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Düsseldorf Hosts the 20th glasstec

by Megan Headley, Ellen Rogers and Charles Cumpston

For first-time attendees, glasstec 2008 was not just a trade show, but an experience.

"Everybody told me it's big but …" commented first-time attendee Bret Penrod, general manager of fire

Asian exhibitors such as Henghao Glass displayed many different types of glass products, including products for the decorative glass and interior glass markets.

protection glass of Pilkington North America, adding, "Everybody's here. The world is well represented."

The magnitude of the show, which covered more than 785,700 square feet of net exhibit space, certainly was the first factor to strike attendees.

Kearne Prendergast, solar technology account manager of Grenzebach Corp. in Newnan, Ga., was another first-time glasstec attendee. When asked his impression of this show compared to those in the U.S., he laughed: "Bigger and—a lot bigger."

Bob Quast, president and chief executive officer of Lisec America Inc. in Burnsville, Minn., also attended for the first time. When asked how it stacks up against shows back in the United Stated he said, "It's the largest international glass show—you can't get any better than this."

That may be true for exhibitors who sought to reach worldwide markets as about 55,000 visitors (a slight increase compared to the 2006 event) attended the event looking for the latest in all things glass. But for attendees navigating the waters of an international trade show, there were differences in more than just size.

Penrod noted that he found the show to be "more formal than our trade shows—you sit down and have a friendly discussion and then you discuss a sale."

He added that he was surprised to see glass bottles and windshield manufacturing evenly distributed around architectural glass, as the show truly was a venue for glass in all of its forms. In his wanderings around the nine halls he also found that there were more machinery demonstrations at glasstec than at shows in the United States. "There are more things that are working," he said.

For some attendees it proved useful to find many North American exhibitors grouped together. As at past glasstecs, there was a North American

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pavilion flying the red, white and blue. The grouping is something that show organizers will reverse at next year's GlassBuild America; glasstec organizer Messe Düsseldorf announced at the show its sponsorship of a Global Technology Pavilion at GlassBuild on alternating years starting in 2009. According to Joachim Schäfer, executive vice president and managing director of Messe Düsseldorf, the objective is to give global companies in emerging technologies the opportunity to exhibit in the United States and have a turnkey operation. "In 2006 we had 60 companies that registered themselves at glasstec as having capabilities in solar and PV applications," said Schäfer. "This year we have 120 such companies and most of them have not exhibited at an event in the U.S. This is our offer for them to do so."

Certainly a good amount of traffic at the show came from North America, perhaps more than most exhibitors had hoped for. Tom Bechill, U.S. sales manager for Hegla, reported seeing a good deal more traffic from the U.S. than expected; with some surprise he said that people with whom he'd had appointments later in the week showed up earlier to take part in the show.

Although Bohle has its world headquarters in Germany, the company this year was a source of U.S. attendees. It recently opened a U.S. subsidiary in Charlotte, N.C., and was exhibiting with a number of new products. Gary Dean, chief operating officer for Bohle America Inc., said the transition to the North American market has been exciting and a positive development.

Yet, Dean added, "The impact [from North America] just keeps rolling."

The Economy Under Question

The impact from North America was the big unknown about the event, but there was no question that attendees and exhibitors alike were interested to hear how the bad financial and economic news in the weeks preceding the show would affect business.

Anders Holmqvist, sales director of Glassrobots, the Finnish equipment supplier, said that some companies are "waiting for the moment; people are afraid of moving ahead." He continued, "Some of the deals we thought were going to go through have been postponed. However, then there are others who see this as the opportunity to go ahead."

Left: Ferro promoted a number of performance coating products during the show. Right: Lisec's own waterjet cut the decorative entryway leading into glasstec's largest booth.

For Steve Goodburn, sales director of CGI International Ltd. in the United Kingdom, exhibiting at glasstec was a necessary way of reaching new markets while times are tight.

"A lot of the world's major economies are down, so we want to find ways to reach other markets, such as the Middle East, Scandinavia and Eastern Europe," Goodburn said.

Michael Spellman, whose company IGE Solutions Inc. in Jupiter, Fla., represents a number of European as well as Chinese companies, was in the booth of Landglass, a Chinese equipment supplier he has represented for the past six months. When asked if the economic conditions are having an effect, he said, "When this all came up, I called a couple of leasing companies that I'd worked with and they said they had plenty of money because none of the entities they worked with had been involved in the subprime market."

He continued, "Actually, very few people in the glass industry have leased over the years. In the stone industry it has been the opposite and the stone industry is dead while the glass industry is doing well."

What kind of equipment were his clients looking at? "Tempering machines and supporting equipment (CNC drilling and milling machines, CNC work stations, washing machines)," Spellman answered without hesitation. "The architectural market is going strong thanks to commercial," he stated. "Looking out at my business and the long lead time there is, I expect the next couple of years should be good," he added.

"The big question is 'why are people still so interested?'" he said. "Companies are still expanding and going into new areas. We're not seeing a lot of replacement of machines. People are maintaining them and they're lasting longer."

Spellman said that he expects sales of laminating equipment to go down for a while and then go back up. "But tempering furnaces are just forging ahead," he said.

Solar panels of all types and size were prevalent in the glass technology live pavilion.

How is the economic crisis affecting things in the Southern hemisphere? Anecdotal sentiments on the show floor were that fewer South Americans came to the show due to the costs and the uncertainty of business conditions. However, Camilo Gomez, director general of Cigtra Ltda., which is the representative for AGC Flat Glass in Columbia, said that things are fine in his country—for right now. "However, as you know, if the U.S. sneezes, Latin America gets triple pneumonia," he said.

One long-time industry icon Dr. Dino Fenzi—who heads up his own company as well as serving as the honorary president of Vitrum, the Italian equipment show—made the point that the Italian companies do not have to worry so much about the credit situation because they are family-owned entities that have not taken on large debts. "Who knows if we will have a recession or a depression but the Italian companies are prepared and equipped to deal with it," he said.

The bottom line seems to be that while the economic/financial crisis has made people uneasy about their personal situations, business is still going forward as deals were being done at glasstec.

> "It's the world's largest international glass show—you can't get any better than this."
>
> —Bob Quast, Lisec America

Asian Influence

Another part of the world much discussed during the week of glasstec was Asia. With 152 exhibitors China was one country in particular that had a major representation at glasstec. In Hall 13 in particular, where "Made in China" banners were proudly displayed, it was evident how far things have come since

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Edgetech's booth featured a smaller replica of a window featured in the Sheikh Zayed mosque in Abu Dhabi, the world's third-largest mosque. It took nearly two years to complete the actual window, which used flexible Super Spacer® in its free forms.

those first tentative showings by Chinese exhibitors at glasstec a decade or so ago. Some exhibitors noted that there have not been as many Chinese visitors at the show as in past years because more signed up as exhibitors—and speculated that would-be attendees have found quality trade shows in China to be just as useful as other shows.

Qingdao HengDa Glass Technology Co. Ltd. from Qingdao, China, produces a number of different glass products, including a vacuum insulating glass product that Fei Wang, manager of business development, said she had seen a lot of interest from exhibitors at the show.

"In Europe they use very thin insulating glass units to get the same performance that they can get from this," Wang said. "It can also be built into an insulating unit for even better performance." In addition, Wang said the company also is working on a technology to soon be able to temper the vacuum insulating glass.

She added that traffic and feedback at the show had been good.

"At this show the attendees are very professional and they know what they are looking for," Wang added.

LIQI Glass Group, also from Qingdao, displayed its mirror and glass products. New for the company, according to Nancy Liu, was copper-free mirror.

"Also, some companies require their mirror to be tempered for furniture applications and we can do that, too," Liu said.

From Taiwan, Eastech Digital Technology Co. Ltd. manufactures printers and inks for digitally printing onto glass. German Helmut Göhner, who was working in the stand, said they had been seeing a lot of excitement about the product from exhibitors. He said no UV inks are used, and the equipment can print very bright, vivid colors.

From Taiwan, Gang Gwo Industrial Co. Ltd. showed its commercial door

hardware. The company offers standard product, but can also do custom work as well. While they were seeing steady traffic through the stand, Ming Ting Wei, marketing executive, said they hadn't seen as many people as they did two years ago. Slightly less traffic was expected, considering the state of the economy.

Jeff Wang, sales manager for Linyi Young Sunrising Machinery Co. Ltd. in Shandong Province, a first-time glasstec exhibitor, said that his company was looking both for agents and to sell machinery. "Our market is balanced between Europe, the United Stated, South Africa and India," he said. The company "hopes to get good results," he added.

From the Landglass booth, Spellman commented, "The perception of Chinese equipment is starting to change." He added, "Like everything, there's good, mediocre and trash. And this is true whether we're talking about Europe or Asia. I've been around the industry since 1980, and I went through this cycle with machinery from Europe. When I came in, everyone bought American and didn't want Italian equipment. China is going through this cycle now.

Solar Sights

Among the products on display, one segment in particular stood out at this year's show; machinery for solar glass production were present at every corner. As Professor Stefan Behling with the University of Stuttgart, and organizer of the glass technology live exhibit, said during the glasstec opening session, solar glass production is "an integral part of the glass industry." It certainly seemed to be that way at this year's glasstec.

According to Behling, glasstec provided an optimal forum for solar innovation. As an attendee of numerous solar conferences, Behling said he's found that the solar module producers don't have a "full grasp" on producing these energy-generating systems and it's the glass industry that has "the know-how to make the machines," and is ultimately tied to the installation of these products.

Spectrum Glass makes its decorative products primarily for the stained glass, fused glass and architectural glass markets.

Behling also noted that solar technologies have been a part of glasstec for a number of years, although not in such force as this year. While some exhibitors admitted to working on solar production equipment for a number of years, it has only become a trend in the months since glasstec 2006.

For example, Benteler has been working on solar-related products for the last year and a half, according to one company representative, so its technology was new for this year's glasstec. It is one of several companies adapting automotive glass equipment to take on grinding, seaming, cutting, handling and other functions for the sizes most common for solar panels.

An even more recent announcement came from Bystronic Glass, which announced during the show its partnership with the Laser Processing Systems business unit of Jenoptik to create production facilities for thin-film solar cells. The new machine resulting from the partnership combines the processes of laser edge deletion and laser glass cutting, or thermal laser separation. The laser glass cutting process leaves the glass edges free of cracks that, upon absorbing heat in PV applications, could lead to thermal stress breakage. According to information from the companies, subsequent processes such as cleaning or edge processing are not necessary with this equipment.

Intermac too has announced a partnership. The company is now offering tempering furnaces through its relationship with BHT. According to Carlo Strappa, marketing manager, the furnaces provide the high quality required for producing solar glass.

"We have an option to buy the company for 2009," Strappa added.

As Quast quipped when explaining what made Lisec's new tempering furnace suitable for solar glass production, each company aims to produce "the best" quality glass anyway, but with solar glass production, "best" quality is a necessity.

"The ability to temper single-strength glass without roller wave [distortion] is critical for solar," Quast said.

The company's flat-bed furnace tempers glass sheets up to 2-mm thickness

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without optical distortion, according to information from the company. The company reports that the resulting tempered glass has a high resistance momentum so that it bends without breaking when exposed to high pressure or impact.

Bending and tempering solutions took up a part of Glaston's massive booth. The new vice president of solar energy, Raimo Nieminen, was on hand to answer questions about his company's new CHF Pro™ tempering furnace and ESU EcoPower bending furnace for concentrated solar power solutions.

Among those companies with new interests in the solar arena, Perrysburg, Ohio-based Glasstech promoted its years of experience in this area. According to the newsletter being handed out at the stand, Glasstech's founders were involved in solar energy in the 1980s. The result is a bank of knowledge that has led to the creation of machinery for producing every type of solar glass. Examples of tempered parabolic glass that its benders can form were on hand in the booth.

As with numerous other companies, Grenzebach's booth specifically displayed a line aimed toward seaming the most typical sizes of PV panels.

"A lot of our solar customers are concerned about the incoming edge when they get [a lite of glass]," explained Prendergast.

Visitors to the booth could watch the glass move along a belt conveyor to where it was picked up by a robot that ran the lite through a patented edge-detection system. Based on the measuring results, the robot then carried the lite along the edging spindle; once each side was edged, the lite was placed on another conveyor.

Of course, the typical sizes handled by much of the equipment on display may not be typical for long. Applied Materials hosted in its booth a 5.7 square meter panel (approximately 61.4 square feet)—the size panel that can be produced by its new SunFab™ solar module production line for fabricating thin film silicon photovoltaic (PV) modules. A benefit of the large lite, according to one sales representative with the company, is that the glass installer only has to work with one junction box and fewer wires than if he were installing a number of "traditionally" sized PV panels in the same space.

Grenzebach's new equipment can seam and grind edges of architectural or solar glass.

Saflex was another company offering new solar solutions in large sizes; the company launched its PV business in June 2008 and already provides PVB encapsulant technologies for thin film modules as large as 5.7 square meters. As was noted during the company's press conference, Germany is a suitable place for presenting new solar technologies as the country is one of the largest users of PV.

"In Germany there's more than a million homes already with the PV on their rooftop," commented Joris Stoefs, director of commercial operations for Europe, the Americas and Africa.

Christopher Reed, global PV business director, noted that Germany and Spain are the biggest markets in this area due to government subsidies. He added that while solar energy has exploded worldwide as a topic, he expects growth in Asia to soon overtake even Europe's usage of solar energy.

Decorative Delights

Another trend quite obvious at the show was the availability of glass in just about every color, shape, size, pattern and texture. Representing the decorative glass scene, a number of companies traveled from the United Stated to exhibit their wares.

Kokomo Opalescent Glass in Kokomo, Ind., which offers more than 10,000 colors and color combinations, showed a number of products such as opalescent glass, made with the color white and glass streaked with different colors. Doug Little, senior vice president of outside sales, said his company also showed casting glass products, which are becoming more popular in the architectural market.

"Fusing is also popular," said Little, and "anything with hot glass is popular

in the United Stated." For Kokomo, approximately 20 percent of its business is from international customers, so exhibiting at glasstec provided a good opportunity to network.

"We get to see our foreign customers and hopefully are able to gain a few more while we're here," said Little.

Spectrum Glass from Woodinville, Wash., also ships its products all over the world, mainly working through distributors and manufacturers. The company makes sheet glass primarily for the stained glass, fused glass and architectural glass markets. In addition, they also offer clear, textured glass products that Randy Gray, sales manager, said are very popular among architects and designers.

"We're here to make new contacts, meet new customers and to [explore] new markets for our products, especially ones where art glass is not easily available," said Gray. "The show also allows us to have contact with our existing customers and it's a good opportunity to catch up with them."

ICD High Performance Coatings drew a big crowd with its selection of decorative glass, including glass that featured a pattern from the company's coating, and was then laminated with an EVA interlayer.

"EVA primarily has been used in Europe more so than in North America," commented Kris Vockler, vice president. However, she noted this interlayer type seems to be gaining more acceptance in North America.

"From what I understand it's a little bit easier to get into using than PVB," she said, adding, "But it's the same type of process."

The growing popularity of laminated glass production with fabricators was evidenced at glasstec beyond the decorative realm. According to several exhibitors one reason more companies are doing their own lamination is that the investment has decreased making the decision to go into production more affordable for more companies.

More Laminated Lites

Doug Canfield, president of Pomona, N.Y.-based Casso-Solar Corp., pointed out that having the option of making laminated glass without an autoclave is a factor in more companies deciding to go into production.

"The market for autoclave-less laminating production is being driven by companies asking what they can do for themselves," he said. "Companies are doing tempering and sending out for the laminating and they are not satisfied with what they get back. Pieces come back broken, etc.," he continued. Also, companies that do decorative glass and have to laminate it for safety are looking to do their own laminating so that their artwork is protected. He said, "What you get back is always an issue."

So with reductions in price and continuing demand, Canfield said that if one takes window glass out of the equation this market is growing by 50 percent a year. For companies looking to add this laminating to their capabilities, Canfield recommended asking a few questions first: "How much of one size glass do you want to make; what are your production requirements, and what kind of interlayer do you want?" Canfield recited. "Many customers don't need PVB. EVA works very nicely and it is clearer if it is artistic glass. With it, instead of PVB, they don't have to get into the moisture issue."

Ah, yes. The moisture issue. This brings us to EVA.

Maja Weller is the product manager for Bridgestone Industrial Ltd., a German supplier of EVA interlayer that is expanding its presence in the North American market. She explained that there are two types of the product. One, thermoplastic, which is non-cross linking and the bonding is mechanical not chemical and it is produced by extruding. Her company's Evasafe EVA-based thermo-set product with a 3D, cross-linking capability has a different formula and method of production. "We don't apply extreme heat and add no plasticizer," she said. "It is not extruded and has mechanical and chemical bonding. This makes the adhesion much stronger and it is not humidity-sensitive."

According to Weller, the product allows "the small guy to get into the lamination market. It requires no control room, there is no concern about storing the interlayer material, and you just need a small oven."

She also makes the point that the interlayer allows a company to offer "design" products, which have better profit margins. "Compared to PVB, this costs twice as much but the economies are in the production process." Continuing to go through its advantages she said it is good for tempered glass because when it melts it fills in the gaps in the rough surface of the glass better than alternative materials. She also pointed to its virtues for LED glass because moisture is not a problem, which means it doesn't affect the electrical components.

What's Ahead

At this point, as exhibitors follow-up on leads and attendees put to use what they have learned at the show, one can only wonder what innovations will be on display at the next glasstec. The one thing that is certain is that plans already are underway for glasstec 2010, which will take place September 28-October 2 in Düsseldorf, Germany. ■

the authors



Megan Headley is the editor and **Ellen Rogers** and **Charles Cumpston** are contributing editors of USGlass.