. The Exchange Notes will be issued as fully registered securities in the name of Cede & Co. (DTC's partnership nominee) or such other name as may be requested by an authorized representative of DTC in the aggregate principal amount of the Exchange Notes, and will be deposited with DTC or its custodian.

DTC, the world's largest securities depository, is a limited-purpose trust company organized under the New York Banking Law, a "banking organization" within the meaning of the New York Banking Law, a member of the Federal Reserve System, a "clearing corporation" within the meaning of the New York Uniform Commercial Code, and a "clearing agency" registered pursuant to the provisions of Section 17A of the Exchange Act. DTC holds and provides asset servicing for over 3.5 million issues of U.S. and non-U.S. equity, corporate and municipal debt issues, and money market instruments from over 100 countries that DTC's participants ("Direct Participants") deposit with DTC. DTC also facilitates the post-trade settlement among Direct Participants of sales and other securities transactions in deposited securities through electronic computerized book-entry transfers and pledges between Direct Participants' accounts. This eliminates the need for physical movement of securities certificates. Direct Participants include both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, clearing corporations, and certain other organizations. DTC is a wholly owned subsidiary of The Depository Trust & Clearing Corporation ("DTCC"). DTCC is the holding company for DTC, National Securities Clearing Corporation and Fixed Income Clearing Corporation, all of which are registered clearing agencies. DTCC is owned by the users of its regulated subsidiaries. Access to the DTC system is also available to others such as both U.S. and non-U.S. securities brokers and dealers, banks, trust companies, and clearing corporations that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("Indirect Participants"). DTC has Standard & Poor's highest rating: AAA. The DTC Rules applicable to its Participants are on file with the Securities and Exchange Commission. More information about DTC can be found at www.dtcc.com and www.dtc.org. The information on this website is not a part of this prospectus.

Purchases of Exchange Notes under the DTC system must be made by or through Direct Participants, which will receive a credit for the Exchange Notes on the records of DTC. The ownership interest of each actual purchaser of each Exchange Note ("Beneficial Owner") is in turn to be recorded on the records of the Direct and Indirect Participant's records. Beneficial Owners will not receive written confirmation from DTC of their purchase.

Beneficial Owners are, however, expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the Exchange Notes are to be accomplished by entries made on the books of Direct and Indirect Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in the Exchange Notes, except in the event that use of the book-entry system for the Exchange Notes is discontinued.

To facilitate subsequent transfers, all Exchange Notes deposited by Direct Participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co., or such other name as may be requested by an authorized representative of DTC. The deposit of Exchange Notes with DTC and their registration in the name of Cede & Co. or such other DTC nominee do not effect any change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the Exchange Notes; the records of DTC reflect only the identity of the Direct Participants to whose accounts such Exchange Notes are credited, which may or may not be the Beneficial Owners. The Direct and Indirect Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time. Beneficial Owners of Exchange Notes may wish to take certain steps to augment the transmission to them of notices of significant events with respect to the Exchange Notes, such as redemptions, defaults and proposed amendments to the documents establishing the Exchange Notes. For example, Beneficial Owners of Exchange Notes may wish to ascertain that the nominee holding the Exchange Notes for their benefit has agreed to obtain and to transmit notices to Beneficial Owners or, in the alternative, Beneficial Owners may wish to provide their names and addresses to the

transfer agent and request that copies of notices be provided directly to them.

Redemption notices shall be sent to DTC. If less than all the Exchange Notes within an issue are being redeemed, the practice of DTC is to determine by lot the amount of the interest of each Direct Participant in such issue to be redeemed.

Neither DTC nor Cede & Co. (nor such other DTC nominee) will consent or vote with respect to the Exchange Notes unless authorized by a Direct Participant in accordance with DTC's procedures. Under its usual procedures, DTC mails an omnibus proxy to us as soon as possible after the record date. The omnibus proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the Exchange Notes are credited on the record date, identified in a listing attached to the omnibus proxy.

Redemption proceeds and distribution and interest payments on the Exchange Notes will be made to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC. The practice of DTC is to credit the accounts of Direct Participants, upon the receipt by DTC of funds and corresponding detail information from us, on the payable date in accordance with their respective holdings shown on the records of DTC. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practice, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC or its nominee, the initial purchaser or us, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of redemption proceeds and distribution and interest payments to Cede & Co. or such other nominee as may be requested by an authorized representative of DTC is our responsibility, disbursement of such payments to Direct Participants will be the responsibility of DTC, and disbursement of such payments to the Beneficial Owners will be the responsibility of Direct and Indirect Participants.

A Beneficial Owner shall give notice to elect to have its Exchange Notes purchased or tendered, through its Participant, to the tender or remarketing agent and shall effect delivery of such Exchange Notes by causing the Direct Participant to transfer the interest of the Participant in the Exchange Notes, on the records of DTC, to the tender or remarketing agent. The requirement for physical delivery of Exchange Notes in connection with an optional tender or a mandatory purchase will be deemed satisfied when the ownership rights in the Exchange Notes are transferred by Direct Participants on the records of DTC and followed by a book-entry credit of tendered Exchange Notes to the DTC account of the tender or remarketing agent.

DTC may discontinue providing its services as securities depository with respect to the Exchange Notes at any time by giving reasonable notice to us. Under such circumstances, in the event that a successor depository is not obtained, Exchange Note certificates are required to be printed and delivered.

We may decide to discontinue use of the system of book-entry transfers through DTC or a successor securities depository. In that event, Exchange Note certificates will be printed and delivered.

The information in this section concerning DTC and its book-entry system has been obtained from sources that we believe to be reliable, but we take no responsibility for the accuracy thereof.

CERTAIN U.S. FEDERAL INCOME TAX CONSIDERATIONS

The following is a summary of certain U.S. federal income tax consequences of the disposition of the Original Notes in the exchange offer and the ownership and disposition of Exchange Notes acquired therein. Except where noted, this summary deals only with Original Notes and Exchange Notes held as capital assets. This summary is based upon the provisions of the Code, the Treasury Regulations promulgated thereunder and judicial and administrative rulings and decisions now in effect, all of which are subject to change or differing interpretations, possibly with retroactive effect. This summary does not purport to address all aspects of U.S. federal income taxation that may affect particular investors in light of their individual circumstances, or certain types of investors subject to special treatment under the U.S. federal income tax laws, such as persons that mark to market their securities, financial institutions, regulated investment companies, real estate investment trusts, corporations subject to the accumulated earnings tax, holders subject to the alternative minimum tax, individual retirement and other tax-deferred accounts, tax-exempt organizations, brokers, dealers in securities and commodities, certain former U.S. citizens or long-term residents, life insurance companies, persons that hold Original Notes or Exchange Notes as part of a hedge against currency or interest rate risks or that hold Original Notes or Exchange Notes as part of a position in a constructive sale, straddle, conversion transaction or other integrated transaction for U.S. federal income tax purposes, controlled foreign corporations, passive foreign investment companies, persons that acquire their Original Notes or Exchange Notes in connection with employment or other performance of personal services, partnerships or other pass-through entities and investors in such entities, subsequent purchasers of the Exchange

Notes and U.S. holders (as defined below) whose “functional currency” is not the U.S. dollar. This summary does not address any aspect of state, local or foreign taxation or any U.S. federal tax other than the income tax. In addition, this discussion does not address the tax consequences to persons who acquired Original Notes other than pursuant to their original issuance and distribution.

For purposes of this summary, a “U.S. holder” is a beneficial owner of an Original Note or Exchange Note that, for U.S. federal income tax purposes, is:

- an individual citizen or resident of the United States;
- a corporation, or other entity treated as a corporation, created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate, the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust, if (a) a court within the United States is able to exercise primary jurisdiction over administration of the trust and one or more U.S. persons have authority to control all substantial decisions of the trust or (b) it has a valid election in effect to be treated as a U.S. person.

As used herein, the term “non-U.S. holder” means a beneficial owner of an Original Note or Exchange Note who is not a U.S. holder. If a partnership or other entity or arrangement taxable as a partnership holds an Original Note or Exchange Note, the Tax treatment of such partnership and its partners will generally depend on the status of the partner and on the activities of the partnership. If you are a partnership or a partner in a partnership holding an Original Note or Exchange Note, you should consult your own tax advisors regarding the Tax consequences to you of purchasing, holding and disposing of the Original Note or Exchange Note.

We have not requested, and do not intend to request, a ruling from the U.S. Internal Revenue Service (the “IRS”), with respect to any of the U.S. federal income tax consequences described below. There can be no assurance that the IRS will not disagree with or challenge any of the conclusions set forth herein.

Persons considering a tender of an Original Note for an Exchange Note are urged to consult with their tax advisors as to the U.S. federal income tax consequences of the disposition of their Original Notes in the exchange offer and the ownership and disposition of Exchange Notes acquired therein, in light of their particular circumstances, as well as the effect of any state, local or other tax laws.

Exchange Offer

The exchange of Original Notes for Exchange Notes pursuant to this exchange offer will not be a taxable event to a holder for United States federal income tax purposes. Accordingly, a holder will not recognize gain or loss upon receipt of an Exchange Note for an Original Note, and the holder will have the same basis and holding period in an Exchange Note as it had in the tendered Original Note immediately before the exchange.

Effect of Certain Additional Payments

We may be required to make payments of additional amounts if we call all or a portion of the Exchange Notes for redemption or if we repurchase all or a portion of the Exchange Notes at the option of the holders upon the occurrence of a “Change of Control,” each as described under “Description of the Notes—Optional redemption” and “Description of the Notes— Change of control offer.” It is uncertain whether the possibility of such payments of additional amounts or additional interest causes the Exchange Notes to be treated as contingent payment debt instruments under the applicable Treasury Regulations. However, we intend to take the position that the possibility of such payments does not result in the Exchange Notes being treated as such contingent payment debt instruments. Assuming such position is respected, a U.S. holder would be required to include in income the amount of any such payments at the time such payments are received or accrued in accordance with such U.S. holder’s method of accounting for Tax purposes. Our position is binding on a U.S. holder unless such U.S. holder discloses a contrary position in the manner that is required by applicable Treasury Regulations.

Our position is not binding on the IRS, however. It is possible that the IRS may take a different position regarding the possibility of such additional payments. If the IRS were to successfully challenge our position, a U.S. holder may, among other things, be required to accrue interest income at higher rates than the stated interest rates on the notes and to treat any gain recognized on the sale or other disposition of an Exchange Note as ordinary income rather than as capital gain.

The remainder of this discussion assumes that the possibility of such additional payments will be disregarded. Holders should consult their own tax advisors as to the tax considerations that relate to the possibility of additional payments.

U.S. Holders

Payments of interest

Stated interest on Exchange Notes will generally be taxable to a U.S. holder as ordinary interest income at the time it accrues or is received in accordance with the U.S. holder's regular method of accounting for U.S. federal income tax purposes.

Sale, exchange or other taxable disposition of Exchange Notes

Upon the sale, exchange, redemption or other taxable disposition of an Exchange Note, a U.S. holder will recognize taxable gain or loss equal to the difference between the amount realized on the sale, exchange, redemption or other taxable disposition and the holder's adjusted tax basis in the Exchange Note. For these purposes, the amount realized does not include any amount attributable to accrued interest. Amounts attributable to accrued interest are treated as interest as described under "—Payments of interest" above. A U.S. holder's adjusted tax basis in an Exchange Note will generally be such holder's cost for the Original Note exchanged for the Exchange Note. Gain or loss realized on the sale, exchange, redemption or other taxable disposition of an Exchange Note will generally be capital gain or loss and will be long-term capital gain or loss if at the time of the sale, exchange, redemption or other taxable disposition the Note has been held by the holder for more than one year. Long-term capital gains of individual holders are eligible for preferential rates of United States federal income taxation. The deductibility of capital losses is subject to limitations under the Code.

Information reporting and backup withholding

Information returns will be filed with the IRS in connection with payments on the Exchange Notes and the proceeds from a sale or other disposition of the Exchange Notes, unless the U.S. holder is an exempt recipient such as a corporation and, if requested, demonstrates this fact. A U.S. holder will be subject to U.S. backup withholding on these payments if the U.S. holder fails to provide its taxpayer identification number to the payor and comply with certain certification procedures or otherwise establish an exemption from backup withholding. Backup withholding is not an additional tax. The amount of any backup withholding from a payment to a U.S. holder will be allowed as a credit against the U.S. holder's U.S. federal income tax liability and may entitle the U.S. holder to a refund, provided that the required information is timely furnished to the IRS.

New legislation regarding Medicare Tax

For taxable years beginning after December 31, 2012, certain U.S. holders that are individuals, estates or trusts will be subject to a 3.8% tax on all or a portion of their "net investment income," which may include all or a portion of their interest and net gains from the disposition of Exchange Notes. If you are a U.S. holder that is an individual, estate or trust, you should consult your tax advisors regarding the applicability of the Medicare tax to your income and gains in respect of your investment in the Exchange Notes.

Non-U.S. Holders

Payments of interest

Subject to the discussion below concerning backup withholding, payments of interest on an Exchange Note received or accrued by a non-U.S. holder generally will not be subject to U.S. federal income or withholding tax, as long as the non-U.S. holder:

- does not conduct a trade or business in the United States with respect to which the interest is effectively connected;
- does not actually, indirectly or constructively own 10% or more of the total combined voting power of all classes of our stock entitled to vote, within the meaning of Section 871(h)(3) of the Code;

is not a “controlled foreign corporation” with respect to which we are a “related person” within the meaning of Section 881(c)(3)(C) of the Code;

is not a bank whose receipt of the interest is described in Section 881(c)(3)(A) of the Code; and

satisfies the certification requirements described below.

To satisfy the certification requirements (a) the beneficial owner of the Exchange Note must timely certify, under penalties of perjury, to us or to the person who otherwise would be required to withhold U.S. tax that such owner is a non-U.S. holder and must provide its name and address and meet certain other requirements or (b) the beneficial owner of the Exchange Note must hold the Exchange Note through certain intermediaries or certain foreign partnerships, and certain certification requirements of the applicable Treasury Regulations must be satisfied.

A non-U.S. holder that is not exempt from tax under the foregoing rules generally will be subject to U.S. federal income tax withholding on payments of interest at a rate of 30% unless:

the interest is effectively connected with a U.S. trade or business conducted by such holder (and, if an applicable income tax treaty so provides, is attributable to a permanent establishment maintained in the United States by the non-U.S. holder), in which case the non-U.S. holder will be subject to U.S. federal income tax on a net income basis at the rate applicable to U.S. holders generally; or

an applicable income tax treaty provides for a lower rate of, or exemption from, withholding tax.

A non-U.S. holder that is treated as a corporation for U.S. federal income tax purposes and has effectively connected interest income (as described in the first bullet point above) may also, under certain circumstances, be subject to an additional “branch profits tax” at a 30% rate, unless the rate is reduced or eliminated by an applicable income tax treaty.

To claim the benefit of a reduced rate or exemption from withholding under an income tax treaty or to claim exemption from withholding because income is effectively connected with a U.S. trade or business, the non-U.S. holder must timely provide the appropriate, properly executed IRS forms. Certification to claim that income is effectively connected with a U.S. trade or business is generally made on IRS Form W-8ECI. Certification to claim the benefit of a reduced rate or exemption from withholding under an income tax treaty is generally made on IRS Form W-8BEN. These forms may be required to be periodically updated.

Sale, exchange or other taxable disposition of Exchange Notes

A non-U.S. holder generally will not be subject to U.S. federal income tax on any gain realized on the sale, exchange, retirement or other taxable disposition of an Exchange Note unless (a) such gain is effectively connected with the conduct by the non-U.S. holder of a U.S. trade or business (and, if an applicable income tax treaty so provides, is attributable to a permanent establishment maintained in the United States by the non-U.S. holder) or (b) except to the extent that an applicable income tax treaty otherwise provides, in the case of a non-U.S. holder who is an individual, the holder is present in the United States for 183 days or more during the taxable year in which such gain is realized and certain other conditions exist.

Except to the extent that an applicable income tax treaty otherwise provides, in the case of a non-U.S. holder that is described under clause (a), gain will be subject to U.S. federal income tax on a net income basis and, in addition, if the non-U.S. holder is treated as a corporation for U.S. federal income tax purposes, such holder may be subject to the branch profits tax as described above. An individual non-U.S. holder who is described under clause (b) above will be subject to a flat 30% tax on gain derived from the sale, which may be offset by certain U.S. capital losses (notwithstanding the fact that he or she is not considered a U.S. resident for U.S. federal income tax purposes).

Information reporting and backup withholding

Payments of interest on Exchange Notes to a non-U.S. holder generally will be reported to the IRS and to the non-U.S. holder. Copies of applicable IRS information returns may be made available under the provisions of a specific tax treaty or agreement to the tax authorities of the country in which the non-U.S. holder resides. Non-U.S. holders are generally exempt from backup withholding and additional information reporting on payments of principal, or interest, provided that the

non-U.S. holder (a) certifies its nonresident status on the appropriate IRS Form (or a suitable substitute form) and certain other conditions are met or (b) otherwise establishes an exemption.

Payments of the proceeds from a sale of Exchange Notes by a non-U.S. holder made to or through a foreign office of a broker generally will not be subject to information reporting or backup withholding. Information reporting may apply to such payments, however, if the broker is a U.S. person, a controlled foreign corporation for U.S. tax purposes, the U.S. branch of a foreign bank or a foreign insurance company, a foreign partnership controlled by U.S. persons or engaged in a U.S. trade or business, or a foreign person 50% or more of whose gross income is effectively connected with a U.S. trade or business for a specified three-year period. Payments of the proceeds from the sale of Exchange Notes through the U.S. office of a broker is subject to information reporting and backup withholding unless the non-U.S. holder certifies as to its non-U.S. status or otherwise establishes an exemption from information reporting and backup withholding.

Backup withholding is not an additional tax. Any backup withholding generally will be allowed as a credit or refund against the non-U.S. holder's U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

Non-U.S. holders should consult their own tax advisors regarding the application of the information reporting and backup withholding rules in their particular situations, the availability of an exemption therefrom and the procedure for obtaining such an exemption, if available.

Recently Enacted Legislation

Recently enacted legislation regarding foreign account tax compliance, effective for payments made after December 31, 2013, imposes a withholding tax of 30% on interest and gross proceeds from the disposition of certain debt instruments paid to certain foreign entities unless various information reporting and certain other requirements are satisfied. However, the withholding tax will not be imposed on payments pursuant to obligations outstanding as of December 31, 2013. Nevertheless, certain account information with respect to U.S. holders who hold Exchange Notes through certain foreign financial institutions may be reportable to the IRS. Investors should consult with their own tax advisors regarding the possible implications of this recently enacted legislation on their participation in this exchange offer.

THE PRECEDING DISCUSSION IS FOR GENERAL INFORMATION PURPOSES ONLY AND IS NOT TAX ADVICE. ACCORDINGLY, EACH PROSPECTIVE HOLDER OF AN EXCHANGE NOTE SHOULD CONSULT ITS OWN TAX ADVISOR AS TO THE PARTICULAR TAX CONSEQUENCES TO IT OF PURCHASING, OWNING AND DISPOSING OF EXCHANGE NOTES, INCLUDING THE APPLICABILITY AND EFFECT OF ANY STATE, LOCAL OR FOREIGN TAX LAWS, AND OF ANY PROPOSED CHANGES IN APPLICABLE LAW.

PLAN OF DISTRIBUTION

If you wish to exchange your Original Notes for Exchange Notes in the exchange offer, you will be required to make representations to us as described in “The Exchange Offer—Resale of Exchange Notes” and in the letter of transmittal. In addition, each broker-dealer that receives Exchange Notes for its own account pursuant to the exchange offer must acknowledge that it will deliver a prospectus in connection with any resale of such Exchange Notes. This prospectus, as it may be amended or supplemented from time to time, may be used by a broker-dealer in connection with resales of Exchange Notes received in exchange for Original Notes if the Original Notes were acquired as a result of market-making activities or other trading activities. We have agreed that, for a period of at least 180 days after the expiration of the exchange offer, subject to certain “black-out” periods, we will make this prospectus, as amended or supplemented, available to any broker-dealer for use in connection with any such resale. In addition, until 180 days after the date of this prospectus, all broker-dealers effecting transactions in the Exchange Notes may be required to deliver a prospectus.

We will not receive any proceeds from any sale of Exchange Notes by broker-dealers. Exchange Notes received by broker-dealers for their own account pursuant to the exchange offer may be sold from time to time in one or more transactions in the over-the-counter market, in negotiated transactions, through the writing of options on the Exchange Notes or a combination of such methods of resale, at market prices prevailing at the time of resale, at prices related to such prevailing market prices, or at negotiated prices. Any such resale may be made directly to purchasers or to or through brokers or dealers who may receive compensation in the form of commissions or concessions from any such broker-dealer or the purchasers of any such Exchange Notes. Any broker-dealer that resells Exchange Notes that were received by it for its own account pursuant to the exchange offer and any broker or dealer that participates in a distribution of such Exchange Notes may be deemed to be an “underwriter” within the meaning of the Securities Act, and any profit on any such resale of Exchange Notes and any commissions or concessions received by any such persons may be deemed to be underwriting compensation under the Securities Act.

For a period of not less than 180 days after the expiration of the exchange offer, we will promptly send additional copies of this prospectus and any amendment or supplement to this prospectus to any broker-dealer that requests such documents in the letter of transmittal. We have agreed to pay all expenses incident to the exchange offer (including the expenses of one counsel for the holders of the Original Notes) other than commissions or concessions of any brokers or dealers, until 180 days after the date of this prospectus, and will indemnify the holders of the Original Notes (including any broker-dealers) against certain liabilities, including liabilities under the Securities Act.

Based on existing interpretations of the Securities Act by the staff of the SEC as set forth in several no-action letters to third parties, and subject to the immediately following sentence, we believe that the Exchange Notes issued pursuant to this exchange offer may be offered for resale, resold and transferred by the holders thereof without further compliance with the registration and prospectus delivery requirements of the Securities Act. However, any holder of Original Notes who is an “affiliate” of ours (within the meaning of Rule 405 under the Securities Act or who intends to participate in this exchange offer for the purpose of distributing the Exchange Notes, or any participating broker-dealer who purchased Original Notes from us or one of our affiliates to resell pursuant to Rule 144A or any other available exemption under the Securities Act:

- will not be able to rely on the interpretations of the staff of the SEC set forth in the above-mentioned no-action letters;
- will not be able to tender its Original Notes in this exchange offer; and
- must comply with the registration and prospectus delivery requirements of the Securities Act in connection with any sale or transfer of the Exchange Notes, unless such sale or transfer is made pursuant to an exemption from such requirements.

We do not intend to seek our own no-action letter and there is no assurance that the staff of the SEC would make a similar determination with respect to the Exchange Notes as it has in such no-action letters to third parties. The information described above concerning interpretations of and positions taken by the staff of the SEC is not intended to constitute legal advice, and holders should consult their own legal advisors with respect to these matters.

LEGAL MATTERS

Certain legal matters relating to the exchange offer will be passed upon for us by Kelley Drye & Warren LLP and Jennifer C. Beedy, Corporate Counsel of Intermat, counsel to the Company.

EXPERTS

The financial statements as of December 31, 2012 and 2011 and for each of the years in the three-year period ended December 31, 2012 (including schedules appearing therein) and management's assessment of the effectiveness of internal control over financial reporting (which is included in Management's Report on Internal Control over Financial Reporting) as of December 31, 2012 included in this Registration Statement on Form S-4 have been so included in reliance on the report of PricewaterhouseCoopers LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

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Management's Report on Internal Control Over Financial Reporting

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Internal control over financial reporting is defined in Rules 13a-15(f) and 15d-15(f) under the Exchange Act as a process, designed by, or under the supervision of, the chief executive officer and chief financial officer and effected by the board of directors, management and other personnel of a company, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles, and includes those policies and procedures that:

- pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets of the company;
 - provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles and that receipts and expenditures of the company are being made only in accordance with authorizations of management and the board of directors; and
- provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of assets of the company that could have a material effect on its financial statements.

Internal control over financial reporting has inherent limitations which may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions or because the level of compliance with related policies or procedures may deteriorate.

Management has conducted an assessment of the effectiveness of our internal control over financial reporting as of December 31, 2012 using the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework. Based on that assessment, management concluded that our internal control over financial reporting was effective as of December 31, 2012. The effectiveness of the Company's internal control over financial reporting has been audited by PricewaterhouseCoopers LLP, our independent registered public accounting firm, as stated in their report which is presented in this Annual Report on Form 10-K.

Date: February 26, 2013

/S/ CRAIG S. SHULAR

Craig S. Shular,
Chief Executive Officer, President and
Chairman of the Board

/S/ LINDON G. ROBERTSON

Lindon G. Robertson,
Vice President and Chief Financial
Officer

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Report of Independent Registered Public Accounting Firm

To the Board of Directors and Stockholders of GrafTech International Ltd.:

In our opinion, the accompanying consolidated balance sheets and the related consolidated statements of income and comprehensive income, of stockholders' equity and of cash flows present fairly, in all material respects, the financial position of GrafTech International Ltd. and its subsidiaries as of December 31, 2012 and 2011, and the results of their operations and their cash flows for each of the three years in the period ended December 31, 2012 in conformity with accounting principles generally accepted in the United States of America. Also in our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2012, based on criteria established in Internal Control - Integrated Framework issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). The Company's management is responsible for these financial statements, for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Report on Internal Control over Financial Reporting. Our responsibility is to express opinions on these financial statements and on the Company's internal control over financial reporting based on our integrated audits. We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the financial statements are free of material misstatement and whether effective internal control over financial reporting was maintained in all material respects. Our audits of the financial statements included examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. Our audit of internal control over financial reporting included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, and testing and evaluating the design and operating effectiveness of internal control based on the assessed risk. Our audits also included performing such other procedures as we considered necessary in the circumstances. We believe that our audits provide a reasonable basis for our opinions.

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (i) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (ii) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (iii) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/ PricewaterhouseCoopers LLP

PricewaterhouseCoopers LLP
Cleveland, Ohio

February 26, 2013, except with respect to our opinion on the consolidated financial statements insofar as it relates to Note 18: Guarantor Information, as to which the date is June 20, 2013

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands, except share data)

	As of December 31, 2011	As of December 31, 2012
ASSETS		
Current Assets:		
Cash and cash equivalents	\$12,429	\$17,317
Accounts and notes receivable, net of allowance for doubtful accounts of \$4,153 at December 31, 2011 and \$7,573 at December 31, 2012	220,752	236,429
Inventories	444,062	513,065
Prepaid expenses and other current assets	54,707	56,190
Total current assets	731,950	823,001
Property, plant and equipment	1,431,432	1,532,359
Less: accumulated depreciation	654,548	698,452
Net property, plant and equipment	776,884	833,907
Deferred income taxes	7,931	6,157
Goodwill	498,681	498,261
Other assets	152,920	136,589
Total assets	\$2,168,366	\$2,297,915
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$148,655	\$128,120
Short-term debt	14,168	8,426
Accrued income and other taxes	44,330	30,923
Supply chain financing liability	29,930	26,962
Other accrued liabilities	40,170	50,953
Total current liabilities	277,253	245,384
Long-term debt	387,624	535,709
Other long-term obligations	131,300	125,005
Deferred income taxes	32,245	41,966
Contingencies – Note 14		
Stockholders' equity:		
Preferred stock, par value \$.01, 10,000,000 shares authorized, none issued	—	—
Common stock, par value \$.01, 225,000,000 shares authorized, 149,861,081 shares issued at December 31, 2011 and 150,869,227 shares issued at December 31, 2012	1,499	1,509
Additional paid – in capital	1,798,161	1,812,592
Accumulated other comprehensive loss	(261,937)	(280,678)
(Accumulated deficit) retained earnings	(50,757)	66,884
Less: cost of common stock held in treasury, 6,265,114 shares at December 31, 2011 and 16,418,710 at December 31, 2012	(146,041)	(249,487)
Less: common stock held in employee benefit and compensation trusts, 75,807 shares at December 31, 2011 and 76,095 shares at December 31, 2012	(981)	(969)
Total stockholders' equity	1,339,944	1,349,851
Total liabilities and stockholders' equity	\$2,168,366	\$2,297,915
See accompanying Notes to the Consolidated Financial Statements		

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
(Dollars in thousands, except per share data)

	For the year ended December 31,		
	2010	2011	2012
Net sales	\$1,006,993	\$1,320,184	\$1,248,264
Cost of sales	717,742	995,638	932,460
Gross profit	289,251	324,546	315,804
Research and development	12,202	13,976	13,796
Selling and administrative expenses	119,009	144,561	145,540
Operating income	158,040	166,009	156,468
Equity in earnings of, and gain recorded on acquisition of, non-consolidated affiliate	(14,500) —	—
Other (income) expense, net	(4,768	) 4,835	(1,005
Interest expense	5,076	18,307	23,247
Interest income	(1,333	) (424	) (261
Income before income taxes	173,565	143,291	134,487
(Benefit) provision for income taxes	(1,095	) (9,893	) 16,846
Net income	\$174,660	\$153,184	\$117,641
Basic income per common share:			
Net income per share	\$1.42	\$1.06	\$0.85
Weighted average common shares outstanding	122,621	145,156	138,552
Diluted income per common share:			
Net income per share	\$1.41	\$1.05	\$0.84
Weighted average common shares outstanding	123,453	146,402	139,700
STATEMENTS OF COMPREHENSIVE INCOME			
Net income	\$174,660	\$153,184	\$117,641
Other comprehensive income:			
Foreign currency translation adjustments	(5,866	) (32,202	) (9,929
Commodities and foreign currency derivatives, net of tax of \$292, \$1,714 and \$2,327, respectively	2,353	6,023	(8,812
Other comprehensive loss, net of tax:	(3,513	) (26,179	) (18,741
Comprehensive income	\$171,147	\$127,005	\$98,900

See accompanying Notes to the Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS
(Dollars in thousands)

	For the year ended December 31,		
	2010	2011	2012
Cash flow from operating activities:			
Net income	\$ 174,660	\$ 153,184	\$ 117,641
Adjustments to reconcile net income to cash provided by operations:			
Depreciation and amortization	42,664	81,953	81,660
Deferred income tax benefit	(29,028)	) (45,053)	) 8,130
Equity in earnings of and gain recorded on acquisition of non-consolidated affiliate	(14,500)) —	—
Post-retirement and pension plan changes	11,088	27,184	13,349
Currency gains	(7,153)	) (1,463)	) (3,509)
Stock-based compensation, including incentive compensation paid in company stock	7,355	8,910	9,601
Interest expense	2,620	11,607	12,500
Insurance recoveries	—	—	4,007
Other charges, net	4,299	(11,201)	) (16,492)
Increase in working capital*	(41,790)	) (142,587)	) (106,220)
Increase in long-term assets and liabilities	(5,293)	) (5,937)	) (19,267)
Net cash provided by operating activities	144,922	76,597	101,400
Cash flow from investing activities:			
Capital expenditures	(86,049)	) (156,616)	) (127,728)
Loan repayment from non-consolidated affiliate	6,000	—	—
(Payments) proceeds from derivative instruments	(1,109)	) 14,412	7,572
Cash paid for acquisitions, net of cash acquired of \$8,240 in 2010 and \$0 in 2011	(241,204)	) (20,510)) —
Other	810	748	194
Net cash used in investing activities	(321,552)	) (161,966)	) (119,962)
Cash flow from financing activities:			
Short-term debt (reductions) borrowings, net	(850)	) 14,016	(5,738)
Revolving Facility borrowings	165,000	584,000	425,000
Revolving Facility reductions	(35,000)	) (482,000)	) (587,500)
Proceeds from long-term debt	—	—	300,000
Principal payments on long-term debt	(56)	) (222)	) (225)
Supply chain financing	10,555	4,970	(2,967)
Proceeds from exercise of stock options	3,901	2,028	157
Purchase of treasury shares	(1,431)	) (30,940)	) (103,445)
Refinancing fees and debt issuance costs	(4,595)	) (4,988)	) (6,385)
Other	716	(1,403)	) 5,215
Net cash provided by financing activities	138,240	85,461	24,112
Net (decrease) increase in cash and cash equivalents	(38,390)	) 92	5,550
Effect of exchange rate changes on cash and cash equivalents	1,305	(759)	) (662)
Cash and cash equivalents at beginning of period	50,181	13,096	12,429
Cash and cash equivalents at end of period	\$ 13,096	\$ 12,429	\$ 17,317

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
 CONSOLIDATED STATEMENTS OF CASH FLOWS (Continued)
 (Dollars in thousands)

	For the year ended December 31,		
	2010	2011	2012
Supplemental disclosures of cash flow information:			
Net cash paid during the periods for:			
Interest	\$2,294	\$6,609	\$9,279
Income taxes	31,385	26,224	26,209
Non-cash operating, investing and financing activities:			
Common stock issued to savings and pension plan trusts	2,572	4,414	4,593
* Net change in working capital due to the following components:			
Decrease (increase) in current assets:			
Accounts and notes receivable, net	\$(39,780)	) \$(68,462)	) \$(5,563)
Inventories	(13,641)	) (111,395)	) (67,314)
Prepaid expenses and other current assets	(1,719)	) (2,082)	) (2,281)
Increase (decrease) in accounts payables and accruals	13,105	39,097	(32,759)
Increase in interest payable	245	255	1,697
Increase in working capital	\$(41,790)	) \$(142,587)	) \$(106,220)

See accompanying Notes to the Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY
(Dollars in thousands, except share data)

	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Accumulated Deficit)	Treasury Stock	Common Stock Held in Employee Benefit & Compensation Trust	Total Stockholders' Equity
Balance at January 1, 2010	124,027	\$ 1,240	\$ 1,300,051	\$ (232,245)	\$ (378,601)	\$ (112,511)	\$ (875)	\$ 577,059
Comprehensive income (loss):								
Net income	—	—	—	—	174,660	—	—	174,660
Other comprehensive income:								
Unrealized losses on securities, net of tax of \$292	—	—	—	2,353	—	—	—	2,353
Foreign currency translation adjustments	—	—	—	(5,866)	—	—	—	(5,866)
Total comprehensive income								
Treasury stock	—	—	—	—	—	—	—	—
Stock-based compensation	408	4	9,199	—	—	(1,431)	—	7,772
Shares issued in lieu of cash for incentive compensation	—	—	—	—	—	—	—	—
Common stock issued to savings and pension plan trusts	181	2	2,678	—	—	—	(108)	2,572
Sale of common stock under stock options	447	5	3,892	—	—	—	—	3,897
Shares issued in connection with our acquisition of Seadrift and C/G	24,000	240	467,039	—	—	—	\$ —	467,279
Balance at December 31, 2010	149,063	\$ 1,491	\$ 1,782,859	\$ (235,758)	\$ (203,941)	\$ (113,942)	\$ (983)	\$ 1,229,726
Comprehensive income (loss):								
Net income	—	—	—	—	153,184	—	—	153,184
Other comprehensive income:								

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Unrealized losses on securities, net of tax of \$1,714	—	—	—	6,023	—	—	—	6,023	
Foreign currency translation adjustments	—	—	—	(32,202)	—	—	(32,202)	
Total comprehensive income									
Treasury stock	—	—	—	—	—	(29,930	)	(29,930)
Stock-based compensation	242	3	7,996	—	—	(1,082	)	6,917
Shares issued in lieu of cash for incentive compensation	—	—	—	—	—	—	—	—	
Common stock issued to savings and pension plan trusts	239	2	4,410	—	—	—	2	4,414	
Sale of common stock under stock options	317	3	2,896	—	—	(1,087	)	1,812
Balance at December 31, 2011	149,861	\$ 1,499	\$ 1,798,161	\$ (261,937)	\$ (50,757)	\$ (146,041)	\$ (981)	\$ 1,339,944

See accompanying Notes to the Consolidated Financial Statements

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF STOCKHOLDERS' EQUITY (Continued)
(Dollars in thousands, except share data)

	Issued Shares of Common Stock	Common Stock	Additional Paid-in Capital	Accumulated Other Comprehensive Loss	Retained Earnings (Accumulated Deficit)	Treasury Stock	Common Stock Held in Employee Benefit & Compensation Trust	Total Stockholders' Equity
Balance at December 31, 2011	149,861	1,499	1,798,161	(261,937)	(50,757)	(146,041)	(981)	1,339,944
Comprehensive income (loss):								
Net income	—	—	—	—	117,641	—	—	117,641
Other comprehensive income:								
Unrealized losses on securities, net of tax of \$2,327	—	—	(11)	(8,812)	—	—	—	(8,823)
Foreign currency translation adjustments	—	—	—	(9,929)	—	—	—	(9,929)
Total comprehensive income								
Treasury stock	—	—	—	—	—	(101,697)	—	(101,697)
Stock-based compensation	554	6	9,720	—	—	(1,762)	—	7,964
Common stock issued to savings and pension plan trusts	433	4	4,565	—	—	13	12	4,594
Sale of common stock under stock options	21	—	157	—	—	—	—	157
Balance at December 31, 2012	150,869	\$ 1,509	\$ 1,812,592	\$ (280,678)	\$ 66,884	\$ (249,487)	\$ (969)	\$ 1,349,851

See accompanying Notes to the Consolidated Financial Statements

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO THE CONSOLIDATED FINANCIAL STATEMENTS
(Dollars in thousands, except as otherwise noted)

(1) Business and Summary of Significant Accounting Policies

Discussion of Business and Structure

GrafTech International Ltd. is one of the world's largest manufacturers and providers of high quality synthetic and natural graphite and carbon based products. References herein to "GTI," "we," "our," or "us" refer collectively to GrafTech International Ltd. and its subsidiaries. We have seven major product categories: graphite electrodes, refractory products, needle coke products, advanced graphite materials, advanced composite materials, advanced electronics technology, and advanced materials, which are reported in the following segments:

- Industrial Materials includes graphite electrodes, refractory products and needle coke products, and primarily serves the steel industry.

Engineered Solutions includes advanced graphite materials, advanced composite materials, advanced electronics technology, and advanced materials and provides primary and specialty products to the advanced electronics, industrial, energy, transportation and defense markets.

Summary of Significant Accounting Policies

The Consolidated Financial Statements include the financial statements of GrafTech International Ltd. and its wholly-owned subsidiaries. All significant intercompany transactions have been eliminated in consolidation.

Cash Equivalents

We consider all highly liquid financial instruments with original maturities of three months or less to be cash equivalents. Cash equivalents consist of certificates of deposit, money market funds and commercial paper.

Revenue Recognition

Revenue from sales of our commercial products is recognized when they meet four basic criteria (1) persuasive evidence of an arrangement exists, (2) delivery has occurred, (3) the amount is determinable and (4) collection is reasonably assured. Sales are recognized when both title and the risks and rewards of ownership are transferred to the customer or services have been rendered and fees have been earned in accordance with the contract.

Revenue from sales of non-commercial products manufactured to customer specifications are recognized using the units-of-delivery measure under the percentage-of-completion accounting method as units are delivered and accepted by the customer. Sales using this measure of progress are recognized at the contractually agreed upon unit price.

Volume discounts and rebates are recorded as a reduction of revenue in conjunction with the sale of the related products. Changes to estimates are recorded when they become probable. Shipping and handling revenues billed to our customers are included in net sales and the related shipping and handling costs are included as an increase to cost of sales.

Earnings per Share

The calculation of basic earnings per share is based on the weighted-average number of our common shares outstanding during the applicable period. We use the two-class method of computing earnings per share for our instruments granted in share-based payment transactions that are determined to be participating securities prior to vesting.

Diluted earnings per share recognizes the dilution that would occur if outstanding stock options and restricted stock awards were exercised or converted into common shares. We use the treasury stock method to compute the dilutive effect of our stock options and restricted stock awards (using the average market price for the period).

Inventories

Inventories are stated at the lower of cost or market. Cost is principally determined using the “first-in first-out” (“FIFO”) and average cost, which approximates FIFO, methods. Elements of cost in inventory include raw materials, direct labor and manufacturing overhead.

Property, Plant and Equipment

Expenditures for property, plant and equipment are recorded at cost. Maintenance and repairs of property and equipment are expensed as incurred. Expenditures for replacements and betterments are capitalized and the replaced assets are retired. Gains and losses from the sale of property are included in cost of goods sold or other (income) expense, net. We depreciate our assets using the straight-line method over the estimated useful lives of the assets. The ranges of estimated useful lives are as follows:

	Years
Buildings	25-40
Land improvements	20
Machinery and equipment	5-20
Furniture and fixtures	5-10

The carrying value of fixed assets is assessed when events and circumstances indicating impairment are present. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of the assets to future undiscounted net cash flows expected to be generated by the assets. If the assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. Assets to be disposed are reported at the lower of the carrying amount or fair value less costs to sell.

Depreciation expense was \$40.1 million for 2010, \$58.3 million for 2011, and \$59.6 million for 2012.

Accounts Receivable

Trade accounts receivable primarily arise from sales of goods to customers and distributors in the normal course of business.

Sales of trade accounts receivable

We have in the past sold certain trade accounts receivable to a bank under a factoring arrangement. The receivables were sold at a discount on a nonrecourse basis and we did not retain interests in the receivables sold. We also acted as a servicer of the sold receivables for a fee. The servicing duties included collecting payments on receivables and remitting them to the bank. While servicing the receivables, we applied the same servicing policies and procedures that are applied to our owned accounts receivable.

Allowance for Doubtful Accounts

Considerable judgment is required in assessing the realizability of receivables, including the current creditworthiness of each customer, related aging of the past due balances and the facts and circumstances surrounding any non-payment. We evaluate specific accounts when we become aware of a situation where a customer may not be able to meet its financial obligations. The reserve requirements are based on the best facts available to us and are reevaluated and adjusted as additional information is received. Receivables are charged off when amounts are determined to be uncollectible.

Capitalized Bank Fees

We capitalize bank fees upon the incurrence of debt. As of December 31, 2011 and December 31, 2012, capitalized bank fees amounted to \$6.9 million and \$12.1 million, respectively. We amortize such amounts over the life of the respective debt instrument using the effective interest method. The estimated life may be adjusted upon the occurrence of a triggering event. Amortization of capitalized bank fees amounted to \$1.8 million in 2010, \$1.4 million in 2011, and \$1.7 million in 2012, respectively, and is included in interest expense.

Derivative Financial Instruments

We do not use derivative financial instruments for trading purposes. They are used to manage well-defined commercial risks associated with commodity contracts and currency exchange rate risks.

Foreign Currency Derivatives

We enter into foreign currency derivatives from time to time to manage exposure to changes in currency exchange rates. These instruments, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures, relating to non-dollar denominated debt and identifiable foreign currency receivables, payables and commitments held by our foreign and domestic subsidiaries. Forward exchange contracts are agreements to exchange different currencies at a specified future date and at a specified rate. Purchased foreign currency options are instruments which give the holder the right, but not the obligation, to exchange different currencies at a specified rate at a specified date or over a range of specified dates. The result is the creation of a range in which a best and worst price is defined, while minimizing option cost. Forward exchange contracts and purchased currency options are carried at fair value. These contracts are treated as hedges to the extent they are effective. Changes in fair values related to these contracts are recognized in other comprehensive income in the Consolidated Balance Sheets until settlement. At the time of settlement, realized gains and losses are recognized in revenue or cost of goods sold on the Consolidated Statements of Income. For derivatives that are not designated as a hedge, any gain or loss is immediately recognized in Cost of Goods Sold or Other (Income) Expense on the the Consolidated Statements of Income. Derivatives used in this manner relate to risks resulting from assets or liabilities denominated in a foreign currency.

Commodity Derivative Contracts

We periodically enter into derivative contracts for natural gas and certain refined oil products. These contracts are entered into to protect against the risk that eventual cash flows related to these products will be adversely affected by future changes in prices. All commodity contracts are carried at fair value and are treated as hedges to the extent they are effective. Changes in their fair values are included in other comprehensive income in the Consolidated Balance Sheets until settlement. At the time of settlement of these hedge contracts, realized gains and losses are recognized as part of cost of goods sold on the Consolidated Statements of Income.

Investments in Non-Consolidated Affiliates

We use the equity method to account for investments in entities that we do not control, but where we have the ability to exercise significant influence. Equity method investments are recorded at original cost and adjusted periodically to recognize (1) our proportionate share of the investees' net income or losses after the date of investment, (2) additional contributions made and dividends or distributions received, and (3) impairment losses resulting from adjustments to net realizable value.

We assess the potential impairment of our equity method investments when indicators such as a history of operating losses, a negative earnings and cash flow outlook, and the financial condition and prospects for the investee's business segment might indicate a loss in value. We determine fair value based on valuation methodologies, as appropriate, including the present value of our estimated future cash flows. If the fair value is less than our carrying amount, the investment is determined to be impaired. If the decline in value is other than temporary, we record an appropriate write-down.

Research and Development

Expenditures relating to the development of new products and processes, including significant improvements to existing products, are expensed as incurred.

Income Taxes

We file a consolidated United States (“U.S.”) federal income tax return for GTI and its eligible domestic subsidiaries. Our non-U.S. subsidiaries file income tax returns in their respective local jurisdictions. We account for income taxes under the asset and liability method. Deferred tax assets and liabilities are recognized for the future tax consequences attributable to temporary differences between the financial statement carrying amounts of existing assets and liabilities and their respective tax bases and tax benefit carry forwards. Deferred tax assets and liabilities at the end of each period are determined using enacted tax rates. A valuation allowance is established or maintained, when, based on currently available information and other factors, it is more likely than not that all or a portion of a deferred tax asset will not be realized.

Under the guidance on accounting for uncertainty in income taxes, we recognize the benefit from an uncertain tax position only if it is more likely than not that the tax position will be sustained on examination by taxing authorities, based on the technical merits of the position. The tax benefits recognized in the financial statements from such a position are measured based on the largest benefit that has a greater than fifty percent likelihood of being realized upon ultimate settlement. The guidance on accounting for uncertainty in income taxes also provides guidance on derecognition, classification, interest and penalties on income taxes, and accounting in interim periods.

Stock-Based Compensation Plans

We have various plans that provide for the granting of stock-based compensation to employees and, in certain instances, to non-employee directors, which are described more fully in Note 13, “Management Compensation and Incentive Plans.” Shares are issued upon vesting or option exercise from authorized, unissued shares.

We account for those plans under the applicable standards on accounting for share-based payment. For transactions in which we obtain employee services in exchange for an award of equity instruments, we measure the cost of the services based on the grant date fair value of the award. We recognize the cost over the period during which an employee is required to provide services in exchange for the award, known as the requisite service period (usually the vesting period). Costs related to plans with graded vesting are generally recognized using a straight-line method. Cash flows resulting from tax benefits for deductions in excess of compensation cost recognized are included in financing cash flows.

Retirement Plans and Postretirement Benefits

We use actuarial methods and assumptions to account for our defined benefit pension plans and our postretirement benefits. We immediately recognize the change in the fair value of plan assets and net actuarial gains and losses annually in the fourth quarter of each year (MTM Adjustment) and whenever a plan is remeasured (e.g. due to a significant curtailment, settlement, etc.). Pension and postretirement benefits expense includes the MTM adjustment, actuarially computed cost of benefits earned during the current service period, the interest cost on accrued obligations, the expected return on plan assets based on fair market values, and adjustments due to plan settlements and curtailments. Contributions to the qualified U.S. retirement plan are made in accordance with the requirements of the Employee Retirement Income Security Act of 1974.

Postretirement benefits and benefits under the non-qualified retirement plan have been accrued, but not funded. The estimated cost of future postretirement life insurance benefits is determined by the Company with assistance from independent actuarial firms using the “projected unit credit” actuarial cost method. Such costs are recognized as employees render the service necessary to earn the postretirement benefits. We record our balance sheet position based on the funded status of the plan.

We exclude the inactive participant portion of our pension and other postretirement benefit costs as a component of inventorable costs. Additional information with respect to benefits plans is set forth in Note 12, “Retirement Plans and Postretirement Benefits.”

Environmental, Health and Safety Matters

Our operations are governed by laws addressing protection of the environment and worker safety and health. These laws provide for civil and criminal penalties and fines, as well as injunctive and remedial relief, for noncompliance and require remediation at sites where hazardous substances have been released into the environment.

We have been in the past, and may become in the future, the subject of formal or informal enforcement actions or proceedings regarding noncompliance with these laws or the remediation of company-related substances released into the environment. Historically, such matters have been resolved by negotiation with regulatory authorities resulting in commitments to compliance, abatement or remediation programs and in some cases payment of penalties. Historically, neither the commitments undertaken nor the penalties imposed on us have been material. Environmental considerations are part of all significant capital expenditure decisions. Environmental remediation, compliance and management expenses were approximately \$12.5 million in 2010, \$15.7 million in 2011, and \$15.8 million in 2012. The accrued liability relating to environmental remediation was \$8.2 million as of December 31, 2011 and \$8.3 million as of December 31, 2012. A charge to income is recorded when it is probable that a liability has been incurred and the cost can be reasonably estimated. When payments are fixed or determinable, the liability is discounted using a rate at which the payments could be effectively settled.

Our environmental liabilities do not take into consideration possible recoveries of insurance proceeds. Because of the uncertainties associated with environmental remediation activities at sites where we may be potentially liable, future expenses to remediate sites could be considerably higher than the accrued liability.

Foreign Currency Translation

We translate the financial statements of foreign subsidiaries, whose local currency is their functional currency, to U.S. dollars using period-end exchange rates for assets and liabilities and weighted average exchange rates for each period for revenues, expenses, gains and losses. Differences arising from exchange rate changes are included in accumulated other comprehensive loss on the Consolidated Balance Sheets until such time as the operations of such non-U.S. subsidiaries are sold or substantially or completely liquidated.

For our Mexican, Swiss and Russian subsidiaries, whose functional currency is the U.S. dollar, we remeasure non-monetary balance sheet accounts and the related income statement accounts at historical exchange rates. Resulting gains and losses arising from the fluctuations in currency for monetary accounts are recognized in other (income) expense, net, in the Consolidated Statements of Income. Gains and losses arising from fluctuations in currency exchange rates on transactions denominated in currencies other than the functional currency are recognized in earnings as incurred.

We have had non-dollar denominated intercompany loans between some of our foreign subsidiaries. These loans are subject to remeasurement gains and losses due to changes in currency exchange rates. Certain of these loans had been deemed to be essentially permanent prior to settlement and, as a result, remeasurement gains and losses on these loans were recorded as a component of accumulated other comprehensive loss in the stockholders' equity section of the Consolidated Balance Sheets. The remaining loans are deemed to be temporary and, as a result, remeasurement gains and losses on these loans are recorded as currency (gains/losses) in other (income) expense, net, on the Consolidated Statements of Income.

Software Development Costs

In connection with our development and implementation of global enterprise resource planning systems with advanced manufacturing, planning and scheduling software, we capitalize certain computer software costs after technological feasibility is established. These costs are capitalized within property, plant and equipment and are amortized utilizing the straight-line method over the economic lives of the related products. Total costs capitalized as of December 31, 2011 and 2012 amounted to \$16.4 million and \$18.1 million, respectively. Amortization expense was \$1.6 million for 2010 and 2011, and \$1.4 million for 2012.

Restructuring

We recognize an accrual for costs associated with exit or disposal activities when the liability is incurred.

Goodwill and Other Intangible Assets

Goodwill is the excess of the acquisition cost of businesses over the fair value of the identifiable net assets acquired. We do not recognize deferred income taxes for the difference between the assigned value and the tax basis related to nondeductible goodwill. Goodwill is not amortized; however, impairment testing is performed annually or more frequently if circumstances indicate that impairment may have occurred. We perform the goodwill impairment test annually at December 31.

The impairment test for goodwill uses a two-step approach, which is performed at the reporting unit level. Step one compares the fair value of the reporting unit (using a discounted cash flow method) to its carrying value. The fair value for each reporting unit with goodwill is determined in accordance with accounting guidance on determining fair value, which requires consideration of the income, market, and cost approaches as applicable. If the carrying value exceeds the fair value, there is potential impairment and step two must be performed. Step two compares the carrying value of the reporting unit's goodwill to implied fair value (i.e., fair value of the reporting unit less the fair value of the unit's assets and liabilities, including identifiable intangible assets). If the fair value of goodwill is less than the carrying amount of goodwill, an impairment is recognized.

Other amortizable intangible assets, which consist primarily of patents, trademarks and trade names, customer-related intangibles, and technological know-how, are amortized over their estimated useful lives using the straight line or sum-of-the-years digits method. The estimated useful lives for each major category of amortizable intangible assets are:

	Years
Patents	20
Trade name	5-10
Technology and know-how	5-9
Customer related intangible	5-14

Additional information about goodwill and other intangibles is set forth in Note 5 "Goodwill and Other Intangible Assets."

Major Maintenance and Repair Costs

We perform scheduled major maintenance of the storage and processing units at our Seadrift plant (referred to as "overhaul"). Time periods between overhauls vary by unit. We also perform an annual scheduled significant maintenance and repair shutdown of the plant (referred to as "turnaround").

Costs of overhauls and turnarounds include plant personnel, contract services, materials, and rental equipment. We defer these costs when incurred and use the straight-line method to amortize them over the period of time estimated to lapse until the next scheduled overhaul of the applicable storage or processing unit or over one year for our turnaround. Under this policy in 2011, costs deferred were \$6.4 million and costs amortized were \$3.4 million.

Costs deferred in 2012 were \$9.3 million and costs amortized were \$7.4 million.

Our turnaround, normally scheduled during the spring or early summer of each year, was completed during the three months ended June 30, 2012.

Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles ("GAAP") requires us to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent liabilities at the date of the Consolidated Financial Statements and the reported amounts of revenue and expenses. Significant estimates and assumptions are used for, but are not limited to, pension and other post-retirement benefits, allowance for doubtful accounts, accruals and valuation allowances, asset impairment, and environmental-related accruals. Actual results could differ from our estimates.

Subsequent Events

We evaluate events that occur after the balance sheet date but before financial statements are issued to determine if a material event requires our amending the financial statements or disclosing the event.

Reclassification

Certain amounts previously reported have been reclassified to conform to the current year presentation.

Recently Adopted Accounting Standards

Testing of Goodwill for Impairment

As of January 1, 2012, we adopted new guidance on the testing of goodwill impairment that allows the option to assess qualitative factors to determine whether performing the two step goodwill impairment assessment is necessary. Under the option, the calculation of the reporting unit's fair value is not required to be performed unless, as a result of the qualitative assessment, it is more likely than not that the fair value of the reporting unit is less than the unit's carrying amount. The adoption of this guidance impacts testing steps only. We test goodwill annually as of December 31, and when triggering events occur.

Presentation of Other Comprehensive Income

As of January 1, 2012, we adopted new guidance on the presentation of comprehensive income. The guidance allows an entity to present components of net income and other comprehensive income in one continuous statement, referred to as the statement of comprehensive income, or in two separate but consecutive statements. The guidance eliminates the option to report other comprehensive income and its components in the statement of changes in equity. While the guidance changes the presentation of comprehensive income, there are no changes to the components that are recognized in net income or other comprehensive income under current accounting guidance. We elected to adopt the two separate but consecutive statements presentation, and the adoption did not have a material impact on our consolidated financial statements.

Fair Value Measurements

As of January 1, 2012, we adopted new guidance regarding disclosures about fair value measurements. The guidance requires new disclosures related to activity in Level 3 fair value measurements. This guidance requires purchases, sales, issuances, and settlements to be presented separately in the rollforward of activity in Level 3 fair value measurements. The adoption of this guidance did not have a significant impact on our disclosures.

Offsetting (Netting) Financial Instruments and Derivative Instruments

In December 2011, the FASB issued Accounting Standards Update No. 2011-11, Balance Sheet Disclosures about Offsetting Assets and Liabilities ("ASU 2011-11") which requires disclosure of the effect or potential effect of netting, known as offsetting, our derivative assets and liabilities in the balance sheet if permitted by the arrangements. ASU 2011-11 becomes effective for annual and interim financial statements beginning after December 31, 2012. The new guidance is required to be adopted retrospectively. We do not anticipate a material effect on our Consolidated Financial Statements.

Recently Issued Accounting Standards

There are no new accounting standards that we anticipate will have a material impact on our consolidated financial statements.

(2) Acquisitions

Seadrift and C/G

On November 30, 2010, we acquired from the equity holders of Seadrift Coke L.P. ("Seadrift") the 81.1% of the equity interests of Seadrift that we did not already own and from the equity holders of C/G Electrodes LLC ("C/G") 100% of the equity interests of C/G. Because Seadrift and C/G meet the SEC definition of common control, we have treated the transactions as the acquisition of one business and they are referred to collectively as the "Acquisitions." Seadrift and C/G are included in our Consolidated Financial Statements beginning as of December 1, 2010. Seadrift is one of the largest producers of petroleum-based needle coke in the world and owns the world's only known stand-alone petroleum-based needle coke plant. Needle coke is the key raw material used to make graphite electrodes, including premium UHP graphite electrodes, which are critical consumables in electric arc furnace ("EAF") steel production. The acquisition of Seadrift helps to assure us of a stable supply for a majority of the primary

raw material in the production of graphite electrodes and should allow us to reduce the relative cost of a significant portion of our supply of needle coke.

C/G is a U.S.-based producer of large diameter premium UHP graphite electrodes used in the EAF steel making process. C/G also sells various other graphite-related products, including specialty graphite blocks, granular graphite and partially processed electrodes. The acquisition of C/G provides us with a large diameter graphite electrode manufacturing facility in the U.S. which will allow us to respond to customer orders more quickly and reduce freight cost and transit time for North American shipments.

Consideration transferred: The consideration paid to the equity holders of Seadrift consisted of \$90.0 million in cash (including working capital adjustments), approximately 12 million shares of GTI common stock and \$100 million in aggregate face amount of Senior Subordinated Notes of GTI due in 2015. The consideration paid to the equity holders of C/G consisted of \$159.5 million in cash (including working capital adjustments), approximately 12 million shares of GTI common stock and \$100 million in aggregate face amount of Senior Subordinated Notes of GTI due in 2015.

The computation of the fair value of the total consideration at the date of acquisition follows (in thousands, except share price):

GTI common shares issued	24,000
Price per share of GTI common stock	\$19.47
Fair value of consideration attributable to common stock	\$467,280
Fair value of Senior Subordinated Notes	142,597
Cash	249,444
Total consideration paid to equity holders	859,321
Fair value of our previously held 18.9% equity interest in Seadrift	77,342
Total consideration	\$936,663

The volume weighted average price of a share of GTI common stock on November 30, 2010 was used to determine the fair value of the stock issued as consideration in connection with the Acquisitions. The fair value of the non-interest bearing senior subordinated notes was determined using an interest rate of 7%.

Recording of assets acquired and liabilities assumed: The Acquisitions are accounted for using the acquisition method of accounting in accordance with FASB ASC 805, Business Combinations (“ASC 805”). Under the acquisition method the identifiable assets acquired and the liabilities assumed are assigned a new basis of accounting reflecting their estimated fair values. The information included herein has been prepared based on the allocation of purchase price using estimates of the fair values and useful lives of assets acquired and liabilities assumed based on the best available information determined with the assistance of independent valuations, quoted market prices and management estimates.

The following table summarizes the fair values of the identifiable assets acquired and liabilities assumed at the acquisition date (in thousands):

Cash	\$8,240
Accounts receivable	23,079
Inventories	82,665
Property, plant and equipment	280,710
Intangible assets	158,200
Other assets	988
Accounts payable	14,130
Other accrued liabilities	6,830
Debt obligations	1,197
Other long-term liabilities	1,000
Deferred tax liability	83,306
Net identifiable assets acquired	447,419
Goodwill	489,244
Net assets acquired	\$936,663

Intangible assets: The following table is a summary of the fair values of the identifiable intangible assets and their estimated useful lives (dollars in thousands):

	Fair Value	Weighted Average Amortization Period	
Customer relationships	\$107,500	13.4	years
Technology and know-how	42,800	8.1	years
Trade names	7,900	7.7	years
Total intangible assets	\$158,200	11.6	years

Goodwill: Goodwill of approximately \$489.2 million was recognized for the Acquisitions and is calculated as the excess of the consideration transferred over the net assets acquired and represents the future economic benefits arising from other assets acquired that could not be individually identified and separately recognized. Specifically, the goodwill recorded as part of the Acquisitions includes:

- the expected synergies and other benefits that we believe will result from combining the operations of Seadrift and C/G with the operations of GrafTech;
- any intangible assets that do not qualify for separate recognition such as the assembled workforce; and
- the value of the going-concern element of Seadrift's and C/G's existing businesses (the higher rate of return on the assembled collection of net assets versus acquiring all of the net assets separately).

We have assigned the goodwill to our Industrial Materials segment. Approximately \$168.2 million of the goodwill is deductible for federal income tax purposes.

Debt: We repaid \$80.6 million of debt and interest rate swaps and assumed an additional \$1.2 million of debt. The recorded amount of the debt assumed approximated its fair value. The following is a summary of the third-party debt assumed and not repaid in connection with the close of the Acquisitions (dollars in thousands):

Pennsylvania Industrial Development Authority mortgage note due 2018, interest rate of 3%	\$1,020
Secured promissory note due 2014, interest rate of 6.25%	177
Total debt assumed	\$1,197

Pro-forma impact of the Acquisitions: The unaudited pro-forma results presented below include the effects

of the Acquisitions as if they had been consummated as of January 1, 2009. The pro forma results include the amortization associated with the acquired intangible assets and interest expense associated with debt used to fund the Acquisitions, as well as fair value adjustments for property, plant and equipment and the elimination of related party transactions. To better reflect the combined operating results, material non-recurring charges directly attributable to the Acquisitions have been excluded. In addition, the pro forma results do not include any anticipated synergies or other expected benefits of the Acquisitions. Accordingly, the unaudited pro forma financial information below is not necessarily indicative of either future results of operations or results that might have been achieved had the Acquisitions been consummated as of January 1, 2009 (dollars in thousands, except per share):

	Year Ended December 31,	
	2009	2010
Revenue	\$802,770	\$1,228,935
Net income	58,158	141,909

Material non-recurring pro forma adjustments directly attributable to the Acquisitions include: reversal of LIFO impact, \$1.9 million expense in 2009 and \$21.0 million benefit in 2010; reversal of equity in (income) losses of non-consolidated affiliate, \$55.5 million expense in 2009 and \$14.5 million income in 2010; and \$25.9 million of transaction expenses in 2010.

Previously held 18.9% equity interest in Seadrift: On June 30, 2008, we acquired 100% of Falcon-Seadrift Holding Corp., now named GrafTech Seadrift Holding Corp. ("GTSD"), which held approximately 18.9% of the equity interests in Seadrift. The substance of the transaction was the acquisition of an asset, the limited partnership units, rather than a business combination. Because the amount we paid for the limited partnerships interests exceeded their tax basis accounting guidance required us to recognize a deferred tax liability for this difference and increase our purchase price. We also had a deferred tax asset valuation allowance at the time we acquired the limited partnership units. Accounting guidance required us to reduce the valuation allowance and decrease the purchase price because the deferred tax liability recorded for the purchase was expected to reverse during the same period that our deferred tax assets were expected to reverse.

We accounted for our investment in Seadrift using the equity method of accounting because we had the ability to exercise significant influence, but not exercise control. In 2009 we determined that the fair value of our investment was less than our carrying amount and that the losses in value were other than temporary. We recorded a non-cash impairment of \$52.8 million in 2009 to recognize this other than temporary loss in value.

The following table summarizes the carrying amount (book value) of our investment in Seadrift from January 1, 2010 to November 30, 2010, the date we acquired the remaining 81.1% equity interests (dollars in thousands):

Balance at January 1, 2010	\$63,315	
Equity in earnings (losses)	4,941	
Distributions	(473))
Gain from remeasuring book value to acquisition date fair value	9,559	
Balance at November 30, 2010	\$77,342	

ASC 805 required us to remeasure the book value of our previously held 18.9% equity interest in Seadrift at November 30, 2010 to its fair value and recognize the resulting gain in our 2010 earnings.

Loan to Seadrift: In July 2009, Seadrift entered into agreements to borrow \$12.0 million from certain of its shareholders, which included up to \$6.0 million from us. Each loan was evidenced by a demand note with an interest rate of 10.0%. We recorded our \$6.0 million loan at its face amount, which reasonably approximated its present value. Seadrift repaid the total borrowing of \$12.0 million on March 31, 2010.

Micron Research Corporation

On February 9, 2011, we purchased substantially all of the assets and assumed certain trade liabilities of Micron Research Corporation (“Micron Research”), a subsidiary of E. Holdings, Inc., for \$6.5 million of cash. Micron Research manufactures super fine grain graphite materials and primarily services Electrical Discharge Machining customers. We intend to utilize their technology and capability to service other applications including solar, electronics and medical. The substance of the transaction is the acquisition of a business and we accounted for the transaction following the guidance in ASC 805. Tangible assets acquired and liabilities assumed were recorded at their estimated fair values of \$5.0 million and \$0.2 million, respectively. The estimated fair values of finite-lived intangible assets acquired of \$1.3 million related to technology and know-how and customer relationships are being amortized over their estimated useful lives ranging from 5 to 15 years. Goodwill of \$0.4 million represents the excess of the consideration transferred over the net assets acquired and has been assigned to our Engineered Solutions segment. These values have been prepared based on the allocation of purchase price using estimates of the fair values and useful lives of assets acquired and liabilities assumed based on best available information determined with the assistance of independent valuations, quoted market prices and management estimates.

Fiber Materials, Inc.

On October 31, 2011, we purchased substantially all of the assets and assumed certain trade liabilities of Fiber Materials, Inc. (“FMI”) for \$14.0 million of cash. FMI is manufacturer of highly engineered advanced carbon composite materials serving the aerospace and defense industries and high temperature insulation for use in industrial applications. FMI has been assigned to our Engineered Solutions (“ES”) business segment. The substance of the transaction was the acquisition of a business and we accounted for the transaction following the guidance in ASC 805. Tangible assets acquired and liabilities assumed were recorded at their fair values of \$13.3 million and \$1.4 million, respectively. The fair value of finite-lived intangible assets acquired of \$2.5 million relating to customer relationships is being amortized over its estimated useful life of 5 years. These values have been prepared based on the allocation of purchase price using estimates of the fair values and useful lives of assets acquired and liabilities assumed based on best available information determined with the assistance of independent valuations, quoted market prices and management estimates.

(3) Segment Reporting

We operate in two reportable segments: Industrial Materials and Engineered Solutions.

Industrial Materials. Our industrial materials segment manufactures and delivers high quality graphite electrodes, refractory products and needle coke products. Electrodes are key components of the conductive power systems used to produce steel and other non-ferrous metals. Refractory products are used in blast furnaces and submerged arc furnaces due to their high thermal conductivity and the ease with which they can be machined to large or complex shapes. Needle coke, a crystalline form of carbon derived from decant oil, is the key ingredient in, and is used primarily in, the production of graphite electrodes.

Engineered Solutions. The Engineered Solutions segment includes advanced electronics technologies, advanced graphite materials, advanced composite materials and advanced materials. Advanced electronics technology products consist of electronic thermal management solutions, fuel cell components, and sealing materials. Advanced graphite materials are highly engineered synthetic graphite products used in many areas due to their unique properties and the ability to tailor them to specific solutions. These products are used in transportation, alternative energy, metallurgical, chemical, oil and gas exploration and various other industries. Advanced composite materials are highly engineered carbon products that are woven into various shapes to primarily support the aerospace and defense industries. Advanced materials use carbon and graphite powders as components or additives in a variety of industries, including metallurgical processing, battery and fuel cell components, and polymer additives.

We continue to evaluate the performance of our segments based on segment operating income. Intersegment sales and transfers are not material and the accounting policies of the reportable segments are the same as those for our Consolidated Financial Statements as a whole. Corporate expenses are allocated to segments based on each segment’s percentage of consolidated sales.

The following tables summarize financial information concerning our reportable segments:

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	For the year Ended December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Net sales to external customers:			
Industrial Materials	\$833,892	\$1,132,194	\$1,025,571
Engineered Solutions	173,101	187,990	222,693
Total net sales	\$1,006,993	\$1,320,184	\$1,248,264
Segment operating income:			
Industrial Materials	\$140,217	\$158,547	\$143,268
Engineered Solutions	17,823	7,462	13,200
Total segment operating income	\$158,040	\$166,009	\$156,468
Reconciliation of segment operating income to income from continuing operations before provision for income taxes			
Equity in earnings of and gain recorded on acquisition of non-consolidated affiliate	(14,500) —	—
Other (income) expense, net	(4,768	) 4,835	(1,005
Interest expense	5,076	18,307	23,247
Interest income	(1,333	) (424	) (261
Income before provision for income taxes	\$173,565	\$143,291	\$134,487

Assets are managed based on geographic location because certain reportable segments share certain facilities. Assets by reportable segment are estimated based on the value of long-lived assets at each location and the sales mix to third party customers at that location.

	At December 31,	
	2011	2012
	(Dollars in thousands)	
Long-lived assets (a):		
Industrial Materials.	\$649,389	\$685,243
Engineered Solutions	127,495	148,664
Total long-lived assets	\$776,884	\$833,907

The following tables summarize information as to our operations in different geographic areas.

	For the year Ended December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Net sales:			
U.S.	\$203,438	\$353,416	\$372,014
Americas	177,396	252,316	195,748
Asia Pacific	193,061	240,220	235,658
Europe, Middle East, Africa	433,098	474,232	444,844
Total	\$1,006,993	\$1,320,184	\$1,248,264

	At December 31,	
	2011	2012
	(Dollars in thousands)	
Long-lived assets (a):		
U.S. and Canada	\$470,196	\$523,818
Mexico	75,145	79,279
Brazil	54,466	47,593
France	52,337	55,792
Spain	76,510	78,392
South Africa	35,559	36,937
Switzerland	5,032	4,829
Other countries	7,639	7,267
Total	\$776,884	\$833,907

(a) Long-lived assets represent fixed assets, net of accumulated depreciation.

(4) Supply Chain Financing

We have a supply chain financing arrangement with a financing party. Under this arrangement, we essentially assign our rights to purchase needle coke from a supplier to the financing party. The financing party purchases the product from a supplier under the standard payment terms and then immediately resells it to us under longer payment terms. The financing party pays the supplier the purchase price for the product and then we pay the financing party. Our payment to the financing party for this needle coke includes a mark-up (the "Mark-Up"). The Mark-Up is a premium expressed as a percentage of the purchase price. The Mark-Up is subject to quarterly reviews. This arrangement helps us to maintain a balanced cash conversion cycle between inventory payments and the collection of receivables. Based on the terms of the arrangement, the total amount that we owe to the financing party may not exceed \$49.3 million at any point in time.

We record the inventory once title and risk of loss transfers from the supplier to the financing party. We record our liability to the financing party as an accrued liability. Our purchases of inventory under this arrangement were \$169.1 million in 2011 and \$189.5 million in 2012. We recognized Mark-Up of \$1.0 million in 2011 and \$0.6 million in 2012 as interest expense.

(5) Goodwill and Other Intangible Assets

The Company is required to review goodwill and indefinite-lived intangible assets annually for impairment. Goodwill impairment is tested at the reporting unit level on an annual basis and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value.

Our annual impairment test of goodwill was performed as of December 31, 2012. The estimated fair values of our reporting units were based on discounted cash flow models derived from internal earnings forecasts and assumptions. The assumptions and estimates used in these valuations incorporated the current and expected economic environment. Our model was based on our internally developed forecast and based on these valuations, the fair value substantially exceeded our net asset value. In addition, to the quantitative analysis, we have qualitatively assessed our reporting units and we believe that the quantitative analysis supporting the fair value in excess of the carrying value is appropriate. However, a further deterioration in the global economic environment or in any of the input assumptions in our calculation could adversely affect the fair value of our reporting units and result in an impairment of some or all of the goodwill on the balance sheet.

The changes in the Company's carrying value of goodwill during the years ended December 31, 2011 and 2012 are as follows:

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	Total (Dollars in Thousands)
Balance as of December 31, 2010	\$499,238
Translation effect	(1,741)
Business Acquisitions	1,184
Balance as of December 31, 2011	498,681
Translation effect	(420)
Balance as of December 31, 2012	\$498,261

The following table summarizes intangible assets with determinable useful lives by major category as of December 31, 2011 and 2012:

	2011			2012		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(Dollars in Thousands)			(Dollars in Thousands)		
Patents	\$3,520	\$(1,393)	\$2,127	\$3,520	\$(1,617)	\$1,903
Trade name	7,900	(1,598)	6,302	7,900	(2,870)	5,030
Technology and know-how	43,349	(6,526)	36,823	43,349	(12,554)	30,795
Customer related intangible	110,798	(16,481)	94,317	110,798	(31,233)	79,565
Total finite-lived intangible assets	\$165,567	\$(25,998)	\$139,569	\$165,567	\$(48,274)	\$117,293

Amortization expense of intangible assets in 2010, 2011 and 2012 was \$2.1 million, \$23.0 million and \$22.3 million, respectively. Estimated annual amortization expense for the next five years will approximate \$22.0 million in 2013, \$20.5 million in 2014, \$18.8 million in 2015, \$14.7 million in 2016 and \$15.9 million in 2017.

(6) Long-Term Debt and Liquidity

The following table presents our long-term debt:

	At December 31,	
	2011	2012
	(Dollars in thousands)	
Revolving Facility	\$232,000	\$69,500
Senior Notes	—	300,000
Senior Subordinated Notes	153,442	164,183
Other debt	2,182	2,026
Total	\$387,624	\$535,709

Revolving Facility

On October 7, 2011, we successfully completed the refinancing of our principal revolving credit facility (“Revolving Facility”). Borrowers under the Revolving Facility were GrafTech Finance Inc. (“GrafTech Finance”) and GrafTech Switzerland S.A. (“Swissco”), both wholly-owned subsidiaries. On April 20, 2012, as permitted by Section 9.19 of the October 7, 2011 Credit Agreement, we entered into an Amended and Restated Credit Agreement pursuant to which, on August 28, 2012, GrafTech Luxembourg II S.à.r.l. (“Luxembourg Holdco”) replaced Swissco as a Borrower. Swissco is no longer entitled to borrow Loans under the Revolving Facility although it is entitled to request letters of credit thereunder only for its own use.

The interest rate applicable to the Revolving Facility is, at GrafTech’s option, either LIBOR plus a margin ranging from 1.5% to 2.25% (depending on our total net leverage ratio and/or senior unsecured rating) or, in the case of dollar denominated loans, the alternate base rate plus a margin ranging from 0.50% to 1.25% (depending upon such

ratio or rating). The alternate base rate is the highest of (i) the prime rate announced by JPMorgan Chase Bank, N.A., (ii) the federal fund effective rate plus one-half of 1.0% and (iii) the London interbank offering rate (as adjusted) for a one-month period plus 1.0%. The borrowers pay a per annum fee ranging from 0.25% to 0.40% (depending on such ratio or rating) on the undrawn portion of the commitments under the Revolving Facility. The financial covenants require us to maintain a minimum cash interest coverage ratio of 3.00 to 1.00 and a maximum senior secured leverage ratio of 2.25 to 1.00, subject to adjustment for certain events. As of December 31, 2012, we were in compliance with all financial and other covenants contained in the Revolving Facility, as applicable.

Senior Notes

On November 20, 2012, GrafTech International Ltd. entered into an indenture dated November 20, 2012 (the "Indenture") among the Company, certain domestic subsidiaries of the Company party thereto and U.S. Bank National Association, as trustee (the "Trustee"). The Company issued \$300 million principal amount of 6.375% Senior Notes due 2020. These Senior Notes are the Company's senior unsecured obligations and rank pari passu with all of the Company's existing and future senior unsecured indebtedness. The Senior Notes are guaranteed on a senior unsecured basis by each of the Company's existing and future subsidiaries that guarantee certain other indebtedness of the Company or another guarantor.

The Senior Notes bear interest at a rate of 6.375% per year, payable semi-annually in arrears on May 15 and November 15 of each year, commencing on May 15, 2013. Interest will accrue from November 20, 2012. The Senior Notes mature on November 15, 2020.

The Company is entitled to redeem some or all of the Senior Notes at any time on or after November 15, 2016, at the redemption prices set forth in the Indenture. In addition, prior to November 15, 2016, the Company may redeem some or all of the Senior Notes at a price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, plus a "make whole" premium determined as set forth in the Indenture. The Company is also entitled to redeem up to 35% of the aggregate principal amount of the Senior Notes before November 15, 2015 with the net proceeds from certain equity offerings at a redemption price of 106.375% of the principal amount plus accrued and unpaid interest, if any.

If, prior to maturity, a change in control (as defined in the Indenture) of the Company occurs and thereafter certain downgrades of the ratings of the Senior Notes as specified in the Indenture occur, the Company will be required to offer to repurchase any or all of the Senior Notes at a repurchase price equal to 101% of the aggregate principal amount of the Senior Notes, plus any accrued and unpaid interest.

The Indenture also contains covenants that, among other things, limit the ability of the Company and certain of its subsidiaries to: (i) create liens or use assets as security in other transactions; (ii) engage in certain sale/leaseback transactions; and (iii) merge, consolidate or sell, transfer, lease or dispose of substantially all of their assets.

The Indenture also contains customary events of default, including (i) failure to pay principal or interest on the Senior Notes when due and payable, (ii) failure to comply with covenants or agreements in the Indenture or the Senior Notes which failures are not cured or waived as provided in the Indenture, (iii) failure to pay indebtedness of the Company, any Subsidiary Guarantor or Significant Subsidiary (as defined in the Indenture) within any applicable grace period after maturity or acceleration and the total amount of such indebtedness unpaid or accelerated exceeds \$50.0 million, (iv) certain events of bankruptcy, insolvency, or reorganization, (v) failure to pay any judgment or decree for an amount in excess of \$50.0 million against the Company, any Subsidiary Guarantor or any Significant Subsidiary that is not discharged, waived or stayed as provided in the Indenture, (vi) cessation of any subsidiary guarantee to be in full force and effect or denial or disaffirmance by any Subsidiary Guarantor of its obligations under its subsidiary guarantee, and (vii) a default under the Company's Senior Subordinated Notes. In the case of an event of default, the principal amount of the Senior Notes plus accrued and unpaid interest may be

accelerated.

The offering of the Notes was not registered under the Securities Act of 1933, as amended (the “Securities Act”) or any state securities laws or blue sky laws but the Company has agreed to file a registration statement under the Securities Act to permit the exchange of the Notes for new registered notes of the Company having terms substantially identical to the Senior Notes. Under certain circumstances, the Company may also be required to file

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a shelf registration statement under the Securities Act to register the resale of the Senior Notes by certain holders thereof. If the Company fails to comply with certain of their obligations, the Company will be required to pay additional interest to the holders of the Senior Notes until it does comply.

Senior Subordinated Notes

On November 30, 2010, in connection with the Acquisitions, we issued Senior Subordinated Notes for an aggregate total face amount of \$200 million. These Senior Subordinated Notes are non-interest bearing and mature in 2015, see Note 2 “Acquisitions”. Because the promissory notes are non-interest bearing, we were required to record them at their present value (determined using an interest rate of 7%). The difference between the face amount of the promissory notes and their present value is recorded as debt discount. The debt discount will be amortized to income using the interest method, over the life of the promissory notes. The loan balance, net of unamortized discount, was \$164.2 million at December 31, 2012.

(7) Fair Value Measurements and Derivative Instruments

Fair Market Value Measurements

Depending on the inputs, we classify each fair value measurement as follows:

Level 1 – based upon quoted prices for identical instruments in active markets,

Level 2 – based upon quoted prices for similar instruments, prices for identical or similar instruments in markets that are not active, or model-derived valuations of all of whose significant inputs are observable, and

Level 3 – based upon one or more significant unobservable inputs.

The following section describes key inputs and assumptions used in valuation methodologies of our assets and liabilities measured at fair value on a recurring basis:

Cash and cash equivalents, short-term notes and accounts receivable, accounts payable and other current payables – The carrying amount approximates fair value because of the short maturity of these instruments.

Long-term debt – Fair value of long-term debt, which was determined using Level 2 inputs, as of December 31, 2011 was \$387.6 million and approximated fair value. As of December 31, 2012 the fair value was \$546.3 million, versus a book value of \$535.7 million.

Foreign currency derivatives – Foreign currency derivatives are carried at market value using Level 2 inputs. The outstanding contracts at December 31, 2011 and 2012 represented unrealized gains of \$2.4 million and unrealized losses of \$1.3 million, respectively.

Commodity derivative contracts – Commodity derivative contracts are carried at fair value. We determine the fair value using observable, quoted natural gas and refined oil product prices that are determined by active markets and therefore classify the commodity derivative contracts as Level 2. The outstanding commodity derivative contracts as of December 31, 2011 represented unrealized losses of \$0.5 million and no gain or loss as of December 31, 2012.

Derivative Instruments

We use derivative instruments as part of our overall foreign currency and commodity risk management strategies to manage the risk of exchange rate movements that would reduce the value of our foreign cash flows and to minimize commodity price volatility. Foreign currency exchange rate movements create a degree of risk by affecting the value of sales made and costs incurred in currencies other than the US Dollar.

Certain of our derivative contracts contain provisions that require us to provide collateral. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not anticipate nonperformance by any of the counter-parties to our instruments.

Foreign currency derivatives

We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency instruments, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures such as foreign

currency denominated debt, sales, receivables, payables, and purchases. Forward exchange contracts are agreements to exchange different currencies at a specified future date and at a specified rate. There was no ineffectiveness on these contracts during the twelve months ended December 31, 2011 or 2012.

In 2011 and 2012, we entered into foreign forward currency derivatives as hedges of anticipated cash flows denominated in the Mexican peso, Brazilian real, South African rand, euro and Japanese yen. These derivatives were entered into to protect the risk that the eventual cash flows resulting from such transactions will be adversely affected by changes in exchange rates between the US dollar and the Mexican peso, Brazilian real, South African rand, euro and Japanese yen. As of December 31, 2011, we had outstanding Brazilian real, euro, and Japanese yen currency contracts, with aggregate notional amounts of \$131.9 million. As of December 31, 2012, we had outstanding Mexican peso, Brazilian real, South African rand, euro, and Japanese yen currency contracts, with aggregate notional amounts of \$183.7 million. The foreign currency derivatives outstanding as of December 31, 2012 have several maturity dates ranging from January 2013 to December 2013.

Commodity derivative contracts

We periodically enter into derivative contracts for natural gas and certain refined oil products. These contracts are entered into to protect against the risk that eventual cash flows related to these products will be adversely affected by future changes in prices. There was no ineffectiveness on these contracts during the twelve months ended December 31, 2011 or 2012. As of December 31, 2012, we had outstanding derivative swap contracts for refined oil products with aggregate notional amounts of \$31.9 million. These contracts have maturity dates ranging from January 2013 to March 2013.

The fair value of all derivatives is recorded as assets or liabilities on a gross basis in our Consolidated Balance Sheets. At December 31, 2011 and 2012, the fair values of our derivatives and their respective balance sheet locations are presented in the following table:

	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of December 31, 2011	(Dollars in Thousands)			
Derivatives designated as cash flow hedges:				
Foreign currency derivatives	Other receivables	\$4,412	Other payables	\$1,834
Commodity derivative contracts	Other current assets	1,104	Other current liabilities	1,557
Total fair value		\$5,516		\$3,391
As of December 31, 2012				
Derivatives designated as cash flow hedges:				
Foreign currency derivatives	Other receivables	\$1,062	Other payables	\$2,374
Commodity derivative contracts	Other current assets	—	Other current liabilities	31
Total fair value		\$1,062		\$2,405

	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of December 31, 2011	(Dollars in Thousands)			
Derivatives designated as fair value hedges:				
Foreign currency derivatives	Other receivables	\$—	Other payables	\$195
Total fair value		\$—		\$195

As of December 31, 2012				
Derivatives designated as fair value hedges:				
Foreign currency derivatives	Other receivables	\$—	Other payables	\$—
Total fair value		\$—		\$—

	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of December 31, 2011	(Dollars in Thousands)			
Derivatives not designated as hedges:				
Foreign currency derivatives	Other receivables	\$—	Other payables	\$—
Total fair value		\$—		\$—

As of December 31, 2012				
Derivatives not designated as hedges:				
Foreign currency derivatives	Other receivables	\$242	Other payables	\$—
Total fair value		\$242		\$—

The location and amount of realized (gains) losses on derivatives are recognized in the Statements of Income when the hedged item impacts earnings and are as follows for the years ended 2011 and 2012:

	Location of (Gain)/Loss Reclassified from Other Comprehensive Income (Effective Portion)	Amount of (Gain)/Loss Recognized (Effective Portion)	
		2011	2012
Derivatives designated as cash flow hedges:		(Dollars in Thousands)	
Foreign currency derivatives	Cost of goods sold/Other expense / (income) / Revenue	\$368	\$(5,226)
Commodity forward derivatives	Cost of goods sold / Revenue	\$(7,287)	\$(9,430)
		(Gain)/Loss Recognized (Effective Portion)	
	Location of (Gain)/Loss Recognized in the Consolidated Statement of Income	2011	2012
Derivatives designated as fair value hedges:		(Dollars in Thousands)	
Foreign currency derivatives	Cost of goods sold/Other expense (income)	\$(1,491)	\$209

	Location of (Gain)/Loss Recognized in the Consolidated Statement of Income	Amount of (Gain)/Loss Recognized	
		2011	2012
Derivatives not designated as hedges:			
Foreign currency derivatives	Cost of goods sold/Other expense (income)	\$—	\$346

Our foreign currency and commodity derivatives are treated as hedges and are required to be measured at fair value on a recurring basis. With respect to the inputs used to determine the fair value, we use observable, quoted rates that are determined by active markets and, therefore, classify the contracts as “Level 2”.

(8) Interest Expense

The following table presents an analysis of interest expense:

	For the year Ended		
	December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Interest incurred on debt	\$985	\$5,745	\$10,172
Amortization of discount on Senior Subordinated Notes	806	10,039	10,742
Amortization of debt issuance costs	1,761	1,521	1,712
Supply Chain Financing mark-up	1,524	1,002	621
Total interest expense	\$5,076	\$18,307	\$23,247

Interest rates

The Revolving Facility had an effective interest rate of 2.05% and 2.21% as of December 31, 2011 and 2012, respectively. The Senior Notes carry an interest rate of 6.375%. The Senior Subordinated Notes have an implied rate of 7.00%.

(9) Other (Income) Expense, Net

As part of our cash management, we have intercompany loans between our subsidiaries. These loans are deemed to be temporary and, as a result, remeasurement gains/losses are recorded in other (income) expense, net, on the Consolidated Statements of Income. We had a net currency loss in 2011 of \$2.6 million and a net currency gain of \$0.6 million in 2012, mainly due to the remeasurement of intercompany loans and the effect of transaction gains and losses on intercompany activities.

In addition, other (income) expense in 2012, includes \$4.0 million of insurance reimbursements for claims made related to flood damages incurred at our Clarksburg, West Virginia facility during 2011.

(10) Supplementary Balance Sheet Detail

The following tables present supplementary balance sheet details:

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	At December 31,	
	2011	2012
	(Dollars in thousands)	
Accounts and notes receivable, net:		
Trade	\$224,905	\$244,000
Allowance for doubtful accounts	(4,153)	(7,571)
	\$220,752	\$236,429
Inventories:		
Raw materials and supplies	\$168,982	\$230,057
Work in process	205,968	213,948
Finished goods	73,821	73,293
	448,771	517,298
Reserves	(4,709)	(4,233)
	\$444,062	\$513,065
Property, plant and equipment:		
Land and improvements	\$34,896	\$36,744
Buildings	175,588	182,838
Machinery and equipment and other	1,105,440	1,172,045
Construction in progress	115,508	140,732
	\$1,431,432	\$1,532,359
Other accrued liabilities:		
Payrolls (including incentive programs)	\$7,624	7,461
Customer prepayments	8,478	7,594
Employee compensation and benefits	11,680	10,335
Other	12,393	25,563
	\$40,175	\$50,953
Other long term obligations:		
Postretirement benefits	\$29,630	\$30,465
Pension and related benefits	75,840	73,202
Other	25,830	21,338
	\$131,300	\$125,005

The following table presents an analysis of the allowance for doubtful accounts:

	At December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Balance at beginning of year	\$4,545	\$3,892	\$4,153
Additions	1,004	1,438	5,159
Deductions	(1,657)	(1,177)	(1,741)
Balance at end of year	\$3,892	\$4,153	\$7,571

Inventories

We allocate fixed production overheads to the costs of conversion based on normal capacity of the production facilities. It also requires that we recognize abnormal amounts of idle facility expense, freight, handling costs, and wasted materials (spoilage) as current period charges. As of December 31, 2011 we had no costs in excess of normal absorption. Costs in excess of normal absorption as of December 31, 2012 were \$3.5 million.

The following table presents an analysis of our inventory reserves:

	At December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Balance at beginning of year	\$2,518	\$2,716	\$4,709
Additions	2,844	4,154	4,052
Deductions	(2,646	) (2,161	) (4,528
Balance at end of year	\$2,716	\$4,709	\$4,233

(11) Commitments

Lease commitments under non-cancelable operating leases extending for one year or more will require the following future payments:

	(Dollars in thousands)
2013	\$2,808
2014	1,916
2015	585
2016	547
2017	231
After 2017	—

Total lease and rental expenses under non-cancelable operating leases extending one year or more approximated \$2.6 million in 2010, \$2.4 million in 2011 and \$3.2 million in 2012.

We are parties to contracts with ConocoPhillips through December 2013 for the supply of petroleum needle coke, our primary raw material used in the manufacture of graphite electrodes. The agreements provide for quantities of needle coke which we believe, together with needle coke that we source from Seadrift and other sources, are sufficient for our requirements as currently forecast. These supply agreements also contain customary terms and conditions including annual price negotiations, dispute resolution and termination provisions.

We have supply agreements that require us to purchase electricity and natural gas from January 1, 2013 through December 31, 2013. The total obligation under these contracts is \$5.4 million.

(12) Retirement Plans and Postretirement Benefits

Retirement Plans

On February 26, 1991, we formed our own retirement plan covering substantially all our U.S. employees. Under our plan, covered employees earned benefit payments based primarily on their service credits and wages subsequent to February 26, 1991.

Prior to that date, substantially all our U.S. employees were participants in the U.S. retirement plan of Union Carbide Corporation (“Union Carbide”). While service credit was frozen, covered employees continued to earn benefits under the Union Carbide plan based on their final average wages through February 26, 1991, adjusted for salary increases (not to exceed six percent per annum) through January 26, 1995, the date Union Carbide ceased to own a minimum 50% of the equity of GTI. The Union Carbide plan is responsible for paying retirement and death benefits earned as of February 26, 1991.

Effective January 1, 2002, we established a defined contribution plan for U.S. employees. Certain employees had the option to remain in our defined benefit plan for an additional period of up to five years. Employees not covered by this option had their benefits under our defined benefit plan frozen as of December 31, 2001, and began participating in the defined contribution plan.

Effective March 31, 2003, we curtailed our qualified benefit plan and the benefits were frozen as of that date for the U.S. employees who had the option to remain in our defined benefit plan. We also closed our non-qualified U.S. defined benefit plan for the participating salaried workforce. The employees began participating in the defined contribution plan as of April 1, 2003.

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We make quarterly contributions equal to 1% of each employee's total eligible pay. The expense recorded for contributions to this plan was \$0.5 million in 2010, \$0.8 million in 2011 and \$1.0 million in 2012. All such contributions were made using company stock.

Pension coverage for employees of foreign subsidiaries is provided, to the extent deemed appropriate, through separate plans. Obligations under such plans are systematically provided for by depositing funds with trustees, under insurance policies or by book reserves.

The components of our consolidated net pension costs are set forth in the following table.

	For the Year Ended December 31,					
	2010		2011		2012	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)					
Service cost	\$400	\$257	\$525	\$343	\$610	\$1,095
Interest cost	7,114	2,668	6,759	2,501	6,114	2,532
Expected return on assets	(6,385)	(2,166)	(6,688)	(2,225)	(6,520)	(2,299)
Amortization of prior service cost	—	53	—	26	—	24
Settlement loss	—	49	—	—	—	—
Mark-to-market loss	5,304	4,107	19,775	1,190	6,572	1,662
	\$6,433	\$4,968	\$20,371	\$1,835	\$6,776	\$3,014

The primary driver of the mark-to-market losses in 2011 and 2012 was a decrease in the discount rate due to lower interest rates.

Amounts recognized in other comprehensive income:

	For the Year Ended December 31,					
	2010		2011		2012	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)					
Amortization of prior service cost	\$—	\$(53)	\$—	\$(26)	\$—	\$(24)
Effect of exchange rates	—	(28)	—	(8)	—	3
Total recognized in other comprehensive loss	\$—	\$(81)	\$—	\$(34)	\$—	\$(21)
Total recognized in pension costs and other comprehensive loss	\$6,433	\$4,887	\$20,371	\$1,801	\$6,776	\$2,993

The reconciliation of the beginning and ending balances of our pension plans' benefit obligations, fair value of assets, and funded status at December 31, 2011 and 2012 are:

	At December 31,			
	2011		2012	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Changes in Benefit Obligation:				
Net benefit obligation at beginning of year	\$134,691	\$54,875	\$144,809	\$73,217
Service cost	525	343	610	1,095
Interest cost	6,759	2,501	6,114	2,532
Participant contributions	—	124	—	347
Foreign currency exchange changes	—	(598)	—	3,153
Actuarial loss	11,871	18,940	8,695	2,995
Benefits paid	(9,037)	(2,968)	(8,759)	(3,028)
Net benefit obligation at end of year	\$144,809	\$73,217	\$151,469	\$80,311
Changes in Plan Assets:				
Fair value of plan assets at beginning of year	\$85,896	\$48,774	\$80,935	\$65,960
Actual return on plan assets	(1,215)	13,398	8,643	3,668
Foreign currency exchange rate changes	—	(448)	—	2,919
Employer contributions	5,291	542	10,500	1,884
Participant contributions	—	124	—	347
Actuarial loss	—	6,538	—	—
Benefits paid	(9,037)	(2,968)	(8,759)	(3,028)
Fair value of plan assets at end of year	\$80,935	\$65,960	\$91,319	\$71,750
Funded status (underfunded):	\$(63,874)	\$(7,257)	\$(60,150)	\$(8,561)
Amounts recognized in accumulated other comprehensive loss:				
Prior service credit	\$—	\$(287)	\$—	\$(266)
Amounts recognized in the statement of financial position:				
Non-current assets	\$—	\$—	\$—	\$—
Current liabilities	(558)	(208)	(557)	(260)
Non-current liabilities	(63,316)	(7,048)	(59,593)	(8,301)
Net amount recognized	\$(63,874)	\$(7,256)	\$(60,150)	\$(8,561)
The accumulated benefit obligation for all defined benefit pension plans was \$218.0 million and \$230.1 million at December 31, 2011 and 2012, respectively.				

Plan Assets

The accounting guidance on fair value measurements specifies a hierarchy based on the observability of inputs used in valuation techniques (Level 1, 2 and 3). See Note 7, "Fair Value Measurements and Derivative Instruments," for a discussion of the fair value hierarchy.

The following describes the methods and significant assumptions used to estimate the fair value of the investments:
Cash and cash equivalents – Valued at cost. Cash equivalents are valued at net asset value as provided by the administrator of the fund.

Foreign government bonds – Valued by the trustees using various pricing services of financial institutions.

Debt securities – Valued by the trustee at year-end using various pricing services of financial institutions, including Interactive Data Corporation, Standard & Poor's and Telekurs.

Equity securities – Valued at the closing price reported on the active market on which the security is traded.

Fixed insurance contract – Valued at the present value of the guaranteed payment streams.

Investment contracts – Valued at the total cost of annuity contracts purchased, adjusted for market differences from the date of purchase to year-end.

Collective trusts – Valued at the net asset value provided by the administrator of the fund. The net asset value is based on the value of the underlying assets owned by the fund, minus its liabilities, divided by the number of units outstanding.

The fair value of the plan assets by category is summarized below (dollars in thousands):

	December 31, 2011				December 31, 2012			
	Level 1	Level 2	Level 3	Total	Level 1	Level 2	Level 3	Total
U.S. Plan Assets								
Cash and cash equivalents	\$1,001	—	—	\$1,001	\$1,516	—	—	\$1,516
Collective trusts	—	79,934	—	79,934	—	\$89,803	—	89,803
Total	\$1,001	79,934	—	\$80,935	\$1,516	\$89,803	—	\$91,319
International Plan Assets								
Cash and cash equivalents	\$96	—	—	\$96	\$248	—	—	\$248
Foreign government bonds	—	\$1,022	—	1,022	—	1,107	—	1,107
Investment contracts	—	—	\$56,114	56,114	—	—	\$60,344	60,344
Fixed insurance contracts	—	—	8,728	8,728	—	—	10,051	10,051
Total	\$96	\$1,022	\$64,842	\$65,960	\$248	\$1,107	\$70,395	\$71,750

The following table presents the changes for those financial instruments classified within Level 3 of the valuation hierarchy for international plan pension assets for the years ended December 31, 2011 and 2012 (dollars in thousands):

	Investment Contracts	Fixed Insurance Contracts
Balance at January 1, 2011	\$45,094	\$1,743
Gain / contributions / currency impact	13,110	6,985
Distributions	(2,090) —
Balance at December 31, 2011	56,114	8,728
Gain / contributions / currency impact	7,118	1,323
Distributions	(2,888) —
Balance at December 31, 2012	\$60,344	\$10,051

We annually re-evaluate assumptions and estimates used in projecting pension assets, liabilities and expenses. These assumptions and estimates may affect the carrying value of pension assets, liabilities and expenses in our Consolidated Financial Statements. Assumptions used to determine net pension costs and projected benefit obligations are:

Weighted average assumptions to determine benefit obligations:	Pension Benefit Obligations At December 31,			
	2011	2012		
Discount rate	4.06	% 3.58	%	
Rate of compensation increase	2.44	% 2.44	%	

	Pension Benefit Obligations At December 31,			
	2011	2012		
Weighted average assumptions to determine net cost:				
Discount rate	4.98	% 4.06		%
Expected return on plan assets	6.74	% 5.95		%
Rate of compensation increase	3.02	% 2.44		%

We adjust our discount rate annually in relation to the rate at which the benefits could be effectively settled.

Discount rates are set for each plan in reference to the yields available on AA-rated corporate bonds of appropriate currency and duration. The appropriate discount rate is derived by developing an AA-rated corporate bond yield curve in each currency. The discount rate for a given plan is the rate implied by the yield curve for the duration of that plan's liabilities. In certain countries, where little public information is available on which to base discount rate assumptions, the discount rate is based on government bond yields or other indices and approximate adjustments to allow for the differences in weighted durations for the specific plans and/or allowance for assumed credit spreads between government and AA rated corporate bonds.

The expected return on assets assumption represents our best estimate of the long-term return on plan assets and generally was estimated by computing a weighted average return of the underlying long-term expected returns on the different asset classes, based on the target asset allocations. The expected return on assets assumption is a long-term assumption that is expected to remain the same from one year to the next unless there is a significant change in the target asset allocation, the fees and expenses paid by the plan or market conditions. However, we have adjusted this estimate downward as a result of the recent decline in global market conditions.

The rate of compensation increase assumption is generally based on salary increases.

Plan Assets. The following table presents our retirement plan weighted average asset allocations at December 31, 2012, by asset category:

	Percentage of Plan Assets at December 31, 2012			
	US	Foreign		
Equity securities	21	% —		%
Fixed income, debt securities, or cash	79	% 100		%
Total	100	% 100		%

Investment Policy and Strategy. The investment policy and strategy of the U.S. plan is to invest approximately 20% in equities and approximately 80% in fixed income securities. The plan can be invested up to 100% in equities, including shares of our common stock. Rebalancing is undertaken monthly. To the extent we maintain plans in other countries, target asset allocation is 100% fixed income investments. For each plan, the investment policy is set within both asset return and local statutory requirements.

The following table presents our retirement plan weighted average target asset allocations at December 31, 2012, by asset category:

	Percentage of Plan Assets at December 31, 2012			
	US	Foreign		
Equity securities	20	% —		%
Fixed Income	80	% 100		%
Total	100	% 100		%

Information for our pension plans with an accumulated benefit obligation in excess of plan assets at December 31, 2011 and 2012 follows:

	2011		2012	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Accumulated benefit obligation	\$144,809	\$72,075	\$151,469	\$78,595
Fair value of plan assets	80,935	64,938	91,319	71,750

Information for our pension plans with a projected benefit obligation in excess of plan assets at December 31, 2011 and 2012 follows:

	2011		2012	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Projected benefit obligation	\$144,809	\$73,217	\$151,469	\$80,311
Fair value of plan assets	80,935	65,960	91,319	71,750

Following is our projected future pension plan cash flow by year:

	U.S.	Foreign
	(Dollars in thousands)	
Expected contributions in 2013:		
Expected employer contributions	\$6,298	\$3,453
Expected employee contributions	—	—
Estimated future benefit payments reflecting expected future service for the years ending December 31:		
2013	9,399	3,725
2014	9,343	4,211
2015	9,282	3,767
2016	9,294	4,248
2017	9,361	4,225
2018-2022	47,085	22,071

Postretirement Benefit Plans

We provide life insurance benefits for eligible retired employees. These benefits are provided through various insurance companies. We accrue the estimated net postretirement benefit costs during the employees' credited service periods.

In July 2002, we amended our U.S. postretirement medical coverage. In 2003 and 2004, we discontinued the Medicare Supplement Plan (for retirees 65 years or older or those eligible for Medicare benefits). This change applied to all U.S. active employees and retirees. In June 2003, we announced the termination of the existing early retiree medical plan for retirees under age 65, effective December 31, 2005. In addition, we limited the amount of retiree's life insurance after December 31, 2004. These modifications are accounted for prospectively. The impact of these changes is being amortized over the average remaining period to full eligibility of the related postretirement benefits.

During 2009, we amended one of our U.S. plans to eliminate the life insurance benefit for certain non-pooled participants.

The components of our consolidated net postretirement costs are set forth in the following table.

	For the Year Ended December 31,					
	2010		2011		2012	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)					
Service cost	\$—	\$163	\$—	\$178	—	\$183
Interest cost	685	1,074	583	1,064	497	1,024
Amortization of prior service credit	—	(193)	—	(201)	—	(199)
Plan amendment	—	—	—	—	—	1,170
Mark-to-market (gain) loss	(3,163)	1,121	(219)	1,538	60	551
	\$(2,478)	\$2,165	\$364	\$2,579	\$557	\$2,729

The primary driver of the mark-to-market losses in 2011 and 2012 was a decrease in the discount rate due to lower interest rates.

Amounts recognized in other comprehensive income are:

	For the Year Ended December 31,					
	2010		2011		2012	
	U.S.	Foreign	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)					
Amortization of prior service cost	\$—	\$193	\$—	\$201	\$—	\$199
Effect of exchange rates	—	(131)	—	49	—	(53)
Total recognized in other comprehensive income	\$—	\$62	\$—	\$250	\$—	\$146
Total recognized in net post retirement cost (benefit) and other comprehensive income	\$(2,478)	\$2,227	\$364	\$2,829	\$557	\$2,875

We estimate that in 2013 our postretirement costs will include amortization of \$0.2 million of prior service credit from stockholders' equity.

The reconciliation of beginning and ending balances of benefit obligations under, fair value of assets of, and the funded status of, our postretirement plans is set forth in the following table:

	Postretirement Benefits at December 31,			
	2011		2012	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Changes in Benefit Obligation:				
Net benefit obligation at beginning of year	\$ 14,475	\$ 17,773	\$ 14,316	\$ 17,592
Service cost	—	178	—	183
Interest cost	583	1,064	497	1,024
Foreign currency exchange rates	—	(1,791)	—	(157)
Actuarial (gain) loss	(219)	1,625	60	541
Gross benefits paid	(523)	(1,257)	(1,367)	(1,165)
Plan amendment	—	—	—	1,170
Net benefit obligation at end of year	\$ 14,316	\$ 17,592	\$ 13,506	\$ 19,188
Changes in Plan Assets:				
Fair value of plan assets at beginning of year	\$—	\$—	\$—	\$—
Employer contributions	523	1,257	1,367	1,165
Gross benefits paid	(523)	(1,257)	(1,367)	(1,165)
Fair value of plan assets at end of year	\$—	\$—	\$—	\$—
Funded status:	\$ (14,316)	\$ (17,592)	\$ (13,506)	\$ (19,188)
Amounts recognized in accumulated other comprehensive loss:				
Prior service credit	\$—	\$ 2,354	\$—	\$ 2,208
Amounts recognized in the statement of financial position:				
Current liabilities	\$ (1,512)	\$ (1,077)	\$ (1,394)	\$ (1,132)
Non-current liabilities	(12,803)	(16,515)	(12,112)	(18,056)
Net amount recognized	\$ (14,315)	\$ (17,592)	\$ (13,506)	\$ (19,188)

We annually re-evaluate assumptions and estimates used in projecting the postretirement liabilities and expenses. These assumptions and estimates may affect the carrying value of postretirement plan liabilities and expenses in our Consolidated Financial Statements. Assumptions used to determine net postretirement benefit costs and postretirement projected benefit obligation are set forth in the following table:

	Postretirement Benefit Obligations At December 31,			
	2011		2012	
Weighted average assumptions to determine benefit obligations:				
Discount rate	4.94	%	4.44	%
Health care cost trend on covered charges:				
Initial	7.68	%	7.52	%
Ultimate	5.71	%	5.94	%
Years to ultimate	4		4	

	Postretirement Benefit Costs At December 31,		
	2011	2012	
Weighted average assumptions to determine net cost:			
Discount rate	5.52	% 4.94	%
Health care cost trend on covered charges:			
Initial	6.68	% 7.68	%
Ultimate	5.66	% 5.71	%
Years to ultimate	1	3	

Assumed health care cost trend rates have a significant effect on the amounts reported for our postretirement benefits. A one-percentage point change in assumed health care cost trend rates would have the following effects at December 31, 2012:

	One Percentage Point Increase		One Percentage Point Decrease	
	U.S.	Foreign	U.S.	Foreign
	(Dollars in thousands)			
Effect on total service cost and interest cost components	\$4	\$137	\$(2)	\$(111)
Effect on benefit obligations	\$145	\$1,190	\$(111)	\$(979)

Discount rates are set for each plan in reference to the yields available on AA-rated corporate bonds of appropriate currency and duration. The appropriate discount rate is derived by developing an AA-rated corporate bond yield curve in each currency. The discount rate for a given plan is the rate implied by the yield curve for the duration of that plan's liabilities. In certain countries, where little public information is available on which to base discount rate assumptions, the discount rate is based on government bond yields or other indices and approximate adjustments to allow for the differences in weighted durations for the specific plans and/or allowance for assumed credit spreads between government and AA-rated corporate bonds.

The following table represents projected future postretirement cash flow by year:

	U.S.	Foreign
	(Dollars in thousands)	
Expected contributions in 2013:		
Expected employer contributions	\$1,394	\$1,132
Expected employee contributions	—	—
Estimated future benefit payments reflecting expected future service for the years ending December 31:		
2013	1,394	1,132
2014	1,365	1,136
2015	1,303	1,138
2016	1,236	1,127
2017	1,139	1,149
2018-2022	4,239	5,941

Other Non-Qualified Benefit Plans

Since January 1, 1995, we have established various unfunded, non-qualified supplemental retirement and deferred compensation plans for certain eligible employees. We established benefits protection trusts (collectively, the "Trust") to partially provide for the benefits of employees participating in these plans. As of December 31, 2011 and December 31, 2012, the Trust had assets of approximately \$4.2 million and \$4.3 million, respectively, which are included in other assets on the Consolidated Balance Sheets. These assets include 76,095 shares of common stock that we contributed to the Trust. These shares, if later sold, could be used for partial funding of our future obligations

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under certain of our compensation and benefit plans. The shares held in Trust are not considered outstanding for purposes of calculating earnings per share until they are committed to be sold or otherwise used for funding purposes.

Savings Plan

Our employee savings plan provides eligible employees the opportunity for long-term savings and investment. The plan allows employees to contribute up to 5% of pay as a basic contribution and an additional 45% of pay as supplemental contribution. For 2010, 2011, and 2012 we contributed on behalf of each participating employee, in units of a fund that invests entirely in our common stock, 100% on the first 3% contributed by the employee and 50% on the next 2% contributed by the employee. We contributed 175,530 shares in 2010, resulting in an expense of \$2.7 million; 186,237 shares in 2011, resulting in an expense of \$3.3 million; and 433,496 shares in 2012, resulting in an expense of \$4.6 million.

(13) Management Compensation and Incentive Plans

Stock-Based Compensation

We have historically maintained several stock incentive plans. The plans permitted the granting of options, restricted stock and other awards. As of December 31, 2012, the aggregate number of shares authorized under the plans since their initial adoption was 23,300,000. Shares issued upon vesting of awards or exercise of options are new share issuances. Upon the vesting or payment of stock awards, an employee may elect receipt of the full share amount and either pay the resulting taxes or sell shares in the open market to cover the tax obligation. We sometimes elect to purchase these shares rather than allow them to be sold in the open market.

Stock-Based Compensation

We recognized \$7.4 million, \$8.9 million, and \$9.6 million in stock-based compensation expense in 2010, 2011 and 2012, respectively. A majority of the expense, \$6.8 million, \$7.9 million, and \$8.7 million, respectively, was recorded as selling and administrative expenses in the Consolidated Statements of Income, with the remainder recorded as cost of sales and research and development. We expect our stock-based compensation expense to approximate \$11.3 million in 2013.

As of December 31, 2012, the total compensation expense related to non-vested restricted stock and stock options not yet recognized was \$21.4 million which will be recognized over the weighted average life of 1.8 years.

In November 2012, the 2012 Long-Term Incentive Plan ("2012 LTIP") under our 2005 Equity Incentive Plan was approved. Under 2012 LTIP we granted 415,400 stock options with an exercise price of \$9.51; 318,100 restricted share units; and up to 1,052,200 performance shares, which represent the right to receive shares contingent upon the achievement of one or more performance measures. The options vest as to 1/3 of the grant on each of the next three grant date anniversaries and expire 10 years from the grant date. The restricted share units vest as to 1/3 of the grant on each of the next three grant date anniversaries. Performance shares are earned based on our ranking of return on average invested capital and earnings per share growth compared to a target peer group for a three year period beginning January 1, 2013. Compensation for performance shares can fluctuate based on our relative performance to the peer group as well as how we perform to the targets. Performance shares earned will vest on March 31, 2016, provided the participant is still employed by us on that date.

Accounting for Stock-Based Compensation

Restricted Stock and Performance Shares. Compensation expense for restricted stock and performance share awards is based on the closing price of our common stock on the date of grant, less our assumptions of dividend yield and expected forfeitures or cancellations of awards throughout the vesting period, which generally range between one and three years. The weighted average grant date fair value of restricted stock and performance shares was approximately \$16.37 and \$10.08 per share at December 31, 2011 and 2012, respectively.

Restricted stock and performance share awards activity under the plans for the year ended December 31, 2012, was:

	Number of Shares	Weighted- Average Grant Date Fair Value
Outstanding unvested at January 1, 2012	1,725,158	\$15.82
Granted	964,906	10.08
Vested	(523,713)	13.99
Forfeited/canceled/expired	(314,432)	16.10
Outstanding at December 31, 2012	1,851,919	\$13.30

During 2012, we granted 964,906 shares of restricted stock and performance shares to certain directors, officers and employees at prices ranging from \$9.51 to \$16.75. Of the total shares granted, 377,670 will vest over a three year period, with one-third of the shares vesting on the anniversary date of the grant in each of the next three years. An additional 543,000 shares will vest over a 39 month period, subject to performance multipliers, based on company performance against a peer group. The remaining 44,236 shares vest over a period of one year. Unvested shares granted to each employee also vest upon the occurrence of a change in control, as defined. Unvested shares are forfeited based on the terms of the award.

Stock Options. Compensation expense for stock options is based on the estimated fair value of the option on the date of the grant. We calculate the estimated fair value of the option using the Black-Scholes option-pricing model. During 2010, we granted 252,900 options to certain of our directors, officers and employees. The weighted-average fair value of the options granted in 2010 was \$11.57. During 2011, we granted 420,460 options to certain of our officers and employees. The weighted-average fair value of the options granted in 2011 was \$10.71. During 2012, we granted 441,700 options to certain of our officers and employees. The weighted-average fair value of the options granted in 2012 was \$9.82. The weighted average assumptions used in our Black-Scholes option-pricing model for options granted in 2010, 2011 and 2012 are:

	For the Year Ended December 31, 2010	%	For the Year Ended December 31, 2011	%	For the Year Ended December 31, 2012	%
Dividend yield	—	%	—	%	—	%
Expected volatility	64.53% - 69.76%		57.75% - 58.83%		55.33-57.32	
Risk-free interest rate	1.43% - 3.08%		0.85% - 2.24%		0.66% - 0.90%	
Expected term in years	6 years		6 years		6 years	

Dividend Yield. A dividend assumption of 0% is used for all grants based on our history of not paying dividends.

Expected Volatility. We estimate the volatility of our common stock at the date of grant based on the historical volatility of our common stock. The volatility factor we use is based on our historical stock prices over the most recent period commensurate with the estimated expected life of the award.

Risk-Free Interest Rate. We base the risk-free interest rate on the implied yield currently available on U.S. Treasury zero-coupon issues with an equivalent remaining term equal to the expected life of the award.

Expected Term In Years. The expected life of awards granted represents the time period that the awards are expected to be outstanding. We determined the expected term of the grants using the “simplified” method as described by the SEC, since we do not have a history of stock option awards to provide a reliable basis for estimating such. Stock option activity under the plans for the year ended December 31, 2012 was:

	Number of Shares	Weighted- Average Exercise Price
Outstanding at January 1, 2012	1,327,087	\$13.15
Granted	441,700	9.82
Exercised	(21,471)	7.35
Forfeited/canceled/expired	(17,167)	15.49
Outstanding at December 31, 2012	1,730,149	\$12.35

Options outstanding at December 31, 2012, have a weighted average remaining contractual life of 7.3 years, a weighted average remaining vesting period of 1.6 years, and an aggregate intrinsic value of \$0.7 million. The intrinsic value of options exercised for the year ended December 31, 2012 was \$0.1 million.

Stock options outstanding and exercisable under our plans at December 31, 2012 are:

Range of Exercise Prices	Options Outstanding			Options Exercisable	
	Number Outstanding	Weighted Average Remaining Contractual Life in Years	Weighted Average Exercise Prices	Number Exercisable	Weighted Average Exercise Prices
\$2.83- \$22.57	1,730,149	7.3	\$12.35	948,662	\$12.44

At December 31, 2012, we have 1,301,875 options vested and expected to vest in the next year. Options exercisable at December 31, 2012, have a weighted-average contractual life of 5.6 years and an aggregate intrinsic value of \$0.7 million.

Incentive Compensation Plans

We have a global incentive program for our worldwide salaried and hourly employees, the Incentive Compensation Program (the "ICP"), which includes a shareholder-approved executive incentive compensation plan. The ICP is based primarily on earnings before income taxes and achieving cash flow targets and, to a lesser extent, strategic targets. The balance of our accrued liability for ICP was \$0.5 million at December 31, 2011 and \$7.1 million at December 31, 2012.

(14)Contingencies

Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, environmental compliance programs and other legal proceedings arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Product Warranties

We generally sell products with a limited warranty. We accrue for known warranty claims if a loss is probable and can be reasonably estimated. We also accrue for estimated warranty claims incurred based on a historical claims charge analysis. Claims accrued but not yet paid and the related activity within the reserve for 2011 and 2012 are as follows:

	(Dollars in Thousands)
Balance at December 31, 2011	\$1,531
Product warranty charges/adjustments	461
Payments and settlements	(507)
Balance at December 31, 2012	\$1,485

(15) Income Taxes

The following table summarizes the U.S. and non-U.S. components of income (loss) before provision (benefit) for income taxes:

	For the Year Ended		
	December 31,		
	2010	2011	2012
	(Dollars in thousands)		
U.S.	\$32,539	\$32,877	\$29,422
Non-U.S.	141,026	110,414	105,065
	\$173,565	\$143,291	\$134,487

Income tax expense (benefit) consists of the following:

	For the Year Ended		
	December 31,		
	2010	2011	2012
	(Dollars in thousands)		
U.S. income taxes:			
Current	\$6,307	\$16,988	\$(6,529)
Deferred	(29,060)	(46,379)	4,543
	(22,753)	(29,391)	(1,986)
Non-U.S. income taxes:			
Current	21,638	18,173	12,371
Deferred	20	1,325	6,462
	21,658	19,498	18,833
Total income tax expense (benefit)	\$(1,095)	\$(9,893)	\$16,847

Income tax expense (benefit) differed from the amounts computed by applying the U.S. federal income tax rate of 35% to income before provision (benefit) for income taxes as set forth in the following table:

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	For the Year Ended		
	December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Tax at statutory U.S. federal rate	\$60,748	\$50,152	\$47,071
U.S. valuation allowance, net	(42,393)	(45,989)	(1,800)
State taxes, net of federal tax benefit	337	474	593
U.S. tax return adjustments to estimated taxes	3,311	(455)	(1,612)
Non-controlling interest gain	(3,345)	—	—
Nondeductible expenses acquisition costs	5,324	—	—
Establishment (resolution) of uncertain tax positions	(1,151)	1,507	(8,118)
Adjustment for foreign income taxed at different rates	(19,107)	(14,450)	(15,553)
Non-U.S. tax exemptions, holidays and credits	(4,781)	(2,535)	(4,259)
Other	(38)	1,403	524
Total income tax expense (benefit)	\$(1,095)	\$(9,893)	\$16,846

The tax effects of temporary differences that give rise to significant components of the deferred tax assets and deferred tax liabilities at December 31, 2011, and December 31, 2012 are set forth in the following table:

	At December 31,	
	2011	2012
	(Dollars in thousands)	
Deferred tax assets:		
Postretirement and other employee benefits	\$48,209	\$51,646
Foreign tax credit and other carryforwards	57,428	54,102
Capitalized research and experimental costs	1,712	999
Environmental reserves	3,935	4,057
Inventory adjustments	11,202	13,365
Capital loss	3,226	3,222
Other	7,148	9,052
Total gross deferred tax assets	132,860	136,443
Less: valuation allowance	(25,509)	(26,312)
Total deferred tax assets	107,351	110,131
Deferred tax liabilities:		
Fixed assets	\$90,552	\$102,568
Debt discount amortization	12,563	9,720
Inventory	5,575	9,531
Unrealized foreign currency exchange gain	560	80
Goodwill and acquired intangibles	13,240	11,299
Other	730	2,340
Total deferred tax liabilities	123,220	135,538
Net deferred tax liability	\$15,869	\$25,407

Deferred income tax assets and liabilities are classified on a net current and non-current basis within each tax jurisdiction. Net current deferred income tax assets are included in prepaid expenses and other current assets in the amount of \$14.7 million at December 31, 2011 and \$20.4 million at December 31, 2012. Net non-current deferred tax assets are separately stated as deferred income taxes in the amount of \$7.9 million at December 31, 2011 and \$6.2 million at December 31, 2012. Net current deferred tax liabilities are included in accrued income and other taxes in the amount of \$6.3 million at December 31, 2011 and \$10.0 million at December 31, 2012. Net non-current deferred tax liabilities are separately stated as deferred income taxes in the amount of \$32.2 million at December 31, 2011 and \$42.0 million at December 31, 2012.

We continue to assess the need for valuation allowances against deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. Examples of positive evidence would include a strong earnings history, an event or events that would increase our taxable income through a continued reduction of expenses, and tax planning strategies that would indicate an ability to realize deferred tax assets. In circumstances where the significant positive evidence does not yet outweigh the negative evidence in regards to whether or not a valuation allowance is required, we have maintained valuation allowances on those deferred tax assets.

Valuation allowance activity for the years ended December 31, 2010, 2011 and 2012 is as follows:

	For the year ended December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Balance at January 1	\$ 106,831	\$ 74,945	\$ 25,509
(Credited) / charged to income	(11,366)	(49,403)	(1,800)
Acquisition accounting	(30,333)	—	—
Translation adjustment	528	(391)	(52)
Changes attributable to movement in underlying assets	9,397	358	2,655
Other	(112)	—	—
Balance at December 31	\$ 74,945	\$ 25,509	\$ 26,312

We have total foreign tax credit carryforwards of \$27.7 million at December 31, 2012. Of these tax credit carryforwards, \$none expire in 2013, \$0.3 million expires in 2014, \$3.7 million expires in 2015 and \$23.7 million expires in 2016.

In addition, we have state carryforwards on a gross tax affected basis of \$13.5 million, which can be carried forward from 5 to 20 years. Prior to 2011, a full valuation allowance position existed on state net operating loss ("NOL") carryforward deferred tax assets. We have assessed the need for valuation allowances against deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance, including existing level of profitability and recently available projections of future taxable income, which are comparable with current year results.

Based on this assessment, we released valuation allowances of \$1.8 million in 2012, relating to the state NOL carryforwards that are expected to be utilized in future years. The remaining NOL carryforwards and our other state deferred tax assets, including tax credits, will continue to have a valuation allowance.

The amount of state net operating loss carryforwards reflected in the table above has been reduced by \$0.6 million as a result of unrealized stock option deductions.

We have non-U.S. loss and tax credit carryforwards on a gross tax effected basis of \$13.2 million, which can be carried forward from 10 years to indefinitely.

As of December 31, 2012, we had unrecognized tax benefits of \$9.8 million, the \$5.7 million of which, if recognized, would have a favorable impact on our effective tax rate. We have elected to report interest and penalties related to uncertain tax positions as income tax expense. Accrued interest and penalties were \$0.3 million as of December 31, 2010, \$0.6 million as of December 31, 2011 and \$1.0 million as of December 31, 2012. A reconciliation of the beginning and ending amount of unrecognized tax benefits is as follows:

	December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Balance at January 1	\$20,656	\$13,719	\$16,788
Additions based on tax positions related to the current year	—	—	90
Additions for tax positions of prior years	15,205	3,910	4,643
Reductions for tax positions of prior years	(20,660)	(165)	(11,019)
Lapse of statutes of limitations	(1,183)	(627)	(163)
Settlements	—	—	(576)
Foreign currency impact	(299)	(49)	6
Balance at December 31	\$13,719	\$16,788	\$9,769

We anticipate that \$6.3 million of the amount of unrecognized tax benefits may be reversed within the next twelve months due to settlements and the expiration of statutes of limitation.

We file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. All U.S. tax years prior to 2010 are generally closed by statute or have been audited and settled with the domestic tax authorities. We have one issue outstanding from the 2008 federal audit, which is under appeals. We are also under audit in Switzerland for federal, cantonal, and communal taxes for the tax years ended 2006 - 2009. All other non-U.S. jurisdictions are still open to examination beginning after 2007.

We have not provided for U.S. income taxes or foreign withholding taxes on the differences between the financial reporting basis in our foreign investments, and the tax in such investments, which are considered to be permanently reinvested as of December 31, 2012 (excluding Previously Taxed Income). Any outside basis difference would be taxable upon the sale or liquidation of the foreign subsidiaries, or upon the remittance of dividends. The measurement of the unrecognized U.S. income taxes, if any, that may be associated with these outside basis differences, is not practicable.

(16) Earnings Per Share

The following table shows the information used in the calculation of our basic and diluted earnings per share as of December 31:

	At December 31,		
	2010	2011	2012
	(Dollars in thousands)		
Weighted average common shares outstanding for basic calculation	122,620,950	145,156,045	138,551,804
Add: Effect of stock options and restricted stock	831,615	1,246,241	1,148,300
Weighted average common shares outstanding for diluted calculation	123,452,565	146,402,286	139,700,104

Basic earnings per common share are calculated by dividing net income by the weighted average number of common shares outstanding. Diluted earnings per share are calculated by dividing net income by the sum of the weighted average number of common shares outstanding plus the additional common shares that would have been outstanding if potentially dilutive securities had been issued.

The weighted average common shares outstanding for the diluted earnings per share calculation excludes consideration of stock options covering 453,700 shares in 2010, 226,897 shares in 2011 and 865,844 shares in 2012, as the exercise prices were greater than the weighted average market price of our common stock for that period. During 2012, we repurchased, in the open market, ten million shares under a previously announced share repurchase program authorized by the Board of Directors. These share repurchases represented a financing cash

outflow of \$101.7 million for 2012. These share repurchases decreased the weighted average shares outstanding by 5.6 million shares for 2012.

(17) Accumulated Other Comprehensive Loss

The balance in our accumulated other comprehensive loss is set forth in the following table:

	For year ended December 31,	
	2011	2012
	(Dollars in thousands)	
Foreign currency translation adjustments	\$271,282	\$281,211
Commodities and foreign currency derivatives, net of tax of \$1,714 and (\$25), respectively	(9,345	) (533
Total accumulated comprehensive loss	\$261,937	\$280,678

(18) Guarantor Information

On November 20, 2012, GrafTech International Ltd. (the “Parent”), issued \$300 million aggregate principal amount of Senior Notes. The Senior Notes mature on November 15, 2020 and bear interest at a rate of 6.375% per year, payable semi-annually in arrears on May 15 and November 15 of each year. The Senior Notes have been guaranteed on a senior basis by the following wholly-owned direct and indirect subsidiaries of the Parent: GrafTech Finance Inc., GrafTech Holdings Inc., GrafTech USA LLC, Seadrift Coke LLP, Fiber Materials, Inc., Intermat, GrafTech Global Enterprises Inc., GrafTech International Holdings Inc., GrafTech DE LLC, GrafTech Seadrift Holding Corp, GrafTech International Trading Inc., GrafTech Technology LLC, GrafTech NY Inc., and Graphite Electrode Network LLC

The guarantors of the Senior Notes, solely in their respective capacities as such, are collectively called the “Guarantors.” Our other subsidiaries, which are not guarantors of the Senior Notes, are called the “Non-Guarantors.”

All of the guarantees are unsecured. All of the guarantees are full, unconditional (subject to limited exceptions described below) and joint and several. Each of the Guarantors are 100% owned, directly or indirectly, by the Parent. All of the guarantees of the Senior Notes continue until the Senior Notes have been paid in full, and payment under such guarantees could be required immediately upon the occurrence of an event of default under the Senior Notes. If a guarantor makes a payment under its guarantee of the Senior Notes, it would have the right under certain circumstances to seek contribution from the other guarantors of the Senior Notes, respectively.

The Guarantors will be released from the guarantees upon the occurrence of certain events, including the following: the unconditional release or discharge of any guarantee or indebtedness that resulted in the creation of the guarantee of the Senior Notes by such Guarantor; the sale or other disposition, including by way of merger or consolidation or the sale of its capital stock following which such Guarantor is no longer a subsidiary of the Parent; or the Parent's exercise of its legal defeasance option or its covenant defeasance option as described in the indenture applicable to the Senior Notes. If any Guarantor is released, no holder of the Senior Notes will have a claim as a creditor against such Guarantor and the indebtedness and other liabilities, including trade payables and preferred stock, if any, of such Guarantor will be effectively senior to the claim or any holders of the Senior Notes.

Investments in subsidiaries are recorded on the equity basis.

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The following tables set forth condensed consolidating balance sheets as of December 31, 2011 and December 31, 2012 and condensed consolidating statements of income, comprehensive income and statements of cash flows for the years ended December 31, 2010, 2011 and 2012 of the Parent, Guarantors and the Non-Guarantors.

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING BALANCE SHEETS

As of December 31, 2011

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
ASSETS					
Current Assets:					
Cash and cash equivalents	\$ 366	\$ 3,503	\$ 8,560	\$ —	\$ 12,429
Accounts receivable - affiliates	26,356	10,773	22,485	(59,614)	—
Accounts receivable - trade	—	73,048	147,704	—	220,752
Inventories	—	182,125	261,937	—	444,062
Prepaid expenses and other current assets	—	20,678	34,029	—	54,707
Total current assets	26,722	290,127	474,715	(59,614)	731,950
Investment in affiliates	1,667,938	808,130	—	(2,476,068)	—
Property, plant and equipment	—	467,513	309,371	—	776,884
Deferred income taxes	—	3,827	7,931	(3,827)	7,931
Goodwill	—	293,161	205,520	—	498,681
Notes receivable - affiliate	—	181,398	—	(181,398)	—
Other assets	—	76,825	76,095	—	152,920
Total Assets	\$ 1,694,660	\$ 2,120,981	\$ 1,073,632	\$ (2,720,907)	\$ 2,168,366
LIABILITIES AND STOCKHOLDERS' EQUITY					
Current Liabilities:					
Accounts payable - affiliate	\$ 507	\$ 48,842	\$ 10,265	\$ (59,614)	\$ —
Accounts payable - trade	—	56,454	92,201	—	148,655
Short-term debt	—	7,666	6,502	—	14,168
Accrued income and other taxes	18,548	4,213	21,569	—	44,330
Supply chain financing liability	—	—	29,930	—	29,930
Other accrued liabilities	—	12,121	28,049	—	40,170
Total current liabilities	19,055	129,296	188,516	(59,614)	277,253
Long-term debt - affiliate	169,656	—	11,742	(181,398)	—
Long-term debt - third party	153,442	232,862	1,320	—	387,624
Other long-term obligations	—	90,885	40,415	—	131,300
Deferred income taxes	12,563	—	23,509	(3,827)	32,245
Stockholders' equity	1,339,944	1,667,938	808,130	(2,476,068)	1,339,944
Total Liabilities and Stockholders' Equity	\$ 1,694,660	\$ 2,120,981	\$ 1,073,632	\$ (2,720,907)	\$ 2,168,366

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING BALANCE SHEETS

As of December 31, 2012

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
ASSETS					
Current Assets:					
Cash and cash equivalents	\$—	\$4,425	\$12,892	—	\$17,317
Accounts receivable - affiliates	26,399	38,116	29,177	(93,692)	—
Accounts receivable - trade	—	78,053	158,376	—	236,429
Inventories	—	159,217	353,848	—	513,065
Prepaid expenses and other current assets	—	13,681	42,509	—	56,190
Total current assets	26,399	293,492	596,802	(93,692)	823,001
Investment in affiliates	1,728,316	868,063	—	(2,596,379)	—
Property, plant and equipment	—	523,818	310,089	—	833,907
Deferred income taxes	—	—	6,157	—	6,157
Goodwill	—	293,162	205,099	—	498,261
Notes receivable - affiliate	66,869	22,413	—	(89,282)	—
Other assets	5,218	65,269	66,102	—	136,589
Total Assets	\$1,826,802	\$2,066,217	\$1,184,249	\$(2,779,353)	\$2,297,915
LIABILITIES AND STOCKHOLDER EQUITY					
Current Liabilities:					
Accounts payable - affiliate	\$—	\$55,349	\$38,343	\$(93,692)	\$—
Accounts payable - trade	273	33,126	94,721	—	128,120
Short-term debt	—	171	8,255	—	8,426
Accrued income and other taxes	597	3,948	26,378	—	30,923
Supply chain financing liability	—	—	26,962	—	26,962
Other accrued liabilities	2,178	15,597	33,178	—	50,953
Total current liabilities	3,048	108,191	227,837	(93,692)	245,384
Long-term debt - affiliate	—	66,869	22,413	(89,282)	—
Long-term debt - third party	464,183	70,190	1,336	—	535,709
Other long-term obligations	—	86,026	38,979	—	125,005
Deferred income taxes	9,720	6,625	25,621	—	41,966
Stockholders' equity	1,349,851	1,728,316	868,063	(2,596,379)	1,349,851
Total Liabilities and Stockholders' Equity	\$1,826,802	\$2,066,217	\$1,184,249	\$(2,779,353)	\$2,297,915

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the year ended December 31, 2010
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Sales - affiliates	—	\$ 24,026	\$ 129,972	\$ (153,998)) —
Sales - third party	—	307,278	699,715	—	1,006,993
Net sales	—	331,304	829,687	(153,998)	) 1,006,993
Cost of sales	—	260,070	611,670	(153,998)	) 717,742
Gross profit	—	71,234	218,017	—	289,251
Research and development	—	12,202	—	—	12,202
Selling and administrative expenses	—	38,251	80,758	—	119,009
Operating income	—	20,781	137,259	—	158,040
Equity in earnings of, and gain recorded on acquisition of, non-consolidated affiliate	—	(14,500)	) —	—	(14,500)
Other (income) expense, net	—	(4,287)	) (481)	) —	(4,768)
Interest expense - affiliate	—	4,701	—	(4,701)) —
Interest expense - third party	806	2,166	2,104	—	5,076
Interest income - affiliate	—	—	(4,701)	) 4,701	—
Interest income - third party	—	(188)	) (1,145)	) —	(1,333)
Income before income taxes	(806)	) 32,889	141,482	—	173,565
(Benefit) provision for income taxes	(292)	) (22,768)	) 21,965	—	(1,095)
Equity in earnings of subsidiary	175,174	119,517	—	(294,691)) —
Net income	174,660	175,174	119,517	(294,691)	) 174,660
Statements of Comprehensive Income					
Net income	174,660	175,174	119,517	(294,691)	) 174,660
Other comprehensive income:					
Foreign currency translation	(5,866)	) —	(5,866)	) 5,866	(5,866)
Commodities and foreign currency derivatives	2,353	265	2,088	(2,353)	) 2,353
Other Comprehensive income (loss)	(3,513)	) 265	(3,778)	) 3,513	(3,513)
Comprehensive income (loss)	171,147	175,439	115,739	(291,178)	) 171,147

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the year ended December 31, 2011
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated	
Sales - affiliates	\$—	\$ 130,304	\$ 165,397	\$(295,701)	\$—	
Sales - third party	—	556,675	763,509	—	1,320,184	
Net sales	—	686,979	928,906	(295,701)	1,320,184	
Cost of sales	—	545,334	746,005	(295,701)	995,638	
Gross profit	—	141,645	182,901	—	324,546	
Research and development	—	13,797	179	—	13,976	
Selling and administrative expenses	6	64,969	79,586	—	144,561	
Operating income	(6	) 62,879	103,136	—	166,009
Other expense (income), net	40	5,568	(773	) —	4,835
Interest expense - affiliate	4,631	9,221	—	(13,852) —	
Interest expense - third party	10,038	5,678	2,591	—	18,307	
Interest income - affiliate	—	(4,631	) (9,221	) 13,852	—
Interest income - third party	—	—	(424) —	(424)
Income before income taxes	(14,715	) 47,043	110,963	—	143,291
(Benefit) provision for income taxes	(5,751) (23,801) 19,659	—	(9,893)
Equity in earnings of subsidiary	162,148	91,304	—	(253,452) —	
Net income	\$ 153,184	\$ 162,148	\$ 91,304	\$(253,452)	\$ 153,184	
Statements of Comprehensive Income						
Net income	\$ 153,184	\$ 162,148	\$ 91,304	\$(253,452)	\$ 153,184	
Other comprehensive income:						
Foreign currency translation	(32,202) —	(32,202) 32,202	(32,202)
Commodities and foreign currency derivatives	6,023	3,761	2,262	(6,023	) 6,023
Other Comprehensive income (loss)	(26,179) 3,761	(29,940) 26,179	(26,179)
Comprehensive income (loss)	\$ 127,005	\$ 165,909	\$ 61,364	\$(227,273)	\$ 127,005	

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the year ended December 31, 2012
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Sales - affiliates	\$—	\$ 194,345	\$ 216,859	\$(411,204)	\$—
Sales - third party	—	566,024	682,240	—	1,248,264
Net sales	—	760,369	899,099	(411,204)	1,248,264
Cost of sales	—	638,419	705,245	(411,204)	932,460
Gross profit	—	121,950	193,854	—	315,804
Research and development	—	13,796	—	—	13,796
Selling and administrative expenses	—	61,442	84,098	—	145,540
Operating income	—	46,712	109,756	—	156,468
Other (income) expense, net	—	(2,133)	1,128	—	(1,005)
Interest expense - affiliate	3,766	59	586	(4,411)	—
Interest expense - third party	12,992	7,977	2,278	—	23,247
Interest income - affiliate	(59)	(4,352)	—	4,411	—
Interest income - third party	—	—	(261)	—	(261)
Income before income taxes	(16,699)	45,161	106,025	—	134,487
(Benefit) provision for income taxes	(5,972)	3,981	18,837	—	16,846
Equity in earnings of subsidiary	128,368	87,188	—	(215,556)	—
Net income	\$ 117,641	\$ 128,368	\$ 87,188	\$(215,556)	\$ 117,641
Statements of Comprehensive Income					
Net income	\$ 117,641	\$ 128,368	\$ 87,188	\$(215,556)	\$ 117,641
Other comprehensive income:					
Foreign currency translation	(9,929)	—	(9,929)	9,929	(9,929)
Commodities and foreign currency derivatives	(8,812)	(4,452)	(4,360)	8,812	(8,812)
Other Comprehensive income (loss)	(18,741)	(4,452)	(14,289)	18,741	(18,741)
Comprehensive income (loss)	\$ 98,900	\$ 123,916	\$ 72,899	\$(196,815)	\$ 98,900

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

For the year ended December 31, 2010

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Net cash (used in) provided by operating activities	\$ (12,574)	\$ 46,102	\$ 111,394	—	\$ 144,922
Cash flow from investing activities:					
(Loans to) repayments from affiliates	—	(250,414)	(86,245)	336,659	—
Capital expenditures	—	(32,316)	(53,733)	—	(86,049)
Investment in and loan to non-consolidated affiliate	—	6,000	—	—	6,000
Proceeds from derivative instruments	—	(803)	(306)	—	(1,109)
Cash paid for acquisition	(241,204)	—	—	—	(241,204)
Other	—	—	810	—	810
Net cash (used in) provided by investing activities	(241,204)	(277,533)	(139,474)	336,659	(321,552)
Cash flow from financing activities:					
Loans from (repayments to) affiliates	249,444	86,245	970	(336,659)	—
Short-term debt borrowings	—	(3)	(847)	—	(850)
Revolving Facility borrowings	—	165,000	—	—	165,000
Revolving Facility reductions	—	(35,000)	—	—	(35,000)
Principal payments on long term debt	—	—	(56)	—	(56)
Supply chain financing	—	—	10,555	—	10,555
Proceeds from exercise of stock options	3,901	—	—	—	3,901
Purchase of treasury shares	(1,431)	—	—	—	(1,431)
Revolver facility refinancing cost	—	(4,280)	(315)	—	(4,595)
Other	1,864	—	(1,148)	—	716
Net cash provided by provided by financing activities	253,778	211,962	9,159	(336,659)	138,240
Net (decrease) increase in cash and cash equivalents	—	(19,469)	(18,921)	—	(38,390)
Effect of exchange rate changes on cash and cash equivalents	—	—	1,305	—	1,305
Cash and cash equivalents at beginning of period	—	23,834	26,347	—	50,181
Cash and cash equivalents at end of period	—	\$ 4,365	\$ 8,731	—	\$ 13,096

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

For the year ended December 31, 2011

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Net cash provided by (used in) operating activities	\$ 130,522	\$ 99,596	\$ (153,521)	—	\$ 76,597
Cash flow from investing activities:					
Repayments from (loans to) affiliates	—	75,459	152,972	(228,431)	—
Capital expenditures	—	(100,648)	(55,968)	—	(156,616)
Proceeds from derivative instruments	—	13,265	1,147	—	14,412
Cash paid for acquisition	(20,510)	—	—	—	(20,510)
Other			748	—	748
Net cash (used in) provided by investing activities	(20,510)	(11,924)	98,899	(228,431)	(161,966)
Cash flow from financing activities:					
(Repayments to) loans from affiliates	(79,788)	(152,972)	4,329	228,431	—
Short-term debt borrowings	—	7,510	6,506	—	14,016
Revolving Facility borrowings	—	444,000	140,000	—	584,000
Revolving Facility reductions	—	(382,000)	(100,000)	—	(482,000)
Principal payments on long term debt	—	(168)	(54)	—	(222)
Supply chain financing	—	—	4,970	—	4,970
Proceeds from exercise of stock options	2,028	—	—	—	2,028
Purchase of treasury shares	(30,940)	—	—	—	(30,940)
Revolver facility refinancing cost		(4,904)	(84)	—	(4,988)
Other	(946)	—	(457)	—	(1,403)
Net cash (used in) provided by financing activities	(109,646)	(88,534)	55,210	228,431	85,461
Net increase (decrease) in cash and cash equivalents	366	(862)	588	—	92
Effect of exchange rate changes in cash and cash equivalents	—	—	(759)	—	(759)
Cash and cash equivalents at beginning of period	—	4,365	8,731	—	13,096
Cash and cash equivalents at end of period	\$ 366	\$ 3,503	\$ 8,560	—	\$ 12,429

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

For the year ended December 31, 2012

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Net cash provided by (used in) operating activities	\$ 44,361	\$ 85,973	\$ 23,066	\$ (52,000)	\$ 101,400
Cash flow from investing activities					
Repayments from (loans to) affiliates	(66,869)	158,985	—	(92,116)	—
Capital expenditures	—	(91,183)	(36,545)	—	(127,728)
Proceeds from derivative instruments	—	3,166	4,406	—	7,572
Other	—	—	194	—	194
Net cash (used in) provided by investing activities	(66,869)	70,968	(31,945)	(92,116)	(119,962)
Cash flow from financing activities:					
Loans from (repayments to) affiliates	(169,656)	66,869	10,671	92,116	—
Dividends to affiliates	—	(52,000)	—	52,000	—
Short-term debt borrowings	—	(7,493)	1,755	—	(5,738)
Revolving Facility borrowings	—	292,000	133,000	—	425,000
Revolving Facility reductions	—	(454,500)	(133,000)	—	(587,500)
Proceeds from long term debt	300,000	—	—	—	300,000
Principal payments on long term debt	—	(171)	(54)	—	(225)
Supply chain financing	—	—	(2,967)	—	(2,967)
Proceeds from exercise of stock options	157	—	—	—	157
Purchase of treasury shares	(103,445)	—	—	—	(103,445)
Refinancing fees and debt issuance costs	(5,018)	(724)	(643)	—	(6,385)
Other	104	—	5,111	—	5,215
Net cash provided by (used in) financing activities	22,142	(156,019)	13,873	144,116	24,112
Net (decrease) increase in cash and cash equivalents	(366)	922	4,994	—	5,550
Effect of exchange rate changes on cash and cash equivalents	—	—	(662)	—	(662)
Cash and cash equivalents at beginning of period	366	3,503	8,560	—	12,429
Cash and cash equivalents at end of period	\$ —	\$ 4,425	\$ 12,892	\$ —	\$ 17,317

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED BALANCE SHEETS
(Dollars in thousands, except share data)
(Unaudited)

	As of December 31, 2012	As of March 31, 2013
ASSETS		
Current assets:		
Cash and cash equivalents	\$17,317	\$11,304
Accounts and notes receivable, net of allowance for doubtful accounts of \$7,573 as of December 31, 2012 and \$6,336 as of March 31, 2013	236,429	188,761
Inventories	513,065	538,222
Prepaid expenses and other current assets	56,190	58,087
Total current assets	823,001	796,374
Property, plant and equipment	1,532,359	1,537,488
Less: accumulated depreciation	698,452	705,785
Net property, plant and equipment	833,907	831,703
Deferred income taxes	6,157	5,876
Goodwill	498,261	497,681
Other assets	136,589	130,513
Total assets	\$2,297,915	\$2,262,147
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current liabilities:		
Accounts payable	\$128,120	\$94,437
Short-term debt	8,426	2,102
Accrued income and other taxes	30,923	28,682
Supply chain financing liability	26,962	12,659
Other accrued liabilities	50,953	58,784
Total current liabilities	245,384	196,664
Long-term debt	535,709	551,886
Other long-term obligations	125,005	121,587
Deferred income taxes	41,966	38,301
Contingencies – Note 12		
Stockholders' equity:		
Preferred stock, par value \$.01, 10,000,000 shares authorized, none issued	—	—
Common stock, par value \$.01, 225,000,000 shares authorized, 150,869,227 shares issued as of December 31, 2012 and 151,356,901 shares issued as of March 31, 2013	1,509	1,516
Additional paid-in capital	1,812,592	1,816,133
Accumulated other comprehensive loss	(280,678	) (284,454)
Retained earnings	66,884	71,094
Less: cost of common stock held in treasury, 16,418,710 shares as of December 31, 2012 and 16,503,525 shares as of March 31, 2013	(249,487	) (249,656)
Less: common stock held in employee benefit and compensation trusts, 76,095 shares as of December 31, 2012 and 73,522 shares as of March 31, 2013	(969	) (924)
Total stockholders' equity	1,349,851	1,353,709
Total liabilities and stockholders' equity	\$2,297,915	\$2,262,147

See accompanying Notes to Consolidated Financial Statements

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
(Dollars in thousands, except per share amounts)
(Unaudited)

	For the Three Months Ended March 31,	
	2012	2013
CONSOLIDATED STATEMENTS OF INCOME		
Net sales	\$240,938	\$253,727
Cost of sales	174,007	205,177
Gross profit	66,931	48,550
Research and development	4,199	3,093
Selling and administrative expenses	38,725	29,713
Operating income	24,007	15,744
Other (income) expense, net	(3,423	) 550
Interest expense	4,762	9,008
Interest income	(81	) (64
Income before provision for income taxes	22,749	6,250
Provision for income taxes	5,220	2,040
Net income	\$17,529	\$4,210
Basic income per common share:		
Net income per share	\$0.12	\$0.03
Weighted average common shares outstanding	143,795	134,646
Diluted income per common share:		
Net income per share	\$0.12	\$0.03
Weighted average common shares outstanding	144,499	134,833
STATEMENTS OF COMPREHENSIVE INCOME		
Net income	\$17,529	\$4,210
Other comprehensive income:		
Foreign currency translation adjustments	9,848	(7,309
Commodities and foreign currency derivatives, net of tax of \$403 and (\$307), respectively	1,680	3,533
Other comprehensive income (loss), net of tax:	11,528	(3,776
Comprehensive income	\$29,057	\$434

See accompanying Notes to Consolidated Financial Statements

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONSOLIDATED STATEMENTS OF CASH FLOWS

(Dollars in thousands)

(Unaudited)

	For the Three Months Ended March 31,	
	2012	2013
Cash flow from operating activities:		
Net income	\$17,529	\$4,210
Adjustments to reconcile net income to cash provided by operations:		
Depreciation and amortization	16,087	20,376
Deferred income tax provision	(218	) (1,660
Post-retirement and pension plan changes	796	1,141
Currency gains	(139	) 23
Stock-based compensation	3,538	2,366
Interest expense	2,975	3,433
Insurance recoveries	4,007	—
Other charges, net	(6,447	) 262
Increase in working capital*	(47,110	) (8,934
Increase in long-term assets and liabilities	(6,392	) (3,218
Net cash (used in) provided by operating activities	(15,374	) 17,999
Cash flow from investing activities:		
Capital expenditures	(31,424	) (13,156
Proceeds from derivative instruments	3,623	2,181
Other	53	—
Net cash used in investing activities	(27,748	) (10,975
Cash flow from financing activities:		
Short-term debt reductions, net	(3,012	) (6,324
Revolving Facility borrowings	100,000	66,000
Revolving Facility reductions	(47,000	) (52,500
Principal payments on long-term debt	(97	) (99
Supply chain financing	(5,262	) (14,304
Proceeds from exercise of stock options	92	132
Purchase of treasury shares	(1,185	) (181
Other	(127	) (5,647
Net cash provided by (used in) financing activities	43,409	(12,923
Net increase (decrease) in cash and cash equivalents	287	(5,899
Effect of exchange rate changes on cash and cash equivalents	101	(114
Cash and cash equivalents at beginning of period	12,429	17,317
Cash and cash equivalents at end of period	\$12,817	\$11,304

* Net change in working capital due to the following components:

Change in current assets:		
Accounts and notes receivable, net	\$72,481	\$47,767
Inventories	(100,674	) (23,789
Prepaid expenses and other current assets	(4,087	) (1,186
Decrease in accounts payable and accruals	(14,610	) (36,596
(Decrease) increase in interest payable	(220	) 4,870

Increase in working capital \$(47,110) \$(8,934)

See accompanying Notes to Consolidated Financial Statements

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
NOTES TO CONSOLIDATED FINANCIAL STATEMENTS
(Unaudited)

(1) Organization and Summary of Significant Accounting Policies

A. Organization

GrafTech International Ltd. is one of the world's largest manufacturers and providers of high quality synthetic and natural graphite and carbon based products. References herein to "GTI," "we," "our," or "us" refer collectively to GrafTech International Ltd. and its subsidiaries. We have seven major product categories: graphite electrodes, refractory products, needle coke products, advanced electronics technologies, advanced graphite materials, advanced composite materials and advanced materials, which are reported in the following segments:

Industrial Materials includes graphite electrodes, refractory products, and needle coke products, and primarily serves the steel industry.

Engineered Solutions includes advanced electronics technologies, advanced graphite materials, advanced composite materials and advanced materials, and provides primary and specialty products to the advanced electronics, industrial, energy, transportation and defense industries.

B. Basis of Presentation

The interim Consolidated Financial Statements are unaudited; however, in the opinion of management, they have been prepared in accordance with Rule 10-01 of Regulation S-X and in accordance with accounting principles generally accepted in the United States of America ("GAAP"). December 31, 2012 final position data included herein was derived from the audited consolidated financial statements included in our Annual Report on Form 10-K for the year ended December 31, 2012 (the "Annual Report") but does not include all disclosures required by GAAP. These interim Consolidated Financial Statements should be read in conjunction with the audited Consolidated Financial Statements, including the accompanying Notes, contained in the Annual Report.

The unaudited consolidated financial statements reflect all adjustments (all of which are of a normal, recurring nature) which management considers necessary for a fair statement of financial position, results of operations, comprehensive income and cash flows for the interim period presented. The results for the interim periods are not necessarily indicative of results which may be expected for any other interim period or for the full year. Certain amounts previously reported have been reclassified to conform to the current year presentation.

C. New Accounting Standards

In February 2013, the FASB issued guidance on reporting of amounts reclassified out of accumulated other comprehensive income ("AOCI"). The guidance requires an entity to provide information about the amounts reclassified out of AOCI by component. In addition, an entity is required to present, either on the face of the statement where net income is presented or in the notes, significant amounts reclassified out of AOCI by the respective line items of net income, but only if the amount reclassified is required under GAAP to be reclassified to net income in its entirety in the same reporting period. We disclose our reclassifications within Footnote 14 "Derivative Instruments", as these are the only material reclassifications out of AOCI. This guidance was adopted by the Company retrospectively as of January 1, 2013. As the accounting standard only impacts disclosures, the new standard does not have an impact on the Company's financial position, results of operations, or cash flows.

(2) Stock-Based Compensation

For the three months ended March 31, 2012 and 2013, we recognized \$3.5 million and \$2.4 million, respectively, in stock-based compensation expense. A majority of the expense, \$3.2 million and \$2.1 million, respectively, was recorded as selling and administrative expenses in the Consolidated Statements of Income, with the remaining expenses recorded as cost of sales and research and development.

As of March 31, 2013, the total compensation cost related to non-vested restricted stock, performance shares and stock options not yet recognized was \$18.5 million, which will be recognized over the weighted average life of 1.7 years.

Restricted Stock and Performance Shares

Restricted stock and performance share awards activity under the plans for the three months ended March 31, 2013 was:

	Number of Shares	Weighted-Average Grant Date Fair Value
Outstanding unvested as of January 1, 2013	1,851,919	\$13.30
Granted	90,542	8.77
Vested	(288,939)	) 15.90
Forfeited/canceled/expired	(70,821)	) 19.21
Outstanding unvested as of March 31, 2013	1,582,701	12.30

Stock Options

Stock option activity under the plans for the three months ended March 31, 2013 was:

	Number of Shares	Weighted-Average Exercise Price
Outstanding as of January 1, 2013	1,730,149	\$12.35
Granted	5,200	9.74
Forfeited/canceled/expired	—	—
Exercised	(40,735)	) 4.29
Outstanding as of March 31, 2013	1,694,614	12.54

(3) Earnings per Share

The following table shows the information used in the calculation of our share counts for basic and diluted earnings per share:

	For the Three Months Ended March 31,	
	2012	2013
Weighted average common shares outstanding for basic calculation	143,795,454	134,645,729
Add: Effect of stock options and restricted stock	703,313	186,829
Weighted average common shares outstanding for diluted calculation	144,498,767	134,832,558

Basic earnings per common share are calculated by dividing net income by the weighted average number of common shares outstanding. Diluted earnings per share are calculated by dividing net income by the sum of the weighted average number of common shares outstanding plus the additional common shares that would have been outstanding if potentially dilutive securities had been issued.

The weighted average common shares outstanding for the diluted earnings per share calculation excludes consideration of stock options covering 461,197 shares in the three months ended March 31, 2012, as the exercise prices were greater than the weighted average market price of our common stock for that period. The weighted average common shares outstanding for the diluted earnings per share calculation excludes consideration of stock

options covering 1,594,615 shares in the three months ended March 31, 2013 with exercise prices greater than the weighted average market price of our common stock for that period.

(4) Segment Reporting

We operate in two reportable segments: Industrial Materials and Engineered Solutions.

Industrial Materials. Our industrial materials segment manufactures and delivers high quality graphite electrodes, refractory products and needle coke products. Electrodes are key components of the conductive power systems used to produce steel and other non-ferrous metals. Refractory products are used in blast furnaces and submerged arc furnaces due to their high thermal conductivity and the ease with which they can be machined to large or complex shapes. Needle coke, a crystalline form of carbon derived from decant oil, is the key ingredient in, and is used primarily in, the production of graphite electrodes.

Engineered Solutions. The Engineered Solutions segment includes advanced electronics technologies, advanced graphite materials, advanced composite materials and advanced materials. Advanced electronics technologies products consist of electronic thermal management solutions, fuel cell components, and sealing materials. Advanced graphite materials are highly engineered synthetic graphite products used in many areas due to their unique properties and the ability to tailor them to specific solutions. These products are used in transportation, alternative energy, metallurgical, chemical, oil and gas exploration and various other industries. Advanced composite materials are highly engineered carbon products that are woven into various shapes to primarily support the aerospace and defense industries. Advanced materials use carbon and graphite powders as components or additives in a variety of industries, including metallurgical processing, battery and fuel cell components, and polymer additives.

We continue to evaluate the performance of our segments based on segment operating income. Intersegment sales and transfers are not material and the accounting policies of the reportable segments are the same as those for our Consolidated Financial Statements as a whole. Corporate expenses are allocated to segments based on each segment's percentage of consolidated sales.

The following tables summarize financial information concerning our reportable segments:

	For the Three Months Ended	
	March 31,	
	2012	2013
	(Dollars in thousands)	
Net sales to external customers:		
Industrial Materials	\$ 192,996	\$ 208,777
Engineered Solutions	47,942	44,950
Total net sales	\$ 240,938	\$ 253,727
Segment operating income:		
Industrial Materials	24,925	16,078
Engineered Solutions	(918)	(334)
Total segment operating income	\$ 24,007	\$ 15,744
Reconciliation of segment operating income to income before provision for income taxes		
Other (income) expense, net	(3,423)	550
Interest expense	4,762	9,008
Interest income	(81)	(64)
Income before provision for income taxes	\$ 22,749	\$ 6,250

(5) Other (Income) Expense, Net

Other income for the three months ended March 31, 2012, includes \$4.0 million of insurance reimbursements for claims made related to flood damages incurred at our Clarksburg, West Virginia facility during 2011.

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(6) Benefit Plans

The components of our consolidated net pension costs are set forth in the following table:

	For the Three Months Ended March 31,	
	2012	2013
	(Dollars in thousands)	
Service cost	\$426	\$489
Interest cost	2,150	1,985
Expected return on plan assets	(2,195)	(1,706)
Amortization of prior service cost	6	6
Net cost	\$387	\$774

The components of our consolidated net postretirement costs are set forth in the following table:

	For the Three Months Ended March 31,	
	2012	2013
	(Dollars in thousands)	
Service cost	\$46	\$28
Interest cost	381	331
Amortization of prior service benefit	(49)	(50)
Plan amendment	—	—
Net cost	\$378	\$309

(7) Goodwill and Other Intangible Assets

We are required to review goodwill and indefinite-lived intangible assets annually for impairment. Goodwill impairment is tested at the reporting unit level on an annual basis and between annual tests if an event occurs or circumstances change that would more likely than not reduce the fair value of a reporting unit below its carrying value.

Our annual impairment test of goodwill was performed as of December 31, 2012. The estimated fair values of our reporting units were based on discounted cash flow models derived from internal earnings forecasts and assumptions. The assumptions and estimates used in these valuations incorporated the current and expected economic environment. Our model was based on our internally developed forecast and based on these valuations, the fair value substantially exceeded our net asset value. In addition, to the quantitative analysis, we qualitatively assessed our reporting units and we believe that the quantitative analysis supporting the fair value in excess of the carrying value is appropriate. However, a further significant deterioration in the global economic environment or in any of the input assumptions in our calculation could adversely affect the fair value of our reporting units and result in an impairment of some or all of the goodwill on the balance sheet.

During the three months ended March 31, 2013, there were no events or changes in circumstances that would more likely than not reduce the fair value of a reporting unit below its carrying value.

The changes in the carrying value of goodwill during the three months ended March 31, 2013 are as follows:

	Total (Dollars in Thousands)
Balance as of December 31, 2012	\$498,261
Currency translation effect	(580)
Balance as of March 31, 2013	\$497,681

The following table summarizes intangible assets with determinable useful lives by major category as of December 31, 2012 and March 31, 2013:

	As of December 31, 2012			As of March 31, 2013		
	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount	Gross Carrying Amount	Accumulated Amortization	Net Carrying Amount
	(Dollars in Thousands)					
Patents	\$3,520	\$(1,617)	) \$1,903	\$3,520	\$(1,673)	) \$1,847
Trade name	7,900	(2,870)	) 5,030	7,900	(3,139)	) 4,761
Technological know-how	43,349	(12,554)	) 30,795	43,349	(14,061)	) 29,288
Customer –related intangible	110,798	(31,233)	) 79,565	110,798	(34,591)	) 76,207
Total finite-lived intangible assets	\$165,567	\$(48,274)	) \$117,293	\$165,567	\$(53,464)	) \$112,103

Amortization expense of intangible assets was \$5.6 million and \$5.2 million in the three months ended March 31, 2012 and March 31, 2013, respectively.

(8) Long-Term Debt and Liquidity

The following table presents our long-term debt:

	As of December 31, 2012	As of March 31, 2013
	(Dollars in thousands)	
Revolving Facility	\$69,500	\$83,000
Senior Notes	300,000	300,000
Senior Subordinated Notes	164,183	166,983
Other debt	2,026	1,903
Total	\$535,709	\$551,886

The fair value of long-term debt, which was determined using Level 2 inputs, was \$546.3 million, versus a book value of \$535.7 million as of December 31, 2012 and \$563.7 million, versus a book value of \$551.9 million as of March 31, 2013.

Revolving Facility

On October 7, 2011, we successfully completed the refinancing of our principal revolving credit facility (“Revolving Facility”). Borrowers under the Revolving Facility were GrafTech Finance Inc. (“GrafTech Finance”) and GrafTech Switzerland S.A. (“Swissco”), both wholly-owned subsidiaries. On April 20, 2012, as permitted by Section 9.19 of the October 7, 2011 Credit Agreement, we entered into an Amended and Restated Credit Agreement pursuant to which, on August 28, 2012, GrafTech Luxembourg II S.à.r.l. (“Luxembourg Holdco”) replaced Swissco as a Borrower. Swissco is no longer entitled to borrow Loans under the Revolving Facility although it is entitled to request letters of credit thereunder only for its own use.

The interest rate applicable to the Revolving Facility is, at GrafTech's option, either LIBOR plus a margin ranging from 1.5% to 2.25% (depending on our total net leverage ratio and/or senior unsecured rating) or, in the case of dollar denominated loans, the alternate base rate plus a margin ranging from 0.50% to 1.25% (depending upon such ratio or rating). The alternate base rate is the highest of (i) the prime rate announced by JPMorgan Chase Bank, N.A., (ii) the federal fund effective rate plus one-half of 1.0% and (iii) the London interbank offering rate (as adjusted) for a one-month period plus 1.0%. The borrowers pay a per annum fee ranging from 0.25% to 0.40% (depending on such ratio or rating) on the undrawn portion of the commitments under the Revolving Facility. The financial covenants require us to maintain a minimum cash interest coverage ratio of 3.00 to 1.00 and a maximum senior secured leverage ratio of 2.25 to 1.00, subject to adjustment for certain events. As of March 31, 2013, we were in compliance with all financial and other covenants contained in the Revolving Facility, as applicable.

Senior Notes

On November 20, 2012, GrafTech International Ltd. entered into an indenture dated November 20, 2012 (the "Indenture") among the Company, certain domestic subsidiaries of the Company party thereto and U.S. Bank National Association, as trustee (the "Trustee"). The Company issued \$300 million principal amount of 6.375% Senior Notes due 2020. These Senior Notes are the Company's senior unsecured obligations and rank pari passu with all of the Company's existing and future senior unsecured indebtedness. The Senior Notes are guaranteed on a senior unsecured basis by each of the Company's existing and future subsidiaries that guarantee certain other indebtedness of the Company or another guarantor.

The Senior Notes bear interest at a rate of 6.375% per year, payable semi-annually in arrears on May 15 and November 15 of each year, commencing on May 15, 2013. Interest will accrue from November 20, 2012. The Senior Notes mature on November 15, 2020.

The Company is entitled to redeem some or all of the Senior Notes at any time on or after November 15, 2016, at the redemption prices set forth in the Indenture. In addition, prior to November 15, 2016, the Company may redeem some or all of the Senior Notes at a price equal to 100% of the principal amount thereof, plus accrued and unpaid interest, if any, plus a "make whole" premium determined as set forth in the Indenture. The Company is also entitled to redeem up to 35% of the aggregate principal amount of the Senior Notes before November 15, 2015 with the net proceeds from certain equity offerings at a redemption price of 106.375% of the principal amount plus accrued and unpaid interest, if any.

If, prior to maturity, a change in control (as defined in the Indenture) of the Company occurs and thereafter certain downgrades of the ratings of the Senior Notes as specified in the Indenture occur, the Company will be required to offer to repurchase any or all of the Senior Notes at a repurchase price equal to 101% of the aggregate principal amount of the Senior Notes, plus any accrued and unpaid interest.

The Indenture also contains covenants that, among other things, limit the ability of the Company and certain of its subsidiaries to: (i) create liens or use assets as security in other transactions; (ii) engage in certain sale/leaseback transactions; and (iii) merge, consolidate or sell, transfer, lease or dispose of substantially all of their assets.

The Indenture also contains customary events of default, including (i) failure to pay principal or interest on the Senior Notes when due and payable, (ii) failure to comply with covenants or agreements in the Indenture or the Senior Notes which failures are not cured or waived as provided in the Indenture, (iii) failure to pay indebtedness of the Company, any Subsidiary Guarantor or Significant Subsidiary (as defined in the Indenture) within any applicable grace period after maturity or acceleration and the total amount of such indebtedness unpaid or accelerated exceeds \$50.0 million, (iv) certain events of bankruptcy, insolvency, or reorganization, (v) failure to pay any judgment or decree for an amount in excess of \$50.0 million against the Company, any Subsidiary Guarantor or any Significant Subsidiary that is not discharged, waived or stayed as provided in the Indenture, (vi) cessation of

any subsidiary guarantee to be in full force and effect or denial or disaffirmance by any Subsidiary Guarantor of its obligations under its subsidiary guarantee, and (vii) a default under the Company's Senior Subordinated Notes. In the case of an event of default, the principal amount of the Senior Notes plus accrued and unpaid interest may be accelerated.

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The offering of the Senior Notes was not registered under the Securities Act of 1933, as amended (the "Securities Act") or any state securities laws or blue sky laws but the Company has agreed to file a registration statement under the Securities Act to permit the exchange of the Senior Notes for new registered notes of the Company having terms substantially identical to the Senior Notes. Under certain circumstances, the Company may also be required to file a shelf registration statement under the Securities Act to register the resale of the Senior Notes by certain holders thereof. If the Company fails to comply with certain of their obligations, the Company will be required to pay additional interest to the holders of the Senior Notes until it does comply.

Senior Subordinated Notes

On November 30, 2010, in connection with our acquisitions of Seadrift Coke L.P. and C/G Electrodes LLC, we issued Senior Subordinated Notes for an aggregate face amount of \$200 million. These Senior Subordinated Notes are non-interest bearing and mature in 2015. Because these notes are non-interest bearing, we were required to record them at their present value (determined using an interest rate of 7%). The difference between the face amount of the notes and their present value is recorded as debt discount. The debt discount is amortized to income using the interest method, over the life of the notes. The loan balance, net of unamortized discount, was \$164.2 million as of December 31, 2012 and \$167.0 million as of March 31, 2013.

(9) Inventories

Inventories are comprised of the following:

	As of December 31, 2012	As of March 31, 2013
	(Dollars in thousands)	
Inventories:		
Raw materials and supplies	\$230,057	\$226,232
Work in process	213,948	234,400
Finished goods	73,293	84,190
	517,298	544,822
Reserves	(4,233	) (6,600
Total	\$513,065	\$538,222

(10) Interest Expense

The following table presents an analysis of interest expense:

	For the Three Months Ended March 31, 2012 2013	
	(Dollars in thousands)	
Interest incurred on debt	\$1,637	\$5,449
Amortization of discount on Senior Subordinated Notes	2,617	2,801
Amortization of debt issuance costs	377	555
Supply Chain Financing mark-up	131	203
Total interest expense	\$4,762	\$9,008

Interest Rates

The Revolving Facility had an effective interest rate of 2.21% and 2.20% as of December 31, 2012 and March 31, 2013, respectively. The Senior Subordinated Notes have an implied interest rate of 7.00%. The Senior Notes have a fixed interest rate of 6.375%.

(11) Supply Chain Financing

We have a supply chain financing arrangement with a financing party. Under this arrangement, we essentially assign our rights to purchase needle coke from a supplier to the financing party. The financing party purchases the product from a supplier under the standard payment terms and then immediately resells it to us under longer payment terms. The financing party pays the supplier the purchase price for the product and then we pay the financing party. Our payment to the financing party for this needle coke includes a mark-up (the "Mark-Up"). The Mark-Up is a premium expressed as a percentage of the purchase price. The Mark-Up is subject to quarterly reviews. This arrangement helps us to maintain a balanced cash conversion cycle between inventory payments and the collection of receivables. Based on the terms of the arrangement, the total amount that we owe to the financing party may not exceed \$49.3 million at any point in time.

We record the inventory once title and risk of loss transfers from the supplier to the financing party. We record our liability to the financing party as an accrued liability. Our liability under this arrangement was \$27.0 million and \$12.7 million as of December 31, 2012 and March 31, 2013, respectively. We recognized Mark-Up of \$0.1 million and \$0.2 million as interest expense in the three months ended March 31, 2012 and 2013, respectively.

(12) Contingencies

Legal Proceedings

We are involved in various investigations, lawsuits, claims, demands, environmental compliance programs and other legal proceedings arising out of or incidental to the conduct of our business. While it is not possible to determine the ultimate disposition of each of these matters, we do not believe that their ultimate disposition will have a material adverse effect on our financial position, results of operations or cash flows.

Product Warranties

We generally sell products with a limited warranty. We accrue for known warranty claims if a loss is probable and can be reasonably estimated. We also accrue for estimated warranty claims incurred based on a historical claims charge analysis. Claims accrued but not yet paid and the related activity within the accrual for the three months ended March 31, 2013, are presented below (dollars in thousands):

Balance as of December 31, 2012	\$1,485	
Product warranty adjustments	(1)
Payments and settlements	(319)
Balance as of March 31, 2013	\$1,165	

(13) Income Taxes

We compute an estimated annual effective tax rate on a quarterly basis, considering ordinary income and related income tax expense. Ordinary income refers to income (loss) before income tax expense excluding significant, unusual, or infrequently occurring items. The tax effect of an unusual or infrequently occurring item is recorded in the interim period in which it occurs. These items may include the cumulative effect of changes in tax laws or rates, impairment charges, adjustments to prior period uncertain tax positions, or adjustments to our valuation allowance due to changes in judgment of the realizability of deferred tax assets.

The following table summarizes the provision for income taxes for the three months ended March 31, 2012 and March 31, 2013:

	For the Three Months Ended March 31,		
	2012	2013	
	(Dollars in thousands)		
Tax expense	\$5,220	\$2,040	
Pretax income	\$22,749	\$6,250	
Effective tax rates	22.9	% 32.6	%

The current year effective tax rate differs from the U.S statutory rate of 35% primarily due to an enacted tax law change resulting in a favorable discrete item.

As of March 31, 2013, we had unrecognized tax benefits of \$10.0 million, \$5.9 million of which, if recognized, would have a favorable impact on our effective tax rate. It is reasonably possible that a reduction of unrecognized tax benefits of \$5.8 million may occur within 12 months due to settlements and the expiration of statutes of limitation.

We file income tax returns in the U.S. federal jurisdiction, and various state and foreign jurisdictions. All U.S. tax years prior to 2010 are generally closed by statute or have been audited and settled with the domestic tax authorities. We have one issue outstanding from the 2008 U.S. federal audit, which is under appeals. We are also under audit in Switzerland for federal, cantonal, and communal taxes for the tax years ended 2006 - 2009. All other non-U.S. jurisdictions are still open to examination beginning after 2007.

We continue to assess the need for valuation allowances against deferred tax assets based on determinations of whether it is more likely than not that deferred tax benefits will be realized through the generation of future taxable income. Appropriate consideration is given to all available evidence, both positive and negative, in assessing the need for a valuation allowance. Examples of positive evidence would include a strong earnings history, an event or events that would increase our taxable income through a continued reduction of expenses, and tax planning strategies that would indicate an ability to realize deferred tax assets. In circumstances where significant positive evidence does not yet outweigh negative evidence, we have maintained valuation allowances on those deferred tax assets.

(14) Derivative Instruments

We use derivative instruments as part of our overall foreign currency and commodity risk management strategies to manage the risk of exchange rate movements that would reduce the value of our foreign cash flows and to minimize commodity price volatility. Foreign currency exchange rate movements create a degree of risk by affecting the value of sales made and costs incurred in currencies other than the US dollar.

Certain of our derivative contracts contain provisions that require us to provide collateral. Since the counterparties to these financial instruments are large commercial banks and similar financial institutions, we do not believe that we are exposed to material counterparty credit risk. We do not anticipate nonperformance by any of the counter-parties to our instruments.

Foreign currency derivatives

We enter into foreign currency derivatives from time to time to attempt to manage exposure to changes in currency exchange rates. These foreign currency instruments, which include, but are not limited to, forward exchange contracts and purchased currency options, attempt to hedge global currency exposures such as foreign currency denominated debt, sales, receivables, payables, and purchases. Forward exchange contracts are agreements to exchange different currencies at a specified future date and at a specified rate. There was no ineffectiveness on these contracts designated as hedging instruments during the three months ended March 31, 2012 and 2013.

In 2012 and 2013, we entered into foreign forward currency derivatives denominated in the Mexican peso, South African rand, Brazilian real, euro and Japanese yen. These derivatives were entered into to protect the risk that the eventual cash flows resulting from such transactions may be adversely affected by changes in exchange

rates between the US dollar and the Mexican peso, South African rand, Brazilian real, euro and Japanese yen. As of March 31, 2013, we had outstanding Mexican peso, South African rand, Brazilian real, euro, and Japanese yen currency contracts with aggregate notional amounts of \$255.0 million. The foreign currency derivatives outstanding as of March 31, 2013 have several maturity dates ranging from April 2013 to December 2013.

Commodity derivative contracts

We periodically enter into derivative contracts for certain refined oil products and natural gas. These contracts are entered into to protect against the risk that eventual cash flows related to these products may be adversely affected by future changes in prices. There was no ineffectiveness on these contracts during the three months ended March 31, 2013. As of March 31, 2013, we had outstanding derivative swap contracts for refined oil products with aggregate notional amounts of \$28.5 million. These contracts have maturity dates ranging from April 2013 to June 2013.

The fair value of all derivatives is recorded as assets or liabilities on a gross basis in our Consolidated Balance Sheets. At December 31, 2012 and March 31, 2013, the fair values of our derivatives and their respective balance sheet locations are presented in the following tables:

	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of December 31, 2012	(Dollars in Thousands)			
Derivatives designated as cash flow hedges:				
Foreign currency derivatives	Other receivables	\$1,062	Other payables	\$2,374
Commodity derivative contracts	Other current assets	—	Other current liabilities	31
Total fair value		\$1,062		\$2,405
As of March 31, 2013				
Derivatives designated as cash flow hedges:				
Foreign currency derivatives	Other receivables	\$2,886	Other payables	\$886
Commodity derivative contracts	Other current assets	258	Other current liabilities	15
Total fair value		\$3,144		\$901
	Asset Derivatives		Liability Derivatives	
	Location	Fair Value	Location	Fair Value
As of December 31, 2012	(Dollars in Thousands)			
Derivatives not designated as hedges:				
Foreign currency derivatives	Other receivables	\$242	Other payables	\$—
Total fair value		\$242		\$—
As of March 31, 2013				
Derivatives not designated as hedges:				
Foreign currency derivatives	Other receivables	\$96	Other payables	\$130
Total fair value		\$96		\$130

The location and amount of realized (gains) losses on derivatives are recognized in the Statements of Income when the hedged item impacts earnings and are as follows for the three months ended March 31, 2012 and 2013:

		Amount of (Gain)/Loss Recognized (Effective Portion)	
Three Months Ended March 31,	Location of (Gain)/Loss Reclassified from Other Comprehensive Income (Effective Portion)	2012	2013
		(Dollars in Thousands)	
Derivatives designated as cash flow hedges:			
Foreign currency derivatives, excluding tax of \$122 and \$(9), respectively	Cost of goods sold/Other expense / (income) / Revenue	\$(1,221)	\$94
Commodity forward derivatives, excluding tax of \$894 and \$117, respectively	Cost of goods sold / Revenue	\$(2,470)	\$(323)
		(Gain)/Loss Recognized (Effective Portion)	
Three Months Ended March 31,	Location of (Gain)/Loss Recognized in the Consolidated Statement of Income	2012	2013
		(Dollars in Thousands)	
Derivatives designated as fair value hedges:			
Foreign currency derivatives	Cost of goods sold/Other expense (income)	\$209	\$—
		Amount of (Gain)/Loss Recognized	
Three Months Ended March 31,	Location of (Gain)/Loss Recognized in the Consolidated Statement of Income	2012	2013
		(Dollars in thousands)	
Derivatives not designated as hedges:			
Foreign currency derivatives	Cost of goods sold/Other expense (income)	\$63	\$(1,782)

Our foreign currency and commodity derivatives are treated as hedges and are required to be measured at fair value on a recurring basis. With respect to the inputs used to determine the fair value, we use observable, quoted rates that are determined by active markets and, therefore, classify the contracts as “Level 2”.

(15) Guarantor Information

On November 20, 2012, GrafTech International Ltd. (the “Parent”), issued \$300 million aggregate principal amount of Senior Notes. The Senior Notes mature on November 15, 2020 and bear interest at a rate of 6.375% per year, payable semi-annually in arrears on May 15 and November 15 of each year. The Senior Notes have been guaranteed on a senior basis by the following wholly-owned direct and indirect subsidiaries of the Parent: GrafTech Finance Inc., GrafTech Holdings Inc., GrafTech USA LLC, Seadrift Coke LLP, Fiber Materials, Inc., Intermat, GrafTech Global Enterprises Inc., GrafTech International Holdings Inc., GrafTech DE LLC, GrafTech Seadrift Holding Corp, GrafTech International Trading Inc., GrafTech Technology LLC, GrafTech NY Inc., and Graphite Electrode Network LLC

The guarantors of the Senior Notes, solely in their respective capacities as such, are collectively called the “Guarantors.” Our other subsidiaries, which are not guarantors of the Senior Notes, are called the “Non-Guarantors.”

All of the guarantees are unsecured. All of the guarantees are full, unconditional (subject to limited exceptions described below) and joint and several. Each of the Guarantors are 100% owned, directly or indirectly, by the Parent. All of the guarantees of the Senior Notes continue until the Senior Notes have been paid in full, and payment under such guarantees could be required immediately upon the occurrence of an event of default under the Senior Notes. If a guarantor makes a payment under its guarantee of the Senior Notes, it would have the right under certain circumstances to seek contribution from the other guarantors of the Senior Notes, respectively.

The Guarantors will be released from the guarantees upon the occurrence of certain events, including the following: the unconditional release or discharge of any guarantee or indebtedness that resulted in the creation of the guarantee of the Senior Notes by such Guarantor; the sale or other disposition, including by way of merger or consolidation or the sale of its capital stock following which such Guarantor is no longer a subsidiary of the Parent; or the Parent's exercise of its legal defeasance option or its covenant defeasance option as described in the indenture applicable to the Senior Notes. If any Guarantor is released, no holder of the Senior Notes will have a claim as a creditor against such Guarantor and the indebtedness and other liabilities, including trade payables and preferred stock, if any, of such Guarantor will be effectively senior to the claim or any holders of the Senior Notes.

Investments in subsidiaries are recorded on the equity basis.

The following tables set forth condensed consolidating balance sheets as of December 31, 2012 and March 31, 2013 and condensed consolidating statements of income, comprehensive income and statements of cash flows for the three months ended March 31, 2012 and 2013 of the Parent, Guarantors and the Non-Guarantors.

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GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING BALANCE SHEETS

As of December 31, 2012

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
ASSETS					
Current Assets:					
Cash and cash equivalents	\$—	\$4,425	\$12,892	—	\$17,317
Accounts receivable - affiliates	26,399	38,116	29,177	(93,692)	—
Accounts receivable - trade	—	78,053	158,376	—	236,429
Inventories	—	159,217	353,848	—	513,065
Prepaid expenses and other current assets	—	13,681	42,509	—	56,190
Total current assets	26,399	293,492	596,802	(93,692)	823,001
Investment in affiliates	1,728,316	868,063	—	(2,596,379)	—
Property, plant and equipment	—	523,818	310,089	—	833,907
Deferred income taxes	—	—	6,157	—	6,157
Goodwill	—	293,162	205,099	—	498,261
Notes receivable - affiliate	66,869	22,413	—	(89,282)	—
Other assets	5,218	65,269	66,102	—	136,589
Total Assets	\$1,826,802	\$2,066,217	\$1,184,249	\$(2,779,353)	\$2,297,915
LIABILITIES AND STOCKHOLDER EQUITY					
Current Liabilities:					
Accounts payable - affiliate	\$—	\$55,349	\$38,343	\$(93,692)	\$—
Accounts payable - trade	273	33,126	94,721	—	128,120
Short-term debt	—	171	8,255	—	8,426
Accrued income and other taxes	597	3,948	26,378	—	30,923
Supply chain financing liability	—	—	26,962	—	26,962
Other accrued liabilities	2,178	15,597	33,178	—	50,953
Total current liabilities	3,048	108,191	227,837	(93,692)	245,384
Long-term debt - affiliate	—	66,869	22,413	(89,282)	—
Long-term debt - third party	464,183	70,190	1,336	—	535,709
Other long-term obligations	—	86,026	38,979	—	125,005
Deferred income taxes	9,720	6,625	25,621	—	41,966
Stockholders' equity	1,349,851	1,728,316	868,063	(2,596,379)	1,349,851
Total Liabilities and Stockholders' Equity	\$1,826,802	\$2,066,217	\$1,184,249	\$(2,779,353)	\$2,297,915

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING BALANCE SHEETS

As of March 31, 2013

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
ASSETS					
Current Assets:					
Cash and cash equivalents	—	\$ 3,283	\$ 8,021	—	\$ 11,304
Accounts receivable - affiliates	30,662	33,770	22,927	(87,359)) —
Accounts receivable - trade	—	55,291	133,470	—	188,761
Inventories	—	181,343	356,879	—	538,222
Prepaid expenses and other current assets	—	16,000	42,087	—	58,087
Total current assets	30,662	289,687	563,384	(87,359)	) 796,374
Investment in affiliates	1,734,660	872,806	—	(2,607,466)) —
Property, plant and equipment	—	527,251	304,452	—	831,703
Deferred income taxes	—	—	5,876	—	5,876
Goodwill	—	293,162	204,519	—	497,681
Notes receivable - affiliate	66,929	22,414	—	(89,343)) —
Other assets	5,132	62,093	63,288	—	130,513
Total Assets	1,837,383	2,067,413	1,141,519	(2,784,168)	) 2,262,147
LIABILITIES AND STOCKHOLDER EQUITY					
Current Liabilities:					
Accounts payable - affiliate	—	\$ 53,596	\$ 33,763	\$(87,359)) —
Accounts payable - trade	12	31,600	62,825	—	94,437
Short-term debt	—	173	1,929	—	2,102
Accrued income and other taxes	—	2,987	25,695	—	28,682
Supply chain financing liability	—	—	12,659	—	12,659
Other accrued liabilities	6,959	22,493	29,332	—	58,784
Total current liabilities	6,971	110,849	166,203	(87,359)	) 196,664
Long-term debt - affiliate	—	66,929	22,414	(89,343)) —
Long-term debt - third party	466,983	63,646	21,257	—	551,886
Other long-term obligations	—	84,829	36,758	—	121,587
Deferred income taxes	9,720	6,500	22,081	—	38,301
Stockholders' equity	1,353,709	1,734,660	872,806	(2,607,466)	) 1,353,709
Total Liabilities and Stockholders' Equity	1,837,383	2,067,413	1,141,519	(2,784,168)	) 2,262,147

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the three months ended March 31, 2012
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Sales - affiliates	\$—	\$ 59,602	\$ 45,710	\$(105,312)	\$—
Sales - third party	—	114,027	126,911	—	240,938
Net sales	—	173,629	172,621	(105,312)	240,938
Cost of sales	—	139,464	139,855	(105,312)	174,007
Gross profit	—	34,165	32,766	—	66,931
Research and development	—	4,199	—	—	4,199
Selling and administrative expenses	—	18,490	20,235	—	38,725
Operating income	—	11,476	12,531	—	24,007
Other (income) expense, net	—	(3,153)	(270)	—	(3,423)
Interest expense - affiliate	828	—	—	(828)	—
Interest expense - third party	2,617	1,769	376	—	4,762
Interest income - affiliate	—	(828)	—	828	—
Interest income - third party	—	—	(81)	—	(81)
Income before income taxes	(3,445)	13,688	12,506	—	22,749
Provision for income taxes	(1,223)	4,451	1,992	—	5,220
Equity in earnings of subsidiary	19,751	10,514	—	(30,265)	—
Net income	\$ 17,529	\$ 19,751	\$ 10,514	\$(30,265)	\$ 17,529
Statements of Comprehensive Income					
Net income	\$ 17,529	\$ 19,751	\$ 10,514	\$(30,265)	\$ 17,529
Other comprehensive income:					
Foreign currency translation	9,848	—	9,848	(9,848)	9,848
Commodities and foreign currency derivatives	1,680	2,326	(646)	(1,680)	1,680
Other Comprehensive income (loss)	11,528	2,326	9,202	(11,528)	11,528
Comprehensive income (loss)	\$ 29,057	\$ 22,077	\$ 19,716	\$(41,793)	\$ 29,057

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF INCOME AND COMPREHENSIVE INCOME
For the three months ended March 31, 2013
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Sales - affiliates	—	\$45,267	\$36,152	\$(81,419)) —
Sales - third party	—	98,196	155,531	—	253,727
Net sales	—	143,463	191,683	(81,419)	) 253,727
Cost of sales	—	122,826	163,770	(81,419)	) 205,177
Gross profit	—	20,637	27,913	—	48,550
Research and development	—	3,093	—	—	3,093
Selling and administrative expenses	—	12,494	17,219	—	29,713
Operating income	—	5,050	10,694	—	15,744
Other (income) expense, net	—	43	507	—	550
Interest expense - affiliate	—	399	188	(587)) —
Interest expense - third party	7,745	805	458	—	9,008
Interest income - affiliate	(364)	) (188)	) (35)	) 587	—
Interest income - third party	—	—	(64)	) —	(64)
Income before income taxes	(7,381)	) 3,991	9,640	—	) 6,250
Provision (benefit) for income taxes	(2,620)	) 1,443	3,217	—	2,040
Equity in earnings of subsidiary	8,971	6,423	—	(15,394)) —
Net income	4,210	8,971	6,423	(15,394)	) 4,210
Statements of Comprehensive Income					
Net income	4,210	8,971	6,423	(15,394)	) 4,210
Other comprehensive income:					
Foreign currency translation	(7,309)	) —	(7,309)	) 7,309	(7,309)
Commodities and foreign currency derivatives	3,533	575	2,958	(3,533)	) 3,533
Other Comprehensive (loss) income	(3,776)	) 575	(4,351)	) 3,776	(3,776)
Comprehensive income (loss)	434	9,546	2,072	(11,618)	) 434

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS
For the three months ended March 31, 2012
(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Net cash (used in) provided by operating activities	\$ (5,217)	\$ 8,206	\$ (18,363)	\$ —	\$ (15,374)
Cash flow from investing activities:					
(Loans to) repayments from affiliates	—	(16,611)	—	16,611	—
Capital expenditures	—	(22,195)	(9,229)	—	(31,424)
Proceeds from derivative instruments	—	3,035	588	—	3,623
Other	—	—	53	—	53
Net cash (used in) provided by investing activities	—	(35,771)	(8,588)	16,611	(27,748)
Cash flow from financing activities:					
Loans from (repayments to) affiliates	5,940	—	10,671	(16,611)	—
Short-term debt borrowings	—	(196)	(2,816)	—	(3,012)
Revolving Facility borrowings	—	62,000	38,000	—	100,000
Revolving Facility reductions	—	(34,000)	(13,000)	—	(47,000)
Principal payments on long term debt	—	(41)	(56)	—	(97)
Supply chain financing	—	—	(5,262)	—	(5,262)
Proceeds from exercise of stock options	92	—	—	—	92
Purchase of treasury shares	(1,185)	—	—	—	(1,185)
Other	4	(55)	(76)	—	(127)
Net cash provided by (used in) financing activities	4,851	27,708	27,461	(16,611)	43,409
Net (decrease) increase in cash and cash equivalents	(366)	143	510	—	287
Effect of exchange rate changes on cash and cash equivalents	—	—	101	—	101
Cash and cash equivalents at beginning of period	366	3,503	8,560	—	12,429
Cash and cash equivalents at end of period	\$ —	\$ 3,646	\$ 9,171	\$ —	\$ 12,817

GRAFTECH INTERNATIONAL LTD. AND SUBSIDIARIES
CONDENSED CONSOLIDATING STATEMENTS OF CASH FLOWS

For the three months ended March 31, 2013

(in thousands)

	Parent Company	Guarantor Subsidiaries	Non- Guarantor Subsidiaries	Consolidating Entries and Eliminations	Consolidated
Net cash provided by operating activities	\$455	\$14,863	\$2,681	\$—	\$17,999
Cash flow from investing activities					
(Loans to) repayments from affiliates	(60	) —	—	60	—
Capital expenditures	—	(10,003	) (3,153	) —	(13,156
Proceeds from derivative instruments	—	495	1,686	—	2,181
Net (used in) cash provided by investing activities	(60	) (9,508	) (1,467	) 60	(10,975
Cash flow from financing activities:					
Loans from (repayments to) affiliates	—	60	—	(60) —
Short-term debt borrowings	—	2	(6,326	) —	(6,324
Revolving Facility borrowings	—	26,000	40,000	—	66,000
Revolving Facility reductions	—	(32,500	) (20,000	) —	(52,500
Principal payments on long term debt	—	(44	) (55	) —	(99
Supply chain financing	—	—	(14,304	) —	(14,304
Proceeds from exercise of stock options	132	—	—	—	132
Purchase of treasury shares	(181	) —	—	—	(181
Other	(346	) (15	) (5,286	) —	(5,647
Net cash (used in) provided by financing activities	(395	) (6,497	) (5,971	) (60	) (12,923
Net (decrease) increase in cash and cash equivalents	—	(1,142	) (4,757	) —	(5,899
Effect of exchange rate changes in cash and cash equivalents	—	—	(114	) —	(114
Cash and cash equivalents at beginning of period	—	4,425	12,892	—	17,317
Cash and cash equivalents at end of period	\$—	\$3,283	\$8,021	\$—	\$11,304

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 20. Indemnification of Directors and Officers

GrafTech maintains directors' and officers' liability insurance policies which indemnify directors and officers for certain losses arising from claims by reason of a wrongful act, as defined therein, under certain circumstances. Directors and officers insured under the policies include directors and officers of our subsidiaries, including the Guarantors.

We have entered into indemnification agreements with our directors and officers. Pursuant to these agreements, each director and officer will be, to the fullest extent permitted by law, entitled to advancement of expenses and to indemnifications for all expenses, damages, judgments, fines, penalties, ERISA excise taxes and amounts paid in settlement (including all interest, assessments and other charges paid or payable therewith) resulting from any claim against such person arising from the fact that such person is or was a director or officer or is or was serving at our request as a director, officer, employee, trustee, agent or fiduciary of another another entity or by reason of anything done or not done by such director or officer in any such capacity.

Under Delaware law, directors of a Delaware corporation can generally be held liable for certain acts and omissions in connection with the performance of their duties to the corporation and its stockholders. As permitted by Delaware law, however, our Amended and Restated Certificate of Incorporation contains a provision eliminating the liability of directors for monetary damages for breaches of their duties to us and our stockholders. This provision does not, however, eliminate liability for:

- breaches of their duty of loyalty to us and our stockholders;
- acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law;
- transactions from which improper personal benefit is derived; and
- unlawful declaration of dividends or repurchases or redemptions of shares of capital stock.

This provision applies to officers only if they are directors and are acting in their capacity as directors. Although the issue has not been determined by any court, this provision may have no effect on claims arising under federal securities laws. This provision does not eliminate the duty of care, but only eliminates liability for monetary damages for breaches of such duty under various circumstances. Accordingly, this provision has no effect on the availability of equitable remedies, such as an injunction or rescission, based upon a breach of the duty of care. Equitable remedies may not, however, be wholly effective to remedy the injury caused by any such breach.

Our Amended and Restated By-Laws provide that we shall:

indemnify each person who is or was involved in any legal proceeding because he or she is or was a director or officer (or is or was serving at our request as a director, officer, partner, member, manager, employee, agent or trustee of another entity) against all expenses, liabilities and losses (including attorneys' fees, judgments, fines, excise taxes, penalties and amounts paid in settlement) reasonably incurred or suffered by him or her in connection therewith; and

pay the expenses incurred in defending such proceeding in advance of its final disposition, in each case, to the fullest extent authorized by Delaware law (as currently in effect or, to the extent that the provisions of Delaware law so authorizing are broadened, as it may be amended).

Our Amended and Restated By-Laws further provide that:

persons entitled to indemnification may bring suit against us to recover indemnification or payments claimed to be due thereunder;

if the suit is successful, the expense of bringing the suit will be paid by us; while it is a defense to the suit that the claimant has not met the standards of conduct making indemnification or payment permissible under Delaware law, the burden of proving the defense will be on us; and that neither the failure of our Board to have made a determination that indemnification is proper nor its affirmative determination that indemnification is improper will be a defense to the suit or create a presumption that the claimant has not met such standards of conduct.

In addition, our Amended and Restated By-Laws provide that:

the rights to indemnification and payment of expenses so provided are not exclusive of any other similar right that any person may have or acquire under any statute or otherwise;

we have the right to enter into indemnification contracts or otherwise arrange for indemnification of directors and officers that may be broader than the indemnification so provided; and

we may maintain, at our expense, insurance to protect us and our directors and officers against any expense, liability or loss, whether or not we would have the power to indemnify such directors and officers, against such expense, liability or loss under our Amended and Restated By-Laws or Delaware law.

In addition, the following information is incorporated by reference in this registration statement: Articles Tenth and Eleventh of the form of our Amended and Restated Certificate of Incorporation filed as Exhibit 3.1.0 to this registration statement; and Article V of the form of our Amended and Restated By-Laws filed as Exhibit 3.2.0 to this registration statement. Article V of those By-Laws also cover directors and officers of our subsidiaries. The provisions of the documents included in the information incorporated by reference above or filed as described above refer to or are based upon Sections 145 and 102(b) of the General Corporation Law of the State of Delaware (the "Law").

Section 145 of the Law provides as follows:

(a) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action, suit or proceeding, whether civil, criminal, administrative or investigative (other than an action by or in the right of the corporation) by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, against expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by the person in connection with such action, suit or proceeding if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had no reasonable cause to believe the person's conduct was unlawful. The termination of any action, suit or proceeding by judgment, order, settlement, conviction, or upon a plea of nolo contendere or its equivalent, shall not, of itself, create a presumption that the person did not act in good faith and in a manner which the person reasonably believed to be in or not opposed to the best interests of the corporation, and, with respect to any criminal action or proceeding, had reasonable cause to believe that the person's conduct was unlawful.

(b) A corporation shall have power to indemnify any person who was or is a party or is threatened to be made a party to any threatened, pending or completed action or suit by or in the right of the corporation to procure a judgment in its favor by reason of the fact that the person is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against expenses (including attorneys' fees) actually and reasonably incurred by the person in connection with the defense or settlement of such action or suit if the person acted in good faith and in a manner the person reasonably believed to be in or not opposed to the best interests of the corporation and except that no indemnification shall be made in respect of any claim, issue or matter as to which such person shall have been adjudged to be liable to the corporation unless and only to the extent that the Court of Chancery or the court in which such action or suit was brought shall determine upon application that, despite the adjudication of liability but in view of all the circumstances of the case, such person is fairly and reasonably entitled to indemnity for such expenses which the Court of Chancery or such other court shall deem proper.

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(c) To the extent that a present or former director or officer of a corporation has been successful on the merits or otherwise in defense of any action, suit or proceeding referred to in subsections (a) and (b) of this section, or in defense of any claim, issue or matter therein, such person shall be indemnified against expenses (including attorneys' fees) actually and reasonably incurred by such person in connection therewith.

(d) Any indemnification under subsections (a) and (b) of this section (unless ordered by a court) shall be made by the corporation only as authorized in the specific case upon a determination that indemnification of the present or former director, officer, employee or agent is proper in the circumstances because the person has met the applicable standard of conduct set forth in subsections (a) and (b) of this section. Such determination shall be made, with respect to a person who is a director or officer at the time of such determination, (1) by a majority vote of the directors who are not parties to such action, suit or proceeding, even though less than a quorum, or (2) by a committee of such directors designated by majority vote of such directors, even though less than a quorum, or (3) if there are no such directors, or if such directors so direct, by independent legal counsel in a written opinion, or (4) by the stockholders.

(e) Expenses (including attorneys' fees) incurred by an officer or director in defending any civil, criminal, administrative or investigative action, suit or proceeding may be paid by the corporation in advance of the final disposition of such action, suit or proceeding upon receipt of an undertaking by or on behalf of such director or officer to repay such amount if it shall ultimately be determined that such person is not entitled to be indemnified by the corporation as authorized in this section. Such expenses (including attorneys' fees) incurred by former directors and officers or other employees and agents may be so paid upon such terms and conditions, if any, as the corporation deems appropriate.

(f) The indemnification and advancement of expenses provided by, or granted pursuant to, the other subsections of this section shall not be deemed exclusive of any other rights to which those seeking indemnification or advancement of expenses may be entitled under any bylaw, agreement, vote of stockholders or disinterested directors or otherwise, both as to action in such person's official capacity and as to action in another capacity while holding such office.

(g) A corporation shall have power to purchase and maintain insurance on behalf of any person who is or was a director, officer, employee or agent of the corporation, or is or was serving at the request of the corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise against any liability asserted against such person and incurred by such person in any such capacity, or arising out of such person's status as such, whether or not the corporation would have the power to indemnify such person against such liability under this section.

(h) For purposes of this section, references to "the corporation" shall include, in addition to the resulting corporation, any constituent corporation (including any constituent of a constituent) absorbed in a consolidation or merger which, if its separate existence had continued, would have had power and authority to indemnify its directors, officers, and employees or agents, so that any person who is or was a director, officer, employee or agent of such constituent corporation, or is or was serving at the request of such constituent corporation as a director, officer, employee or agent of another corporation, partnership, joint venture, trust or other enterprise, shall stand in the same position under this section with respect to the resulting or surviving corporation as such person would have with respect to such constituent corporation if its separate existence had continued.

(i) For purposes of this section, references to "other enterprises" shall include employee benefit plans; references to "fines" shall include any excise taxes assessed on a person with respect to any employee benefit plan; and references to "serving at the request of the corporation" shall include any service as a director, officer, employee or agent of the corporation which imposes duties on, or involves services by, such director, officer, employee or agent with respect to an employee benefit plan, its participants or beneficiaries; and a person who acted in good faith and in a manner such person reasonably believed to be in the interest of the participants and beneficiaries of an employee benefit plan shall be deemed to have acted in a manner "not opposed to the best interests of the corporation" as referred to in this section.

(j) The indemnification and advancement of expenses provided by, or granted pursuant to, this section shall, unless otherwise provided when authorized or ratified, continue as to a person who has ceased to be a director, officer,

employee or agent and shall inure to the benefit of the heirs, executors and administrators of such a person.

(k) The Court of Chancery is hereby vested with exclusive jurisdiction to hear and determine all actions for advancement of expenses or indemnification brought under this section or under any bylaw, agreement, vote of stockholders or disinterested directors, or otherwise. The Court of Chancery may summarily determine a corporation's obligation to advance expenses (including attorneys' fees)."

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Section 102(b) (7) of the Law provides as follows:

“(b) In addition to the matters required to be set forth in the certificate of incorporation by subsection (a) of this section, the certificate of incorporation may also contain any or all of the following matters: ... (7) A provision eliminating or limiting the personal liability of a director to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, provided that such provision shall not eliminate or limit the liability of a director: (i) For any breach of the director’s duty of loyalty to the corporation or its stockholders; (ii) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law; (iii) under §174 of this title; or (iv) for any transaction from which the director derived an improper personal benefit. No such provision shall eliminate or limit the liability of a director for any act or omission occurring prior to the date when such provision becomes effective. All references in this paragraph to a director shall also be deemed to refer (x) to a member of the governing body of a corporation which is not authorized to issue capital stock, and (y) to such other person or persons, if any, who, pursuant to a provision of the certificate of incorporation in accordance with §141(a) of this title, exercise or perform any of the powers or duties otherwise conferred or imposed upon the board of directors by this title.”

See “Item 22. Undertakings” for a description of the SEC’s position regarding such indemnification provisions.

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Item 21. Exhibits and Financial Statement Schedules

The following is a list of all exhibits filed as a part of this Registration Statement on Form S-4, including those incorporated by reference herein.

Exhibit Number	Description
2.1.0(1)	Recapitalization and Stock Purchase and Sale Agreement dated as of November 14, 1994 among Union Carbide Corporation, Mitsubishi Corporation, GrafTech International Ltd. and GrafTech International Acquisition Inc. and Guaranty made by Blackstone Capital Partners II Merchant Banking Fund L.P. and Blackstone Offshore Capital Partners II L.P.
2.2.0(1)	Stock Purchase and Sale Agreement dated as of November 9, 1990 among Mitsubishi Corporation, Union Carbide Corporation and UCAR Carbon Company Inc.
2.3.0(1)	Transfer Agreement dated January 1, 1989 between Union Carbide Corporation and UCAR Carbon Company Inc.
2.3.1(1)	Amendment No. 1 to Transfer Agreement dated December 31, 1989.
2.3.2(1)	Amendment No. 2 to Transfer Agreement dated July 2, 1990.
2.3.3(1)	Amendment No. 3 to Transfer Agreement dated as of February 25, 1991.
2.4.0(1)	Amended and Restated Realignment Indemnification Agreement dated as of June 4, 1992 among Union Carbide Corporation, Union Carbide Chemicals and Plastics Company Inc., Union Carbide Industrial Gases Inc., UCAR Carbon Company Inc. and Union Carbide Coatings Service Corporation.
2.5.0(1)	Environmental Management Services and Liabilities Allocation Agreement dated as of January 1, 1990 among Union Carbide Corporation, Union Carbide Chemicals and Plastics Company Inc., UCAR Carbon Company Inc., Union Carbide Industrial Gases Inc. and Union Carbide Coatings Service Corporation.
2.5.1(1)	Amendment No. 1 to Environmental Management Services and Liabilities Allocation Agreement dated as of June 4, 1992.
2.6.0(2)	Trade Name and Trademark License Agreement dated March 1, 1996 between Union Carbide Corporation and UCAR Carbon Technology Corporation.
2.7.0(1)	Employee Benefit Services and Liabilities Agreement dated January 1, 1990 between Union Carbide Corporation and UCAR Carbon Company Inc.
2.7.1(1)	Amendment to Employee Benefit Services and Liabilities Agreement dated January 15, 1991.
2.7.2(1)	Supplemental Agreement to Employee Benefit Services and Liabilities Agreement dated February 25, 1991.
2.8.0(1)	Letter Agreement dated December 31, 1990 among Union Carbide Chemicals and Plastics Company Inc., UCAR Carbon Company Inc., Union Carbide Grafito, Inc. and Union Carbide Corporation.
2.9.0(21)	Agreement and Plan of Merger, dated as of April 28, 2010, among GrafTech International Ltd., GrafTech Holdings Inc., GrafTech Delaware I Inc., GrafTech Delaware II Inc., Seadrift Coke L.P., and certain partners of Seadrift Coke L.P.
2.10.0(21)	Agreement and Plan of Merger, dated as of April 28, 2010, by and among GrafTech International Ltd., GrafTech Holdings Inc., GrafTech Delaware III Inc., C/G Electrodes, LLC, and certain members of C/G Electrodes, LLC.
3.1.0(23)	Amended and Restated Certificate of Incorporation of GrafTech International Ltd. Dated November 30, 2010.
3.2.0(23)	Amended and Restated By-Laws of GrafTech International Ltd. dated November 30, 2010.
3.2.0(29)	

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Amendment, dated September 30, 2012, to Amended and Restated By-Laws of GrafTech International Ltd. dated November 30, 2010.

- 4.1(30) Form of Exchange Note
- 5.1.0(32) Opinion of Kelley Drye & Warren LLP
- 5.1.1(32) Opinion of Jennifer C. Beedy, Corporate Counsel of Intermat

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- 10.1.0(26) Amended and Restated Credit Agreement dated as of October 7, 2011 among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., the LC Subsidiary from time to time party thereto, the Lenders from time to time party thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent and Issuing Bank.
- 10.1.1(26) Amendment and Restatement Agreement dated as of October 7, 2011 in respect of the Credit Agreement dated as of April 28, 2010 among GrafTech International Ltd., GrafTech Global Enterprises Inc., GrafTech Finance Inc., GrafTech Switzerland, S.A. the LC Subsidiaries from time to time party thereto, the Lenders from time to time party thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent.
- 10.1.2(28) Amended and Restated Credit Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., GrafTech Luxembourg I S.à.r.l. and GrafTech Luxembourg II S.à.r.l.; the LC Subsidiaries (as defined therein) from time to time party thereto; and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent, Issuing Bank and Swingline Lender (as defined therein).
- 10.1.3(26) Reaffirmation Agreement dated as of October 7, 2011 among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland, S.A., the Subsidiaries party thereto and JPMorgan Chase Bank, N.A., as the Administrative Agent.
- 10.1.4(28) Second Amended and Restated Guarantee Agreement dated as of April 20, 2012, made by GrafTech International Ltd., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.5(28) European Guarantee and Luxembourg Security Agreement dated as of April 20, 2012, made by GrafTech Luxembourg I S.à.r.l., GrafTech Luxembourg II S.à.r.l. and GrafTech Switzerland S.A., in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.6(28) Second Amended and Restated Security Agreement dated as of April 20, 2012, made by GrafTech International Ltd., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.7(28) Second Amended and Restated Indemnity, Subrogation and Contribution Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., each of the other Domestic Subsidiaries (as defined therein) from time to time party thereto, and JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.8(28) Second Amended and Restated Pledge Agreement dated as of March 26, 2012, among GrafTech International Ltd., GrafTech Finance Inc., the other subsidiaries of GrafTech International Ltd. from time to time party thereto, and JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.9(28) Amended and Restated Pledge Agreement dated as of March 26, 2012, by GrafTech Switzerland S.A. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.10(28) Pledge Agreement dated as of March 26, 2012, by GrafTech Luxembourg I S.à.r.l. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).

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- 10.1.11(28) Pledge Agreement dated as of March 30, 2012, by GrafTech Luxembourg II S.à.r.l. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.12(21) Amended and Restated Intellectual Property Security Agreement dated as of April 28, 2010 made by GrafTech International Ltd., GrafTech Global Enterprises Inc., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as Collateral Agent for the Secured Parties.
- 10.1.13(21) Swiss Security Agreement dated April 28, 2010 between GrafTech Switzerland S.A., as Assignor, and JPMorgan Chase Bank, N.A., as Assignee.
- 10.1.14(26) Confirmation and Amendment Agreement dated 7 October 2011 relating to the Swiss Security Agreement dated April 28, 2010 between Graftech Switzerland SA as Assignor and JPMorgan Chase Bank, N.A. as Assignee.
- 10.1.15(28) Second Confirmation and Amendment Agreement dated as of April 20, 2012, relating to the Swiss Security Agreement dated April 28, 2010 between GrafTech Switzerland S.A., as Assignor and JPMorgan Chase Bank, N.A. as Assignee.
- 10.1.16(21) Form of LC Subsidiary Agreement among GrafTech Finance Inc. or GrafTech Switzerland S.A., as the Applicable Borrower, the applicable LC Subsidiary and JPMorgan Chase Bank, N.A., as Administrative Agent.

- 10.1.17(31) Second Amendment as of October 29, 2012 of the Amended and Restated Credit Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., GrafTech Luxembourg I S.à.r.l. and GrafTech Luxembourg II S.à.r.l.; the LC Subsidiaries (as defined therein) from time to time party thereto; and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent, Issuing Bank and Swingline Lender (as defined therein).
- 10.2.0(8) Form of Restricted Stock Unit Agreement.
- 10.3.0(14) Forms of Restricted Stock Agreement (2005 LTIP Version).
- 10.4.0(19) Form of Long Term Incentive Plan Award Agreement (2009 Version)
- 10.4.1(27) Form of Long Term Incentive Plan Award Agreement (2010 Version)
- 10.4.2(27) Form of Long Term Incentive Plan Award Agreement (2011 Version)
- 10.4.3(31) Form of Long Term Incentive Plan Award Agreement (2012 Version)
- 10.5.0(9) GrafTech International Ltd. Management Stock Incentive Plan (Senior Version) as amended and restated through July 31, 2003.
- 10.6.0(10) GrafTech International Ltd. Incentive Compensation Plan, effective January 1, 2003.
- 10.6.1(16) Amendment No. 1 GrafTech International Ltd. Incentive Compensation Plan dated December 29, 2008.
- 10.7.0(11) Form of Restricted Stock Agreement (Standard Form).
- 10.8.0(16) GrafTech International Holdings Inc. Compensation Deferral Program as amended and restated (December 29, 2008).
- 10.9.0(27) Amended and Restated GrafTech International Ltd. 2005 Equity Incentive Plan.
- 10.10.0(8) Form of Severance Compensation Agreement for senior management (U.S. 2.99 Version).
- 10.10.1(16) Form of IRS 409A Amendment to Severance Compensation Agreement for senior management (December 2008 U.S. 2.99 Version).
- 10.10.2(25) Form of Severance Compensation Agreement for senior management (U.S. 2.99 Version – Revised)
- 10.11.0(8) Form of Severance Compensation Agreement for senior management (December 2008 International 2.99 Version).
- 10.11.1(16) Form of IRS 409A Amendment to Severance Compensation Agreement for senior management (December 2008 International 2.99 Version).
- 10.12.0(14) Form of Non-qualified Stock Option Agreement
- 10.13.0(24) Agreement effective as of January 1, 2011 between and among ConocoPhillips Company and GrafTech International Holdings Inc. and Graftech Switzerland S.A. (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC).
- 10.13.1(24) Agreement effective as of January 1, 2011 among ConocoPhillips Limited (successor to ConocoPhillips (I.K.) Limited) and Graftech Switzerland S.A. (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC).
- 10.14.1(14) Form of Terms and Conditions of Sale to standard contract of sale (2007 revision)
- 10.15.0(13) Technology License Agreement, dated as of December 5, 2006, among GrafTech International Ltd., UCAR Carbon Company Inc., Alcan France, and Carbone Savoie (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC.)
- 10.16.0(24) Form of Indemnification Agreement with Directors and Executive Officers.
- 10.17.0(18) Executive Incentive Compensation Plan
- 10.18.0(23) Form of Senior Subordinated Promissory Note. issued pursuant to April 28, 2010 Agreements and Plans of Merger.
- 10.19.0(23) Form of Registration Rights and Stockholders' Agreement, dated as of November 30, 2010, by and among GrafTech International Ltd. and each of the stockholders party thereto entered into

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pursuant to April 28, 2010 Agreements and Plans of Merger.

10.20.0(30) Indenture, dated November 20, 2012, among GrafTech International Ltd., the Subsidiary Guarantors and U.S. Bank National Association, as Trustee.

10.21.0(30) Registration Rights Agreement, dated November 20, 2012, among GrafTech International Ltd., the Subsidiary Guarantors and J.P.Morgan Securities LLC, as Representative.

12.1.0(32) Computation of Ratio Earnings

21.1.0(32) List of subsidiaries of GrafTech International Ltd.

23.1.0(32) Consent of PricewaterhouseCoopers LLP.

23.2.0(32) Consent of Kelley Drye & Warren LLP (included in the opinion filed as Exhibit 5.1.0).

23.2.1(32) Consent of Jennifer C. Beedy, Corporate Counsel of Intermat (included in the opinion filed as Exhibit 5.1.1).

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- 24.1.0(32) Powers of Attorney (included on Signatures pages).
- 25.1(32) Statement of Eligibility and Qualification (Form T-1) under the Trust Indenture Act of 1939 of U.S. Bank National Association.
- 99.1(32) Form of Letter of Transmittal.
- 99.2(32) Notice of Guaranteed Delivery.
- (1) Incorporated by reference to the Registration Statement of GrafTech International Ltd. and GrafTech Global Enterprises Inc. on Form S-1 (Registration No. 33-84850).
- (2) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 1996 (File No. 1-13888).
- (3) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 1998 (File No. 1-13888).
- (4) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2003 (File No. 1-13888).
- (5) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2001 (File No. 1-3888).
- (6) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2004 (File No. 1-13888).
- (7) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended September 30, 2005 (File No. 1-13888).
- (8) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2005 (File No. 1-13888).
- (9) Incorporated by reference to the Registration Statement of the registrant on Form S-3 (Registration No. 333-108039).
- (10) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2006 (File No. 1-13888).
- (11) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on September 6, 2005 (File No. 1-13888).
- (12) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2001 (File No. 1-13888).
- (13) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2006 (File No. 1-13888).
- (14) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2007 (File No. 1-13888).
- (15) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2008 (File No. 1-13888).
- (16) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2008 (File No. 1-13888).
- (17) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2009 (File No. 1-13888).
- (18) Incorporated by reference to the Definitive Proxy Statement for the 2009 Annual Meeting of Stockholders of the registrant (File No. 1-13888).
- (19) Incorporated by reference to the Annual Report of GrafTech International Ltd. on Form 10-K for the year ended December 31, 2009 (File No. 1-13888).
- (20) Incorporated by reference to Amendment No. 1 to the Annual Report of GrafTech International Ltd. on Amendment No. 1 to Form 10-K for the year ended December 31, 2009 (File No. 1-13888).
- (21) Incorporated by reference to the Registration Statement of GrafTech Holdings Inc. on Form S-4 (Registration No. 167446) filed June 10, 2010.
- (22)

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Incorporated by reference to Amendment No. 1 to the Registration Statement of GrafTech Holdings Inc. on Form S-4 (Registration No. 167446) filed August 19, 2010.

- (23) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on November 30, 2010 (File No. 1-13888).
- (24) Incorporated by reference to the Annual Report of GrafTech International Ltd. on Form 10-K for the year ended December 31, 2010 (File No. 1-13888).

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- (25) Incorporated by reference to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2011 (File No. 1-13888).
- (26) Incorporated by reference to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2011 (File No. 1-13888).
- (27) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2011 (File No. 1-13888).
- (28) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2012 (File No. 1-13888).
- (29) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended September 30, 2012 (File No. 1-13888).
- (30) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on November 20, 2012 (File No. 1-13888).
- (31) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2012 (File No. 1-13888).
- (32) Filed herewith.

Item 22. Undertakings

The undersigned registrant hereby undertakes:

(1) to file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) to include any prospectus required by section 10(a)(3) of the Securities Act of 1933;

(ii) to reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) to include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

provided, however, that paragraphs (1)(i), (1)(ii) and (1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in periodic reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or contained in a form of prospectus filed pursuant to Rule 424(b) that is part of the registration statement.

(2) that, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) to remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) that, for purposes of determining liability under the Securities Act of 1933 to any purchaser, if the registrant is subject to Rule 430C, each prospectus filed pursuant to Rule 424(b) as part of a registration statement relating to an offering, other than registration statements relying on Rule 430B or other than prospectuses filed in reliance on Rule 430A, shall be

deemed to be part of and included in the registration statement as of the date it is first used after effectiveness. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such first use, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such date of first use.

(5) that, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) the portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of that registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrant pursuant to the provisions set forth in Item 20, or otherwise, the registrant has been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrant of expenses incurred or paid by a director, officer or controlling person of the registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Act and will be governed by the final adjudication of such issue.

The undersigned registrant hereby undertakes to respond to requests for information that is incorporated by reference into the prospectus pursuant to Items 4, 10(b), 11, or 13 of Form S-4, within one business day of receipt of such request, and to send the incorporated documents by first class mail or other equally prompt means. This includes information contained in documents filed subsequent to the effective date of the registration statement through the date of responding to the request.

The undersigned registrant hereby undertakes to supply by means of a post-effective amendment all information concerning a transaction that was not the subject of and included in the registration statement when it became effective.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the undersigned registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-4 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GRAFTECH INTERNATIONAL LTD.

By: /s/ Lindon G. Robertson

Name: Lindon G. Robertson

Title: Vice President and Chief Financial Officer

POWER OF ATTORNEY AND SIGNATURES

KNOW ALL MEN BY THESE PRESENTS, that each individual whose signature appears below hereby constitutes and appoints the Chief Executive Officer, the President, the General Counsel, the Secretary, the Assistant Secretary, the Chief Financial Officer, the Treasurer and the Assistant Treasurer, now or hereafter serving, of GrafTech International Ltd., and each of them individually, his or her true and lawful agent, proxy and attorney-in-fact, with full power of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to (i) act on, sign and file with the Securities and Exchange Commission any and all amendments to this registration statement (which includes any additional registration statement under Rule 462(b)) together with all schedules and exhibits thereto, (ii) act on, sign and file with the Securities and Exchange Commission any and all exhibits to this registration statement and any and all exhibits and schedules thereto, (iii) act on, sign and file any and all such certificates, applications, registration statements, notices, reports, instruments, agreements and other documents necessary or appropriate in connection with the registration or qualification under foreign and state securities laws of the securities described in this registration statement or any amendment thereto, or to obtain an exemption therefrom, in connection with the offerings described therein and (iv) take any and all such actions which may be necessary or appropriate in connection therewith, granting unto such agents, proxies and attorneys-in-fact, and each of them individually, full power and authority to do and perform each and every act and thing necessary or appropriate to be done, as fully for all intents and purposes as he or she might or could do in person, and hereby approving, ratifying and confirming all that such agents, proxies and attorneys-in-fact, any of them or any of his or her or their substitute or substitutes may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this registration statement has been signed below by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	Chief Executive Officer, President & Chairman of the Board (Principal Executive Officer)	June 20, 2013
/s/ Lindon G. Robertson Lindon G. Robertson	Vice President and Chief Financial Officer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Randy W. Carson Randy W. Carson	Director	June 20, 2013
/s/ Mary B. Cranston Mary B. Cranston	Director	June 20, 2013
/s/ Harold E. Layman Harold E. Layman	Director	June 20, 2013
/s/ Ferrell P. McClean Ferrell P. McClean	Director	June 20, 2013
/s/ Steven R. Shawley Steven R. Shawley	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech Holdings Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President & Treasurer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President & Treasurer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech USA LLC

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Manager

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President, Treasurer & Manager (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Manager	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

Seadrift Coke L.P.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President & Treasurer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Hermanus Pretorius Hermanus Pretorius	President (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President & Treasurer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Craig S. Shular Craig S. Shular	President, GrafTech Seadrift Holding Corp., as General Partner	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech Finance Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

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Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President, Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech Global Enterprises Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President, Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech International Holdings Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech DE LLC

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President & Treasurer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Chairman of the Board (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President & Treasurer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Manager	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech Seadrift Holding Corp

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President & Treasurer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President & Treasurer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

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Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech International Trading Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President, Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech Technology LLC

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Manager

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn	Vice President, Treasurer & Manager (Principal Financial and Accounting Officer)	June 20, 2013
Quinn J. Coburn /s/ Erick R. Asmussen Erick R. Asmussen	Manager	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

GrafTech NY Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	President & Chairman of the Board (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn	Vice President, Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013
Quinn J. Coburn /s/ Erick R. Asmussen Erick R. Asmussen	Director	June 20, 2013

SIGNATURES

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Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

Graphite Electrode Network LLC

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President & Treasurer

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Craig S. Shular Craig S. Shular	Manager	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President & Treasurer (Principal Financial and Accounting Officer)	June 20, 2013
/s/ Erick R. Asmussen Erick R. Asmussen	Manager	June 20, 2013
/s/ Petrus J. Barnard Petrus J. Barnard	President (Principal Executive Officer)	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

Fiber Materials Inc.

By: /s/ Quinn J. Coburn

Name: Quinn J. Coburn

Title: Vice President, Treasurer & Director

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Erick R. Asmussen Erick R. Asmussen	President & Director (Principal Executive Officer)	June 20, 2013
/s/ Quinn J. Coburn Quinn J. Coburn	Vice President, Treasurer & Director (Principal Financial and Accounting Officer)	June 20, 2013

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Parma, State of Ohio, on June 20, 2013.

Intermat

By: /s/ Leonard W. Frey III

Name: Leonard W. Frey III

Title: President

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

Signatures	Title	Date
/s/ Leonard W. Frey III Leonard W. Frey III	Director and President (Principal Executive Officer)	June 20, 2013
/s/ David R. Loper David R. Loper	Treasurer and Clerk (Principal Financial and Accounting Officer)	June 20, 2013

EXHIBIT INDEX

Exhibit Number	List of Exhibits
2.1.0(1)	Recapitalization and Stock Purchase and Sale Agreement dated as of November 14, 1994 among Union Carbide Corporation, Mitsubishi Corporation, GrafTech International Ltd. and GrafTech International Acquisition Inc. and Guaranty made by Blackstone Capital Partners II Merchant Banking Fund L.P. and Blackstone Offshore Capital Partners II L.P.
2.2.0(1)	Stock Purchase and Sale Agreement dated as of November 9, 1990 among Mitsubishi Corporation, Union Carbide Corporation and UCAR Carbon Company Inc.
2.3.0(1)	Transfer Agreement dated January 1, 1989 between Union Carbide Corporation and UCAR Carbon Company Inc.
2.3.1(1)	Amendment No. 1 to Transfer Agreement dated December 31, 1989.
2.3.2(1)	Amendment No. 2 to Transfer Agreement dated July 2, 1990.
2.3.3(1)	Amendment No. 3 to Transfer Agreement dated as of February 25, 1991.
2.4.0(1)	Amended and Restated Realignment Indemnification Agreement dated as of June 4, 1992 among Union Carbide Corporation, Union Carbide Chemicals and Plastics Company Inc., Union Carbide Industrial Gases Inc., UCAR Carbon Company Inc. and Union Carbide Coatings Service Corporation.
2.5.0(1)	Environmental Management Services and Liabilities Allocation Agreement dated as of January 1, 1990 among Union Carbide Corporation, Union Carbide Chemicals and Plastics Company Inc., UCAR Carbon Company Inc., Union Carbide Industrial Gases Inc. and Union Carbide Coatings Service Corporation.
2.5.1(1)	Amendment No. 1 to Environmental Management Services and Liabilities Allocation Agreement dated as of June 4, 1992.
2.6.0(2)	Trade Name and Trademark License Agreement dated March 1, 1996 between Union Carbide Corporation and UCAR Carbon Technology Corporation.
2.7.0(1)	Employee Benefit Services and Liabilities Agreement dated January 1, 1990 between Union Carbide Corporation and UCAR Carbon Company Inc.
2.7.1(1)	Amendment to Employee Benefit Services and Liabilities Agreement dated January 15, 1991.
2.7.2(1)	Supplemental Agreement to Employee Benefit Services and Liabilities Agreement dated February 25, 1991.
2.8.0(1)	Letter Agreement dated December 31, 1990 among Union Carbide Chemicals and Plastics Company Inc., UCAR Carbon Company Inc., Union Carbide Grafite, Inc. and Union Carbide Corporation.
2.9.0(21)	Agreement and Plan of Merger, dated as of April 28, 2010, among GrafTech International Ltd., GrafTech Holdings Inc., GrafTech Delaware I Inc., GrafTech Delaware II Inc., Seadrift Coke L.P., and certain partners of Seadrift Coke L.P.
(2.10.021)	Agreement and Plan of Merger, dated as of April 28, 2010, by and among GrafTech International Ltd., GrafTech Holdings Inc., GrafTech Delaware III Inc., C/G Electrodes, LLC, and certain members of C/G Electrodes, LLC.
3.1.0(23)	Amended and Restated Certificate of Incorporation of GrafTech International Ltd. Dated November 30, 2010.
3.2.0(23)	Amended and Restated By-Laws of GrafTech International Ltd. dated November 30, 2010.
3.2.0(29)	Amendment, dated September 30, 2012, to Amended and Restated By-Laws of GrafTech International Ltd. dated November 30, 2010.
4.1(30)	Form of Exchange Note
5.1.0(32)	Opinion of Kelley Drye & Warren LLP
5.1.1(32)	Opinion of Jennifer C. Beedy, Corporate Counsel of Intermat

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- 10.1.0(26) Amended and Restated Credit Agreement dated as of October 7, 2011 among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., the LC Subsidiary from time to time party thereto, the Lenders from time to time party thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent and Issuing Bank.
- 10.1.1(26) Amendment and Restatement Agreement dated as of October 7, 2011 in respect of the Credit Agreement dated as of April 28, 2010 among GrafTech International Ltd., GrafTech Global Enterprises Inc., GrafTech Finance Inc., GrafTech Switzerland, S.A. the LC Subsidiaries from time to time party thereto, the Lenders from time to time party thereto, and JPMorgan Chase Bank, N.A., as Administrative Agent.

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- 10.1.2(28) Amended and Restated Credit Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., GrafTech Luxembourg I S.à.r.l. and GrafTech Luxembourg II S.à.r.l.; the LC Subsidiaries (as defined therein) from time to time party thereto; and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent, Issuing Bank and Swingline Lender (as defined therein).
- 10.1.3(26) Reaffirmation Agreement dated as of October 7, 2011 among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland, S.A., the Subsidiaries party thereto and JPMorgan Chase Bank, N.A., as the Administrative Agent.
- 10.1.4(28) Second Amended and Restated Guarantee Agreement dated as of April 20, 2012, made by GrafTech International Ltd., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.5(28) European Guarantee and Luxembourg Security Agreement dated as of April 20, 2012, made by GrafTech Luxembourg I S.à.r.l., GrafTech Luxembourg II S.à.r.l. and GrafTech Switzerland S.A., in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.6(28) Second Amended and Restated Security Agreement dated as of April 20, 2012, made by GrafTech International Ltd., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.7(28) Second Amended and Restated Indemnity, Subrogation and Contribution Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., each of the other Domestic Subsidiaries (as defined therein) from time to time party thereto, and JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.8(28) Second Amended and Restated Pledge Agreement dated as of March 26, 2012, among GrafTech International Ltd., GrafTech Finance Inc., the other subsidiaries of GrafTech International Ltd. from time to time party thereto, and JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.9(28) Amended and Restated Pledge Agreement dated as of March 26, 2012, by GrafTech Switzerland S.A. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.10(28) Pledge Agreement dated as of March 26, 2012, by GrafTech Luxembourg I S.à.r.l. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.11(28) Pledge Agreement dated as of March 30, 2012, by GrafTech Luxembourg II S.à.r.l. in favor of JPMorgan Chase Bank, N.A., as collateral agent for the Secured Parties (as defined therein).
- 10.1.12(21) Amended and Restated Intellectual Property Security Agreement dated as of April 28, 2010 made by GrafTech International Ltd., GrafTech Global Enterprises Inc., GrafTech Finance Inc., and the other subsidiaries of GrafTech International Ltd. from time to time party thereto, in favor of JPMorgan Chase Bank, N.A., as Collateral Agent for the Secured Parties.
- 10.1.13(21)

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Swiss Security Agreement dated April 28, 2010 between GrafTech Switzerland S.A., as Assignor, and JPMorgan Chase Bank, N.A., as Assignee.

10.1.14(26) Confirmation and Amendment Agreement dated 7 October 2011 relating to the Swiss Security Agreement dated April 28, 2010 between Graftech Switzerland SA as Assignor and JPMorgan Chase Bank, N.A. as Assignee.

10.1.15(28) Second Confirmation and Amendment Agreement dated as of April 20, 2012, relating to the Swiss Security Agreement dated April 28, 2010 between GrafTech Switzerland S.A., as Assignor and JPMorgan Chase Bank, N.A. as Assignee.

10.1.16(21) Form of LC Subsidiary Agreement among GrafTech Finance Inc. or GrafTech Switzerland S.A., as the Applicable Borrower, the applicable LC Subsidiary and JPMorgan Chase Bank, N.A., as Administrative Agent.

10.1.17(31) Second Amendment as of October 29, 2012 of the Amended and Restated Credit Agreement dated as of April 20, 2012, among GrafTech International Ltd., GrafTech Finance Inc., GrafTech Switzerland S.A., GrafTech Luxembourg I S.à.r.l. and GrafTech Luxembourg II S.à.r.l.; the LC Subsidiaries (as defined therein) from time to time party thereto; and JPMorgan Chase Bank, N.A., as Administrative Agent, Collateral Agent, Issuing Bank and Swingline Lender (as defined therein).

10.2.0(8) Form of Restricted Stock Unit Agreement.

10.3.0(14) Forms of Restricted Stock Agreement (2005 LTIP Version).

10.4.0(19) Form of Long Term Incentive Plan Award Agreement (2009 Version)

10.4.1(27) Form of Long Term Incentive Plan Award Agreement (2010 Version)

10.4.2(27) Form of Long Term Incentive Plan Award Agreement (2011 Version)

10.4.3(31) Form of Long Term Incentive Plan Award Agreement (2012 Version)

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- 10.5.0(9) GrafTech International Ltd. Management Stock Incentive Plan (Senior Version) as amended and restated through July 31, 2003.
- 10.6.0(10) GrafTech International Ltd. Incentive Compensation Plan, effective January 1, 2003.
- 10.6.1(16) Amendment No. 1 GrafTech International Ltd. Incentive Compensation Plan dated December 29, 2008.
- 10.7.0(11) Form of Restricted Stock Agreement (Standard Form).
- 10.8.0(16) GrafTech International Holdings Inc. Compensation Deferral Program as amended and restated (December 29, 2008).
- 10.9.0(27) Amended and Restated GrafTech International Ltd. 2005 Equity Incentive Plan.
- 10.10.0(8) Form of Severance Compensation Agreement for senior management (U.S. 2.99 Version).
- 10.10.1(16) Form of IRS 409A Amendment to Severance Compensation Agreement for senior management (December 2008 U.S. 2.99 Version).
- 10.10.2(25) Form of Severance Compensation Agreement for senior management (U.S. 2.99 Version – Revised)
- 10.11.0(8) Form of Severance Compensation Agreement for senior management (December 2008 International 2.99 Version).
- 10.11.1(16) Form of IRS 409A Amendment to Severance Compensation Agreement for senior management (December 2008 International 2.99 Version).
- 10.12.0(14) Form of Non-qualified Stock Option Agreement
- 10.13.0(24) Agreement effective as of January 1, 2011 between and among ConocoPhillips Company and GrafTech International Holdings Inc. and Graftech Switzerland S.A. (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC).
- 10.13.1(24) Agreement effective as of January 1, 2011 among ConocoPhillips Limited (successor to ConocoPhillips (I.K.) Limited) and Graftech Switzerland S.A. (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC).
- 10.14.1(14) Form of Terms and Conditions of Sale to standard contract of sale (2007 revision)
- 10.15.0(13) Technology License Agreement, dated as of December 5, 2006, among GrafTech International Ltd., UCAR Carbon Company Inc., Alcan France, and Carbone Savoie (confidential treatment requested under Rule 24b-2 as to certain portions which are omitted and filed separately with the SEC.)
- 10.16.0(24) Form of Indemnification Agreement with Directors and Executive Officers.
- 10.17.0(18) Executive Incentive Compensation Plan
- 10.18.0(23) Form of Senior Subordinated Promissory Note. issued pursuant to April 28, 2010 Agreements and Plans of Merger.
- 10.19.0(23) Form of Registration Rights and Stockholders' Agreement, dated as of November 30, 2010, by and among GrafTech International Ltd. and each of the stockholders party thereto entered into pursuant to April 28, 2010 Agreements and Plans of Merger.
- 10.20.0(30) Indenture, dated November 20, 2012, among GrafTech International Ltd., the Subsidiary Guarantors and U.S. Bank National Association, as Trustee.
- 10.21.0(30) Registration Rights Agreement, dated November 20, 2012, among GrafTech International Ltd., the Subsidiary Guarantors and J.P.Morgan Securities LLC, as Representative.
- 12.1.0(32) Computation of Ratio Earnings
- 21.1.0(32) List of subsidiaries of GrafTech International Ltd.
- 23.1.0(32) Consent of PricewaterhouseCoopers LLP.
- 23.2.0(32) Consent of Kelley Drye & Warren LLP (included in the opinion filed as Exhibit 5.1.0).
- 23.2.1(32)

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Consent of Jennifer C. Beedy, Corporate Counsel of Intermat (included in the opinion filed as Exhibit 5.1.1)

- 24.1.0(32) Powers of Attorney. (Included on Signatures pages)
- 25.1(32) Statement of Eligibility and Qualification (Form T-1) under the Trust Indenture Act of 1939 of U.S. Bank National Association.
- 99.1(32) Form of Letter of Transmittal.
- 99.2(32) Notice of Guaranteed Delivery.
- (1) Incorporated by reference to the Registration Statement of GrafTech International Ltd. and GrafTech Global Enterprises Inc. on Form S-1 (Registration No. 33-84850).
- (2) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 1996 (File No. 1-13888).

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- (3) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 1998 (File No. 1-13888).
- (4) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2003 (File No. 1-13888).
- (5) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2001 (File No. 1-3888).
- (6) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2004 (File No. 1-13888).
- (7) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended September 30, 2005 (File No. 1-13888).
- (8) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2005 (File No. 1-13888).
- (9) Incorporated by reference to the Registration Statement of the registrant on Form S-3 (Registration No. 333-108039).
- (10) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2006 (File No. 1-13888).
- (11) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on September 6, 2005 (File No. 1-13888).
- (12) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2001 (File No. 1-13888).
- (13) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2006 (File No. 1-13888).
- (14) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2007 (File No. 1-13888).
- (15) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended June 30, 2008 (File No. 1-13888).
- (16) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2008 (File No. 1-13888).
- (17) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2009 (File No. 1-13888).
- (18) Incorporated by reference to the Definitive Proxy Statement for the 2009 Annual Meeting of Stockholders of the registrant (File No. 1-13888).
- (19) Incorporated by reference to the Annual Report of GrafTech International Ltd. on Form 10-K for the year ended December 31, 2009 (File No. 1-13888).
- (20) Incorporated by reference to Amendment No. 1 to the Annual Report of GrafTech International Ltd. on Amendment No. 1 to Form 10-K for the year ended December 31, 2009 (File No. 1-13888).
- (21) Incorporated by reference to the Registration Statement of GrafTech Holdings Inc. on Form S-4 (Registration No. 167446) filed June 10, 2010.
- (22) Incorporated by reference to Amendment No. 1 to the Registration Statement of GrafTech Holdings Inc. on Form S-4 (Registration No. 167446) filed August 19, 2010.
- (23) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on November 30, 2010 (File No. 1-13888).
- (24) Incorporated by reference to the Annual Report of GrafTech International Ltd. on Form 10-K for the year ended December 31, 2010 (File No. 1-13888).
- (25) Incorporated by reference to the Quarterly Report on Form 10-Q for the quarter ended June 30, 2011 (File No. 1-13888).
- (26) Incorporated by reference to the Quarterly Report on Form 10-Q for the quarter ended September 30, 2011 (File No. 1-13888).
- (27)

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Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2011 (File No. 1-13888).

- (28) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended March 31, 2012 (File No. 1-13888).
- (29) Incorporated by reference to the Quarterly Report of the registrant on Form 10-Q for the quarter ended September 30, 2012 (File No. 1-13888).
- (30) Incorporated by reference to the Current Report of the registrant on Form 8-K filed on November 20, 2012 (File No. 1-13888).

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- (31) Incorporated by reference to the Annual Report of the registrant on Form 10-K for the year ended December 31, 2012 (File No. 1-13888).
- (32) Filed herewith.

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