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Frischkorn To Head Ferro Glass Systems



Hans-Juergen Frischkorn

Hans-Juergen Frischkorn has been named Worldwide Business Director of Ferro Glass Systems (GS) effective August 1. He succeeds Jerry Heider who is retiring July 31. Heider served in the position since Ferro acquired dmc². (See the article on this page for details about Jerry's career.) Frischkorn will report to Celeste Mastin Vice President of Ferro's Color and Glass Performance Materials (CGPM) business.

A native of Schlüchtern, Germany, Frischkorn is currently serving as the European Business Manager for CGPM with overall responsibility for CGPM business in Europe, a post he has held since 2002. In his new position, Hans-Juergen will be dividing his time between GS sites in Limoges, France, Frankfurt, Germany, Zibo, Japan, Orrville, Ohio and Washington, Pennsylvania, as well as Ferro's headquarters in Cleveland, Ohio.

Celeste Mastin, who announced the appointment said, "Hans-Juergen is well-known and well-respected in the glass and pigments and colors industries and his extensive experience in these businesses make him an ideal person to head Glass Systems. We are looking forward to his leadership in continuing the long-established success of Glass Systems in serving Ferro's global customers in the automotive, architec-

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Glass Industry Veteran Jerry Heider To Retire

Jerry Heider, Worldwide Business Director for Ferro Glass Systems, has announced his retirement effective July 31 after more than 36 years of service to the glass industry.

"Jerry and I worked together for nearly 20 years, beginning with Drakenfeld," said Bob Martel, long-time friend, colleague and former Color and Glass Performance Materials Vice President for Ferro. "While the company has made several changes since then, Jerry's knowledge of the glass business, reputation in the industry and relentless commitment to customers were each key factors in making Glass Systems one of the most consistently successful and profitable businesses over the years."

Headquartered at the Washington site for nearly 25 years, Heider joined Ferro as part of the dmc² Degussa Metals Catalyst Cerdec acquisition in September 2001 and has had responsibility for Ferro's global automotive, architectural, container and appliance glass businesses as well as CerMark™ Laser Marking.

A long-time leader in the glass industry, Heider pioneered the development and widespread introduction of lead-free enamels for architectural and automotive glass. As a result, Ferro was the first firm to introduce lead-free enamels for spandrels and encouraged US glass manufacturers to switch to these environmentally preferred enamels. To date, all US-based glass manufacturers have converted to lead-free spandrel glass and the trend is continuing in other countries as well. Glass Systems is also leading the way for the adoption of organic, heavy-metal-free inks and coatings in the glass container industry.

Throughout his career, Heider has offered his time and support to the Society of Glass and Ceramic Decorators (SGCD) and the former Glass Tempering Association (GTA), which is now part of the Glass Association of North America (GANNA).

Heider has long supported the SGCD by exhibiting at and through sponsorships for the Society's annual Deco trade show and conference. He has also encouraged participation

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Colleagues, Customers, Friends

By Jerry Heider, Glass Systems Worldwide Business Director



Jerry Heider

Many people who retire lament the fact they will miss the work. Now that I am retiring after 36 years in the industry, I believe I have a better understanding of what they mean. I think they mean they will miss their colleagues, their customers and their friends.

Just about everything we do in our professional lives involves interacting with others in person, on the phone, fixed or mobile, via the increasingly ubiquitous e-mail, video

conferencing and at seminars, conferences, trade shows, etc.

Although I will be formally leaving the business world I have inhabited for the past three-and-a-half decades, I will, as most retirees do, maintain friendships in my social circles including many golfing, hunting and fishing companions.

I will, however, miss the people I have worked with for many years, the colleagues with whom I have spent countless hours planning and coordinating all of the key activities involved in running a global business. I will miss this camaraderie and the friendships I've established with them and their families and know, despite protestations to the contrary, that we may lose touch as time goes by and our lives go on at a different tempo and in a different place.

"No Man Is An Island..."

Friendships with colleagues have made the journey through time an enjoyable and rewarding experience – an experience forged by working together to reach goals important to the success of the business and to all of us, an experience shaped by solving difficult problems and challenges together and celebrating our most noteworthy achievements.

With globalization increasing at a phenomenal rate, the often quoted "No man is an island..." by the British poet and clergyman John Donne in 1623 is more relevant today than it was four centuries ago. Globalization has led to new colleagues, customers and friends around the world adding to the list of those in many countries who I will miss.

Although this has been good for business it has come with some sacrifices. As business has become more competitive and frenetic in the struggle for market share, the relationship between suppliers and customers in the supply chain in many industries – from raw material providers to manufacturers and consumers – has changed in many ways.

Friendships Have Made The Journey Enjoyable And Rewarding

It is changing rapidly in the glass industry too but one of the unique characteristics of our industry has been the loyalty and friendships that we were able to develop. Glass Systems has many customers with whom we have become friends over the years. This doesn't mean that we were awarded business because we were friends. We became friends because we developed a mutual trust and respect based on performance that led to friendship.

We have enjoyed helping our customers solve their problems and have tried to provide them with the products and services they needed to compete effectively. We have worked hard at understanding what they needed to succeed and that led us to formally adopt the motto that we are using on all of our literature and information bulletins – *When our customers succeed, we succeed.*

When we erred or failed to deliver on our promises, we readily acknowledged this to our customers and then took every measure possible to make the situation right. This earned us the reputation for integrity and trust.

Although there has been a "changing of the guard" both in our organization and among our customers we have worked very hard to preserve the core values of excellence, innovation, reliability and leadership which had their genesis more than 100 years ago when two young immigrants from Germany formed the business that is today Ferro Glass Systems. There has been a phenomenal amount of change during that time but our core values have remained constant.

My colleagues with whom I have worked the past 23 years are imbued with those values and they will continue to be guided by them long after I am gone. They know that the definition of core values means they are not relative. They are constant.

They know that helping customers to succeed and serving them on a consultative basis and not as an "arms length" supplier will help ensure the continued success of Glass Systems.

I am proud of what we have accomplished in the past two decades and grateful for the friends I have both in the company and among our customers. I wish you all a successful and rewarding future.



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Glass Industry Veteran Jerry Heider To Retire

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in the technical presentations associated with this event – which often tackle industry and product developments plus legislative and regulatory issues.

In 1994, the GTA, Flat Glass Marketing Association and Laminators Safety Glass Association merged to form GANA, which Heider has been associated with for



Glass Systems presented 250 American flags that were each flown over the US Capitol to customers. Jerry Heider (left) presents a flag to PPG Industries' Dave Weakland, Manager, Operations Planning and Scheduling for Automotive OEM Glass.

more than 20 years. He has served as Ferro's Executive Representative to GANA from 1987 until today, sat on the Association's Board of Directors from 1989 to 1993 and was Chairman of the Marketing and Communications Committee for several years.

In the early 1990s, Heider helped develop a glass safety checker as a way for consumers to check the glass in their homes to determine if it was tempered or non-tempered. At that time, according to the *Emergency Room Physicians' Report*, more than 200,000 persons a year were injured seriously enough in home-based glass-related accidents to seek treatment in hospital emergency rooms. Today that number is estimated to be more than double.

The glass safety checker increased safety awareness among consumers regarding tempered glass, which will shatter into small, rounded pellets reducing the risk of a glass-related injury. Non-tempered glass breaks into long, jagged shards.

Prior to his appointment with Ferro, Heider served as President of the dmc² Glass Systems Division with a broad range of responsibilities for all worldwide business, including P&L, capital investment, product technology and development, sales and marketing plus technical service for automotive, architectural and container glass.

In addition, he served as Vice President of Cerdec Corporation's Glass Division from 1993 to 2000 and held several positions, including Vice President of the Glass Division, with Ciba-Geigy's Drakenfeld Colors during his 11-year tenure.

Heider also served as Adjunct Professor of International Business at Waynesburg College in Waynesburg, Pa. from 1994 to 1999. He started his industry career in 1969 with a 13-year term at O. Hommel Company in Pittsburgh, Pa.

Heider earned an MBA from Waynesburg College, holds a Master of Science in Organosilicon Chemistry from Duquesne University in Pittsburgh and received his bachelor's degree in Chemistry from Washington & Jefferson College in Washington.

An avid sportsman and Harley-Davidson enthusiast, Heider intends to spend his retirement hunting, fishing, golfing and riding his Heritage Softail® Classic.

"As I've said before, it's been a great ride," Heider said. "I have immense respect for the many colleagues, customers and friends that I've worked with over the years for their time, efforts and dedication. Thanks for the memories."



Jerry Heider presents a retirement gift to Gerd Peter Niemann, former CEO of the company's operations in France, to commemorate his more than 40 years of service.



Oceans apart: Heider, Watcharin Sirawajanakul, Sales Manager for Ferro Thailand, and Jonathan Cork, Worldwide Business Manager for Container, catch up in person at DECO 2004.



Washington employees commemorate a job well done after the plant is recertified as an OSHA Star Worksite. From left are Technical Service Representative Dennis Gilmore, Environmental, Health and Safety (EH&S) Engineer Jason Fox, Associate Chemist Michelle Wilson, Warehouse Technician Dean Jungo, Shipping Clerk Linda Moore, PC Support Specialist Brian Kernan, EH&S Manager for CGPM Tim Counihan and Lab Technician Bob Zinkhan.

Washington Maintains Its Star Status

After successfully completing its second Occupational Safety and Health Administration (OSHA) Star recertification audit, the Ferro Glass Systems Washington, Pa. site has been recertified as an OSHA Star Worksite. The site's most recent recertification audit was held in March while the first one was successfully completed in 2001.

"This audit is another effective way for Washington to continue to improve its safety and health programs," said Tim Counihan, Environmental, Health and Safety (EH&S) Manager for Color and Glass Performance Materials. "By having outside experts conduct the evaluation, we receive useful feedback and more ideas on how to advance our safety initiatives."

This year's audit resulted in a few minor findings that were easily remedied and corrected within the given 90-day timeframe.

Star participants are reevaluated every three years, but conduct a self-evaluation annually. For the yearly and triennial recertifications, Star candidates must comply with four key elements including management leadership and employee involvement, worksite analysis, hazard prevention and control as well as safety and health training.

The Washington site first received the OSHA Star Award in 1997, at which time fewer than 300 US firms had received the certification including Fortune 300 firms such as General Electric, IBM, Dow and Chevron. To date, there are 1,275 Voluntary Protection Program (VPP) Star Worksites nationwide.

The OSHA VPP is designed to recognize and promote effective safety and health management. VPP participants are a select group of companies that have developed and implemented comprehensive health and safety systems to effectively identify, evaluate, prevent and control occupational hazards to prevent employee injuries and illnesses. OSHA approves qualified sites to one of three programs: Star, Merit or Star Demonstration, with Star being the most prestigious.

Around The World: Ferro Coats Three Global Landmarks

New York City's new Seven World Trade Center (WTC) high-rise, the first major rebuilding at Ground Zero since 9/11, is scheduled for completion in late 2005 or early 2006. Located north of the WTC plaza, the new building is constructed with Viracon glass and the spandrel areas incorporate Ferro Glass Systems' (GS) lead-free ceramic enamels.

The 52-story skyscraper replaces the former Seven WTC, whose structure was damaged by the attack on the nearby twin towers. Designed by architects Skidmore, Owings & Merrill LLP, the more than 1.7 million square feet steel and glass building will stand 750 feet tall.

Seven WTC is designed with safety in mind, surpassing current building code standards with stronger structural elements and multiple safeguards in place to protect against fire, smoke and other emergencies. The reinforced concrete base and walls provide protection and support, and internal corridors allow for faster movement. The stairs are also 20 percent wider than currently required.

Viracon, an architectural glass fabricator headquartered in Owatonna, Minn., supplied glass for the new skyscraper including spandrel glass, which is decorated with the company's Solarscreen™ Radiant Low-e insulating glass and a Custom Silk-screen pattern in Medium Gray Ceramic Frit. Spandrel glass is used between floors to conceal ducts, pipes and other structural items.

Ferro's lead-free enamels were also used to coat spandrel glass at the new Bangkok International Airport in Thailand. Viracon's Clear Laminated glass with Solarscreen Titanium Reflective Coating and Custom Silk-screen in Gray Ceramic Frit were used for the new Suvarnabhumi Airport, which is slated for completion in late 2005. Viracon supplied more than 30,000 square feet of large screen-printed glass for the project.

The new airport will be able to handle 45,000 passengers each year. With the construction of the new airport, government officials hope to make Suvarnabhumi the air traffic hub of Southeast Asia. Upon completion of the project, the airport will replace the current Don Muang airport.

In addition, Viracon supplied the spandrels, which were decorated with GS' ceramic enamels, for the world's new tallest building – Taipei 101 in Taiwan.



Ferro's lead-free ceramic enamels were used to coat spandrel glass on the new Seven World Trade Center in New York.

New Coating Protects Cars On Assembly Line, Finish Line

Glass Systems' (GS) new temporary protective coating has proven its merit in the rigors of high-speed racing. The clear coating, which shields metal, glass and other surfaces from superficial damage, has demonstrated both durability and consistency in the racing and automotive industries under vigorous conditions by Dyson Racing and Panoz Automotive Development Company.

"This is one of the most beneficial products our company has seen and used in recent years," said Randall Kelsey, Team Manager, Dyson Racing Team. "It meets our strict racing standards with exceptional results. After a race we can simply peel the coating off and the body work is like new underneath." Dyson Racing, located in Poughkeepsie, N.Y., uses the coating on its Thetford/Norcold Lola EX257 Le Mans sports car.

In addition to protecting against dings, chips and residue from bugs, the coating can withstand 200 mph wind forces, debris, scuffs, tire rubber, small stones, rain and other conditions. The coating also maintains flexibility below freezing and softens at 90°F, helping to protect materials at both extremes in temperature.

"The range of uses is infinite," said Bert Gardner, GS Coatings Chemist. "An imaginative person could think up any number of ways to use our coating. It could even protect windows and expensive telescope lenses from being scratched during shipping," he added.

With nearly endless applications in the automotive, architectural and industrial markets, GS continues to test the clear coating on racecars, new cars during transportation, shower doors, mirrors and flat glass. The coating can be applied by spray, squeegee or roll coat, or by sponge brush to create a textured finish. It has a drying time of less than 30 minutes, and is easily peeled off and discarded after use.

"We're testing in the racecar industry to see how it can weather these varying conditions," explained consultant Charles Smith, who works with GS and the automotive and racing companies to test the new coating.

Panoz Automotive Development Company of Hoschton, Ga. uses the coating to protect its clear-coated, carbon fiber doorsills after they are installed at the midpoint of the Esperante model's assembly line.

"The coating has allowed our staff to climb in and out of the car as it travels down the rest of the assembly line without worrying about scuffing the finish coat," said John Leverett, Director of Engineering and R&D at Panoz. "At the end of the assembly line the car gets its final detailing and technicians just peel off the protective coating and the car is ready for delivery. This has saved us countless hours and dollars in reworking the finish on these components at the end of the assembly line."

The coating is also being used by AutoCon Motor Sports of San Diego, Calif. on the company's American LeMans P1 class Lola and its Trans-Am Jaguar.

"Next we will offer the coating to consumers, who can apply it to their personal vehicles for trips and other uses," explained Smith.



Ferro's new temporary protective coating, shown here on racecars owned by Dyson Racing, has proven it can withstand the rigors and varying conditions of high-speed racing. Photo credit: Regis Lefebure.

Schilling Expands Production With Saati Top 14 System

With the installation of the SaatiPrint Top 14 Clamp System, Schilling Graphics Inc is the first US-based company to successfully install the stretching system and SaatiPrint's largest North America installation to date. The system provides Schilling Graphics with the most up-to-date clamps available in screen-printing and stretching technology.

"The SaatiPrint Top 14 Clamp System is the best the industry has to offer," said Doug Schilling, Schilling Graphics President/CEO. "This investment is another example of our ongoing commitment to utilize the latest technology and machinery available to offer our customers an exceptional level of service."

The SaatiPrint Top 14 system provides a higher tension, suitable for small to extremely large frames, and a longer, five-and-a-half inch stroke per clamp for 11 inches of total stretch in each direction. The system contains a special pneumatic device that lifts the mesh above the frame's surface for stretching, which reduces friction and delivers a very high degree of repeatability and reliability for a more consistent screen.

The clamp offers optimum pneumatic screen tensioning to achieve the highest recommended tensions more uniformly. Its patent-pending moveable design pre-stresses the frame while simultaneously eliminating mesh contact with the frame surface to eliminate contact with rough or uneven frame surfaces.

With the installation of the Top 14 Clamp System, Schilling installed its previous SaatiPrint Top 10 clamps at its Owatonna, Minn. facility, giving both production sites comparable screen-fabrication capabilities.

"This is extremely important for our customers," Schilling noted. "If necessary, production could be transferred from site to site without interruption to the customers' schedules."

CerMark Has Right Stuff For US Coast Guard

CerMark™ demonstrated laser bonding for bar coding at the Elizabeth City, N.C. Coast Guard Air Station's third annual 2D Bar Coding Symposium June 22-23. There they taught attendees from the Coast Guard and other branches of the military how to mark parts for identification and other purposes.

CerMark exclusively supplies laser marking materials used to mark parts for the Coast Guard's Unique Identifier (UID) Program, which prevents counterfeiting and the use of substandard parts from being used for repairs. The Elizabeth City base serves as an aircraft repair and supply center for helicopters, carrier planes and jets.

CerMark is Laser Bonding Mil Spec, a Department of Defense marking standard known as "MIL-STD-130L" signifying that it has been certified to handle the UID barcode marking for the military. The company is also certified to mark parts for NASA with "NASA STD 6002" and for the Automotive Industry Action Group (AIAG) with "AIAG B-4."

The US Coast Guard and the Aircraft Repair and Supply Center (AR&SC) began their UID/2D Bar Coding project in 1996, and applied tamper-resistant labels to Dauphine helicopter parts in 1997. In 2002 the AR&SC began marking Jayhawk helicopter and Falcon jet aircraft parts.



CerMark exclusively supplies laser marking materials to mark aircraft parts for the US Coast Guard's Jayhawk helicopter.

CerMark's read-through magnetic paint, which appears opaque to the naked eye while concealing marks used to identify and deter counterfeiting of automobile parts, aircraft parts and other industrial and consumer products, is currently being tested on one of the Falcon jets. When the jet returns from its in-service mission, CerMark will verify that the coating is still readable after more than a year in use.

Ferro Offers Tailored Technical, Customer Support With Six Sigma Team

Ferro Glass Systems (GS) is working with customer and architectural glass fabricator Viracon to adopt Six Sigma methodology to drive process improvements and standardize color-matching procedures. The goal is to maintain a high percentage of first-pass acceptances by manufacturing materials to the customer's exact criteria, saving time and money for both parties.

Ferro continues to provide customer service and technical support to meet the individual needs of its customers.

The formation of Ferro's Viracon Six Sigma Team will mutually benefit the companies, who are conducting weekly conference calls to discuss continuous plans for improving color matching, first-pass acceptance and product characteristics such as gloss and viscosity.

The two companies are working together to identify areas within the paint development process that contribute to possible variation in color measurement. Ferro and Viracon, located in Owatonna, Minn., address variables that go into sample preparation, application, firing and color evaluation.

"Customer satisfaction is a high priority," said Jim Zerla, Technical Service and the team's leader. "Our goal is to tailor our product to the exact specifications of our customer. We've adopted Viracon's Six Sigma methodology and combined it with our Lean Initiative, which when joined create a more efficient process," he added.

Also on the team are Dave Schmitt, Quality Control Supervisor and the team's Quality Representative, and Cliff Horter, Demand Manager, Glass.

Six Sigma is a measure of quality used to eliminate defects in the manufacturing process. The goal is to reduce product variation over time. Possible factors causing variation from company-to-company include materials, methods, operators, measurements, machines and the environment.

"Viracon's Six Sigma methodology is an excellent companion to our Lean program," said Zerla. "Lean eliminates waste between processes, while Six Sigma eliminates variation within processes." Through this side-by-side collaboration with Viracon, Ferro hopes to create an overall more efficient process for both companies.

"Visual color evaluation is a subjective practice," explained Horter. "By standardizing our methods and applying Six Sigma tools, we can assign quantitative values to a qualitative evaluation, therefore meeting the customer's needs without bias," he added.

Sometimes, said Zerla, the difference can depend on a person's ability to visually interpret color. When viewing color samples, many factors can influence the evaluation including the light source, distance and viewing angle.

"We're examining our internal procedures and investing in equipment and training to ensure that all variables are consistent," explained Zerla.

"This partnership with Viracon will improve our overall process and quality not just for flat glass customers, but also for automotive and container customers," said Horter. "Everyone will benefit from the standardization and increased awareness and consistency of our controls."

Ferro Offers New Option For Screen-Printable Reflective Coatings

(Editor's note: The following is a condensed article based on a paper by Ferro Glass Systems staff George Sakoske, Global Technology Manager, Klaus-Dieter Fritsche, Senior Chemist, Martin Baumann, R&D Project Manager, Gerhard Tuenker, Technology Manager, and Enos "Andy" Axtell III, Senior Chemist, presented at the 2005 Society of Glass and Ceramic Decorators Annual Conference and Exposition.)



George Sakoske

Ferro's new partial mirror LustReflex coating, which is capable of creating unique visual effects on glass surfaces, offers decorators a third option for screen-printing reflective coatings onto glass. Along with LustReflex, there are two other processes that can be used to apply these reflective coatings – off-line physical vapor deposition (PVD) and on-line chemical vapor deposition (CVD).

Ferro's new partial mirror LustReflex coating is the latest option and provides an easy-to-use alternative to the PVD and CVD processes. Offering both design flexibility and durability, LustReflex is patternable and suitable for large areas to provide a homogeneous effect as well as multiple surfaces to lend visual interest to the piece. Plus it can be cut, bent, heat-strengthened and tempered.

Business Strong, Certification Expected

Schilling Graphics Inc is expected to be operating three screen-fabrication shifts at its Galion, Ohio headquarters by the beginning of the fourth quarter. The staff increase comes just nine months after the firm added its second shift, which became effective January 1.

"We're currently in the process of hiring new personnel who will undergo training before the third shift is operational," said Doug Schilling, Schilling Graphics President/CEO. "We're targeting the end of September."

The increase in screen-fabrication staff is two-fold – to accommodate the company's additional automotive business and to meet the current demands of existing customers.

In addition, Schilling Graphics is preparing for its upcoming two-day ISO 9001:2000 certification audit, which is scheduled for mid-July.

Primarily a process audit, the ISO 9001:2000 audit will trace a production item from the time it's ordered through the complete manufacturing process and finally shipping. It also reviews employee training, equipment calibration, supplier quality and other internal processes that could affect the quality of Schilling Graphics' products.

LustReflex is easily screen-printable, which also allows patterns to be designed and then applied to the substrate. It can be applied by screen-printing, roller coating, spraying and digital ink-jet printing.

The coating is fired during standard thermal processing and can be re-fired on the second glass surface as well as on top of or behind an enamel to form a unique partial mirror coating. The appearance of the coating also varies with the amount of material applied to the surface and the type of printing screen used – delivering a semi-mirror surface effect, a silver appearance or a golden reflective or deep blue iridescent color.

Recent trends indicate that the off-line PVD or vacuum / magnetron process is being used more frequently – where one or more coats of metal oxide are applied to the finished glass under a vacuum. This process offers increased functionality and has the ability to produce higher-performing films that are better reflectors of ultra-violet and infrared light.

The main disadvantages are that PVD is costly, cannot be used for any exposed exterior applications, cannot be bent and is not easily patternable.

On-line CVD or pyrolytic is the oldest process. During production, metal oxides are applied directly to the surface while the glass is still hot in the lehr.

This low-cost method yields high productivity at more than 300 tons per day and produces hard, high-density coatings with good adhesion.

However, CVD is a complex, poorly understood chemistry. The on-line application requires a very fast deposition and produces a best-case yield of approximately 70 percent.

Reflective coatings are an essential part of glass manufacturing, benefiting decorators and end users alike. Without such coatings, numerous glass products in the architectural, automotive, container, decoration and appliance markets would not have the properties that make them so useful or attractive.

Manufacturers utilize reflective coatings for improved functionality and myriad special effects on many glass products, such as automotive windshields, microwave doors and glass beverage containers.

Generally reflective glass contains a metallic coating with aesthetic and energy-saving benefits.

Primarily used on facades, this metallic coating allows for improved energy efficiency for buildings and automobiles by reducing solar heat and provides a decorative mirror effect that prevents others from seeing through the glass.

Furthermore, some 95 percent of all glass containers manufactured in the US and 75 percent of those worldwide, totaling more than 180 billion per year, are produced with one or more coatings.

While opportunities exist for improved functionality and processes with the industry's current PVD and CVD reflective coatings, new screen-printable reflective coatings such as LustReflex are fast and easy to use, require a low capital investment and leave room for a variety of new design possibilities.



Ferro Glass Systems' exhibit at DECO 2005 featured several product lines, including CerMark, Forehearth, SpecTruLite and lead-free deco color palettes.

SGCD, GS Focus On The Future

Ferro Glass Systems exhibited at the Society of Glass and Ceramic Decorators' (SGCD) DECO 2005, themed "Leading the Way," while several employees participated in the three-day program.

"DECO 2005 showcased how the SGCD is leading the way toward new technology, design and opportunities for glass and ceramic decorators," said Myra Warne, Administrative Director for the SGCD.

Scheduled for March 26-28, DECO 2006 will be held at the legendary Flamingo Hilton in Las Vegas.

Zibo Personnel Training For Expected Growth

Technical service and sales personnel from Ferro's Zibo, China facility visited the Washington, Pa. site for training within a variety of areas, focusing on lead-free applications.

"The Zibo site plans to continue to develop our flat, container and organics business in the Chinese market and this training will help Zibo to rapidly penetrate that market even further," said Dave Klimas, Worldwide Business Manager for Marketing and Technical Service. "The training focused on lead-free applications to ensure China complies with current Proposition 65 and European Union regulations."

Technical Service Manager Junping Wang, Technical Service Representative Xianhong Yuan and Sales Manager Peng Zhang received training in architectural, appliance and container glass applications, frit development and properties, organic inks and coatings applications as well as instruction on screen-printing, infrared mediums and analytical techniques.

"This training will prove to be invaluable," noted Klimas, "because now both Washington and Zibo's technical service and R&D teams will be able to contact each other directly for improved communication and response time."

Frischkorn To Head Ferro Glass Systems

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tural, container, appliance and laser marking industries."

Frischkorn began his career as a Research Assistant at the University of Frankfurt in 1979 and as a Research Scientist at the Centre National des Recherches Scientifiques in Lyon, France.

He joined Demetron GmbH in Hanau, Germany in 1987 as Head of Applied Technology and Quality and in 1993 he joined Cerdec AG as Head of Applied Technology for the European Glass Business Unit in Frankfurt. He was named Head of the European Glass Business Unit and Quality Management in 1994, a post he held until 2000 when he was named Head of the Performance Pigments & Colors Division. In 2002 he was named European Business Manager for Ferro's CGPM business.

Frischkorn earned a Master's degree in 1978 and a PhD in physics in 1984 from J.W. Goethe University. He was also a guest scientist at the Nobel Institute, University of Stockholm, Sweden in 1979 and a research assistant at the Atomic Physics Institute of Université Claude Bernard, Lyon, France in 1984.

Fiber Laser Helps CerMark Deliver Enhanced Quality, Energy Efficiency

CerMark™ Laser Marking Materials' new fiber laser system saves energy and broadens the color palette for customers. Recent technological advancements in fiber laser systems, also known for their role in telecommunications, have increased these lasers' power output and beam quality while reducing energy expenditure. This has made the fiber laser suitable for direct part marking applications.

"These lasers are like computers – they're getting better all the time," said Sean Weir, Chemist. "With the latest fiber and diode technology, these lasers can produce up to about 20 watts of output," he added. "Not only is our fiber laser system more powerful, but the quality is also much improved, as are the marks that are created." Fiber lasers were first introduced about two years ago.

The new fiber laser system has also expanded CerMark's color palette, offering customers laser marking materials in red, yellow, white, green and imitation acid etch.

"Colors that previously wouldn't bond to substrates using a CO₂ or YAG laser adhere better using a fiber laser, which allows us to use a wider range of materials on metals, glass and ceramics," said Weir.

In addition to offering laser marking materials for laser bonding, CerMark can also offer customers a turnkey operation with the sale of the fiber laser systems. For more information contact Sean Weir at weirs@ferro.com.