MATERION Corp
Form 10-K
March 09, 2011

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UNITED STATES SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549
Form 10-K

(Mark One)

þ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Fiscal Year Ended December 31, 2010

OR

o **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**
For the Transition Period from to

Commission File Number 1-15885
MATERION CORPORATION
(Exact name of Registrant as specified in its charter)

Ohio	**34-1919973**
(State or other jurisdiction of incorporation or organization)	*(I.R.S. Employer Identification No.)*
6070 Parkland Blvd., Mayfield Heights, Ohio	**44124**
(Address of principal executive offices)	*(Zip Code)*

Registrant s telephone number, including area code
216-486-4200

Securities registered pursuant to Section 12(b) of the Act:

Title of Each Class	**Name of Each Exchange on Which Registered**
Common Stock, no par value	New York Stock Exchange

Securities registered pursuant to Section 12(g) of the Act:
None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes þ No o

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes o No þ

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was

required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes þ No o

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes o No o

Indicate by check mark if disclosure of delinquent filers pursuant to Item 405 of Regulation S-K (§ 229.405 of this chapter) is not contained herein, and will not be contained, to the best of registrant s knowledge, in definitive proxy or information statements incorporated by reference in Part III of this Form 10-K or any amendment to this Form 10-K. o

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, or a smaller reporting company. See the definitions of large accelerated filer, accelerated filer and smaller reporting company in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer o	Accelerated filer þ	Non-accelerated filer o (Do not check if a smaller reporting company)	Smaller reporting company o

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Act). Yes o No þ

The aggregate market value of Common Stock, no par value, held by non-affiliates of the registrant (based upon the closing sale price on the New York Stock Exchange) on July 2, 2010 was $387,244,077.

As of February 21, 2011, there were 20,357,787 common shares, no par value, outstanding.

DOCUMENTS INCORPORATED BY REFERENCE

Portions of the proxy statement for the annual meeting of shareholders to be held on or about May 4, 2011 are incorporated by reference into Part III.

MATERION CORPORATION

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Forward-looking Statements

Portions of the narrative set forth in this document that are not statements of historical or current facts are forward-looking statements. Our actual future performance may materially differ from that contemplated by the forward-looking statements as a result of a variety of factors. These factors include, in addition to those mentioned elsewhere herein:

The global economy;

The condition of the markets which we serve, whether defined geographically or by segment, with the major market segments being: consumer electronics, defense and science, industrial components and commercial aerospace, energy, automotive electronics, telecommunications infrastructure, medical and appliance;

Changes in product mix and the financial condition of customers;

Actual sales, operating rates and margins for 2011;

Our success in developing and introducing new products and new product ramp-up rates;

Our success in passing through the costs of raw materials to customers or otherwise mitigating fluctuating prices for those materials, including the impact of fluctuating prices on inventory values;

Our success in integrating newly acquired businesses, including the acquisitions of Materion Precision Optics and Thin Film Coatings Inc. (formerly known as Barr Associates, Inc.) and Materion Advanced Materials Technologies and Services Corp. (formerly known as Academy Corporation);

The impact of the results of Materion Precision Optics and Thin Film Coatings Inc. and Materion Advanced Materials Technologies and Services Corp. on our ability to achieve fully the strategic and financial objectives related to these acquisitions;

Our success in implementing our strategic plans and the timely and successful completion and start-up of any capital projects, including the new primary beryllium facility in Elmore, Ohio;

The availability of adequate lines of credit and the associated interest rates;

Other financial factors, including the cost and availability of raw materials (both base and precious metals), metal financing fees, tax rates, exchange rates, pension costs and required cash contributions and other employee benefit costs, energy costs, regulatory compliance costs, the cost and availability of insurance, and the impact of our stock price on the cost of incentive compensation plans;

The uncertainties related to the impact of war and terrorist activities;

Changes in government regulatory requirements and the enactment of new legislation that impacts our obligations and operations;

The conclusion of pending litigation matters in accordance with our expectation that there will be no material adverse effects;

The amount and timing of repurchases of our Common Stock, if any;

The timing and ability to achieve further efficiencies and synergies resulting from our name change, from Brush Engineered Materials Inc. to Materion Corporation, and product line alignment under the Materion name and Materion brand; and

The risk factors set forth elsewhere in Part I, Item 1A of this Form 10-K.

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Item 1. BUSINESS

Materion Corporation (formerly known as Brush Engineered Materials Inc.), through its wholly owned subsidiaries, is an integrated producer of high performance advanced engineered materials used in a variety of electrical, electronic, thermal and structural applications. Our products are sold into numerous markets, including consumer electronics, defense and science, industrial components and commercial aerospace, energy, automotive electronics, telecommunications infrastructure, medical and appliance. As of December 31, 2010, we had 2,484 employees.

In the first quarter 2011, we announced the change of our name from Brush Engineered Materials Inc. to Materion Corporation. The names of all of our active subsidiaries are changing as well and each subsidiary will have Materion as part of their name. The legal and ownership structure of our subsidiaries will remain unchanged.

This name change did not alter our senior management structure or how the chief decision maker evaluates the performance of our businesses. We continue to have the same four reportable segments as we had previously with no change in their make up, although the names of those segments have changed. Advanced Material Technologies and Services has been renamed as Advanced Material Technologies; Specialty Engineered Alloys is now known as Performance Alloys; Beryllium and Beryllium Composites has been shortened to Beryllium and Composites; and Engineered Material Systems has been changed to Technical Materials.

All Other includes our parent company expenses, other corporate charges and the operating results of Materion Services Inc., a wholly owned subsidiary that provides administrative and financial oversight services to our other businesses on a cost-plus basis. Corporate employees not included in a reportable segment totaled 92 as of December 31, 2010.

We use our web site, www.materion.com, as a channel for routine distribution of important information, including news releases, analyst presentations, and financial information. We post filings as soon as reasonably practicable after they are electronically filed with, or furnished to, the SEC, including our annual, quarterly, and current reports on Forms 10-K, 10-Q, and 8-K; our proxy statements; and any amendments to those reports or statements. All such postings and filings are available on our web site free of charge. In addition, this web site allows investors and other interested persons to sign up to automatically receive e-mail alerts when we post news releases and financial information on our web site. The SEC also maintains a web site, www.sec.gov, that contains reports, proxy and information statements, and other information regarding issuers who file electronically with the SEC. The content on any web site referred to in this Annual Report on Form 10-K is not incorporated by reference into this annual report unless expressly noted.

ADVANCED MATERIAL TECHNOLOGIES

Sales for this segment were $879.0 million, or 67% of total sales, in 2010; $460.8 million, or 64% of total sales, in 2009; and $480.3 million, or 53% of total sales, in 2008. As of December 31, 2010, Advanced Material Technologies had 1,089 employees.

Advanced Material Technologies manufactures precious, non-precious and specialty metal products, including vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials, ultra-fine wire, advanced chemicals, optics, performance coatings and microelectronic packages. These products are used in wireless, semiconductor, photonic, hybrid and other microelectronic applications within the consumer electronics and telecommunications infrastructure markets. Other key markets for these products include medical, defense and science, energy and industrial components. Advanced Material Technologies also has metal cleaning operations and in-house refineries that allow for the reclaim of precious metals from internally generated or customers scrap.

Advanced Material Technologies products are sold directly from its facilities throughout the U.S., Asia and Europe, as well as through direct sales offices and independent sales representatives throughout the world. Principal competition includes companies such as Sumitomo Metals, Heraeus Inc., Praxair, Inc., Honeywell International Inc., Solar Applied Materials Technology Corp. and a number of smaller regional and national suppliers.

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Advanced Material Technologies Sales and Backlog

The backlog of unshipped orders for Advanced Material Technologies as of December 31, 2010, 2009 and 2008 was $55.4 million, $51.3 million and $34.6 million, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. We expect that substantially all of our backlog of orders for this segment at December 31, 2010 will be filled during 2011.

Sales are made to over 7,100 customers. Government sales accounted for less than 1% of the sales volume in 2010, 2009 and 2008. Sales outside the United States, principally to Europe and Asia, accounted for approximately 19% of sales in 2010, 29% of sales in 2009 and 28% of sales in 2008. Other segment reporting and geographic information is contained in Note M of Notes to Consolidated Financial Statements, which can be found in Part II, Item 8 of this Form 10-K and which is incorporated herein by reference.

Advanced Material Technologies Research and Development

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development for Advanced Material Technologies amounted to $4.0 million in 2010, $3.2 million in 2009 and $2.9 million in 2008. A staff of 22 scientists, engineers and technicians was employed in this effort as of year-end 2010.

PERFORMANCE ALLOYS

Sales for this segment were $293.8 million, or 23% of total sales, in 2010; $172.5 million, or 24% of total sales, in 2009; and $299.9 million, or 33% of total sales, in 2008. As of December 31, 2010, Performance Alloys had 893 employees.

Performance Alloys manufactures and sells three main product families: strip products, bulk products and beryllium hydroxide. Strip products, the larger of the product families, include thin gauge precision strip and thin diameter rod and wire. These copper and nickel alloys provide a combination of high conductivity, high reliability and formability for use as connectors, contacts, switches, relays and shielding. Major markets for strip products include consumer electronics, telecommunications infrastructure, automotive electronics, appliance and medical. Performance Alloys primary direct competitor in strip form beryllium alloys is NGK Insulators, Ltd. of Nagoya, Japan, with subsidiaries in the United States and Europe. Performance Alloys also competes with alloy systems manufactured by Global Brass and Copper, Inc., Wieland Electric, Inc., Stolberger Metallwerke GmbH, Nippon Mining, PMX Industries, Inc. and also with other generally less expensive materials, including phosphor bronze, stainless steel and other specialty copper and nickel alloys which are produced by a variety of companies around the world.

Bulk products are copper and nickel-based alloys manufactured in plate, rod, bar, tube and other customized forms that, depending upon the application, may provide superior strength, corrosion or wear resistance, thermal conductivity or lubricity. While the majority of bulk products contain beryllium, a growing portion of bulk products sales is from non-beryllium-containing alloys as a result of product diversification efforts. Applications for bulk products include oil and gas drilling components, bearings, bushings, welding rods, plastic mold tooling, and undersea telecommunications housing equipment. In the area of bulk products, in addition to NGK Insulators, Ltd., Performance Alloys competes with several smaller regional producers such as International Beryllium Corp., Ningxia Orient Tantalum in China and LeBronze Industriel in Europe.

Beryllium hydroxide is produced at our milling operations in Utah from our bertrandite mine and purchased beryl ore. The hydroxide is used primarily as a raw material input for strip and bulk products and, to a lesser extent, by the Beryllium and Composites segment. External sales of hydroxide from the Utah operations were less than 4% of

Performance Alloys total sales in each of the three most recent years. We also sell beryllium hydroxide externally to NGK Insulators, Ltd.

Strip and bulk products are manufactured at facilities in Ohio and Pennsylvania and are distributed internationally through a network of company-owned service centers and outside distributors and agents.

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Performance Alloys Sales and Backlog

The backlog of unshipped orders for Performance Alloys as of December 31, 2010, 2009 and 2008 was $98.9 million, $68.6 million and $55.5 million, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. We expect that substantially all the backlog of orders for this segment as of December 31, 2010 will be filled during 2011.

Sales are made to over 1,700 customers. Performance Alloys had government sales accounting for less than 1% of segment sales in 2010 and 2009 and none in 2008. Sales outside the United States, principally to Europe and Asia, accounted for approximately 58% of sales in 2010 and 57% of sales in 2009 and 2008. Other segment reporting and geographic information is contained in Note M of Notes to Consolidated Financial Statements, which can be found in Part II, Item 8 of this Form 10-K and which is incorporated herein by reference.

Performance Alloys Research and Development

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to $1.8 million in 2010, $2.2 million in 2009 and $2.3 million in 2008. A staff of seven scientists, engineers and technicians was employed in this effort as of year-end 2010.

BERYLLIUM AND COMPOSITES

Sales for this segment were $61.9 million, or 5% of total sales, in 2010; $47.0 million, or 7% of total sales, in 2009; and $63.6 million, or 7% of total sales, in 2008. As of December 31, 2010, Beryllium and Composites had 226 employees.

Beryllium and Composites manufactures beryllium-based metals and metal matrix composites in rod, sheet, foil and a variety of customized forms at our Elmore, Ohio and Fremont, California facilities. These materials are used in applications that require high stiffness and/or low density and they tend to be premium-priced due to their unique combination of properties. This segment also manufactures beryllia ceramics produced at our Tucson, Arizona facility. Defense and science is the largest market for Beryllium and Composites, while other markets served include industrial components and commercial aerospace, medical, energy and telecommunications infrastructure. Products are also sold for acoustics and optical scanning applications. A majority of defense sales are made to contractors and subcontractors instead of directly to government entities. In June 2008, we announced that Materion Brush Inc. (formerly known as Brush Wellman Inc.), a wholly owned subsidiary, had entered into an agreement with the Department of Defense to construct a $93.6 million primary beryllium facility. This facility will produce primary beryllium, the feedstock material used to produce beryllium metal products. Construction of this facility was completed in 2011, and the start-up is underway. Beryllium-containing products are sold throughout the world through a direct sales organization and through company-owned and independent distribution centers. While Beryllium and Composites is the only domestic producer of metallic beryllium, it competes primarily with designs utilizing other materials including metals, metal matrix and organic composites. Electronic components utilizing beryllia are used in the telecommunications infrastructure, medical, industrial components and commercial aerospace, and defense and science markets. These products are distributed through direct sales and independent sales agents. Direct competitors include American Beryllia Inc. and CBL Ceramics Limited.

Beryllium and Composites Sales and Backlog

The backlog of unshipped orders for Beryllium and Composites as of December 31, 2010, 2009 and 2008 was $26.1 million, $38.1 million and $28.7 million, respectively. Backlog is generally represented by purchase orders that

may be terminated under certain conditions. We expect that substantially all of our backlog of orders for this segment at December 31, 2010 will be filled during 2011.

Sales are made to over 300 customers. Government sales accounted for less than 2% of Beryllium and Composites sales in 2010 and 2009, and less than 1% of segment sales in 2008. Sales outside the United States, principally to Europe and Asia, accounted for approximately 22% of sales in each of 2010 and 2009, and 23% of sales in 2008. Other segment reporting and geographic information is contained in Note M of Notes to Consolidated Financial Statements, which can be found in Part II, Item 8 of this Form 10-K and which is incorporated herein by reference.

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Beryllium and Composites Research and Development

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development amounted to $1.3 million in 2010, $1.4 million in 2009 and $1.3 million in 2008. A staff of seven scientists, engineers and technicians was employed in this effort as of year-end 2010. Some research and development projects, expenditures for which are not material, were externally sponsored and funded.

TECHNICAL MATERIALS

Sales for this segment were $67.5 million, or 5% of total sales, in 2010; $34.7 million, or 5% of total sales, in 2009; and $65.9 million, or 7% of total sales, in 2008. As of December 31, 2010, Technical Materials had 184 employees.

Technical Materials manufactures clad inlay and overlay metals, precious and base metal electroplated systems, electron beam welded systems, contour profiled systems and solder-coated metal systems. These specialty strip metal products provide a variety of thermal, electrical or mechanical properties from a surface area or particular section of the material. Our cladding and plating capabilities allow for a precious metal or brazing alloy to be applied to a base metal only where it is needed, reducing the material cost to the customer as well as providing design flexibility. Major applications for these products include connectors, contacts and semiconductors while the largest markets are automotive electronics and consumer electronics. The defense and science, energy and medical markets are smaller, but offer further growth opportunities. Technical Materials products are manufactured at our Lincoln, Rhode Island facility and sold directly and through its sales representatives. Technical Materials major competitors include Umicore S.A., Heraeus Inc. and Doduco, Inc.

Technical Materials Sales and Backlog

The backlog of unshipped orders for Technical Materials as of December 31, 2010, 2009 and 2008 was $16.3 million, $7.6 million and $7.6 million, respectively. Backlog is generally represented by purchase orders that may be terminated under certain conditions. We expect that substantially all of our backlog of orders for this segment at December 31, 2010 will be filled during 2011.

Sales are made to over 200 customers. Technical Materials did not have any sales to the government for 2010, 2009 or 2008. Sales outside the United States, principally to Europe and Asia, accounted for approximately 26% of Technical Materials sales in 2010, 21% of sales in 2009 and 17% of sales in 2008. Other segment reporting and geographic information is contained in Note M of Notes to Consolidated Financial Statements, which can be found in Part II, Item 8 of this Form 10-K and which is incorporated herein by reference.

Technical Materials Research and Development

Active research and development programs seek new product compositions and designs as well as process innovations. Expenditures for research and development for Technical Materials were nominal in 2010, 2009 and 2008.

GENERAL

Availability of Raw Materials

The principal raw materials we use are aluminum, beryllium, cobalt, copper, gold, nickel, palladium, platinum, ruthenium, silver and tin. Ore reserve data can be found in Part II, Item 7 of this Form 10-K. The availability of these

raw materials, as well as other materials used by us, is adequate and generally not dependent on any one supplier.

Patents and Licenses

We own patents, patent applications and licenses relating to certain of our products and processes. While our rights under the patents and licenses are of some importance to our operations, our business is not materially dependent on any one patent or license or on all of our patents and licenses as a group.

Regulatory Matters

We are subject to a variety of laws which regulate the manufacture, processing, use, handling, storage, transport, treatment, emission, release and disposal of substances and wastes used or generated in manufacturing. For decades we have operated our facilities under applicable standards of inplant and outplant emissions and releases. The inhalation of airborne beryllium particulate may present a health hazard to certain individuals.

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Standards for exposure to beryllium are under review by the U.S. Occupational Safety and Health Administration (OSHA) and by other governmental and private standard-setting organizations. One result of these reviews will likely be more stringent worker safety standards. Some organizations, such as the California Occupational Health and Safety Administration and the American Conference of Governmental Industrial Hygienists, have adopted standards that are more stringent than the current standards of OSHA. The development, proposal or adoption of more stringent standards may affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent and/or our customers or other downstream users decide to reduce their use of beryllium-containing products, our results of operations, liquidity and financial condition could be materially adversely affected. The impact of this potential adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors. The magnitude of this potential adverse effect cannot be estimated.

Executive Officers of the Registrant

Name	Age	Positions and Offices
Richard J. Hipple	58	*Chairman of the Board, President and Chief Executive Officer*. In May 2006, Mr. Hipple was named Chairman of the Board and Chief Executive Officer of Materion Corporation. He had served as President since May 2005. He was Chief Operating Officer from May 2005 until May 2006. Mr. Hipple served as President of Performance Alloys from May 2002 until May 2005. He joined the Company in July 2001 as Vice President of Strip Products and served in that position until May 2002. Prior to joining Materion, Mr. Hipple was President of LTV Steel Company, a business unit of the LTV Corporation (integrated steel producer and metal fabricator). Prior to running LTV s steel business, Mr. Hipple held numerous leadership positions in engineering, operations, strategic planning, sales and marketing and procurement since 1975 at LTV. Mr. Hipple has served on the Board of Directors of Ferro Corporation since 2007 and as its Lead Director since April 2010.
John D. Grampa	63	*Senior Vice President Finance and Chief Financial Officer*. Mr. Grampa was named Senior Vice President Finance and Chief Financial Officer in December 2006. Prior to that, he had served as Vice President Finance and Chief Financial Officer since November 1999 and as Vice President Finance since October 1998. Prior to that, he had served as Vice President, Finance for the Worldwide Materials Business of Avery Dennison Corporation since March 1994 and held other various positions at Avery Dennison Corporation (producer of pressure sensitive materials, office products, labels and other converted products) from 1984.
Daniel A. Skoch	61	*Senior Vice President Administration*. Mr. Skoch was named Senior Vice President Administration in July 2000. Prior to that time, he had served as Vice President Administration and Human Resources since March 1996. He had served as Vice President Human Resources since July 1991 and prior to that time, he was Corporate Director Personnel.

Item 1A. RISK FACTORS

Our business, financial condition, results of operations and cash flows can be affected by a number of factors, including, but not limited to, those set forth below and elsewhere in this Annual Report on Form 10-K, any one of which could cause our actual results to vary materially from recent results or from our anticipated future results. Therefore, an investment in us involves some risks, including the risks described below. The risks discussed below are not the only risks that we may experience. If any of the following risks occur, our business, results of operations or financial condition could be negatively impacted.

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The businesses of many of our customers are subject to significant fluctuations as a result of the cyclical nature of their industries and their sensitivity to general economic conditions, which could adversely affect the demand for our products and reduce our sales and profitability.

A substantial number of our customers are in the consumer electronics, telecommunications infrastructure, defense and science, industrial components and commercial aerospace, automotive electronics and appliance industries. Each of these industries is cyclical in nature, influenced by a combination of factors that could have a negative impact on our business, including, among other things, periods of economic growth or recession, strength or weakness of the U.S. dollar, the strength of the consumer electronics, automotive electronics and computer industries and the rate of construction of telecommunications infrastructure equipment and government spending on defense.

Also, in times when growth rates in our markets slow down, there may be temporary inventory adjustments by our customers that may negatively affect our business.

The recent global economic crisis had, and any additional negative or uncertain worldwide economic conditions may have, a negative impact on our financial performance.

The recent global economic crisis adversely affected the global economy. Some customers experienced difficulty in obtaining adequate financing due to the disruption in the credit markets, which has impacted our sales. Our exposure to bad debt losses may also increase if customers are unable to pay for products previously ordered. The severe recession has also caused higher unemployment rates globally which could have an adverse effect on demand for consumer electronics, which comprised 41% of our sales in 2010. Any additional negative or uncertain financial and macroeconomic conditions may have a significant adverse effect on our sales, profitability and results of operations.

We may not be able to execute our acquisition strategy or successfully integrate acquired businesses.

We have been active over the last several years in pursuing niche acquisitions. For example, during 2010 we completed the acquisition of Materion Advanced Materials Technologies and Services Corp. (formerly known as Academy Corporation). We intend to continue to consider further growth opportunities through the acquisition of assets or companies and routinely review acquisition opportunities. We cannot predict whether we will be successful in pursuing any acquisition opportunities or what the consequences of any acquisition would be. Future acquisitions may involve the expenditure of significant funds and management time. Depending upon the nature, size and timing of future acquisitions, we may be required to raise additional financing, which may not be available to us on acceptable terms. Further, we may not be able to successfully integrate any acquired business with our existing businesses or recognize any expected advantages from any completed acquisition.

In addition, there may be liabilities that we fail, or are unable, to discover in the course of performing due diligence investigations on the assets or companies we have already acquired or may acquire in the future. We cannot assure that rights to indemnification by the sellers of these assets or companies to us, even if obtained, will be enforceable, collectible or sufficient in amount, scope or duration to fully offset the possible liabilities associated with the business or property acquired. Any such liabilities, individually or in the aggregate, could have a materially adverse effect on our business, financial condition and results of operations.

The markets for our products are experiencing rapid changes in technology.

We operate in markets characterized by rapidly changing technology and evolving customer specifications and industry standards. New products may quickly render an existing product obsolete and unmarketable. For example, copper beryllium has long been used for high reliability contacts in mobile handheld devices. Mobile device designers may justify using lower-performance materials in some of the less-critical components of mobile phones. Our growth

and future results of operations depend in part upon our ability to enhance existing products and introduce newly developed products on a timely basis that conform to prevailing and evolving industry standards, meet or exceed technological advances in the marketplace, meet changing customer specifications, achieve market acceptance and respond to our competitors products.

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The process of developing new products can be technologically challenging and requires the accurate anticipation of technological and market trends. We may not be able to introduce new products successfully or do so on a timely basis. If we fail to develop new products that are appealing to our customers or fail to develop products on time and within budgeted amounts, we may be unable to recover our research and development costs, which could adversely affect our margins and profitability.

A portion of our revenue is derived from the sale of defense-related products through various contracts and subcontracts. These contracts may be suspended or canceled, which could have an adverse impact on our revenue.

In 2010, 12% of our revenue was derived from sales to customers in the defense and science market. A portion of these customers operate under contracts with the U.S. government, which are vulnerable to termination at any time, for convenience or default. Some of the reasons for cancellation include, but are not limited to, budgetary constraints or re-appropriation of government funds, timing of contract awards, violations of legal or regulatory requirements, and changes in political agenda. If these cancellations were to occur, it would result in a reduction on our revenue. For example, various projects, including the F-22 fighter aircraft, have been canceled, which had, and will have, a negative impact on our revenue.

Our products are deployed in complex applications and may have errors or defects that we find only after deployment.

Our products are highly complex, designed to be deployed in complicated applications and may contain undetected defects, errors or failures. Although our products are generally tested during manufacturing, prior to deployment, they can only be fully tested when deployed in specific applications. For example, we sell beryllium-copper alloy strip products in a coil form to some customers, who then stamp the alloy for its specific purpose. On occasion, it is not until such customer stamps the alloy that a defect in the alloy is detected. Consequently, our customers may discover errors after the products have been deployed. The occurrence of any defects, errors, or failures could result in installation delays, product returns, termination of contracts with our customers, diversion of our resources, increased service and warranty costs and other losses to our customers, end users or to us. Any of these occurrences could also result in the loss of or delay in market acceptance of our products and could damage our reputation, which could reduce our sales.

The terms of our indebtedness may restrict our operations, including our ability to pursue our growth and acquisition strategies.

The terms of our credit facilities contain a number of restrictive covenants, including restrictions in our ability to, among other things, borrow and make investments, acquire other businesses and consign additional precious metals. These covenants could adversely affect us by limiting our ability to plan for or react to market conditions or to meet our capital needs, as well as adversely affect our ability to pursue our growth, acquisition strategies and other strategic initiatives.

Our failure to comply with the covenants contained in the terms of our indebtedness could result in an event of default, which could materially and adversely affect our operating results and our financial condition.

The terms of our credit facilities require us to comply with various covenants, including financial covenants. If the recent global economic downturn returns, it could have a material adverse impact on our earnings and cash flow, which could adversely affect our ability to comply with our financial covenants and could limit our borrowing capacity. Our ability to comply with these covenants depends, in part, on factors over which we may have no control. A breach of any of these covenants could result in an event of default under one or more of the agreements governing our indebtedness that, if not cured or waived, could give the holders of the defaulted indebtedness the right to

terminate commitments to lend and cause all amounts outstanding with respect to the indebtedness to be due and payable immediately. Acceleration of any of our indebtedness could result in cross defaults under our other debt instruments. Our assets and cash flow may be insufficient to fully repay borrowings under all of our outstanding debt instruments if some or all of these instruments are accelerated upon an event of default, in which case we may be required to seek legal protection from our creditors.

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We conduct our sales and distribution operations on a worldwide basis and are subject to the risks associated with doing business outside the United States.

We sell to customers outside of the United States from our United States and international operations. We have been and are continuing to expand our geographic reach in Europe and Asia. Shipments to customers outside of the United States accounted for approximately 28% of our sales in 2010, 35% in 2009 and 37% in 2008. We anticipate that international shipments will account for a significant portion of our sales for the foreseeable future. Revenue from international operations (principally Europe and Asia) amounted to approximately 17% of our sales in 2010 and 24% in each of 2009 and 2008. There are a number of risks associated with international business activities, including:

- burdens to comply with multiple and potentially conflicting foreign laws and regulations, including export requirements, tariffs and other barriers, environmental health and safety requirements and unexpected changes in any of these factors;
- difficulty in obtaining export licenses from the United States government;
- political and economic instability and disruptions, including terrorist attacks;
- disadvantages of competing against companies from countries that are not subject to U.S. laws and regulations, including the Foreign Corrupt Practices Act (FCPA);
- potentially adverse tax consequences due to overlapping or differing tax structures; and
- fluctuations in currency exchange rates.

Any of these risks could have an adverse effect on our international operations by reducing the demand for our products or reducing the prices at which we can sell our products, which could result in an adverse effect on our business, financial position, results of operations or cash flows.

In addition, we could be adversely affected by violations of the FCPA and similar worldwide anti-bribery laws. The FCPA and similar anti-bribery laws in other jurisdictions generally prohibit companies and their intermediaries from making improper payments to non-U.S. officials for the purpose of obtaining or retaining business. Our policies mandate compliance with these anti-bribery laws. We operate in many parts of the world that have experienced governmental corruption to some degree and, in certain circumstances, strict compliance with anti-bribery laws may conflict with local customs and practices. We cannot assure you that our internal controls and procedures always will protect us from the reckless or criminal acts committed by our employees or agents. If we are found to be liable for FCPA violations, we could suffer from criminal or civil penalties or other sanctions, which could have a material adverse effect on our business.

A major portion of our bank debt consists of variable-rate obligations, which subjects us to interest rate fluctuations.

Our credit facilities are secured by substantially all of our assets (other than non-mining real property and certain other assets). Our working capital line of credit includes variable-rate obligations, which expose us to interest rate risks. If interest rates increase, our debt service obligations on our variable-rate indebtedness would increase even if the amount borrowed remained the same, resulting in a decrease in our net income. We have developed a hedging program to manage the risks associated with interest rate fluctuations, but our program may not effectively eliminate all of the financial exposure associated with interest rate fluctuations. Additional information regarding our market risks is contained in Part II, Item 7A of this Form 10-K.

The availability and prices of some raw materials we use in our manufacturing operations fluctuate, and increases in raw material costs can adversely affect our operating results and our financial condition.

We manufacture advanced engineered materials using various precious and non-precious metals, including aluminum, beryllium, cobalt, copper, gold, nickel, palladium, platinum, ruthenium, silver and tin. The availability of and prices for these raw materials are subject to volatility and are influenced by worldwide economic conditions, speculative action, world supply and demand balances, inventory levels, availability of substitute metals, the

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U.S. dollar exchange rate, production costs of United States and foreign competitors, anticipated or perceived shortages and other factors. Precious metal prices, including prices for gold and silver, have increased significantly in recent years. These higher prices can cause adjustments to our inventory carrying values, whether a result of quantity discrepancies, normal manufacturing losses, differences in scrap rates, theft or other factors, to have a greater impact on our profitability and cash flows. Also, the price of our products has increased in tandem with the rising metal prices, as a result of pass-through, which could deter customers from purchasing our products and adversely affect our sales.

Further, we maintain some precious metals on a consigned inventory basis. The owners of the precious metals charge a fee that fluctuates based on the market price of those metals and other factors. A significant increase in the market price of precious metals or the consignment fee could increase our financing costs, which could increase our operating costs.

We are dependent on the successful scheduled completion of a new primary beryllium facility for our future supply of pure beryllium.

We have partnered with the Department of Defense to share in the cost of a new beryllium plant for primary beryllium feedstock. We may experience quality and/or production issues in start-up of this new facility. Any prolonged delays of pure beryllium production from the new plant could negatively impact our business.

Because we experience seasonal fluctuations in our sales, our quarterly results will fluctuate, and our annual performance will be affected by the fluctuations.

We expect seasonal patterns to continue, which causes our quarterly results to fluctuate. For example, the Christmas season generates increased demand from our customers that manufacture consumer products. If our revenue during any quarter were to fall below the expectations of investors or securities analysts, our share price could decline, perhaps significantly. Unfavorable economic conditions, lower than normal levels of demand and other occurrences in any of the other quarters could also harm our results of operations.

Natural disasters, equipment failures, work stoppages, bankruptcies and other unexpected events may lead our customers to curtail production or shut down their operations.

Our customers manufacturing operations are subject to conditions beyond their control, including raw material shortages, natural disasters, interruptions in electrical power or other energy services, equipment failures, bankruptcies, work stoppages due to strikes or lockouts, including those affecting the automotive industry, one of our major markets, and other unexpected events. For example, Delphi Corporation, a customer of three of our business units and the largest United States supplier of automotive parts, filed for bankruptcy protection in 2005. Delphi Corporation emerged from bankruptcy reorganization in 2009. Similar events could also affect other suppliers to our customers. Such events could cause our customers to curtail production or to shut down a portion or all of their operations, which could reduce their demand for our products and reduce our sales.

Unexpected events and natural disasters at our mine could increase the cost of operating our business.

A portion of our production costs at our mine are fixed regardless of current operating levels. Our operating levels are subject to conditions beyond our control that may increase the cost of mining for varying lengths of time. These conditions include, among other things, fire, natural disasters, pit wall failures and ore processing changes. Our mining operations also involve the handling and production of potentially explosive materials. It is possible that an explosion could result in death and injuries to employees and others and material property damage to third parties and us. Any explosion could expose us to adverse publicity or liability for damages and materially adversely affect our

operations. Any of these events could increase our cost of operations.

Equipment failures and other unexpected events at our facilities may lead to manufacturing curtailments or shutdowns.

The manufacturing processes that take place in our mining operation, as well as in our manufacturing facilities, depend on critical pieces of equipment. This equipment may, on occasion, be out of service because of

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unanticipated failure, and some equipment is not readily available or replaceable. In addition to equipment failures, our facilities are also subject to the risk of loss due to unanticipated events such as fires, explosions or other disasters. Material plant shutdowns or reductions in operations could harm our ability to fulfill our customers demands, which could harm our sales and cause our customers to find other suppliers. Further, remediation of any interruption in production capability may require us to make large capital expenditures, which may have a negative effect on our profitability and cash flows. Our business interruption insurance may not cover all of the lost revenues associated with interruptions in our manufacturing capabilities.

Many of our manufacturing facilities are dependent on single source energy suppliers, and interruption in energy services may cause manufacturing curtailments or shutdowns.

Many of our manufacturing facilities depend on one source for electric power and for natural gas. For example, Utah Power is the sole supplier of electric power to the processing facility for our mining operations in Utah. A significant interruption in service from our energy suppliers due to equipment failures, terrorism or any other cause may result in substantial losses that are not fully covered by our business interruption insurance. Any substantial unmitigated interruption of our operations due to these conditions could harm our ability to meet our customers demands and reduce our sales.

If the price of electrical power, fuel or other energy sources increases, our operating expenses could increase significantly.

We have numerous milling and manufacturing facilities and a mining operation, which depend on electrical power, fuel or other energy sources. See Item 2. Properties, of this Form 10-K. Our operating expenses are sensitive to changes in electricity prices and fuel prices, including natural gas prices. Prices for electricity and natural gas have continued to increase and can fluctuate widely with availability and demand levels from other users. During periods of peak usage, supplies of energy may be curtailed, and we may not be able to purchase energy at historical market rates. While we have some long-term contracts with energy suppliers, we are exposed to fluctuations in energy costs that can affect our production costs. Although we enter into forward-fixed price supply contracts for natural gas and electricity for use in our operations, those contracts are of limited duration and do not cover all of our fuel or electricity needs. Price increases in fuel and electricity costs, such as those increases which may occur from climate change legislation or other environmental mandates, will continue to increase our cost of operations.

We have a limited number of manufacturing facilities, and damage to those facilities could interrupt our operations, increase our costs of doing business and impair our ability to deliver our products on a timely basis.

Some of our facilities are interdependent. For instance, our manufacturing facility, in Elmore, Ohio relies on our mining operation for its supply of beryllium hydroxide used in production of most of its beryllium-containing materials. Additionally, our Reading, Pennsylvania; Fremont, California and Tucson, Arizona manufacturing facilities are dependent on materials produced by our Elmore, Ohio manufacturing facility and our Wheatfield, New York manufacturing facility is dependent on our Buffalo, New York manufacturing facility. See Item 2 Properties , of this Form 10-K. The destruction or closure of any of our manufacturing facilities or our mine for a significant period of time as a result of fire, explosion, act of war or terrorism or other natural disaster or unexpected event may interrupt our manufacturing capabilities, increase our capital expenditures and our costs of doing business and impair our ability to deliver our products on a timely basis. In such an event, we may need to resort to an alternative source of manufacturing or to delay production, which could increase our costs of doing business. Our property damage and business interruption insurance may not cover all of our potential losses and may not continue to be available to us on acceptable terms, if at all.

Our lengthy and variable sales and development cycle makes it difficult for us to predict if and when a new product will be sold to customers.

Our sales and development cycle, which is the period from the generation of a sales lead or new product idea through the development of the product and the recording of sales, may typically take up to two or three years, making it very difficult to forecast sales and results of operations. Our inability to accurately predict the timing and

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magnitude of sales of our products, especially newly introduced products, could affect our ability to meet our customers product delivery requirements or cause our results of operations to suffer if we incur expenses in a particular period that do not translate into sales during that period, or at all. In addition, these failures would make it difficult to plan future capital expenditure needs and could cause us to fail to meet our cash flow requirements.

Future terrorist attacks and other acts of violence or war may directly harm our operations.

Future terrorist attacks or other acts of violence or war may directly impact our facilities. For example, our Elmore, Ohio facility is located near, and derives power from, a nuclear power plant, which could be a target for a terrorist attack. In addition, future terrorist attacks, related armed conflicts or prolonged or increased tensions in the Middle East or other regions of the world could cause consumer confidence and spending to decrease, decreasing demand for consumer goods that contain our products. Further, when the United States armed forces are involved in active hostilities or large-scale deployments, defense spending tends to focus more on meeting the physical needs of the troops, and planned expenditures on weapons and other systems incorporating our products may be reduced or deferred. Any of these occurrences could also increase volatility in the United States and worldwide financial markets, which could negatively impact our sales.

We may be unable to access the financial markets on favorable terms.

The inability to raise capital on favorable terms, particularly during times of uncertainty in the financial markets, could impact our ability to sustain and grow our business and would increase our capital costs. In particular, the substantial volatility in world capital markets due to the recent global economic crisis has had a significant negative impact on the global financial markets.

We rely on access to financial markets as a significant source of liquidity for capital requirements not satisfied by cash on hand or operating cash flow. Our access to the financial markets could be adversely impacted by various factors, including:

- changes in credit markets that reduce available credit or the ability to renew existing liquidity facilities on acceptable terms;
- a deterioration of our credit;
- a deterioration in the financial condition of the banks with which we do business;
- extreme volatility in our markets that increases margin or credit requirements; and
- the collateral pledge of substantially all of our assets in connection with our existing indebtedness, which limits our flexibility in raising additional capital.

These factors have adversely impacted our access to the financial markets from time to time. Negative or uncertain global economic conditions may make it difficult for us to access the credit market and to obtain financing or refinancing, as the case may be, to the extent necessary, on satisfactory terms or at all.

Low investment performance by our domestic pension plan assets may require us to increase our pension liability and expense, which may require us to fund a portion of our pension obligations and divert funds from other potential uses.

We provide defined benefit pension plans to eligible employees. Our pension expense and our required contributions to our pension plans are directly affected by the value of plan assets, the projected rate of return on plan assets, the actual rate of return on plan assets and the actuarial assumptions we use to measure our defined benefit pension plan obligations, including the rate at which future obligations are discounted to a present value, or the discount rate. As of December 31, 2010, for pension accounting purposes, we assumed an 8.00% rate of return on pension assets.

Lower investment performance of our pension plan assets resulting from a decline in the stock market could significantly increase the deficit position of our plans. Should the pension asset return fall below our expectations, it

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is likely that future pension expenses would increase. The actual return on our plan assets for the year ended December 31, 2010 was a gain of approximately 13.4%.

We establish the discount rate used to determine the present value of the projected and accumulated benefit obligation at the end of each year based upon the available market rates for high quality, fixed income investments. An increase in the discount rate would reduce the future pension expense and, conversely, a lower discount rate would raise the future pension expense.

Based on current guidelines, assumptions and estimates, including stock market prices and interest rates, we anticipate that we will be required to make a cash contribution of approximately $8.8 million to our pension plan in 2011. If our current assumptions and estimates are not correct, a contribution in years beyond 2011 may be greater than the projected 2011 contribution required.

We cannot predict whether changing market or economic conditions, regulatory changes or other factors will further increase our pension expenses or funding obligations, diverting funds we would otherwise apply to other uses.

Our expenditures for post-retirement health benefits could be materially higher than we have predicted if our underlying assumptions prove to be incorrect.

We provide post-retirement health benefits to eligible employees. Our retiree health expense is directly affected by the assumptions we use to measure our retiree health plan obligations, including the assumed rate at which health care costs will increase and the discount rate used to calculate future obligations. For retiree health accounting purposes, we maintained the assumed rate at which health care costs will increase for the next year at 8% for both December 31, 2010 and December 31, 2009. In addition, we have assumed that this health care cost increase trend rate will decline to 5% by 2019.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A one percentage point increase in assumed health care cost trend rates would have increased the post-employment benefit obligation by $0.7 million at December 31, 2010.

We cannot predict whether changing market or economic conditions, regulatory changes or other factors will further increase our retiree health care expenses or obligations, diverting funds we would otherwise apply to other uses.

We are subject to fluctuations in currency exchange rates, which may negatively affect our financial performance.

A significant portion of our sales is conducted in international markets and priced in currencies other than the U.S. dollar. Revenues from customers outside of the United States (principally Europe and Asia) amounted to 28% of sales in 2010, 35% in 2009 and 37% in 2008. A significant part of these international sales are priced in currencies other than the U.S. dollar. Significant fluctuations in currency values relative to the U.S. dollar may negatively affect our financial performance. In the past, fluctuations in currency exchange rates, particularly for the euro and the yen, have impacted our sales, margins and profitability. The fair value of our net liability relating to outstanding foreign currency contracts was $1.5 million at December 31, 2010, indicating that the average hedge rates were unfavorable compared to the actual year end market exchange rates. While we may hedge our currency transactions to mitigate the impact of currency price volatility on our earnings, any hedging activities may not be successful.

Our holding company structure causes us to rely on funds from our subsidiaries.

We are a holding company and conduct substantially all our operations through our subsidiaries. As a holding company, we are dependent upon dividends or other intercompany transfers of funds from our subsidiaries. The

payment of dividends and other payments to us by our subsidiaries may be restricted by, among other things, applicable corporate and other laws and regulations, agreements of the subsidiaries and the terms of our current and future indebtedness.

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Our financial results are likely to be negatively impacted by an impairment of goodwill should our shareholder equity exceed our market capitalization for a number of quarters.

A goodwill impairment charge may be triggered by a reduction in actual and projected cash flows, which could be negatively impacted by the market price of our common shares. Our goodwill balance at December 31, 2010 was $72.9 million. Any required non-cash impairment charge could significantly reduce this balance and have a material impact on our reported financial position and results of operations.

Changes in laws or regulations or the manner of their interpretation or enforcement could adversely impact our financial performance and restrict our ability to operate our business or execute our strategies.

New laws or regulations, or changes in existing laws or regulations or the manner of their interpretation or enforcement, could increase our cost of doing business and restrict our ability to operate our business or execute our strategies. This includes, among other things, the possible taxation under U.S. law of certain income from foreign operations, compliance costs and enforcement under the Dodd-Frank Wall Street Reform and Consumer Protection Act, and costs associated with complying with the Patient Protection and Affordable Care Act of 2010 and the regulations promulgated thereunder.

We are exposed to lawsuits in the normal course of business, which could harm our business.

During the ordinary conduct of our business, we may become involved in certain legal proceedings, including those involving product liability claims, third-party lawsuits relating to exposure to beryllium and claims against us of infringement of intellectual property rights of third parties. Due to the uncertainties of litigation, we can give no assurance that we will prevail at the conclusion of future claims. Certain of these matters involve types of claims that, if they result in an adverse ruling to us, could give rise to substantial liability which could have a material adverse effect on our business, operating results or financial condition.

We are presently uninsured for beryllium-related claims where the claimants first exposure to beryllium occurred on or after January 1, 2008, and we have not undertaken to estimate the impact of such claims, which have yet to be asserted. In addition, some jurisdictions preclude insurance coverage for punitive damage awards. Accordingly, our profitability could be adversely affected if any current or future claimants obtain judgments for any uninsured compensatory or punitive damages. Further, an unfavorable outcome or settlement of a pending beryllium case or additional adverse media coverage could encourage the commencement of additional similar litigation.

Health issues, litigation and government regulation relating to our beryllium operations could significantly reduce demand for our products, limit our ability to operate and adversely affect our profitability.

If exposed to respirable beryllium fumes, dusts or powder, some individuals may demonstrate an allergic reaction to beryllium and may later develop a chronic lung disease known as chronic beryllium disease, or CBD. Some people who are diagnosed with CBD do not develop clinical symptoms at all. In others, the disease can lead to scarring and damage of lung tissue, causing clinical symptoms that include shortness of breath, wheezing and coughing. Severe cases of CBD can cause disability or death.

Further, some scientists claim there is evidence of an association between beryllium exposure and lung cancer, and certain standard-setting organizations have classified beryllium and beryllium compounds as human carcinogens.

The health risks relating to exposure to beryllium have been, and will continue to be, a significant issue confronting the beryllium-containing products industry. The health risks associated with beryllium have resulted in product liability claims, employee and third-party lawsuits and increased levels of scrutiny by federal, state, foreign and

international regulatory authorities. This scrutiny includes regulatory decisions relating to the approval or prohibition of the use of beryllium-containing materials for various uses. Concerns over CBD and other potential adverse health effects relating to beryllium, as well as concerns regarding potential liability from the use of beryllium, may discourage our customers use of our beryllium-containing products and significantly reduce demand for our products. In addition, continued or increased adverse media coverage relating to our beryllium-

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containing products could damage our reputation or cause a decrease in demand for beryllium-containing products, which could adversely affect our profitability.

Our bertrandite ore mining and beryllium-related manufacturing operations and some of our customers businesses are subject to extensive health and safety regulations that impose, and will continue to impose, significant costs and liabilities, and future regulation could increase those costs and liabilities or effectively prohibit production or use of beryllium-containing products.

Our customers and we are subject to laws regulating worker exposure to beryllium. Standards for exposure to beryllium are under review by OSHA, the Department of Energy and by other governmental and private standard-setting organizations. One result of these reviews will likely be more stringent worker safety standards. Some organizations, such as the California Occupational Health and Safety Administration and the American Conference of Governmental Industrial Hygienists, have adopted standards that are more stringent than the current standards of OSHA. The development, proposal or adoption of more stringent standards may affect buying decisions by the users of beryllium-containing products. If the standards are made more stringent and/or our customers or other downstream users decide to reduce their use of beryllium-containing products, our results of operations, liquidity and financial condition could be materially adversely affected. The impact of this potential adverse effect would depend on the nature and extent of the changes to the standards, the cost and ability to meet the new standards, the extent of any reduction in customer use and other factors. The magnitude of this potential adverse effect cannot be estimated.

Our bertrandite ore mining and manufacturing operations are subject to extensive environmental regulations that impose, and will continue to impose, significant costs and liabilities on us, and future regulation could increase these costs and liabilities or prevent production of beryllium-containing products.

We are subject to a variety of governmental regulations relating to the environment, including those relating to our handling of hazardous materials and air and wastewater emissions. Some environmental laws impose substantial penalties for non-compliance. Others, such as the federal Comprehensive Environmental Response, Compensation, and Liability Act, or CERCLA, impose strict, retroactive and joint and several liability upon entities responsible for releases of hazardous substances. Bertrandite ore mining is also subject to extensive governmental regulation on matters such as permitting and licensing requirements, plant and wildlife protection, reclamation and restoration of mining properties, the discharge of materials into the environment and the effects that mining has on groundwater quality and availability. The Environmental Protection Agency is developing financial responsibility requirements under CERCLA for hardrock mining facilities. These future requirements could impose on us significant additional costs or obligations with respect to our extraction, milling and processing of ore. If we fail to comply with present and future environmental laws and regulations, we could be subject to liabilities or our operations could be interrupted. In addition, future environmental laws and regulations could restrict our ability to expand our facilities or extract our bertrandite ore deposits. These environmental laws and regulations could also require us to acquire costly equipment, obtain additional financial assurance, or incur other significant expenses in connection with our business, which would increase our costs of production.

The availability of competitive substitute materials for beryllium-containing products may reduce our customers demand for these products and reduce our sales.

In certain product applications, we compete with manufacturers of non-beryllium-containing products, including organic composites, metal alloys or composites, titanium and aluminum. Our customers may choose to use substitutes for beryllium-containing products in their products for a variety of reasons, including, among other things, the lower costs of those substitutes, the health and safety concerns relating to these products and the risk of litigation relating to beryllium-containing products. If our customers use substitutes for beryllium-containing products in their products, the demand for our beryllium-containing products may decrease, which could reduce our sales.

Item 1B. UNRESOLVED STAFF COMMENTS

None.

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Item 2. PROPERTIES

We operate manufacturing plants, service and distribution centers and other facilities throughout the world. During 2010, we made effective use of our productive capacities at our principal facilities. We believe that the quality and production capacity of our facilities is sufficient to maintain our competitive position for the foreseeable future. Information as of December 31, 2010, with respect to our significant facilities that are owned or leased, and the respective segments in which they are included, is set forth below.

Location	Owned or Leased	Approximate Number of Square Feet
Corporate and Administrative Offices		
Mayfield Heights, Ohio[2][3][5]	Leased	53,800
Manufacturing Facilities		
Albuquerque, New Mexico[1]	Owned/Leased	13,000/80,200
Bloomfield, Connecticut[1]	Leased	23,400
Brewster, New York[1]	Leased	75,000
Buellton, California[1]	Leased	35,000
Buffalo, New York[1]	Owned	97,000
Delta, Utah[2]	Owned	86,000
Elmore, Ohio[2][3]	Owned/Leased	556,000/316,000
Fremont, California[3]	Leased	16,800
Limerick, Ireland[1]	Leased	18,000
Lincoln, Rhode Island[4]	Owned/Leased	130,000/11,000
Lorain, Ohio[2]	Owned	55,000
Louny, Czech Republic[1]	Leased	19,800
Milwaukee, Wisconsin[1]	Owned/Leased	99,000/7,300
Newburyport, Massachusetts[1]	Owned	30,000
Reading, Pennsylvania[2]	Owned	123,000
Santa Clara, California[1]	Leased	5,800
Singapore[1]	Leased	24,500
Subic Bay, Philippines[1]	Leased	5,000
Suzhou, China[1]	Leased	22,400
Taipei, Taiwan[1]	Leased	11,500
Tucson, Arizona[3]	Owned	53,000
Tyngsboro, Massachusetts[1]	Leased	38,000
Westford, Massachusetts[1]	Leased	75,000
Wheatfield, New York[1]	Owned	35,000
Windsor, Connecticut[1]	Leased	34,700
Service and Distribution Centers		
Elmhurst, Illinois[2]	Leased	28,500
Fukaya, Japan[2][3][4]	Owned	35,500
Gallup, New Mexico[1]	Leased	5,000
Reading, England[1][2][3][4]	Leased	9,700
Singapore[2][3][4]	Leased	2,500
Stuttgart, Germany[2][4]	Leased	24,800
Tokyo, Japan[1][2][3][4]	Leased	6,900

Warren, Michigan[2]	Leased	34,500

(1) Advanced Material Technologies

(2) Performance Alloys

(3) Beryllium and Composites

(4) Technical Materials

(5) All Other

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In addition to the above, the Company holds certain mineral rights on 7,500 acres in Juab County, Utah from which the beryllium-bearing ore, bertrandite, is mined by the open pit method. A portion of these mineral rights are held under lease. Ore reserve data can be found in Part II, Item 7 of this Form 10-K.

Item 3. LEGAL PROCEEDINGS

Our subsidiaries and our holding company are subject, from time to time, to a variety of civil and administrative proceedings arising out of our normal operations, including, without limitation, product liability claims, health, safety and environmental claims and employment-related actions. Among such proceedings are the cases described below.

Beryllium Claims

As of December 31, 2010, our subsidiary, Materion Brush Inc. (formerly known as Brush Wellman Inc.), was a defendant in two proceedings in state and federal courts brought by plaintiffs alleging that they have contracted, or have been placed at risk of contracting, beryllium sensitization or chronic beryllium disease or other lung conditions as a result of exposure to beryllium. Plaintiffs in beryllium cases seek recovery under negligence and various other legal theories and seek compensatory and punitive damages, in many cases of an unspecified sum. Spouses of some plaintiffs claim loss of consortium.

As of December 31, 2009, there were four beryllium cases (involving eight plaintiffs) and as of December 31, 2010, there were two beryllium cases (involving six plaintiffs). During 2010:

one case (involving one plaintiff) was filed;

the earlier dismissal of one purported class action (involving one named plaintiff) was affirmed by the court of appeals, as discussed more fully below; and

two cases (involving two plaintiffs) were settled and dismissed.

The two pending beryllium cases as of December 31, 2010 involve four plaintiffs, plus two spouses with consortium claims. The Company has some insurance coverage, subject to an annual deductible.

The purported class action was Gary Anthony v. Small Tube Manufacturing Corporation d/b/a Small Tube Products Corporation, Inc., et al., filed in the Court of Common Pleas of Philadelphia County, Pennsylvania, case number 000525, on September 7, 2006. The case was removed to the U.S. District Court for the Eastern District of Pennsylvania, case number 06-CV-4419, on October 4, 2006. The only named plaintiff was Gary Anthony. The defendants were Small Tube Manufacturing Corporation, d/b/a Small Tube Products Corporation, Inc.; Admiral Metals Inc.; Tube Methods, Inc.; and Cabot Corporation. The plaintiff purported to sue on behalf of a class of current and former employees of the U.S. Gauge facility in Sellersville, Pennsylvania who had been exposed to beryllium for a period of at least one month while employed at U.S. Gauge. The plaintiff brought claims for negligence. Plaintiff sought the establishment of a medical monitoring trust fund, cost of publication of approved guidelines and procedures for medical monitoring of the class, attorneys fees and expenses. Defendant Tube Methods, Inc. filed a third-party complaint against Brush Wellman Inc. in that action on November 15, 2006. Tube Methods alleged that Brush supplied beryllium-containing products to U.S. Gauge, and that Tube Methods worked on those products, but that Brush was liable to Tube Methods for indemnification and contribution. Brush filed its answer to the amended third-party complaint on October 19, 2007. On February 29, 2008, Brush filed a motion for summary judgment based on plaintiff s lack of any substantially increased risk of CBD. On September 30, 2008, the court granted the motion for summary judgment in favor of all of the defendants and dismissed plaintiff s class action complaint. On October 29,

2008, plaintiff filed a notice of appeal. The Court of Appeals granted a motion to stay the appeal due to the bankruptcy of one of the appellees, Millennium Petrochemicals. On July 29, 2009, after relief from a bankruptcy stay, the Company and the other appellees filed their brief in the Court of Appeals. The Court heard oral argument on January 11, 2010. On June 7, 2010, the Court affirmed the trial court s ruling.

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Subsequent Events

From January 1, 2011 to March 8, 2011, the following subsequent events took place. On January 26, 2011, a Stipulation for Dismissal without Prejudice was filed in one case (involving one plaintiff), and the case is now dismissed. On February 7, 2011, in the sole remaining case (involving five plaintiffs), two spouses filed a Request for Dismissal of their consortium claims.

Other Claims

One of our subsidiaries, Materion Advanced Materials Technologies and Services Inc. (formerly known as Williams Advanced Materials Inc.) (WAM herein), was a party to patent litigation in the United States involving Target Technology Company, LLC of Irvine, California (Target). The litigation involved patents directed to technology used in the production of DVD-9s, which are high storage capacity DVDs, and other optical recording media. The patents at issue primarily concerned certain silver alloys used to make the semi-reflective layer in DVD-9s, a thin metal film that is applied to a DVD-9 through a process known as sputtering. The raw material used in the sputtering process is called a target. Target alleged that WAM manufactured and sold infringing sputtering targets to DVD manufacturers.

In the first action, filed in April 2003 by WAM against Target in the U.S. District Court, Western District of New York (case no. 03-CV-0276A (SR)) (the NY Action), WAM had asked the Court for a judgment declaring certain Target patents invalid and/or unenforceable and awarding WAM damages. Target counterclaimed alleging infringement of those patents and seeking a judgment for infringement, an injunction against further infringement and damages for past infringement. Following certain proceedings in which WAM was denied an injunction to prevent Target from suing and threatening to sue WAM s customers, Target filed an amended counterclaim and a third-party complaint naming certain of WAM s customers and other entities as parties to the case and adding related other patents to the NY Action. The action temporarily was stayed pending resolution of the ownership issue in the CA Action (defined below), as discussed more fully below. On January 26, 2009, the Court in the CA Action ordered that the case and remaining issues be transferred to the Court in the NY Action. As a result, the stay in the NY Action was lifted, and the Court in the NY Action consolidated the CA Action with the NY Action. With the parties having resumed pre-trial proceedings, Target had moved the Court to further amend its counts for infringement to include only certain claims of six of the patents claimed to be owned by Target. If granted, Target s counts for infringement of other claims in those patents and six other patents claimed to be owned by Target would have been removed from the NY Action. WAM had opposed the motion to the extent Target sought dismissal without prejudice of the counts for infringement of the other claims and other patents. Following a Court hearing on Target s motion to amend its pleadings and upon agreement of the parties, Target further amended its counts for infringement to include a total of nine U.S. patents and withdrawing four other patents. In response to Target s amendment of its pleadings, WAM moved for (a) dismissal of Target s counts for lack of jurisdiction on the basis that Target did not own the patents, (b) terminating sanctions on the basis of litigation misconduct by Target, and (c) a stay of discovery pending a decision by the Court on the first two WAM motions, all of which motions were pending. WAM continued to dispute Target s claims of ownership of all of the patents and denied both validity and infringement of the patent claims. Following a September 11, 2009 oral argument on WAM s motions, the Magistrate Judge reserved decision and pending the Court s action on the motions effectively stayed further discovery. On October 28, 2009, the Magistrate Judge recommended to the District Court Judge that the Court deny WAM s motion for dismissal of Target s counts for lack of jurisdiction on the basis of WAM s claim that Target did not own the patents. The Magistrate Judge reasoned that, in view of the earlier reported November 2008 settlement agreement between the Sony companies and Target, any lack of jurisdiction was cured when in July 2009, Target filed an amended answer. The Magistrate Judge further deferred until trial WAM s motion for terminating sanctions because of Target s litigation misconduct, but reopened discovery. Both WAM and Target objected to the Magistrate Judge s report, and their objections were to be heard by the District Court Judge before ruling on the recommendation. Notwithstanding the Magistrate Judge s recommendation, WAM continued to dispute Target s claims of ownership of the patents remaining in the Action, and

to deny both validity and infringement of the patents. The Magistrate Judge by separate order and with the consent of the parties referred the case to a mediator for consideration under the Court s alternate dispute resolution plan.

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Target in September 2004 filed in the U.S. District Court, Central District of California (case no. SAC04-1083 DOC (MLGx)), a separate action for infringement of one of the same patents named in the NY Action (the CA Action), naming as defendants WAM and certain of WAM s customers who purchased certain WAM sputtering targets. Target sought a judgment that the patent was valid and infringed by the defendants, a permanent injunction, a judgment on ownership of certain Target patents, damages adequate to compensate Target for the infringement, treble damages and attorneys fees and costs. In April 2007, Sony DADC U.S., Inc. among other Sony companies (Sony) had intervened in the CA Action claiming ownership of that patent and others of the patents that Target sought to enforce in the NY Action. Sony s claim was based on its prior employment of the patentee and Target s founder, Han H. Nee (Nee), and had included a demand for damages against both Target and Nee. WAM on behalf of itself and its customers has a paid-up license from Sony under any rights that Sony has in those patents. Although trial of the CA Action had been scheduled for March 2009, in December 2008, a confidential settlement agreement was reached between Target and Sony, as well as a partial settlement agreement between Target and WAM releasing WAM and its customers from infringement of the one named patent. As a result, the issues not subject to any settlement were (1) a remaining count in which the Target parties had requested a judgment declaring that Target was the owner of certain of the Target patents and (2) WAM s request for sanctions against Target. Pursuant to various stipulations filed by the parties, the Court on January 6, 2009 ordered a dismissal with prejudice of all of the respective intervention claims and counterclaims between the Target parties and the Sony companies, and a dismissal without prejudice of the counterclaims by WAM and its defendant customers, the exception being the remaining declaratory judgment count on patent ownership. Following motions filed by the parties, the Court on January 26, 2009 ordered that the case and remaining issues be transferred to the Court in the NY Action.

On April 1, 2010, WAM and Target entered into a confidential settlement agreement, terminating the actions as between them, which includes a release of all claims that each may have had against the other. On April 12, 2010, the District Court approved the consent motion to dismiss the actions between WAM and Target, and declared the consolidated cases (the CA Action and the NY Action) closed.

Item 4. (REMOVED AND RESERVED)

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PART II

Item 5. MARKET FOR THE REGISTRANT S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

Market Information and Dividends

The Company s common shares are listed on the New York Stock Exchange under the symbol MTRN (formerly BW). As of February 21, 2011, there were 1,375 shareholders of record. The table below is a summary of the range of market prices with respect to common shares during each quarter of fiscal years 2010 and 2009. We did not pay any dividends in 2010 or 2009. We have no current intention to declare dividends on our common shares in the near term. Our current policy is to retain all funds and earnings for the use in the operation and expansion of our business.

	Stock Price Range	
Fiscal Quarters	**High**	**Low**
2010		
First	$ 22.95	$ 15.80
Second	30.33	18.75
Third	29.23	18.24
Fourth	40.11	27.62
2009		
First	$ 17.27	$ 10.50
Second	19.19	12.41
Third	25.38	14.11
Fourth	27.06	17.11

Performance Graph

The following graph sets forth the cumulative shareholder return on our common shares as compared to the cumulative total return of the S&P SmallCap 600 Index and the Russell 2000 Index as Materion Corporation is a component of these indices.

	2005	2006	2007	2008	2009	2010
Materion Corporation	$ 100	$ 212	$ 233	$ 80	$ 117	$ 243
S&P SmallCap 600	$ 100	$ 115	$ 115	$ 79	$ 99	$ 125
Russell 2000	$ 100	$ 118	$ 117	$ 77	$ 98	$ 124

The above graph assumes that the value of our common shares and each index was $100 on December 31, 2005 and that all dividends, if paid, were reinvested.

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Item 6. SELECTED FINANCIAL DATA

Materion Corporation and Subsidiaries

(Thousands except per share amounts)	2010	2009	2008	2007	2006
For the year					
Net sales	**$ 1,302,314**	$ 715,186	$ 909,711	$ 955,709	$ 763,054
Cost of sales	**1,079,666**	623,764	757,836	759,037	600,882
Gross margin	**222,648**	91,422	151,875	196,672	162,172
Operating profit (loss)	**73,633**	(19,485)	28,071	84,465	43,840
Interest expense net	**2,665**	1,299	1,995	1,760	4,135
Income (loss) before income taxes	**70,968**	(20,784)	26,076	82,705	39,705
Income taxes (benefit)	**24,541**	(8,429)	7,719	29,420	(9,898)
Net income (loss)	**46,427**	(12,355)	18,357	53,285	49,603
Earnings per share of common stock:					
Basic	**2.29**	(0.61)	0.90	2.62	2.52
Diluted	**2.25**	(0.61)	0.89	2.59	2.45
Depreciation and amortization	**35,932**	32,369	34,204	24,296	25,141
Capital expenditures	**42,314**	44,173	35,515	26,429	15,522
Mine development expenditures	**11,348**	808	421	7,121	
Year-end position					
Working capital	**208,365**	140,482	189,899	216,253	158,061
Ratio of current assets to current liabilities	**2.4 to 1**	2.0 to 1	2.8 to 1	2.9 to 1	2.4 to 1
Property and equipment:					
At cost	**719,953**	665,361	635,266	583,961	557,861
Cost less depreciation and impairment	**265,868**	227,766	207,254	186,175	175,929
Total assets	**735,410**	621,953	581,897	550,551	498,606
Long-term liabilities	**157,571**	131,630	116,524	69,140	70,731
Long-term debt	**38,305**	8,305	10,605	10,005	20,282
Shareholders equity	**384,356**	339,859	347,097	353,714	291,000
Weighted-average number of shares of stock outstanding:					
Basic	**20,282**	20,191	20,335	20,320	19,665
Diluted	**20,590**	20,191	20,543	20,612	20,234

Capital expenditures shown above include amounts spent under government contracts for which reimbursements were received from the government in the amounts of $21.9 million in 2010, $28.2 million in 2009, $8.0 million in 2008 and $3.5 million in 2007.

Changes in deferred tax valuation allowances decreased income tax expense by $21.8 million in 2006.

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Item 7. MANAGEMENT S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

OVERVIEW

We are an integrated producer of high performance advanced engineered materials used in a variety of electrical, electronic, thermal and structural applications. Our products are sold into numerous markets, including consumer electronics, defense and science, industrial components and commercial aerospace, energy, automotive electronics, telecommunications infrastructure, medical and appliance.

Sales of $1.3 billion in 2010 were 82% higher than sales in 2009 and established a record high. The demand from various key markets, after a steep fall-off in 2009 largely due to the global economic crisis, improved significantly in 2010. Sales also improved in 2010 as a result of two acquisitions, higher metal prices and product and market development efforts. Sales from each of our four reportable segments grew at double digit rates in 2010 over 2009.

Gross margin of $222.6 million in 2010 was $131.2 million higher than the gross margin generated in 2009. The margin also improved to 17% of sales in 2010 from 13% of sales last year. The margin improvement was largely due to a combination of the higher sales volume (from existing operations and the acquisitions), operating efficiencies (partially due to higher production volumes), product mix effects and other factors.

After reducing our manufacturing, selling and administrative costs in 2009 due to the fall-off in sales, portions of these costs increased in 2010 in order to support the higher level of business. The spending level did not increase proportionately with sales, however, which allowed us to leverage the sales growth to generate additional profits. The increase in selling, general and administrative expenses in 2010 was mainly a result of the expenses incurred by the acquisitions and higher incentive compensation due to our improved profitability.

Operating profit was $73.6 million in 2010, a significant turn around from the $19.5 million operating loss in 2009. Diluted earnings per share grew to $2.25 in 2010 from a per share loss of $0.61 in 2009.

In the first quarter 2010, we acquired all of the outstanding capital stock of Academy Corporation (Academy) for an adjusted purchase price of $21.0 million in cash. Academy s precious and non-precious metal products and metal refining capabilities augment our existing product offerings as well as expand our reach into various new markets. The Academy acquisition closely followed our purchase of all of the outstanding capital stock of Barr Associates, Inc. (Barr) in October 2009 for $55.2 million in cash.

Our working capital levels, after declining in 2009, increased in 2010 as a result of and in support of the improved business levels. Cash flow from operations totaled $31.0 million in 2010. This cash flow plus an increase of $21.6 million in debt during 2010 was used to finance capital expenditures and the acquisition of Academy. As a result of the higher debt levels, our debt-to-debt-plus-equity ratio increased to 18% as of year-end 2010 from 16% as of year-end 2009.

RESULTS OF OPERATIONS

(Millions except per share amounts)	2010	2009	2008
Net sales	$ 1,302.3	$ 715.2	$ 909.7
Operating profit (loss)	73.6	(19.5)	28.1
Income (loss) before income taxes	71.0	(20.8)	26.1

Net income (loss)	46.4	(12.4)	18.4
Diluted earnings per share	2.25	(0.61)	0.89

Sales of $1.3 billion were $587.1 million, or 82%, higher than sales of $715.2 million in 2009, while sales in 2009 declined $194.5 million, or 21%, from the 2008 sales level of $909.7 million.

Demand from the majority of our key markets improved in 2010 over 2009. Demand had fallen significantly in 2009 from the 2008 level largely as a result of the global economic crisis and the related impact on consumer spending. Demand levels hit the near-term low point in the first quarter 2009 and then began improving over the

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balance of 2009. The overall demand remained strong throughout 2010 as order entry levels exceeded sales in each quarter of 2010 and also established a record high for the year.

Consumer electronics is our largest market, accounting for 41% of sales in 2010. Sales to this market were affected the most by the global economic crisis in 2009 and showed the most improvement in 2010. Consumer electronics sales grew in 2010 as a result of an increase in consumer spending as well as the development of new applications as our materials are used in the latest generation of smart phones and in a number of other wireless and hand-held devices. Sales of our materials for new and growing LED applications also contributed to the higher sales to the consumer electronics market in 2010.

Sales to the *defense and science market*, which accounted for 12% of total sales in 2010, grew in 2010 over 2009 as a result of improvements in our existing defense business and the inclusion of a full year of Barr s defense business. Defense sales, after being solid in the first half of 2009, softened in the second half of that year due to program delays and push outs and finished 2009 below the 2008 level.

Sales to the *industrial components and commercial aerospace market*, which were 11% of our total sales in 2010, also contributed to the growth in sales in 2010 over 2009. Commercial aerospace sales, which were soft in 2009, improved in 2010 due to an increase in the build rate for aircraft utilizing our materials. Shipments of materials for heavy equipment and other industrial applications grew in 2010 as well.

Automotive electronics sales in 2010 were approximately double the sales level in 2009 as sales improved in both the domestic and European markets in 2010. Automotive electronics sales were approximately 5% of our total sales in 2010. Sales to this market had declined at a double-digit rate in 2009 from 2008. Shipments into Europe, partially spurred by the lower value of the U.S. dollar, helped offset a portion of the weakness in the U.S. market in 2009.

Sales to the *energy market* were over 6% of our total sales in 2010. We sell a variety of products into this expanding market and we have a number of growth platforms. Our traditional oil and gas materials contributed to the growth in energy market sales in 2010 as did sales for architectural glass applications through Academy. We also sell materials for new and developing solar energy, fuel cell and other energy-related applications.

Medical market sales were relatively unchanged in 2010 from 2009 after declining in 2009 from 2008. In 2010, we temporarily lost sales to a key medical application customer as a result of lower manufacturing yields. Process improvements have been implemented and shipments to the customer have resumed in early 2011. Other portions of our medical business improved in 2010, including x-ray window assemblies and related materials. Sales to the medical market were 4% of total sales in 2010.

We believe that the demand level in certain markets fell further in the first half of 2009 than the actual decline in consumer spending levels as a result of excess inventory levels in the downstream supply chain. We also believe that a portion of the sales improvement in the first half of 2010 may have been due to a replenishment of these downstream inventory levels.

The acquisitions of Barr and Academy accounted for 40% of the sales growth in 2010 over 2009. A large portion of Academy s sales is a precious metal pass-through.

Sales are affected by metal prices as changes in precious metal and a portion of the changes in base metal prices, primarily copper, are passed on to our customers. Metal prices have been quite volatile over the last three years, with various metals reaching near-term or all-time record highs in 2010. The average copper price for 2010 was higher than 2009 while the average 2009 price was lower than the 2008 average price. Gold and other precious metal prices were higher on average in 2010 and 2009 than the immediate prior year. The change in metal prices resulted in an estimated

$103.0 million net increase in sales in 2010 over 2009 and an estimated $9.1 million decrease in sales in 2009 from 2008.

Domestic sales in 2010 were slightly more than double the 2009 level. Domestic sales had declined 19% in 2009 from the 2008 level. Domestic sales include the majority of the sales from the two acquisitions as well as the majority of the impact of the higher metal price pass-through between periods. International sales, which are included in each of our reportable segments, improved 48% in 2010 over 2009 after declining 25% in 2009 from 2008.

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We implemented various cost-saving initiatives beginning in the fourth quarter 2008 and throughout the first nine months of 2009 in response to the weakening order entry rate at that time. These initiatives included a reduction in work force, reduced wage and compensation levels, elimination of overtime (and a reduction in regular work hours in some cases), reduced discretionary spending and the cancellation or deferral of various projects and initiatives. These efforts helped to offset the negative impact of the lower sales volume in 2009.

With the improved volumes in 2010, wage levels have been restored and various resources, including manpower and services, have been added back as needed to support the current and projected sales volumes. However, total manpower, excluding the two acquisitions, as of year-end 2010 was still 9% lower than the third quarter 2008 manpower level (which was just prior to when the global economic crisis began to significantly impact our business). The cost control programs remain in place as changes have been made to help improve our total cost structure.

We estimate that spending on certain operating costs (excluding materials) and other manufacturing overhead and selling, general and administrative costs in 2010, while higher than 2009, was still 7% lower than the 2008 level, excluding the impact of the acquisitions, despite the increase in sales volume.

Gross margin of $222.6 million in 2010 was $131.2 million higher than the gross margin of $91.4 million in 2009. Gross margin also improved from 13% of sales in 2009 to 17% of sales in 2010. In 2008, the gross margin was $151.9 million, or 17% of sales.

We estimate that the incremental margin generated by the higher sales volumes, including the sales from the two acquisitions, accounted for approximately 76% of the gross margin improvement in 2010 over 2009. Manufacturing efficiencies, in part due to the increased production levels, and cost control efforts also contributed to the margin growth in 2010. Factory labor, other direct manufacturing costs and manufacturing overhead costs did not increase proportionately with the increase in sales in 2010. The overall change in product mix was favorable between 2010 and 2009 while pricing improvements were made in portions of our business. Yield losses and other inventory valuation adjustments at certain operations had a minor negative impact on overall margins in 2010.

The lower sales volume in 2009 reduced margins by an estimated $69.5 million from 2008 and was the primary cause for the overall decline in margins in 2009 from 2008. Production levels were reduced in 2009 (due to the lower sales and a reduction in inventory), which resulted in operating inefficiencies at various facilities that negatively affected margins. The change in product mix was unfavorable in 2009 as compared to 2008 partially due to lower sales of higher margin generating beryllium-containing products in 2009. The 2009 gross margin was also reduced by the cost of a manufacturing quality return, unplanned downtime on a key piece of equipment and inventory valuation adjustments.

The cost-reduction efforts offset a portion of the negative impact of the above items on gross margin in 2009 as operating and overhead manufacturing costs were lower in 2009 than in 2008.

The margin comparison between years was also affected by lower of cost or market charges of differing amounts each year as accounting regulations require inventory to be written down to its market value if it is below its cost. As a result of the falling prices for certain items, primarily ruthenium-containing materials, we recorded charges of $0.4 million in 2010, $0.7 million in 2009, and $15.2 million in 2008.

In the first quarter 2009, we determined that the domestic defined benefit pension plan was curtailed due to the significant reduction in the workforce. As a result of the curtailment and the associated plan remeasurement, we recorded a $1.1 million one-time benefit during the first quarter 2009, $0.8 million of which was recorded against cost of sales and $0.3 million recorded against selling, general and administrative expenses on the Consolidated Statement of Income and Loss. The all-in expense on this plan, including the one-time benefit in 2009, was $5.8 million in 2010,

$3.2 million in 2009 and $4.8 million in 2008. See Critical Accounting Policies below.

Selling, general and administrative (SG&A) expenses were $126.5 million (10% of sales) in 2010, $89.8 million (13% of sales) in 2009 and $104.5 million (11% of sales) in 2008. The majority of the $36.7 million increase in SG&A expenses in 2010 over 2009 was due to a combination of the expenses incurred by the acquisitions and higher incentive compensation expenses. Sales-related expenses and other

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costs had a minor impact on the increase. The lower expense in 2009 as compared to 2008 was mainly due to the cost-reduction efforts in light of the sales decline as manpower levels and costs and discretionary spending were cut in 2009. Sales and distribution-related expenses were lower in 2009 than in 2008 as well. With the significantly improved sales volumes in 2010, a portion, but not all, of the previously reduced resources were added back to support the current and projected growth in the business.

Approximately 35% of the increase in SG&A expenses in 2010 over 2009 was due to the expenses incurred by Barr and Academy subsequent to their acquisition.

The incentive compensation expense on plans designed to pay in cash was $15.2 million higher in 2010 than in 2009 and $1.2 million lower in 2009 than in 2008. The changes in the annual expense between years were caused by the performance of the individual businesses relative to their plans objectives. In 2010, the majority of our operations exceeded their plans targets. Stock-based compensation expense, including the expense for stock appreciation rights, restricted stock and performance restricted shares, was $4.1 million in 2010, $3.5 million in 2009 and $2.6 million in 2008. The comparison of stock-based compensation expense between years may be affected by changes in plan design, the number of grants in a given year, actual performance relative to the plans objectives, movement in our stock price and other factors.

International SG&A expenses, excluding incentive compensation (which is included in the above paragraph), were approximately 5% higher in 2010 than in 2009. A portion of this increase is due to translation rate differences. International expenses were 19% lower in 2009 than in 2008 largely due to the cost-reduction efforts and a decline in sales-related expenses.

Severance and related costs associated with headcount reductions totaled $1.1 million in 2010 and $2.1 million in 2009.

Acquisition-related expenses for legal, accounting and due diligence services associated with the Barr and Academy transactions totaled $0.7 million in 2009. Additional fees totaling $0.1 million were incurred in 2010. As a result of a change in accounting regulations effective January 1, 2009, acquisition-related expenses must be charged against income as incurred. Previously, these expenses would have been capitalized as part of the cost of the acquisitions.

Other corporate administrative expenses were higher in 2010 than in 2009 partially as a result of the cost of various initiatives that were designed to provide long-term benefits. Costs associated with changing our corporate name, along with our subsidiaries names, totaled approximately $0.9 million in 2010. Corporate expenses were down $5.6 million in 2009 from 2008 in part due to the cost-reduction efforts and the related impact on compensation and benefits. Information technology costs were also lower in 2009 than 2008 as were costs for various outside services.

Research and development (R&D) expenses were $7.1 million in 2010, $6.8 million in 2009 and $6.5 million in 2008. R&D expenses were less than 1% of sales in each of the last three years. Despite the corporate-wide cost-reduction efforts in light of the lower sales volume in 2009, we increased our R&D spending slightly in that year. R&D efforts are focused on developing new products and applications as well as continuing improvements in our existing products.

The ***litigation settlement gain*** of $1.1 million in 2008 represents the favorable settlement of a lawsuit, net of legal fees, in which we sought recovery of our rights under a previously signed indemnity agreement.

There were no litigation settlement gains in 2010 or 2009.

Derivative ineffectiveness expense was $0.6 million in 2010, $4.9 million in 2009 and $0.2 million in 2008. We secured a copper derivative embedded in a debt obligation in 2009 that served as an economic hedge to changes in the value of our copper inventories. However, the derivative did not qualify as a hedge for accounting purposes and changes in its fair value were recorded against income as ineffectiveness expense. The derivative was in a loss position of $4.9 million as of year-end 2009 as a result of an increase in the market price of copper since the derivative s inception. Forward contracts were secured in 2010 to hedge against further unfavorable changes in the embedded derivative s fair value. The $0.6 million of expense in 2010 was the net unfavorable change in the fair value of these instruments in 2010. The embedded derivative and forward contracts matured during 2010.

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Derivative ineffectiveness expense of $0.2 million in 2008 resulted from changes in the fair value of an interest rate swap that did not qualify as a hedge for accounting purposes. This swap was terminated in the fourth quarter 2008.

Other-net expense was $14.8 million in 2010, $9.5 million in 2009 and $13.6 million in 2008. See Note O to the Consolidated Financial Statements for the details of the major components of other-net expense for each of the three years. The major differences in other-net expense between the years include the following:

Amortization expense increased $2.4 million in 2010 over 2009 and $0.5 million in 2009 over 2008 primarily due to the amortization of the intangible assets acquired with Barr and Academy. See Note E to the Consolidated Financial Statements.

The metal consignment fee, after declining $1.2 million in 2009 from 2008, increased $3.2 million in 2010 over 2009 as a result of higher metal prices, increased quantities of metal on hand and the inclusion of Academy s requirements under the consignment lines in 2010. The expense was lower in 2009 than in 2008 as we reduced the quantity of metal on hand in response to the lower sales and production requirements in that year.

The Barr purchase agreement included an earn-out feature that would require us to make additional payments to the prior owners of Barr based upon Barr s performance against identified benchmarks over the 2010 to 2013 period. The present value of the earn-out was estimated to be $1.9 million at the time of the acquisition and was recorded in other long-term liabilities on the Consolidated Balance Sheet as of December 31, 2009. No payment was required to be made for 2010 based upon Barr s actual performance relative to the benchmark for the year. We determined that the fair value of this liability, based upon the current facts and circumstances and updated projections, should be reduced to $1.1 million as of December 31, 2010. The $0.8 million benefit from the reduction in the liability was recorded as income in the fourth quarter 2010 in accordance with accounting guidelines.

We donated our former headquarters building and the associated land to a non-profit organization, which resulted in a write-off of the carrying value of $0.5 million to other-net expense in 2010. The majority of this unfavorable impact on income before income taxes was offset by a favorable income tax adjustment.

Foreign currency exchange and translation losses totaled $0.8 million in 2010, $0.7 million in 2009 and $3.7 million in 2008. These losses result from movements in the value of the U.S. dollar versus other currencies, primarily the euro, yen and sterling, and the related impact on certain foreign currency denominated assets, liabilities and transactions and the maturity of foreign currency hedge contracts.

The ***operating profit*** in 2010 was $73.6 million, a $93.1 million improvement over the $19.5 million operating loss in 2009. This improvement was due to the higher margin generated by the increased sales volumes, the impact of the acquisitions and other factors offset in part by an increase in incentive compensation, metal consignment fees, amortization and other expenses. The operating loss in 2009 was $47.6 million lower than the operating profit of $28.1 million generated in 2008. This reduction was primarily a result of the lower gross margin due to the decline in sales and other factors along with the derivative ineffectiveness loss offset in part by the operating and overhead spending savings from the cost-reduction efforts, lower foreign currency exchange and translation losses and other items.

Interest expense totaled $2.7 million in 2010, $1.3 million in 2009 and $2.0 million in 2008. The average outstanding debt levels were higher throughout 2010 than 2009 primarily as a result of the two acquisitions and the increase in working capital. Capital lease balances were higher in 2010 than 2009 as well. The impact of the higher debt and capital lease levels on interest expense was partially offset by a lower effective borrowing rate in 2010 than in 2009. Average debt levels for the full year 2009 were lower than in 2008 and the average borrowing rate was slightly lower as well.

The ***income (loss) before income taxes*** and the ***income tax expense (benefit)*** for each of the past three years were as follows:

(Dollars in millions)	**2010**	**2009**	**2008**
Income (loss) before income taxes	$ 71.0	$ (20.8)	$ 26.1
Income tax expense (benefit)	24.5	(8.4)	7.7
Effective tax (benefit) rate	34.6%	(40.6)%	29.6%

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The effects of percentage depletion (a tax benefit resulting from our mining operations), foreign source income and deductions, the production deduction and other items were major causes of the differences between the effective and statutory rates in each of the three years. The effect of executive compensation was also a cause for the difference between the effective and statutory rates in 2010 and 2008.

The tax expense in 2010 included $1.5 million for the reduction of a deferred tax asset as a result of the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Reconciliation Act. Beginning in 2013, we will no longer be able to claim an income tax deduction for prescription drug benefits provided to our retirees and reimbursed under the Medicare Part D retiree drug subsidy program. While this tax increase does not take effect until 2013, accounting standards require that the carrying value of a deferred tax asset be adjusted in the period in which legislation changing the applicable tax law is enacted.

The 2010 tax expense included the unfavorable impact of a net $0.6 million increase in the tax reserves that was recorded in accordance with accounting guidelines. In 2009, the tax benefit was increased by a net $0.7 million reduction in the tax reserves while in 2008 the tax expense was affected by a net $1.3 million reduction in tax reserves.

See Note Q to the Consolidated Financial Statements for a reconciliation of the statutory and effective tax rates.

Net income was $46.4 million, or $2.25 per share diluted, in 2010 compared to a net loss of $12.4 million, or $0.61 per share diluted, in 2009. In 2008, net income was $18.4 million, or $0.89 per share diluted.

Segment Disclosures

In the first quarter 2011, we announced the change of our name from Brush Engineered Materials Inc. to Materion Corporation effective March 8, 2011. The names of all of our active subsidiaries are changing as well and each subsidiary will have Materion as part of its name. The legal and ownership structure of our subsidiaries remained unchanged.

This name change did not alter our senior management structure or how the chief operating decision maker evaluates the performance of our businesses. We continue to have the same four reportable segments as we had previously with no change in their make up or reporting structure, although the names of those segments have changed. Advanced Material Technologies and Services has been renamed as Advanced Material Technologies, Specialty Engineered Alloys is now known as Performance Alloys, Beryllium and Beryllium Composites has been shortened to Beryllium and Composites, and Engineered Material Systems has been changed to Technical Materials.

Results by segment are shown in Note M to the Consolidated Financial Statements. The All Other column in Note M includes our parent company expenses, other corporate charges and the operating results of Materion Services Inc. (formerly BEM Services, Inc.), a wholly owned subsidiary that provides administrative and financial oversight services to our other businesses on a cost-plus basis.

The All Other column shows an operating loss of $8.3 million in 2010, $9.4 million in 2009 and $2.9 million in 2008. The loss was lower in 2010 than in 2009 as an increase in corporate spending and higher incentive compensation expense were more than offset by an increase in charges out to the business units and the difference in derivative ineffectiveness between periods.

The increased loss in the All Other column in 2009 as compared to 2008 was due primarily to the $4.9 million derivative ineffectiveness expense recorded in 2009, the $1.1 million litigation settlement gain recorded in 2008 and differences in the level of costs charged to the other units offset in part by lower corporate spending and other factors.

Advanced Material Technologies

(Millions)	**2010**	**2009**	**2008**
Net sales	$ 879.0	$ 460.8	$ 480.3
Operating profit	39.5	22.6	10.8

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Advanced Material Technologies manufactures precious, non-precious and specialty metal products, including vapor deposition targets, frame lid assemblies, clad and precious metal preforms, high temperature braze materials, ultra-fine wire, advanced chemicals, optics, performance coatings and microelectronic packages. These products are used in wireless, semiconductor, photonic, hybrid and other microelectronic applications within the consumer electronics and telecommunications infrastructure markets. Other key markets for these products include medical, defense and science, energy and industrial components. Advanced Material Technologies also has metal cleaning operations and in-house refineries that allow for the reclaim of precious metals from internally generated or customers scrap. This segment has domestic facilities in New York, Connecticut, Wisconsin, New Mexico, Massachusetts and California and international facilities in Asia and Europe.

Sales from Advanced Material Technologies of $879.0 million in 2010 grew $418.2 million, or 91%, over sales of $460.8 million in 2009. Sales in 2009 were 4% lower than sales of $480.3 million in 2008. The growth in 2010 was due to a combination of improved market conditions, product development efforts, higher metal prices and the two acquisitions. The decline in sales in 2009 from 2008 was largely due to the impact of the global economic conditions, particularly for consumer electronics applications in the first half of 2009, and lower sales for defense, medical and media applications offset in part by higher metal prices and other factors.

Revenues for fabrication and other related charges from the Buffalo, New York facility, this segment s largest operation, grew 30% in 2010 over 2009. The Buffalo facility manufactures vapor deposition targets, lids, wire and other precious metal products for various semiconductor and other microelectronic applications. The key driver for this growth was improved demand from the consumer electronics market for materials for LED and wireless and other hand-held device applications. Demand from other markets served, including defense and science, grew as well. Refining revenue, after declining in 2009 from 2008, also contributed to the growth in 2010. Refining revenue is partially a function of the volume of precious metal products sold and the available quantity of metal in the market to be reclaimed.

Sales of advanced chemicals, after declining in 2009 from 2008 due to the global economic crisis, improved approximately 34% in 2010 from 2009. A large portion of this growth was due to sales of materials for LED applications within the consumer electronics market as a result of the expanded use of LED technologies and the development of new applications. Advanced chemicals are also used in the growing solar energy market as well as for optics and security applications.

Sales of electronic packages, one of this segment s smaller product lines, grew 42% in 2010 over 2009 due to improved demand for telecommunications infrastructure applications in Asia. Sales of these products grew 8% in 2009 over 2008. Due to a change in technology in the market, we anticipate that sales of electronic packages may soften in 2011. Sales for data storage applications, primarily magnetic head materials, showed modest growth in the first three quarters of 2010 over a sluggish 2009, but softened in the fourth quarter 2010, partially due to an inventory correction in the market place.

The acquisitions of Academy and Barr accounted for approximately 56% of the increase in the segment s sales in 2010 over 2009, while Barr s sales subsequent to its acquisition in the fourth quarter 2009 helped offset a portion of the decline in total segment sales between 2009 and 2008. The addition of Academy provided access to new markets and applications for us, including architectural glass and jewelry, as well as additional precious metal refining capabilities and capacity. Academy s operations in Albuquerque, New Mexico dovetail with our existing Buffalo, New York operations and provide opportunities for enhanced operational efficiencies.

Barr produces precision thin film optical filters used in defense, medical, telecommunications and other markets. The acquisition of Barr, coupled with our existing operations, expands our precision optics product line, allowing us to provide a broad array of optical filters across a wide band of wavelengths. The Barr facility faced various operational

challenges that hampered sales in the first half of 2010, including unsatisfactory on-time delivery performance and other inefficiencies. However, process changes were made throughout the year and performance and operating results improved in the second half of the year. The backlog for precision optics was solid entering 2011. New applications within the defense and science market helped to drive improvements in sales and the order backlog.

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Offsetting a portion of the growth in the above products and markets was a decline in sales of large area special coatings to the medical market. Sales of these products, mainly precision precious metal coated polymer films, were 17% lower in 2010 than in 2009. Lower manufacturing yields and the inability to hold tolerances resulted in missed sales to a key customer and the loss of a portion of the business to our competitor in 2010. New processes have been developed and qualified with the customer and shipment levels began to ramp back up in the first quarter 2011. Sales of polymer films to the medical market were softer in 2009 than a solid 2008 due to weaker demand and other factors.

Sales of other materials to the medical market, primarily lids, were relatively unchanged throughout the 2008 to 2010 time frame.

We adjust our selling prices daily to reflect the current cost of the precious and various non-precious metals sold. While a change in the cost of the metal is generally a pass-through to the customer, we generate a margin on our fabrication efforts irrespective of the type of metal used in a given application. On average, the applicable metal prices were higher in 2010 and 2009 than the respective prior years. We estimate that the higher metal prices increased sales by $90.9 million in 2010 as compared to 2009 and $5.0 million in 2009 as compared to 2008.

Total order entry for the segment exceeded sales by approximately 4% in 2010.

Gross margins generated by Advanced Material Technologies totaled $113.3 million (13% of sales) in 2010, $68.1 million (15% of sales) in 2009 and $59.6 million (12% of sales) in 2008.

The main cause for the $45.2 million increase in gross margin in 2010 over 2009 was the margin benefit from the higher sales volume from the existing operations as well as from the two acquisitions. This margin benefit was partially offset by the incremental manufacturing overhead costs incurred by the two acquisitions totaling $11.4 million and the increased manufacturing overhead costs incurred by the existing operations of $0.6 million.

The 2010 margin was adversely affected by the lower medical market sales, which typically generate higher margins. Approximately 18% of Academy s sales in 2010 were silver investment bars that generate very low margins. These negative mix effects were generally offset by efficiencies and improvements in other areas. Gross margin as a percent of sales declined in 2010 from 2009 largely due to the higher precious metal price pass-through in sales in 2010 and the addition of Academy s sales, which have a very high metal content.

Margins grew in 2009 on the reduced sales volume largely due to lower of cost or market charges of $0.7 million in 2009 compared to $15.2 million in 2008. This $14.5 million benefit between years was partially offset by an estimated $8.0 million margin impact from the lower sales volume. Lower yields on polymer strip products and various inventory valuation adjustments reduced margins by an estimated $1.1 million in 2009. The change in product mix was slightly unfavorable in 2009 largely due to lower medical and defense sales. Manufacturing overhead costs at the existing facilities were reduced in 2009, but these savings were partially offset by the inclusion of Barr beginning in the fourth quarter.

SG&A, R&D and other-net expenses from Advanced Material Technologies were $73.8 million (8% of sales) in 2010, $45.5 million (10% of sales) in 2009 and $48.7 million (10% of sales) in 2008.

Expenses incurred by Academy and Barr accounted for approximately 56% of the increase in expenses in 2010 over 2009. The decline in expenses in 2009 was net of the $1.9 million of SG&A expenses incurred by Barr since its acquisition in the fourth quarter 2009.

Incentive compensation expense was $3.9 million higher in 2010 than 2009, due to the improved performance in 2010, and $0.1 million higher in 2009 than 2008. Various sales-related expenses increased in 2010 to support the

higher volumes. R&D costs increased in each of the last two years in order to support the current business and future growth. Corporate charges increased $4.7 million in 2010 over 2009 after declining in 2009 from the 2008 level.

Expenses were reduced in 2009 mainly in response to the lower sales volumes. Manpower levels and costs and discretionary spending items were reduced at various facilities during the year.

Amortization of intangible assets increased $2.3 million in 2010 over 2009 and $0.5 million in 2009 over 2008 largely due to the acquisitions of Academy and Barr.

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Metal financing fees were $2.1 million higher in 2010 than in 2009 due to the additional quantity of metal on hand (due to the higher production requirements and from the inclusion of Academy s requirements under the consignment lines) and higher metal prices. Financing fees were $1.2 million lower in 2009 than in 2008 primarily due to a reduction in the average quantity of metal on hand.

Operating profit from Advanced Material Technologies of $39.5 million in 2010 was a $16.9 million improvement over the operating profit of $22.6 million in 2009. This improvement was due to the margin benefit from the higher sales volumes and other factors offset in part by higher expenses. The acquisitions contributed to the improved profit in this segment in 2010. The operating profit in 2009 was more than double the profit of $10.8 million earned in 2008 as a result of the margin improvement and lower expenses. Operating profit was 4% of sales in 2010, 5% of sales in 2009 and 2% of sales in 2008.

Performance Alloys

(Millions)	**2010**	**2009**	**2008**
Net sales	$ 293.8	$ 172.5	$ 299.9
Operating profit (loss)	27.2	(32.3)	5.8

Performance Alloys manufactures and sells three main product families:

Strip products, the larger of the product families, include thin gauge precision strip and thin diameter rod and wire. These copper and nickel alloys provide a combination of high conductivity, high reliability and formability for use as connectors, contacts, switches, relays and shielding. Major markets for strip products include consumer electronics, telecommunications infrastructure, automotive electronics, appliance and medical;

Bulk products are copper and nickel-based alloys manufactured in plate, rod, bar, tube and other customized forms that, depending upon the application, may provide superior strength, corrosion or wear resistance, thermal conductivity or lubricity. While the majority of bulk products contain beryllium, a growing portion of bulk products sales is from non-beryllium-containing alloys as a result of product diversification efforts. Applications for bulk products include oil and gas drilling components, bearings, bushings, welding rods, plastic mold tooling, and undersea telecommunications housing equipment; and

Beryllium hydroxide is produced at our milling operations in Utah from our bertrandite mine and purchased beryl ore. The hydroxide is used primarily as a raw material input for strip and bulk products and, to a lesser extent, by the Beryllium and Composites segment. External sales of hydroxide from the Utah operations were less than 4% of Performance Alloys total sales in each of the three most recent years.

Strip and bulk products are manufactured at facilities in Ohio and Pennsylvania and are distributed internationally through a network of company-owned service centers and outside distributors and agents.

Sales from Performance Alloys were $293.8 million in 2010, an improvement of $121.3 million, or 70%, over sales of $172.5 million in 2009. This growth was due to improved demand from key markets, higher metal pass-through prices and other price increases. Sales in 2009 were $127.4 million, or 42%, lower than sales of $299.9 million in 2008 primarily due to the impact of the global economic crisis on shipments of both strip and bulk products. Sales to all major markets declined at double digit rates in 2009 from the 2008 levels.

The order entry rate, after an extremely weak first half of 2009, improved in the second half of 2009 and then was quite strong during the majority of 2010. The improved demand for strip products fueled the growth in the order entry rate in the first half of 2010 while the demand for bulk products was stronger in the second half of 2010. Total order entry exceeded the sales level in 2010 by 11%.

Sales of strip and bulk products grew in 2010 over 2009 after declining in 2009 from 2008. The growth in strip sales in 2010 was largely due to improved demand from the consumer electronics, appliance and automotive electronics markets. The growth in sales to the consumer electronics market, Performance Alloys largest market, was fueled by the use of our materials in PDAs, the latest generations of smart phones and other hand-held devices. Automotive electronic sales were higher in 2010 as sales in 2009 were quite low, particularly in the first half of that year. Appliance sales grew approximately 50% in 2010 over 2009, primarily in Europe. The demand for strip

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products was stronger in the first half of 2010 than the second half of the year due to seasonality issues, model changeovers and the replenishment of downstream inventory positions.

The decline in strip sales in 2009 as compared to 2008 was mainly caused by the global economic crisis and the impact on consumer spending. Demand levels from the consumer electronics and automotive electronics markets declined severely, particularly in the first quarter 2009. Market conditions improved somewhat in the second half of that year due to consumer electronic applications in Asia and automotive and appliance applications in Europe.

The growth in bulk product sales in 2010 over 2009 was across multiple markets. Demand from the oil and gas sector of the energy market improved throughout 2010, partially as an aftermath of the gulf oil disaster in 2010 as customers turned to our products due to their high performance characteristics. Sales for oil and gas applications weakened in 2009 from 2008 due to excess inventory positions and because the price of oil was generally below the level that would spur significant exploration and production increases. Commercial aerospace sales grew in 2010 over 2009 as a result of an increase in the build rate of aircraft that utilize our materials. Aerospace sales in 2009 had declined from the 2008 level due to ongoing deferrals of new aircraft builds and decreased repair and maintenance activities. Sales of materials for heavy equipment and other applications within the industrial components market, including sales of non-beryllium containing alloys, also contributed to the growth in bulk product sales in 2010 over 2009.

Strip product volumes (i.e., pounds shipped) grew 56% in 2010 over 2009 after declining 32% in 2009 from 2008. Bulk product volumes were 70% higher in 2010 than in 2009 while volumes in 2009 were 45% lower than 2008. Total volumes rebounded in 2010 from the softness in 2009 and were essentially on par with the volumes shipped in 2008.

Copper prices were higher on average in 2010 than in 2009 and the increased copper price pass-through accounted for an estimated $12.1 million of the sales growth in 2010. Lower copper prices reduced sales in 2009 by an estimated $14.1 million from 2008.

As demand declined beginning in the fourth quarter 2008, Performance Alloys initiated various cost-reduction efforts that continued throughout 2009. By the end of 2009, the employment levels within manufacturing, sales and administration had been reduced by approximately 200 people from the September 2008 level. With the improvement in demand in 2010 and the increased production requirements and other business support needs, the employment level increased during 2010. However, the year-end 2010 employment level was still lower than it was as of the end of the third quarter 2008.

Performance Alloys generated a gross margin of $74.2 million in 2010, an improvement of $65.2 million over the gross margin of $9.0 million in 2009. The gross margin was $59.3 million in 2008. Gross margin was 25% of sales in 2010 compared to 5% of sales in 2009 and 20% of sales in 2008.

The higher sales volume was the largest cause of the improved gross margin in 2010, accounting for an estimated $31.2 million of the increase. Production volumes were also higher in 2010 than in 2009, which, combined with other factors, led to improved manufacturing efficiencies and higher machine utilization rates. Factory labor and other direct manufacturing costs, while higher in 2010 than in 2009, did not increase proportionately with the volume increase, allowing us to leverage our production efforts. Higher selling prices for bulk and strip products also contributed to the margin increase in 2010 over 2009 as did a favorable change in the product mix. Manufacturing overhead costs increased $2.7 million in 2010 over 2009 largely due to increases in maintenance and supply expenses offsetting a decline in utility expenses.

The depletion of a last-in, first-out (LIFO) layer from inventory resulted in a net benefit to gross margin of $4.4 million in 2010. This benefit may not recur to this extent or at all in 2011.

The $50.3 million margin decline in 2009 was primarily due to the $127.4 million reduction in sales. Production volumes were even lower than sales in 2009 as inventories were worked down throughout the year. The lower production volumes negatively affected margins as a result of increased manufacturing inefficiencies and lower machine utilization rates. In addition, unplanned downtime on a key piece of equipment in the fourth quarter 2009 reduced margins by an estimated $1.3 million. The change in product mix was unfavorable in 2009 as well. Manufacturing overhead spending, including manpower and utilities, was lower in 2009 than 2008 and helped to

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mitigate a portion of the negative impact the above items had on margins. Pricing improvements implemented during 2009 also provided a small benefit to margins in the year.

Total SG&A, R&D and other-net expenses were $47.0 million in 2010, an increase of $5.7 million over expenses of $41.3 million in 2009. The 2009 expenses were $12.2 million lower than expenses of $53.5 million in 2008. Expenses were 16% of sales in 2010, 24% of sales in 2009 and 18% of sales in 2008.

The increased expense in 2010 on a dollar basis was due to higher incentive compensation (which resulted from the significantly improved operating results), higher commissions (due to the increased sales) and higher corporate costs. These increases were offset in part by a net decline in all of the other expenses incurred by Performance Alloys as many of the cost-reduction efforts implemented during 2009 remained in place throughout 2010. Cost savings were also obtained in 2010 as a result of the closing of the distribution center operation in the United Kingdom in the fourth quarter 2009. Sales to the United Kingdom are now shipped from our German operations or through an independent distributor.

The lower expenses in 2009 as compared to 2008 were largely due to the aforementioned cost-reduction efforts offset in part by severance costs. Sales-related expenses, including commissions and advertising, were also lower in 2009 than in 2008. Lower incentive compensation and foreign currency exchanges losses contributed to the decline in expenses in 2009 as well.

Performance Alloys earned an operating profit of $27.2 million in 2010, an improvement of $59.5 million over the operating loss of $32.3 million in 2009. The increase in profit was due to the margin generated by the higher sales, manufacturing improvements and improved pricing partially offset by changes in expenses. The operating loss in 2009 was down $38.1 million from the operating profit of $5.8 million earned in 2008 due to the impact of the lower sales volumes and other factors partially offset by the cost saving efforts and other expense reductions.

Beryllium and Composites

(Millions)	**2010**	**2009**	**2008**
Net sales	$ 61.9	$ 47.0	$ 63.6
Operating profit	10.0	2.1	8.4

Beryllium and Composites manufactures beryllium-based metals and metal matrix composites in rod, sheet, foil and a variety of customized forms at the Elmore, Ohio and Fremont, California facilities. These materials are used in applications that require high stiffness and/or low density and they tend to be premium-priced due to their unique combination of properties. This segment also manufactures beryllia ceramics produced at the Tucson, Arizona facility. Defense and science is the largest market for Beryllium and Composites, while other markets served include industrial components and commercial aerospace, medical, energy and telecommunications infrastructure. Products are also sold for acoustics and optical scanning applications.

Sales from Beryllium and Composites were $61.9 million in 2010, an improvement of $14.9 million, or 32%, over sales of $47.0 million in 2009. Sales in 2009 were 26% lower than sales of $63.6 million in 2008.

The majority of the sales improvement in 2010 over 2009 was due to growth in sales to the defense and science market. Sales to this market, which accounted for over half of Beryllium and Composites sales in 2010, had declined in the second half of 2009 as a result of project funding delays and push outs at that time. The primary defense platforms for these products are aerospace and missile system applications. Due to changes in government spending

patterns, we anticipate that defense sales will be flat to softer in 2011 than in 2010.

Sales to the industrial components and commercial aerospace market, the segment s second largest market, also grew in 2010 over 2009. A portion of this growth was due to the development of new applications for AlBeMet®, a metal matrix composite, in semiconductor manufacturing equipment.

Sales to the medical market improved in 2010 over 2009 after declining significantly in 2009 from 2008. Shipments of x-ray window assemblies nearly doubled in 2010 over 2009. A key driver for this growth is the conversion to digital x-ray equipment, particularly in radiology and fluoroscopy systems. Shipments of beryllium foil for x-ray applications also increased in 2010 over 2009. Our x-ray window assemblies and related materials are used in medical, scientific and industrial applications.

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Sales of ceramic products increased over 50% in 2010 over 2009 after declining 42% in 2009 from 2008. The growth in 2010 was largely due to increased shipments for applications within the telecommunications infrastructure market. The decline in sales in 2009 was largely due to the global economic crisis and its impact in particular on a key ceramic products customer s business.

Sales of beryllium speaker domes for acoustic diaphragm assemblies grew slightly in 2010 over 2009 but remained relatively minor. This niche application presents potential growth opportunities for our materials.

The gross margin on Beryllium and Composites sales was $21.5 million (35% of sales) in 2010, $11.1 million (24% of sales) in 2009 and $19.6 million (31% of sales) in 2008.

The gross margin improved by an estimated $7.9 million in 2010 over 2009 as a result of the higher sales volume. The change in product mix was favorable in 2010 as compared to 2009 while manufacturing overhead costs were also lower in 2010 than in 2009 as we were able to leverage the existing cost base. The difference in input materials, use of vendor scrap and reclamation efforts provided an estimated $0.3 million net benefit in 2010. These margin benefits were partially offset by lower manufacturing yields on welded products that reduced margins by an estimated $1.2 million in 2010. Process improvements were implemented and yields on these products improved in the second half of 2010.

The main cause of the decline in the gross margin dollars and rate in 2009 was the significant fall-off in sales in that year. The margin impact of the lower volumes was partially mitigated by a reduction in direct and overhead manufacturing costs, including manpower, supplies and utility costs. Material input costs increased in 2009 over 2008 and had a negative impact on margins. The change in product mix was slightly unfavorable in 2009.

SG&A, R&D and other-net expenses were $11.5 million (19% of sales) in 2010, $9.0 million (19% of sales) in 2009 and $11.2 million (18% of sales) in 2008. The main driver for the increased expense level in 2010 was higher incentive compensation, due to the improved profitability, and higher corporate charges. Various sales and marketing support expenses, including commissions and travel, also increased in 2010 over 2009. The lower expense in 2009 was due to the cost-reduction initiatives and reduced incentive compensation. These benefits were partially offset by an increase in R&D expenses.

Beryllium and Composites generated an operating profit of $10.0 million in 2010, an improvement of $7.9 million over the operating profit of $2.1 million generated in 2009. This improvement was due to the margin benefit from the higher sales and other factors offset in part by an increase in expenses. Operating profit in 2009 declined $6.3 million from the $8.4 million earned in 2008, primarily as a result of the lower sales volume. Operating profit was 16% of sales in 2010, 5% of sales in 2009 and 13% of sales in 2008.

Technical Materials

(Millions)	**2010**	**2009**	**2008**
Net sales	$ 67.5	$ 34.7	$ 65.9
Operating profit (loss)	5.3	(2.5)	5.9

Technical Materials manufactures clad inlay and overlay metals, precious and base metal electroplated systems, electron beam welded systems, contour profiled systems and solder-coated metal systems. These specialty strip metal products provide a variety of thermal, electrical or mechanical properties from a surface area or particular section of the material. Our cladding and plating capabilities allow for a precious metal or brazing alloy to be applied to a base

metal only where it is needed, reducing the material cost to the customer as well as providing design flexibility. Major applications for these products include connectors, contacts and semiconductors while the largest markets are automotive electronics and consumer electronics. The defense and science, energy and medical markets are smaller but offer further growth opportunities. Technical Materials products are manufactured at the Lincoln, Rhode Island facility.

Sales from Technical Materials of $67.5 million in 2010 were nearly double the sales of $34.7 million in 2009 while sales in 2009 were 47% lower than sales of $65.9 million in 2008. Sales of all major product lines were higher in 2010 than in 2009 and total volumes shipped increased approximately 74% in 2010 over 2009.

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The sales growth in 2010 over 2009 was due to improved demand from each of the key markets served as well as the continued product development efforts. The significant decline in sales in 2009 was due to the impact of the global economic crisis on demand beginning in the fourth quarter 2008 and continuing into 2009. Sales, after reaching their near-term low point in the first quarter 2009, improved sequentially in each quarter of 2009. Sales in the first half of 2010 were higher than sales in the second half of 2010 partially due to the replenishment of downstream inventories in the first half of the year. Total order entry exceeded sales by approximately 10% in 2010.

Automotive electronic sales in 2010 were more than twice the sales level from 2009 as both domestic and foreign shipments improved. Sales to this market declined significantly in 2009, particularly in the U.S.

Sales to the consumer electronics market grew approximately 80% in 2010 over 2009. A portion of the growth in 2010 was attributable to a 64% improvement in sales of disk drive arm materials. After growing into a sizable portion of this segment s sales in 2008, sales of disk drive arm materials declined sharply in the first quarter 2009 and, while shipment levels recovered somewhat over the balance of the year, sales in 2009 were still 46% lower in 2009 than in 2008.

Sales to the medical and energy markets, while relatively minor, also contributed to the sales growth in 2010 over 2009.

Technical Materials generated a gross margin of $14.5 million in 2010, $3.5 million in 2009 and $13.5 million in 2008. Gross margin improved to 22% of sales in 2010 after falling to 10% of sales in 2009 from 21% of sales in 2008.

The $11.0 million increase in gross margin in 2010 over 2009 was largely due to the $32.8 million growth in sales while the associated higher production volumes helped generate improved manufacturing efficiencies as well. Factory labor and other direct manufacturing costs were added back in 2010 only as needed to meet the production schedule. Manufacturing overhead costs were $0.8 million higher in 2010 than in 2009.

The lower margin dollars and rate in 2009 were due to the severe decline in sales during the year. The change in product mix was also unfavorable in 2009. In response to the lower sales, labor and other direct manufacturing costs were reduced approximately 26% in 2009 from the 2008 level. Production schedules were revised to allow for manufacturing to be campaigned on various equipment lines in order to offset a portion of the inefficiencies created by the low production volumes. Manufacturing overhead costs, including manpower, maintenance and utilities, were also reduced by $1.6 million in 2009 from the 2008 level.

While employment levels increased during 2010, the total employment within Technical Materials was 10% lower at year-end 2010 than it was as of the third quarter 2008.

SG&A, R&D and other-net expenses were $9.2 million in 2010 compared to $6.0 million in 2009 and $7.6 million in 2008. Higher selling and marketing costs, including manpower, commissions and travel expenses, were the main cause of the increase in 2010 over 2009. Incentive compensation costs and corporate charges were $1.0 million higher in 2010 than in 2009. Other net-expenses, including the metal consignment fee and other miscellaneous items, contributed to the higher expense level in 2010 as well. The lower expense level in 2009 as compared to 2008 was due to the spending reductions, implemented in reaction to the decline in sales, and lower incentive compensation and corporate charges.

Technical Materials generated an operating profit of $5.3 million (8% of sales) in 2010 versus an operating loss of $2.5 million in 2009. In 2008, this segment earned an operating profit of $5.9 million.

International Sales and Operations

We operate in worldwide markets and our international customer base continues to expand geographically due to the development of various foreign nations economies and the relocation of U.S. businesses overseas. Our international operations are designed to provide a cost-effective method of capturing the growing overseas demand for our products.

In Asia, we have strategically located our facilities in Japan, Singapore, China, Korea, Taiwan and the Philippines. Our European facilities are in Germany, the United Kingdom, Ireland and the Czech Republic. These

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operations provide a combination of light manufacturing, finishing operations, local sales support and distribution services. We also augment our sales and distribution efforts with an established network of independent distributors and agents throughout the world. Approximately 10% of our workforce is based overseas.

The following chart summarizes total international sales by region for the last three years:

(Dollars in millions)	2010	2009	2008
Asia	$ 216.3	$ 163.9	$ 197.5
Europe	127.5	73.5	115.3
Rest of world	25.3	11.8	20.8
Total	$ 369.1	$ 249.2	$ 333.6
Percent of total sales	28%	35%	37%

International sales include sales from international operations and direct exports from our U.S. operations. The international sales in the above chart are included in the individual segment sales previously discussed.