

2011 Annual
Report

W. R. Grace & Co.

Anticipating Demands
Today, for a Better Tomorrow

GRACE

Enriching Lives, Everywhere.®

Grace at a Glance



W. R. Grace & Co. (NYSE: GRA) is a leading global supplier of catalysts; engineered and packaging materials; and, specialty construction chemicals and building materials. Grace employs approximately 6,000 people in over 40 countries.

OUR PRODUCTS

We serve large global industries in which we have built leading market positions, and our specialty products are used to create items used by millions of people each day. Our catalysts enhance refinery performance and assist in the production of plastics. Our materials-based products improve many of the consumer and industrial products you use every day. The construction industry uses our products to strengthen, enhance and protect major structures all over the world.

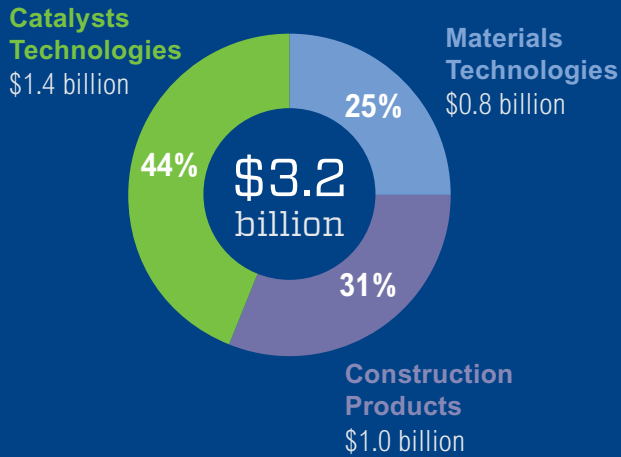
Leveraging our core competencies of materials science expertise, customer focus and innovation, we are dedicated to commercializing highly-valued and innovative products. Our customers trust us to meet their needs, solve their problems and deliver the technologies, services and support needed to enhance their products. We create solutions by differentiating our products at the customer level.

OUR STRUCTURE

Grace is comprised of three industry-leading business segments—Grace Catalysts Technologies, Grace Materials Technologies and Grace Construction Products—that provide innovative products, technologies and services to enhance the quality of life. Our businesses are united by common business practices, global processes and shared values.

Financial Highlights

2011 SALES BY BUSINESS SEGMENT



2011	2010	2009
\$3,211.9	\$2,675.0	\$2,825.0
\$268.8	\$207.4	\$81.2
\$3.57	\$2.78	\$0.98
75.5	74.4	72.6
\$1,048.3	\$1,015.7	\$893.0
\$217.0	\$327.7	\$433.4

Amounts in millions, except per share data

GRACE PERFORMANCE COMPARISON



Chairman's Letter

TO OUR SHAREHOLDERS:

Anticipating customer needs and solving their business problems have always been distinctive factors in Grace's success. This was especially true in 2011, when the volatile cost of rare earth, a key raw material, began to impact our petroleum refining customers. By building upon prior research and innovating new science, Grace was able to rapidly commercialize a new generation of high-performing refinery catalysts with reduced rare earth content, thereby mitigating the cost impact on our customers. As you will read later in this report, this was one of many success stories for 2011 in which Grace's innovative technology, materials knowledge and market leadership addressed our customers' needs and ultimately made them more successful in their marketplaces.



Fred Festa

Chairman and CEO

This disciplined customer focus, combined with strong operational and financial management, resulted in very strong 2011 results for our company. Highlights for the year include:

- Net sales increased 20 percent to \$3.2 billion;
- Adjusted earnings before interest and taxes (EBIT) increased 47 percent to \$479 million; and
- Net income increased 30 percent to \$269 million.

Thanks to this financial performance in 2011, investors in Grace common stock were rewarded with an annual return of 30 percent, while longer-term investors saw a 5-year total shareholder return of 132 percent. Both measures significantly outperformed the respective total returns of the benchmark Standard & Poor's 500 Index and the Standard & Poor's 500 Chemical Industry.

CUSTOMER-FOCUSED GROWTH

Grace's businesses all grew in 2011, led by our Refining Technologies and Specialty Technologies product groups. Customer demand was good throughout the year, except for our packaging product line, which experienced a slowdown in the

second half of the year, largely due to weaker demand in Europe.

Emerging region net sales grew 15 percent and represented 32 percent of our total net sales in 2011. We are actively investing in emerging economies because of their high overall growth rates and their increasing demand for products made with our catalysts, chemicals and materials. In 2011, we opened three new manufacturing plants, in Colombia, Panama and India, expanded manufacturing plants in Brazil and Malaysia, and opened a technical center in India. In the past 18 months, we have invested \$140 million in new product capacity, existing capacity expansions and acquisitions. These investments, many of which are outlined in the following pages, directly support our customers' plans to expand close to growing markets.

Grace Construction Products (GCP) demonstrated good year-over-year growth in each quarter of 2011, but full recovery for that segment is dependent upon improvement in the construction macro environment. In mature markets, we are managing this segment for profitability, while in emerging regions, we are managing for growth. With the delayed recovery in Europe, we took actions to improve GCP's overall profitability by repositioning our business in Spain and Portugal. We continue to invest in GCP and we have made four acquisitions in the last two years, including the De Neef Conchem waterproofing acquisition that closed in July 2011.

FINANCIAL FLEXIBILITY

Grace's liquidity and cash generation remain very strong. At year end, cash and cash equivalents totaled more than \$1 billion. Cash grew by over \$30 million during the year, after deducting

almost \$145 million for capital expenditures and acquisitions, and \$265 million for pension contributions. Our priorities for reinvesting our cash remain unchanged. We intend to invest in the growth of our businesses, including capital expenditures, especially for the emerging regions, and bolt-on acquisitions that complement our existing business portfolio. Any additional available cash will be used to reduce our financing requirements or returned to shareholders in an efficient manner once we have emerged from bankruptcy.

STRENGTHENING THE ENTERPRISE

In November 2011, I announced the transfer of my day-to-day business unit responsibilities to Greg Poling, who was elected President and Chief Operating Officer by the Grace Board of Directors. Greg previously served as President of Grace Davison, Grace's largest operating segment. Since my arrival at Grace in 2003, I have worked to transform Grace into a globally-integrated operating company that shares common business processes. We have made tremendous progress to date, and Greg will use his outstanding leadership skills, experience and record of results to keep us moving forward.

We also have strengthened our enterprise by operating safely and sustainably. Employees continue to embrace our "Lead with Safety" initiative. We aspire to be best-in-class, and become the chemical company that other firms benchmark against.

CHAPTER 11 UPDATE

We made significant progress in our bankruptcy proceedings in the past year. Our Joint Plan of Reorganization was confirmed by the bankruptcy court on January 31, 2011. On January 31, 2012, the U. S. District Court released its ruling, which overruled all objections and confirmed the Joint Plan in its entirety. We are gratified that two federal courts have now ruled that our Joint Plan is fair to all parties.

Also on January 31, 2012, we announced an agreement in principle with the claimants in Libby, Montana, and certain other parties, to settle all Libby-related objections to our Joint Plan. We are excited about this agreement because it eliminates further appeals from these parties. This agreement in principle is subject to the execution of definitive agreements and approval of the bankruptcy court.

While we are eager to emerge, this year underscored our effectiveness at operating under Chapter 11

protection. The bankruptcy has not been an obstacle in implementing our growth plans of product innovation, geographic expansion, capital investment and acquisition. But, it is due time to put the Joint Plan into effect so that money can begin to flow to claimants who have been waiting to be compensated, and so that Grace can move forward as well.

SUSTAINABLE GROWTH

Our operating performance reflects our careful planning and solid execution. We will build upon our earnings improvement track record. To underline our confidence in Grace's sustainable growth, we introduced an earnings goal of \$850 million in Adjusted EBITDA by 2014, representing a 12 percent compounded annual growth rate compared with our 2011 results. We aim to achieve this target through market growth, margin expansion and potential bolt-on acquisitions.

IN CLOSING

We are confident in our goals and in being well-positioned for continued growth. Our shareholders and customers will continue to benefit from our new products, our capacity investments and our productivity efforts. We have the right products, the right customer relationships, the right geographic footprint and the right team to continue to outperform in any environment.

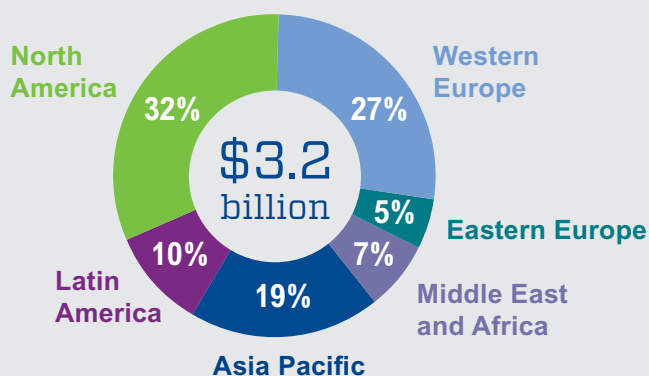
I am very proud of all Grace employees, who played such an important role in our success in 2011. We all remain committed to retaining your trust each and every day.


Sincerely,

Fred

Fred Festa
Chairman and Chief Executive Officer
February 24, 2012

2011 SALES BY REGION





Customers have long recognized Grace as a trusted supplier and business partner.

Essential to Grace's success in the specialty chemicals and materials industry are innovative research and development (R&D), highest quality products, reliable on-time manufacturing, global regulatory expertise, premier technical service and unparalleled customer support. This value chain has enabled Grace to anticipate and meet customer needs.



RARE EARTH-FREE CATALYSTS

Rare earth price inflation was the most impactful raw material challenge the global refining industry faced in 2011. Rare earth prices increased more than 15 times from mid-2010 to mid-2011. Grace led the industry with the first line of commercially successful zero/low rare earth fluid catalytic cracking (FCC) catalysts: the REpLaCeR[®] catalyst family.

Introduced in the first quarter of 2011, the REpLaCeR[®] catalyst family includes six new catalysts and two additives, each designed with zero and low rare earth content that are applicable over a broad range of FCC operations. The REpLaCeR[®] catalysts use proprietary materials and state-of-the-art manufacturing methods to deliver performance similar to current rare earth-based FCC

Grace in Curtis Bay, Maryland, USA

technologies. The savings realized by customers vary depending on the starting rare earth level, but were significant in 2011.

REpLaCeR® catalysts have seen success in dozens of commercial applications in 2011 thanks to the close collaboration between our customers and Grace R&D, technical sales and marketing teams. Our experienced technical service team assists our customers with FCC unit re-optimization to minimize the impact of the reformulation on the product slate. As a result, Grace's customers are realizing equivalent or improved performance with the new catalysts without the surcharge cost.

NEW MATTING PRODUCTS DRIVEN BY CONSUMER NEEDS

Recently, Grace launched the SYLOID® MX generation of matting agents that help to increase matting efficiency in high-solid and UV-cured paint systems by up to 40 percent.

Industrial developments and legislation are increasingly driven by the growing concerns about climate change and, in turn, the global efforts to reduce carbon footprints across a wide range of industries. In the paint industry, there has been a progressive trend toward the development of environmentally-friendly coatings with reduced volatile organic compounds (VOC) content.

Low-VOC coatings, such as high-solid or UV systems, pose increasing technical challenges for producing matte paints, as the matting mechanism occurs following different dynamics in such systems when compared to typical solvent-borne paints.

The combination of Grace's deep expertise in silica materials, formulations and application knowledge has led to the development of a new porous silica technology exhibiting a novel matting mechanism. The SYLOID® MX generation of matting agents was born.

The new SYLOID® MX matting agents help our coatings customers to more effectively reduce the VOC content in their paint products, while at the same time providing optimal performance in traditional lacquer systems.

Operations

NEW TECHNOLOGY KEEPS CONCRETE "FRESH"

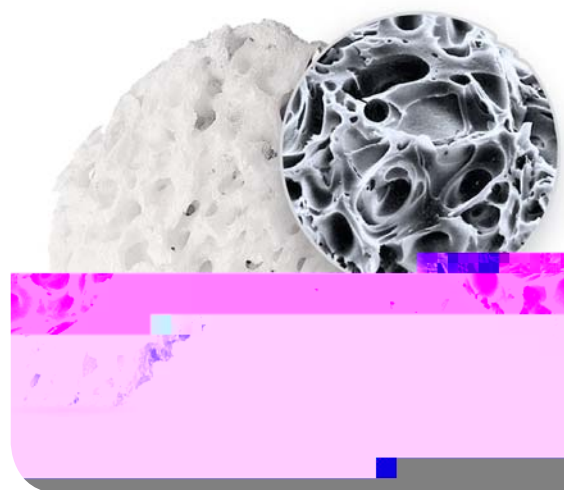
Producing ready mix concrete requires approximately five minutes in the batch plant and 40 minutes in transit. Traditionally, the ready mix industry has focused on optimizing the batch mix, with less emphasis on optimizing the mix during the 40 minutes of transit time.

Verifi, LLC, a Grace subsidiary, provides sophisticated process control for the 40 minute transit time, ensuring that concrete is delivered to the construction site with optimum quality. Verifi measures concrete properties while in transit and automatically makes water and/or chemical adjustments based upon the concrete mix design and the desired concrete characteristics. The result is consistent, high quality concrete delivered to the construction site each and every time.

Verifi reduces the concrete producers' cost by reducing rejected loads, cycle time and the amount of cement used. Verifi has also proven that it increases the producers' sales and protects the producers' price for concrete. Many concrete contractors now specify that Verifi-enabled trucks be the only trucks used on their jobs.

CAPACITY EXPANSIONS

Global companies recognize that the developing countries in Asia, South America and Africa hold future growth opportunities. As countries become more industrialized, they need infrastructure such as roads, bridges and airports. Multifunctional plastic products are substituted for raw materials such as wood and metal. As energy demand goes up, purchasing power typically



Top Image

Proprietary zeolite technology drives REpLaCeR® catalyst performance

Bottom Image

SYLOID® matting agent

increases, and more consumer goods are used. In addition, developing countries are often a rich source of natural resources, such as oil and natural gas.

Using a combination of innovative product solutions, supply chain efforts and value-added services, Grace delivers value to our global customers and shareholders alike.

Left Image

New polypropylene facility in Worms, Germany

Right Image

New silica gel plant in Kuantan, Malaysia



Grace's customers—leaders in the chemical, refining, plastics, packaging, consumer and industrial segments—are expanding their operations into these countries in order to be closer to new feedstock supplies and to these new, rapidly-growing consumer markets. Since our products are so integral to our customers' success, Grace has made significant investments to expand our manufacturing capacity and technology to anticipate demand.

Grace has expanded its relationship with Kuwait Catalyst Company (KCC) through ART (Advanced Refining Technologies LLC, our joint venture with Chevron Products Company) to provide more manufacturing capacity in the Middle East for hydroprocessing catalysts for the petroleum refining industry.

Grace completed an expansion of its Worms, Germany operations to increase production of next-generation polypropylene catalysts to support the new units our polyolefin customers are building.

Increased capacity at our Kuantan, Malaysia and Sorocaba, Brazil sites that came on-stream in 2011 will produce silica gel used in more consumer-oriented end products, such as beer and the refining of edible oils, as well as renewable fuels (bio-diesel).



India's Genome Valley region is a growing biopharmaceutical area with more than 100 biotechnology companies and major generic pharmaceutical manufacturers. Our Discovery Sciences product line opened a technical service Knowledge Centre in Hyderabad to support these companies.

Also in 2011, Grace completed an expansion of its ZSM-5® additives capacity at Valleyfield, Canada to support growth in the resid to propylene market.

Over a three-year period ending in 2011, Grace Construction Products built eight plants to provide cement additives and concrete admixtures in developing regions to enhance service and delivery times for customer growth.

Grace knows that our customers depend on our technical capabilities and our commitment to manufacturing excellence to provide product quality and consistency. As our customers grow, our strategy is to be well-positioned to support their growth anywhere in the world.

SUCCESS THROUGH PARTNERSHIPS WITH INDUSTRY LEADERS

For more than 50 years, Grace has been a leading producer of polyolefin catalysts and additive systems. Our heritage

is in polyethylene catalysts, but through a series of acquisitions, partnerships and joint development agreements, we accelerated our growth into the polypropylene catalyst sector. Today we are the #1 independent polyolefin catalyst supplier globally. Our customers include the ten largest polyolefin producers in the world.

Polyolefin producers operate large integrated chemical complexes with multiple facilities positioned globally to take advantage of the feedstock position or proximity to the growing markets. Consistent performance regarding reactor operability and exacting product properties must

be replicated across the range of these facilities. Consistent catalyst is critical to this performance.

Grace catalyst systems enable users to make products with improved properties, such as clarity, stiffness and impact strength. These enhanced properties improve the performance and value of many applications, including food packaging that maintains freshness or shelf life, lightweight automotive parts (resulting in decreased greenhouse gas emissions), household appliances and containers, and high performance pipe for municipal infrastructure. In addition, new Grace catalyst offerings improve plant productivity.

Grace is well positioned with advanced technologies, differentiated products and a large, well established customer network around the world.

Service

PREMIER TECHNICAL SERVICE

Grace's DAREX® "flowed-in" gasketing technology revolutionized modern can production. More than 90 years and trillions of cans later, Grace continues to offer the most technologically advanced water-base and solvent-base can sealants in the industry. These include our latest generation of high-solids products engineered to address today's challenges of global interchangeability, thinner gauge metals and high speed production.

Customers have long recognized Grace as the industry leader and the most trusted supplier of can sealants. Today, DAREX® can sealants and can coatings, including Grace's rapidly growing APPERTA® BPA-NI can coatings technology, provide a comprehensive product offering demonstrating our total commitment to servicing the can packaging industry.

While total commitment begins with innovative products, it also requires investment in our technical capabili-



ties. Our understanding of the technical demands of can sealants is unmatched in the industry. We recognize that true customer value is achieved by the performance of our products in our customer's package. We partner with can makers around the globe to assure proper conditioning, application and interaction of our product with their technology, thus ensuring preservation of the quality and freshness of packaged foods and goods.

Grace is taking technical partnerships to a new level. Our experts are already working proactively with key customers to deliver DAREX® Premier Technical Service, assuring the performance of our products in their package. Over 250 customer events have been completed in the past two years. These services, integral to the DAREX® brand promise, include:

- Customer training to drive continuous improvement
- Engineering design consulting to deliver operational efficiency
- Application best practice assessments to optimize quality
- Access to our pilot scale laboratory capabilities to accelerate innovation
- Troubleshooting services providing third party expert analyses

Grace products and DAREX® Premier Technical Service help our customers deliver cost effective, sustainable, innovative rigid packaging solutions that protect the quality of their customers' products and goods, and ultimately preserve the brand owner name.

RAPID FIELD RESPONSE SAVES THE DAY IN FRANCE

In 2011, Grace Construction Products acquired the De Neef line of preventative and remedial waterproofing products, concrete protection and repair products.

During the construction of a new water treatment facility in the town of Mantes la Jolie, France, all work on an excavation site came to a halt when substantial water leaks were found in the joints of the slurry walls. To allow excavation in the unstable soil, a concrete slurry wall was installed before the excavation began to stabilize the soil and prevent collapse and water inflow.

On this job, a poorly constructed portion of the wall failed. Being located on the banks of the river Seine, the extreme ground water level and ground water pressure caused major concerns. The leaking wall joints presented a dangerous situation. Without an immediate solution, the water would have washed away the soil behind the structure, causing instability and endangering the entire project.

De Neef France was contacted and immediately deployed a technical support team to organize material, equipment and support personnel on site.

Deep holes were drilled to the back of the wall and large injection ports were installed. Then, using a special high flow pump with adapted drill and packer techniques, the team was able to seal the leak with support from De Neef France in less than one day of work.

De Neef has a long and distinguished track record for providing service on difficult jobs. Its products have been used for over 30 years in tunnels and underground construction.

Sustainability

As the world changes around us, we work together to continue to minimize our impact on the environment while enhancing lives. As nations develop, regulations emerge and new technologies present both opportunities and challenges. We share best practices and conserve the environment while protecting the health and safety of our colleagues and communities.

SUSTAINABILITY

In 2006, Grace implemented our Environment, Health and Safety (EHS) Management System that provides a consistent approach to managing all EHS aspects of our business. These aspects include the health and safety of our employees, cyber and physical plant security, the safe use of our products and minimizing our impact on the environment.

In 2011, we certified seven locations to the Grace EHS Management System, including facilities in Indiana, Massachusetts, California, Tennessee, France, Hong Kong, Canada, Brazil and the Philippines. Since we began the process six years ago, more than 50 of our sites have successfully earned the certification.

We will continue to build on the EHS Management System certifications, as well as other foundational EHS programs, including compliance audits, global safety standards and our other compliance assurance activities.



SAFETY

In terms of safety, we witnessed a shift in the culture and improvements in our safety performance since emphasizing our “Lead with Safety” company philosophy. In 2011, we achieved a recordable incident rate of 0.70, a rate significantly lower than our industry’s average. Furthermore, our Driver Safety Program led to a 45 percent reduction in accidents per million miles driven since 2009.

STEWARDSHIP

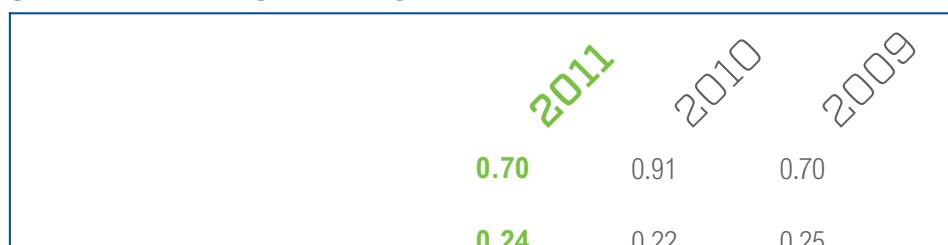
For us, sustainability isn’t just about preserving and protecting our environment, but also about helping our customers and communities when natural disasters strike. We combine our focus on EHS with volunteerism and philanthropy aimed at better supporting our communities. For example, in 2011 we helped customers and communities recover after several unfortunate events, such

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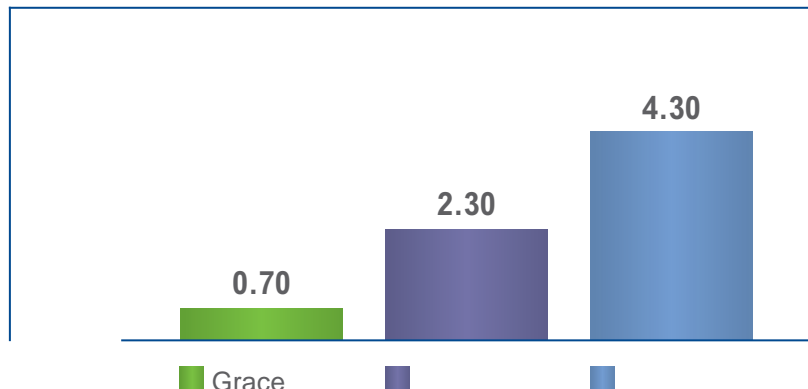


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SAFETY PERFORMANCE



GRACE SAFETY VS. INDUSTRY AVERAGES



Source: American Chemistry Council

More information on our sustainability and environment, health and safety performance for the years 2008 through 2011 is available on our web site, www.grace.com, in the About Grace > Environment, Health and Safety section.

W. R. GRACE & CO. LEADERSHIP TEAM

Chairman and Chief Executive Officer

Senior Vice President and
Chief Financial Officer

President and Chief Operating Officer

Vice President, General Counsel and Secretary

Vice President and Chief Human Resources Officer

BOARD OF DIRECTORS

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Retired Chairman and Chief Executive Officer
International Business Machines Corporation

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Retired Chairman of the Board,
President and Chief Executive Officer
Mercantile Bankshares Corporation

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Retired Chairman of the Board and
Chief Executive Officer
Newmont Mining Corporation

Chairman and Chief Executive Officer
W. R. Grace & Co.

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Chancellor
University of California San Diego

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Retired Senior Vice President,
Martin Marietta Materials, Inc.

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Retired Vice Chairman
Citicorp and Citibank N.A.

*
Retired Senior Vice President and
Chief Financial Officer, Innovene

*
Retired Chairman and Chief Executive Officer
M/A-COM, Inc.

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INVESTOR INFORMATION

www.grace.com

Our Vision

Grace strives to be a premier specialty chemicals and materials company. We provide innovative technologies and value-added products and services around the world to enhance the quality of life.

Our Purpose

We are dedicated to our customers. They trust us to provide products, knowledge, technologies, services, and the people to make their products work better.

Our Values

Teamwork

Treat others with respect. Work safely and effectively with each other to win in the marketplace. Communicate openly and candidly.

Performance

Provide products and services that will make our customers successful.

Integrity

Maintain and expect the highest level of ethical behavior.

Speed

Move quickly to seize advantages in the marketplace. Anticipate market shifts and respond before our competitors.

Innovation

Encourage people to constantly look for new ways to create value.

GRACE

Enriching Lives, *Everywhere*.[®]