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GLASS CANADA

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October 2010



GLASS CONNECTIONS • WIN-DOOR PREVIEW • GLASSBUILD

Glass Connections 2010

The content of the Canadian Glass Association's (CGA) inaugural Glass Connections 2010 conference and trade show at the Grand Villa Hotel & Casino in Metro Vancouver, B.C. on September 30, 2010 was so informative it literally challenged many of seasoned glass professionals in attendance to question what they thought they knew about architectural glass.

CGA Technical Committee member Leonard Pianalto of Reed, Jones & Christoffersen Consulting Engineers chaired the event while CGA president Richard Verdon of RSVP Agency Inc. opened the proceedings and welcomed the 100 strong delegates by thanking the crowd for their support and participation.

"We have endeavoured to make this a cost effective and highly focused one-day conference that combines several elements traditionally found on longer programs," says Verdon. "It is a valuable educational forum designed to maximize your investment in time."

GlassConnections is a national conference developed by the CGA and it will be rolled

out to other regions in the coming years. The next event will be held in May 2011 in Toronto.

GlassConnections 2010 is more than just an industry event," says Canadian Glass Association executive director Zana Gordon, "it represents a promise that we made at the beginning of the year to reach out to glass professionals across the country, solidify our status as a national association for glaziers, and provide tangible resources to help the industry."

The CGA Technical Committee is chaired by Leonard Pianalto and includes Steve Gusteron of Alumicor, Brent Harder of Ferguson Glass and Daniel Morin. "The CGA Technical Committee did an amazing job in selecting interesting topics and well respected speakers," says Gordon.

"The CGA board would like to acknowledge the support of our sponsors Dow Corning, DSG Custom Glass, Finishing Trades Institute of BC, Alumicor, Garibaldi Glass and Ray-Bar Engineering. The board would also like to thank RBC for their sponsorship and their door prize contribution."

Gordon continues, "The Canadian Glass Association worked very hard to ensure the first conference was a

model to build on to provide the host province with relevant topical discussion to attract attendees while providing value to sponsors and exhibitors."

Watch for in-depth coverage of Glass Connections 2010 in the next issue of *Glass Canada* magazine.

OGMA announces fall seminar



The Ontario Glass and Metal Association (OGMA) would like to extend an invitation to all Ontario glass, glazing, and industry related companies and their employees to attend its fall seminar on Thursday, November 18. The event will begin with a tour of Tremco's manufacturing facility, followed by a presentation on LEED by accredited professional Peter Wong.

The entire program will be absolutely free, but there will be a limited number of spaces available. Please check the OGMA website at www.ogma.ca for more details, or email the association a note to express your interest and book your space. Emails should be sent care of Brian Wiles, via email to brian@protempglass.com.

If you are conducting business in the glass industry in

Ontario, OGMA wants you as a member, or as an associate member if you are a consultant to the industry. Doug Morris is heading up membership for the association, so please contact him at douglasmorris@rogers.com.

OGMA would also like to announce the successful conclusion of its fall golf tournament. The tournament took place on Wednesday, September 22 at the Carrying Place Golf Club in Kettleby, Ont.

The foursome of Brian Newbeck, Bill Parkin, Rick House and Greg Parkin (shown above) took home one of the closest to the hole prizes at the recent OGMA golf tournament.

OGMA would like to extend its gratitude to all who attended, and particularly the sponsors who added to a great day with both participation and sponsorship.

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For more information on OGMA, please visit www.ogma.ca.



Reach for



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At BCIT Aerospace Campus, all paths lead to the hangar.

by RICH PORAYKO

The British Columbia Institute of Technology's (BCIT) Aerospace Technology Campus (ATC) stands at the gateway to British Columbia's Vancouver International Airport.

A cutting edge centre of learning, the \$77-million, 305,000-square-foot campus houses 40 classrooms and labs, 36 faculty offices, a cafeteria, a gym, a theatre, a lecture hall and an enormous hangar complex. The ATC officially opened on Oct. 12, 2007, and was designed to propel BCIT's aerospace programs into the future. Much more than a technical training campus, it is a facility that has revolutionized the nature of knowledge sharing in the training of students graduating into the multibillion-dollar aeronautics industry.

BCIT decided to replace its aging aerospace campus by building a world-class campus at Vancouver International Airport. Designed by Kasian Architecture Interior Design and Planning Ltd., and built by Ledcor Construction Ltd., the building features more than 1,700 insulated glass units and more than 11,000 cubic metres of concrete. The largest aerospace training school in Canada, the ATC more than doubles BCIT's student capacity for aerospace training, to 1,000.

All paths lead to the hangar. Ultimately, this facility emerged as a series of intelligent, interconnected geometric forms that flow naturally together through a central hub that steers students in the direction of the classrooms, labs and workshops; all of which look into the massive 40,000-square-foot glass-walled hangar. Students remain in constant contact with the practical component of their education – the academic and practical experiences of learning become fused. The design keeps the entire campus under one roof while placing lessons within inspired context.

The architect was surrounded by inspiration. On one side, the Fraser River. On the other, Vancouver International Airport. Directly above, the flight path of the airport's south runway. Students can watch planes land one minute, and work on a massive jet engine the next.

Collaborative design and manufacturing process

Through a unique collaborative design process, stakeholders agreed that dynamic forms in combination with metal and glass building materials respond better to their vision than wood structures, finishes or complex, irregular forms.

The design for this project was the result of a creative process of co-operation and discovery. A team of architects, interior designers, project managers, a large BCIT stakeholder group and a full consultant team – including the sub-trades – all contributed input through workshops and other inclusive forums. Many of these meetings were held up front with the architect, the contractor and the glazing teams: glazing teams included Advanced Glazing Systems, the glazing contractor; Garibaldi Glass Industries, the IG manufacturer; and Lami Glass, the laminator.

Division 8

These project stakeholders recognized that the noise of passing aircraft would be an exciting and exhilarating element that reinforced the building's sense of place. However, in order to ensure

The distinctive and highly refined curve of the Learning Zone's exterior shield translates into a three-storey interior space that gently transitions students toward 40-plus classrooms and laboratories wired with the latest wireless and multimedia technology.

that the noise did not become overbearing, they specified laminated glass for this project due to its superior acoustical properties. Laminated glass is highly effective in reducing sound and noise transmission, in addition to having inherent strength, safety and ultraviolet reduction characteristics.

"The insulated units were manufactured with laminated glass supplied by Lami Glass with varying thicknesses of 6 mm and 5 mm as well as the large 19 mm air space," says Arthur Chan, VP design and engineering for Advanced Glazing Systems (AGS). "By altering the glass thicknesses and increasing the air space, you can enhance the sound control efficiency. The entire glazing system was tested by the University of Alberta, where it was classified as a Sound Transmission Class (STC) 40."

The make-up

Manufactured by Burnaby-based Garibaldi Glass Industries, the insulated glass units are made up of 5 mm Versalux Blue heat-strengthened on the exterior

laminated via 0.060 clear PVB Interlayer to 6 mm clear heat-strengthened lites. There is a 19 mm air space with dark aluminum bar that is sealed via double seal silicone to lites of 6 mm Pilkington Energy Advantage Low E on the interior. Many of the units also had a spandrel type black frit dot pattern on surface three of the exterior laminated lite.

"The ceramic frit supplied by Garibaldi was used as a spandrel effect to cover some of the structural elements," says Chan. "These elements are still visible from outside when standing close to the building, which was part of the design from Kasian. It has an industrial look where you can see the structural steel behind the glazing."

The overall thickness of the units is 1-7/16 inches. Not quite the thickness of a triple unit; however, the exterior lite is nearly 12 mm and, given the size of the units – many of them 60 by 140 inches – they were big and heavy to work with.

One of the benefits of the design collaboration is that most of the glass was designed to be uniform shapes and sizes,

which reduced waste, increased efficiency and inevitably provided an economical solution for manufacturing the glass components.

The process

Advanced Glazing Systems awarded the glass contract to tempering fabricator Garibaldi Glass, who partnered with Lami Glass to laminate the outboard lites that Garibaldi was fabricating. This was a process that required precise timing.

"We had several pre-project meetings with Garibaldi to figure out the logistics," says Claudia Navarrete, sales and estimating for Metro Vancouver-based Lami Glass. "The co-ordination and communication in this project was vital to its success. There were more than 3,400 lites, many of them very large, that needed to be paired, laminated and tagged correctly. Because of the pre-project meetings, Garibaldi was able to supply everything paired up and we would literally roll their dolly right up to our washer and begin the production process. Because of the meetings, we

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knew what was expected. Rather than just sending in a purchase order, we had visibility and could see what was coming down the pipeline.”

“There can be a huge complexity when you are working with another supplier,” says Roland Rossman, project leader for Garibaldi Glass. “The manufacturing was straightforward. The edges of the envelope were all unique rakes; however, the rest was high volume. We simply had to cut, print, heat strengthen and pair the glass before we shipped it to be laminated.”

Because the exterior lites were laminated, Garibaldi needed to cut and heat-treat three lites for each of the 1,700 double units.

“We were in touch throughout the process, so Lami Glass knew exactly when the glass was coming. It was tough at the outset as we had worked together for years; however, not on a scale of this level. The meetings were important to get to understand expectations and get to know one another’s needs. As the building progressed, the pressure increased

significantly and the companies pulled together to make it happen.”

Pulling it together

“One of the largest challenges of glazing the BCIT ATC project was lining up the curtainwall along the reverse slope on the south end,” says Chan. “Most of the ATC curtainwall is a four-sided structural glazed (4SSG) system; in particular, the reverse slope where we wouldn’t rely solely on structural silicone to hold the units in place. After we received the completed IGUs from Garibaldi, we would install perimeter retainer clips, which fasten to the inboard lite, as well as the framing member of the curtainwall panel. The outboard lite is then adhered to the clips with structural silicone, which helps ensure the longevity of the perimeter seal. Since the unit is mechanically secured in place, it doesn’t matter if it is in a reverse slope or vertical glazing, the risk of glass fallout is greatly reduced.”

The glazing system, which is patented and proprietary to AGS, has been used

for the last 20 years throughout Canada and the United States and is similar to hanging a picture frame off of another frame.

Chan explains: “The IGU inset necessary for the system is a challenge for some insulated glass manufacturers because we want the spacer bar inset into the edge of the sealed unit by up to 5/8 of an inch. This creates a void around the perimeter of the sealed unit, which is where the perimeter retaining clips are fastened.”

The remainder of the building was glazed by AGS using its two-sided structural glazing system (2SSG), which is horizontally captured by a pressure plate.

“Overall, the project wasn’t very difficult. Installation-wise, there were some large panels that required some specialized equipment; however, the whole job was built on CAD drawings. All the trades worked with the same drawings, so onsite measuring and fabrication was minimized. It worked out very well and we are pleased with the performance and the look of the building.” •

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Glass-Build America 2010



Seminars, breakout sessions and action from the exhibition for all things glass.

by MIKE DAVEY

Thousands of glass industry professionals poured into Las Vegas this September to attend this year's GlassBuild America: The Glass, Window and Door Expo. The event took place at the Las Vegas Convention Center.

The biggest glass-focused trade show and exhibition in North America, GlassBuild 2010 featured nearly 400 exhibitors spread across more than 1,000 booths. In addition, the event included the 5th Annual Glazing Executives Forum, the inaugural Window & Door Dealers Forum, and a number of informative seminars on topics such as decorative glass and the use of integrated photovoltaics in fenestration applications.

Over 7,000 glass professionals attended GlassBuild over three days. This was nowhere more evident than when walking the show floor. Every exhibitor seemed to be engaged in earnest conversation with a fellow industry professional, and excitement was in the air.

Mild recovery

The 5th Annual Glazing Executives Forum took place on the first day of GlassBuild, and was attended by nearly 150 of North America's leading glaziers. Jeff Dietrich's highly anticipated economic forecast was one of the highlights of the forum.

Dietrich gave his economic overview for 2011 and beyond and how it impacts glazing executives.

"There are real challenges that threaten to undermine consumer spending and business growth," he said. "But at this time, the leading indicators, extant economic activity, consumer trends, cuts in spending and ITR's (Institute for Trend Research) cyclical theories offer a view consistent with a mild recovery in North America."

Dietrich ended his presentation on an optimistic note. "This recovery will have many bumps and bruises along the way. Be proactive anyway. There are excellent



Thousands of glass professionals went to Las Vegas to attend GlassBuild North America, the continent's biggest glass-focused trade show and exhibition. They went to network and socialize with fellow professionals, but as always the main draw was the chance to see the latest products and technology in action on the show floor.

the show floor at the annual

opportunities to gain market share at this point in the business cycle," he said.

The Glazing Executives Forum included a number of other presentations and breakout sessions. Jason Baumgarten of FMI Corp delivered a presentation that highlighted how increased productivity will almost certainly deliver higher profits.

Baumgarten noted that, because glazing is a labour intensive industry, an increase in productivity means an immediate decrease in overhead. This can be used to bring your price down. The current state of the economy means that very often competition is based on price, and if it can be lowered, more jobs will result.

According to Baumgarten, one of the best ways to increase productivity is through more effective pre-job planning. Meetings with site managers and personnel can pay dividends down the road. He also noted that he believes that Building Information Modeling (BIM) will become increasingly important, as more projects start to use it. Also on the slate for the Glazing Executives Forum was Charles A. "Chip" Gentry of the law firm Carson & Coil. Gentry presented a number of useful ideas and tools in his presentation entitled "Plugging the Leak on Lawsuits: Practical Advice for Window Manufacturers, Curtain Wall, and Glazing Companies in a Litigious World." Carson discussed the "construction defect crisis" and ways in which companies can defend themselves.

The first day of GlassBuild America concluded with the official Welcome Reception, held at the Las Vegas Hilton, the official show hotel.

Windows and doors

The second day of GlassBuild continued with more action on the show floor and the first Window and Door Dealers Forum (WDDF). The WDDF was created for North America retail dealers to help them network, build relationships and exchange information. The forum included a number of informative and enlightening breakout sessions, including Creating Your Market In The New Economy, Focused System Improvements, Customer Service and Operational Excellence.

Of particular interest to those concerned with marketing in the digital age, internationally renowned internet marketing expert Andy Beal provided hands-on website analysis and marketing strategies. Beal led the high-energy and interactive consultation, which included analysis of as many participants' sites as was possible.

"Studies indicate that 82 per cent of all new customers use search engines to look for your business. Don't let them find your competitor instead," said Beal. "The best way to manage your company's reputation is to assure your web presence is the best it can be, accurate and fresh."

"We were thrilled with this highly practical seminar that dissected participants' websites from top –to bottom,



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ABOVE: Edgetech's racetrack themed booth (including Virtual GT race car simulators) attracted a large number of attendees.



LEFT: GlassBuild brings together people from all aspects of the glass business, such as Margaret Webb, executive director of IGMA, and Denny Raskie of Allmetal.

examining design elements, customer service, Google Analytics, reputation management, and more,” said Ken Mariotti, president of Woodland Windows and co-chair for the event. “This kind of in-depth analysis provided the attendees with real take-home value.”

Many companies took the opportunity provided by GlassBuild America to premier new products and technology. Among the most intriguing are a number of methods promoted by different companies that should allow window manufacturers to achieve with double pane units the same sort of ratings normally associated with triple pane units. Watch for more on this in an upcoming issue of *Glass Canada* magazine.

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GlassBuild America 2011 will take place in Atlanta, Ga., from Sept. 7 to 9 at the Georgia World Congress Center. •