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• Triple-pane tower
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Summer is in full swing and it sounds like everyone is busy. We have been busy on a number of fronts, of course.

The May golf tournament was a great success; beautiful day, great golf and awesome sponsors providing wonderful prizes. Thank you, again, to all the sponsors. We couldn’t do it without you!

In June, Fen-BC technical director Al Jaugelis and building energy consultant Murray Frank attended the Fenestration Canada meetings in Winnipeg, to represent Fen-BC and give technical presentations. British Columbia has become something of a test case and much of Canada is looking at the challenges we are experiencing here, and how we are managing the transition to the new fenestration world.

Fenestration Canada’s Annual General Meetings are coming to Vancouver next year. Watch for more information coming on events, location and dates.

We are continuing work on the new installation training program to be delivered at the Red Seal Glazier training school in Langley. This new program will focus on Part 9 installation of windows and doors into new construction and renovation projects. We hope to have this program ready to go late this year.

There is a great deal of interest by all parties in the new Section 9.36 energy requirements coming to the BC Building Code in December. This will affect all of us providing product into new construction. Fen-BC board member Murray Frank has been educating builders about 9.36 in the HPO Building Smart Seminar series, New Energy Provisions in the BC Building Code. If you are not aware of this important change, you really need to look into how it will impact your business. Contact Zana Gordon (zgordon@fen-bc.org) or Murray Frank (murray@constructivehomesolutions.com) for information.

The City of Vancouver has delayed the implementation of its Building Bylaw until January 2015 in an effort to be more prepared. This will bring NAFS and a very challenging energy code for windows and doors to the city. If you do business there, you really must take a look on the City of Vancouver website (http://vancouver.ca) for information on what this means. Its impact will be significant.

Good business and a great summer!

Terry Adamson, Chair, Fenestration Association of BC
Specify the best.
Request only qualified, red seal certified journeypersons on all your projects.
Opportunities for glazing apprentices

Recent research shows that glazing is among the top job opportunities in North America. The current shortage of skilled labour is prompting many employers and their apprentices to fast-track training and subsequent upgrading in order to remain competitive.

The Fenestration Education Society of BC (FES-BC) operates the Glazier Apprentice Training Program in BC under the auspices of the Industry Training Authority (ITA). FES-BC recognizes that on-the-job experience can produce results similar to those obtained in a formal setting, and therefore provides support for glazing apprentices who are interested in challenging the Level 1 exam.

Applicants receive a Level 1 Glazier apprentice training manual for study and review, several practice exams and either an on-line session or in-class instruction with the Glazier instructor at the FES-BC school in Langley. Registrants also have access to the instructor for any questions or clarifications before writing the ITABC exam.

Information and applications are available at www.fes-bc.org.

Asbestos inspectors touring demolition sites

In a project that runs to year-end, WorkSafeBC prevention officers will conduct planned inspections of single-family demolition worksites to ensure homeowners, prime contractors, hazardous material survey contractors, asbestos abatement contractors and consultants are informed and equipped to safely remove asbestos-containing materials and are complying with the Occupational Health and Safety Regulation.

In Vancouver alone last year, demolition permits were issued for more than 1,000 homes, many of them dating to the 1940s and 1950s when asbestos was commonly used.

Among the requirements is that a report must be submitted to WorkSafeBC at least 24 hours before asbestos removal begins. Written confirmation of the asbestos removal must also be provided.

If asbestos is discovered during a demolition, work must stop immediately and qualified workers must be called in to remove the asbestos. More information is available at worksafebc.com.

The National Fenestration Rating Council

In 1989, NFRC was founded in Vancouver, BC, the result of window manufacturers recognizing the need to protect the consumer through independent, third-party certification of fenestration products.

For information about getting your residential or commercial products certified and NFRC’s member-driven rating processes, visit www.nfrc.org, phone 301-589-1776 or email info@nfrc.org

NFRC recruits ‘Joe’ to explain energy codes

OTTAWA – The National Fenestration Rating Council (NFRC) has created an animated video showing how easy it is to achieve fenestration energy code compliance.

The whiteboard-style animation introduces ‘Joe,’ a commercial window manufacturer who uses NFRC’s commercial ratings program to prove his products meet code.

Intended to serve commercial building architects, building owners, builders, code officials and others, the video shows the value of NFRC’s program. It also shows the benefits of its label certificate, getting commercial windows certified, and how these label certificates are the best way to comply with energy code requirements to avoid default ratings.

“Though NFRC introduced a new commercial window energy rating method (component modeling approach, CMA) in 2009, it is still a new concept in the building and fenestration industries,” said Ray McGowan, NFRC’s senior program manager.

More detailed information on the commercial window certification programs is available at www.nfrc.org. NFRC has also tailored resources specifically for code officials looking to verify ratings of commercial projects; a website that provides tools for the job and a free monthly webinar that explains its commercial program and how it relates to codes.

About 1,000 older homes are demolished each year in Vancouver alone. Photo: LA Demolition

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Fabricators’ round table set for Vancouver

The second fabricators’ round table will be held in Victoria during Fenestration Canada’s annual conference next year. The first such meeting was held at the Fenestration Canada conference this June in Winnipeg, which introduced the newly formed Fabricators’ Council.

The Council will identify issues important to its fabricator base and make recommendations for action based on the benefit to the industry. The Fabricators’ Council will encourage a viable industry, according to Fenestration Canada.

Fenestration Canada’s executive director Robert Rivard said the fabricators’ round table discussed everything from market share to technical issues and new building codes.

“Right now with everyone looking to remain competitive it is important they know what needs to be done and that they get ready for the onslaught of regulations and requirements,” Rivard said. For information contact Rivard at rrivard@fenestrationcanada.ca.

Mega projects define BC construction future

VICTORIA – Mega construction projects, from Vancouver Island and South Delta to the northeast of British Columbia, are now defining the future of the provincial economy.

“Growth in proposed projects has been extraordinary. Despite a slow-growth economy, the total value of proposed projects has more than doubled since 2008,” said Bryan Yu, economist with the Central 1 Credit Union of BC.

The combined capital cost of major projects under construction rose to $84.1 billion in the first quarter of 2014, up 3 percent from the fourth quarter of 2013, according to the Major Projects Inventory released in June by the BC government. Major projects are those valued at least $15 million ($20 million in the Lower Mainland).

Large projects include the $1 billion Tsawwassen First Nation and Ivanhoe Cambridge retail project – already well underway in south Delta – and a $1 billion Concord Pacific condominium project in False Creek. The glass-sheathed $360 million Trump International Hotel in downtown Vancouver is already under construction. In other areas, the Penticton Hospital redevelopment, the $900 million Jumbo Glacier Resort in the east Kootenays and Vancouver Island’s Fairview Container Terminal are among projects proposed.

Nearly 70 percent of all proposed mega-projects are in northern BC, related largely to the liquefied natural gas industry and mining. The major projects list does not include the $6.5 billion Northern Gateway Pipeline, which recently received federal government approval.

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Ethical volunteers sought by Fen-BC

LANGLEY – Fen-BC is looking for volunteers to participate in the newly formed Ethics Committee. The Fen-BC Board of Directors has been reviewing a draft proposal for a Code of Ethics and is seeking further input from the membership. Interested parties should contact Fen-BC executive director Zana Gordon through www.fen-bc.org.

FES-BC Red Seal program accepting registrants

The Fenestration Education Society of BC (FES-BC) has announced its upcoming glazier apprentice training schedule.

Level 1 classes will be held September 2 through October 10, 2014, followed by Level 2 from October 20 to November 28.

The new year will kick off with Level 3 from January 5 to February 13, then another session of Level 2 from February 23 through April 3.

Look for more information on the Fen-BC web site (www.fen-bc.org) or the Industry Training Authority web site at www.itabc.ca.

Program lining up for Fen-BC fall conference

The program is jelling for Fenestration West, the annual conference of the Fenestration Association of BC. The October 23 event at the Sheraton Guildford in Surrey will include sessions on aluminum extrusions, powder coatings, acoustic lab tests and a panel discussion on BC building codes. Find more at http://www.fenestrationwest.ca.
The City of Vancouver has extended the implementation of its controversial new building bylaw to next year, giving fenestration contractors, manufacturers, home builders and consumers time to adjust to what some call “onerous” regulations. The City is also offering training sessions this September to explain the bylaws.

The new bylaw, which covers detached houses and low-rise residential buildings, bans doorknobs and ushers in some of the toughest energy requirements in Canada. Originally scheduled to come into effect in March 2014, it was extended to July 1, 2014 and implementation has now been pushed to January 1, 2015.

In recent months the city has seen a sharp increase in building and development applications as residential builders attempted to beat the July 1 deadline, according to industry sources. “They are swamped with applications,” one builder said.

Lynn Harrison, chair of the Greater Vancouver Home Builders’ Association, said the new bylaw would increase the cost of both new homes and substantial renovation projects. “These are onerous changes,” she said.

The bylaw’s accessibility requirements bans doorknobs and knobs on bathroom and kitchen taps, and mandates wider doorways and hallways to accommodate wheelchairs. The new bylaw also bans small powder rooms on the main floor of a multi-storey house, instead mandating that only full “accessible” bathrooms be installed.

Energy requirements include an upgrade to window performance, an increase in insulation levels, greater air tightness and the mandatory installation of a 240-volt electrical vehicle outlet in each carport or garage.

The bylaw covers both new home construction and substantial home renovation projects.

Mark Hartman, the City of Vancouver green building manager, said the new bylaw is part of the city’s strategy to become the “greenest city in the world by 2020.” He didn’t explain why the bylaw deadline has been extended once again.

The City is offering training sessions to get builders and consumers up to speed on the new bylaw. Training sessions will be held September 11 and September 16 at Vancouver City Hall.
The introduction of the BC Building Code means that every exterior door must meet the North American Fenestration Standard (NAFS). And, although folding glass door systems are not directly covered by NAFS, they are covered by the Code. “[Folding doors] can be tested under what is known as a specialty products category,” explained Terry Adamson, technical director for Westeck Windows & Doors and chairman of Fen-BC.

The 2012 BC Building Code, the 2010 National Building Code and other provincial and municipal building codes all reference NAFS.

Here we look at three local patio door suppliers who offer NAFS-ready products that meet both the provincial code and even the new Vancouver Building Bylaw. Richmond-based Stella Custom Glass Hardware offers VUE BF2 bi-fold, a re-designed door that can meet U-values as low as 1.35 (0.24 BTU/h·ft²·f). This means Stella’s VUE doors have a U-value rating below the Vancouver City requirement of 1.40, without triple glazing.

VUE doors, manufactured in Richmond, have been used in many BC projects including restaurants, community centres, hotels and both multi-family and single family homes. The VUE doors can open up an entire wall to the outdoors. With up to 16 panels, the VUE system can span 53 feet wide and 10 feet high. Some examples of VUE bi-folding doors include BC Ferries’ Departure Bay terminal and SFU Starbucks. “Our doors are large format, thermally broken, tested and top hung for ease of use,” said a Stella spokesman.

Innotech Windows + Doors of Abbotsford also has a line of sliding, swinging and bi-fold patio doors that meet NAFS. Notes Innotech, “The new Code is a huge improvement in our industry, as historically, most doors have been the weak link in the performance of a building.”

Innotech exterior entry doors have been tested to the new standard and are NAFS compliant. These include single and double...
inswing or outswing Terrace Swing Doors, single and double inswing tilt-turn and tilt-glide doors.

DS Group of Burnaby, which designs and manufactures a range of door hardware, has its own line of NAFS-compliant bi-fold doors, the C3 exterior aluminum folding door system with E3C Eclipse architectural hardware from Centor. The bi-folds can extend up to 16 panels to a 52-foot length and feature high-performance Twinpoint multi-point locking hardware in stainless steel. There are also weatherseals on head jambs and sills, and between each 220-pound insulated glass panel. Tested by Intertek, the C3 system met all performance requirements for air, water and wind loads up to hurricane force, cycling and impact resistance.

Door prehangers and manufacturers can also assemble certified components and create their own patio doors that will meet the NAFS standard, notes Chris Kamensek, president and owner of DS Group.

VUE bi-folds from Stella Custom Glass Hardware of Richmond open as wide as 53 feet (16 metres) and are top hung for easy use. They can meet U-values as low as 1.35.

Photography: Copyright Michael Elkan
Built with recycled wood and rammed earth walls embedded with high-performance windows and doors, a North Vancouver house by Naikoon Contracting Ltd. is among the first to achieve the premium LEED Canada for Homes platinum rating. The super-energy-efficient house is also qualified as Built Green platinum and for R-2000 energy efficiency certification.

And the windows play a huge role in creating a house recognized as “net zero,” meaning it produces more energy than it uses.

The windows are all triple-glazed, fiberglass-framed windows from Cascadia Windows and Doors, using Guardian 300 A series glazing, with argon gas.

“The windows have R-5 to R-6.5 energy ratings,” said Mike Battistel, vice-president, operations of Langley-based Cascadia Windows Ltd.

The home’s overall rating is R-33, 60 percent higher than required by BC’s building code, according to Joe Geluch, Naikoon president.

**Energy Savings**

The following are the energy-saving and architectural features that add to the home’s sustainability:

- Thick rammed earth walls
- Structural Insulating Panel (SIP) roof system by Insulspan
- Logix Insulated Concrete Forms by Beaver Plastics
- Fastfoot® Footings
- Triple-glazed fiberglass windows by Cascadia Windows & Doors
- Heat Recovery Ventilator by Enerready Products
- Superior exterior wall assembly
- Xeriscaping by Swick’s Organic Landscaping
- Solar photovoltaic power system by Terratek Energy Solutions
- 100 percent LED lighting and home control
- Custom designed reclaimed timber from local sources
- Grey water re-use system
- Low-flow plumbing fixtures
- Envelope air-tightness
Battistel said that the Naikoon house represents an increasing trend he is seeing as custom home builders and their clients request higher-performing windows.

Nearly 75 percent of Cascadia’s residential sales now involve triple-glazing, he said, adding it makes sense when you think of the cost of Metro Vancouver homes and the potential of resale value.

Ten or 15 years from now, he noted, triple-pane windows will still be leaders in energy efficiency and will likely be the norm in custom home construction. Battistel compared it to a homeowner today trying to sell a house with old single-pane windows. “High performance windows are an excellent long-term investment.”

Cascadia also provided the inswing doors, inset with Guardian 301 glazing, and the glass sliding doors, which are also triple-glazed insulated units with Roto hardware.

Held open for public and media tours earlier this year, the 2,450-square-foot house, called Midori Uchi (Japanese for “green home”), may be the greenest home in Canada, Geluch said.
The 31-storey Exchange tower in downtown Vancouver will be encased in a triple-glazed curtainwall, fabricated on site by Gamma.
31-storey Exchange building first in BC with triple-glazed curtainwall

By Frank O’Brien

The Exchange office building is just breaking ground in downtown Vancouver but when it completes in 2017, it will be a towering endorsement of triple-pane glazing.

Developed by global financial giant Credit Suisse of Switzerland, all 400,000 square feet of the building will be encased in an aluminum-framed three-pane glazing custom fabricated by Gamma, an international curtainwall supplier with an office in Delta, BC.

The $200 million tower at the corner of Howe and Pender is targeted to achieve LEED (Leadership in Energy and Environmental Design) Platinum with cutting-edge features such as on-site waste water treatment, energy consumption at a rate about half that of similar towers and a high-efficiency heating, cooling and ventilation system.

But it is the innovative curtainwall that will set it apart from other new towers in Vancouver.

The triple-glazed windows have low-E coating and a graduated frit, decreasing solar gain by 83 percent, according to architect Peter Hildebrand, partner with Iredale Group Architecture in Vancouver, which worked with noted Swiss-based design architect Harry Gugger Studio on the Exchange project. Read Jones Christoffersen Consulting Engineers of Vancouver are the...
structural engineers for the 31-storey tower.

Brian Hubbs, principal and senior building science specialist of RDH Building Engineering (Vancouver) was intimately involved with the design, specifications and construction detailing of the curtainwall system. In addition to the engineering issues related to the deep projecting mullion fins, there was the challenge of extracting a new level of energy performance from a curtainwall system.

“We calculated the effective insulation values for the cladding and glazing systems and assisted in the selection of systems and components that could achieve the required energy performance levels,” said Hubbs.

The triple-glazed curtainwall will help the building achieve a projected 35 percent energy cost reduction and reduce CO₂ emissions by 85 percent, Hildebrand said.

As Hildebrand explains, Montreal-based Gamma, Canada’s largest curtainwall company in sales volume, will fabricate the curtainwall system on site.

The insulating glass units (IGUs) are five feet wide with the largest units stretching to a height of nine feet. The framing is 18-inch deep extruded aluminum mullions with an anodized aluminum finish.

The Exchange also uses an interesting mix of ceramic frits baked onto the #2 and #6 surfaces of the glazing, depending on the orientation.

Ceramic frit is applied to the glass through a fine mesh screen with glass enamel before the glass is tempered or heat strengthened.

At the Exchange tower, the frit pattern and density changes on different orientations to maximize or reduce solar gain as required. The south exposure, for instance, is heavily coated to reduce solar gain, while the northern side of the building has no frits to maximize the view.

Set on an oblique angle and concentrated at the top and bottom of the glazing, the frits are invisible when viewed straight on.

A subtle custom aspect of the Gamma design is that each of the thousands of frit ‘dots’ is a representation of the building’s floor plate, Hildebrand said.

The original design of the building called for a series of

RDH performed thermal modelling of the Exchange tower curtainwall system and wall assemblies to optimize the design of the building enclosure. Shown here are two temperature profiles comparing the performance of the double (left) and triple glazed (right) options. Component modelling of the aluminum curtainwall found the triple glazing to improve the overall system U-value to U-0.24 versus U-0.36 for the double glazing, a 33 percent improvement. Illustration: RDH Building Engineering

Tuned façade: By only applying the frit where necessary, the tower façades are ‘tuned’ to adjust to their differing degrees of solar exposure while maximizing their external views.

Illustrations: Iredale Group Architecture

Dual pinstripe: The regular elegant rhythm of the tower’s façade is to be complemented by crisp, clear and precise detailing to unify its various elements.

The frit pattern used to provide solar shading is a representation of the Exchange building’s floor plate (below right). Illustrations: Iredale Group Architecture

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Above: The ceramic frit pattern is applied on the outer surface of the central glass panel, position #2, in the triple-glazed assembly. The pattern design is a representation of the Exchange building’s floor plate (below).
louvers to control solar gain, but Hildebrand said engineering studies showed that the frits and triple glazing would be sufficient.

As well, in a nod to the advanced ventilation system that includes a raised floor plenum in each floor plate to distribute fresh air throughout the building, the windows will not be operable, which was also part of the original concept.

The Exchange building is not only the first for Credit Suisse in Canada; it is also the largest tower in the company’s 260-building international portfolio. And, in a stark departure from usual development practices, it began construction on spec without an anchor tenant signed up.

“We believe in Vancouver’s economy and its future,” said Credit Suisse’s Herbert Meier, director of real estate asset management. “We believe in supporting the City of Vancouver’s vision to become the world’s ‘greenest’ city by 2020.”

In another first, the neighbouring Old Stock Exchange building (circa 1929, that forms part of the new tower) will be renovated and restored as part of the development. It will be Canada’s first LEED Platinum heritage conversion.
Re-roofing a Vancouver landmark

Wayne Dusck, site superintendent for the Bloedel project
Photo: Richard Lam
Spectrum Skyworks replaces domed roof on Bloedel Conservatory

By Frank O’Brien

In a project that Spectrum Skyworks principal Ken Boyce calls a once-in-a-lifetime opportunity, the Port Coquitlam company is replacing the 45-year-old Triodetic domed roof of Vancouver’s Bloedel Conservatory in Queen Elizabeth Park.

It is a challenging and sensitive $2.4 million contract, ramped up by the fact the popular tourist destination had to remain open during the roof replacement and special care was needed to ensure the safety of the profusion of plants and birds inside the temperature-controlled dome.

The historically sensitive work itself is daunting. The Bloedel Conservatory, designated as a heritage structure, was completed in 1969 as BC’s first Triodetic structure. The now iconic dome is composed of 1,488 acrylic ‘bubbles’ with 32 individual shapes. In all, the roof is 140 feet in diameter and rises 34 feet at the apex.

The unique contract with the City of Vancouver contained a provision that no birds could be allowed to escape and no raptors allowed to enter while the work was being completed, Boyce noted.

Spectrum’s first issue, therefore, was to protect the conservatory roof and inhabitants while replacing the panels, which called for extensive and unique scaffolding.

“It was quite a challenge,” understated Paul Griffin, construction manager of Vancouver-based WestCan Scaffolding Inc. who rolled onto the site in January. WestCan first had to fabricate twin 180-foot long spline beams, each weighing 10 tonnes, on site and crane them into place above the dome. Kansen Crane Service Inc. of Richmond brought in a 276-tonne crane for the job, which proved tricky since the conservatory is built above a reservoir. This allowed only a narrow platform to work from due to weight restrictions. “There were times we were wondering if it would all go together,” Griffin concedes with a chuckle.

Photo: Richard Lam
Read Jones Christoffersen (RJC) Consulting Engineers of Vancouver acted as the prime consultant and design engineer for the project. The RJC team’s contribution included whole-building energy modeling, as well as designing of thermal improvements required for the near half-century old building.

**Tricky scaffolding**

To protect the heritage structure, the scaffolding had to surround the whole building without touching it at any point. This meant that scaffolding formed a sheltering shell 55 metres (180 feet) out from the building, Griffin said. The scaffolding was then draped in plastic sheeting to not only protect workers and the roof from winter rains, but also to continue to allow sunlight into the conservatory.

The protection continued inside, where netting was installed to protect visitors and staff from falling debris and to ensure no birds could enter or leave while the panels were replaced. “It took some high-riggers to put those in place,” Boyce said. Pacific Ropes of Richmond was contracted to do this phase of work.

As Boyce explained during a spring walk-through of the construction site, each of the replacement dome panels were custom moulded and installed by Spectrum Skyworks and then fitted precisely onto the existing aluminum structure. The original aluminum tubes that form the structure were fabricated by Triodetic Structures Ltd. of Arnprior, Ontario, and remain in good shape nearly a half a century after they were installed. “It is like a giant jigsaw,” Boyce said, explaining how his crew follows a coded grid to place each of the acrylic panels into its exact position, averaging 30 to 40 per day. Because they must fit the original aluminum frames, the panels are all single-pane acrylic but are twice as thick as the originals. “We tried to get as much in improved R-value as we could,” explained Spectrum site foreman Wayne Dueck.

**Sealing the deal**

The original caulking used to seal the dome panels was all removed and replaced by EPDM seals custom made by Tremco Commercial Sealants and Waterproofing. Each panel was “fish-tank”
sealed with silicone to prevent any leaks and heat loss, Dueck added.

The sealing system improved the thermal break of the aluminum frame, said Danica Djurkovic, director of facilities planning and development with the City of Vancouver, which projects it will achieve a 2 percent reduction in natural gas consumption for the building.

Spectrum expects to complete the project this fall and hosted a July 3 celebration as WestCan prepared to remove the scaffolding. It will be missed: as part of the job, Spectrum had strung lights from the scaffolding to allow the dome to continue to glow at night.

When the retrofit is complete, the Bloedel Conservatory will look much the same as the original, though more energy-efficient, brighter and more comfortable. The work ensures one of Vancouver’s most popular landmarks will remain a beacon in Queen Elizabeth Park for decades to come.

“It is a wonderful site and a great project to work on,” Boyce said, in crediting his crews and sub-contractors for a job well done.
LEED rolls out v4 Paths

OTTAWA – There are more than 4,000 Leadership in Energy and Environmental Design (LEED) projects in Canada, including more than 300 in British Columbia.

Canada, in fact, now ranks second in the world behind the U.S. for most completed LEED projects.

Now the LEED v4 Alternative Compliance Paths (known as ACPs) for Canadian projects is available, along with additional tools and support, for those wishing to pursue LEED v4 certification of their building project with the Canada Green Building Council (CaGBC). This follows the official launch of the ACPs that took place on June 3, 2014, at the CaGBC’s annual Building Lasting Change conference in Toronto.

In order to ensure greater ease of use, the CaGBC has developed ACPs for eight sets of requirements, and will develop additional ACPs in the future as required. The eight existing ACPs provide equivalent means of meeting credit and prerequisite requirements of LEED v4 by referencing standards that are more familiar to Canadians.

LEED v4 is the latest version of the LEED green building rating system. It will allow green builders in Canada to carry their expertise seamlessly to projects around the world, and benchmark their accomplishments against international LEED projects, says Thomas Mueller, president and CEO of the Canada Green Building Council.

Steady growth seen in U.S. window, door sales

WASHINGTON, DC – An upturn in the U.S. housing market translated into sales of 33.5 million residential window units this year, up 10 percent from a year earlier, but sales will increase at a slower pace in 2014 and 2015. That is the forecast from the U.S. Window and Door Manufacturers’ Association (WDMA) annual Window and Entry Door Industry Report for 2014.

Residential entry door shipments showed growth of 5.3 percent for 2013, with 14.1 million units shipped. Growth in residential entry door shipments is similarly expected to continue at a slightly slower pace for 2014 and 2015, with the WDMA forecasting growth rates of 5.1 percent and 4.8 percent respectively.

Shop-fabricated light commercial windows have shown significant growth over the past two years, with a 41 percent increase in 2012 and a 29 percent increase for 2013. The report forecast for 2014 shows 23 percent growth with a steady but more moderate pace in the following years.

AIBC plans fall meeting

The Architectural Institute of British Columbia’s annual conference will be held October 8–10, 2014 at the Vancouver Convention Centre West. This annual gathering, the largest of its kind in British Columbia, runs over three days and includes educational events and an industry trade show. The 2014 conference theme is Shifting Perspectives with a particular focus on the Pacific Rim. About 450 delegates are expected. For more information, visit www.aibc.ca.

Okanagan project will total 1,365 homes

KELOWNA – Vancouver-based Macdonald Development Corp. has broken ground on a massive residential subdivision near Kelowna that will include 1,365 homes on a 550-acre hillside overlooking Okanagan Lake. The Lakestone project will also include a $3.5 million amenity centre, which is now nearing completion.

Developer Rob Macdonald estimated that about 80 homes will be built each year and it could take about 15 years to build out.

Vitrum seminar an educational experience

VANCOUVER – This May, Langley-based Vitrum Glass Group presented an education seminar in Vancouver to explore architectural glass and coatings. The event was endorsed by the Architectural Institute of BC’s continuing education program.

The ‘Designing with Structural Laminated Glass Interlayers’ seminar at the Renaissance Hotel covered energy efficient glazing, laminated glass interlayers and glass railings with laminated glass.

Vitrum took the opportunity to showcase DuPont SentryGlas® Plus with PPG glass and other products.

The event was well attended and student attendees qualified for a certificate of completion.

The seminar was told that PPG’s Solarban 70XL glass was shown to reduce energy costs by as much as 13 percent in an eight-storey, window-walled office building, according to a modeling study done by the U.S. Department of Energy.

Chuck McMullen, an expert in energy-efficient glazing, speaks at the Vitrum seminar on designing with structural laminated glazing. Photo: Fenestration West

Thomas Mueller, president and CEO of the Canada Green Building Council. Photo: Canada Green Building Council
Skylights offer more than daylighting, a study shows. Photo: Velux

GREENWOOD, SC – Skylights can do more than splash light into a home; when used in combination with standard windows, they can make a home more energy efficient, a new study says.

“A Study of the Energy Impacts of Residential Skylights in Different Climates,” prepared by U.S.-based Group 14 Engineering, used computer models based on a one-storey, open plan single family house. The study home had a maximum 20 percent window-to-floor area (with no skylights) with windows evenly distributed on all façades to achieve an average daylight factor of 5 percent. For each location, researchers incorporated skylights and adjusted the amount and configuration of vertical windows to test how the model would perform in different climate zones, while giving the living space sufficient daylight. The study explored the effects of these configurations on the utility bills generated by the model homes in nine cities, including Seattle.

The researchers found that by providing daylight via skylights, the total glazing area could be reduced, on average, from a maximum 20 percent of floor area to 12 percent of floor area. In the best-case scenario, the total glazing area was reduced from 20 percent to as low as 8 percent. This was found to reduce annual heating and cooling energy use and costs in all but two of the 108 model runs with skylights analyzed by the group.

For simplicity, lighting savings, shading efficiencies and increased natural ventilation attributable to skylights were not evaluated. Further studies are underway to quantify these additional efficiency contributions. “While we have always known the intangible benefits of adding daylighting from above to homes, this study provides empirical evidence that natural light from skylights can contribute to the home’s overall energy efficiency,” said Stephan Moyon, director of marketing for Velux America, which sponsored the study. “Adding skylights can help reduce glazing while maintaining the daylight factor.”

BC seen among construction leaders

OTTAWA – The Canadian Construction Association (CCA) singled out British Columbia in forecasting that construction spending will jump this year as a long ramp-up for the industry gets going.

CCA is predicting that construction spending will top $300 billion this year, up from $284 billion in 2013. Michael Atkinson, president of the Ottawa-based CCA, noted that the value of construction in Canada has more than doubled over the past decade.

“BC stands out among all the provinces for strong employment growth through the recession and across the scenario period, with employment up by 16 percent from 2009 to 2021,” according to the forecast.

BC non-residential work is increasingly concentrated in utility and mining projects in the north. Residential activity should continue to grow to 2017, the forecast suggests.

New federal government infrastructure spending should boost institutional work in 2014 and residential construction should remain stable, the CCA suggests. “Slower growth is projected for the 2014-2021 scenario period and growth is spread out over a high plateau of gradual employment gains. Growth accumulates to 44,000 new jobs across the scenario to 2021.”

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After decades as a supplier of innovative sealing and bonding products for the Façades, Fenestration and Insulating Glass (FFI) industry in Europe and the USA, Sika has recently introduced its specialized FFI product line into the Canadian marketplace. Quebec-based Sika Canada now offers a complete range of Sikasil® products for curtainwall manufacturers and installers, from structural glazing and insulating glass adhesives and sealants to weather-sealing systems. Sika’s products are supported by years of use in skyscrapers across Europe and North America.

To assist in its entry into the marketplace, Sika Canada has assembled a dedicated team of technical sales representatives experienced in the Canadian FFI industry, led by Ian Collins.

“While Sika may be a new player on the Canadian FFI scene, our staff possesses many years of experience and knowledge gained working in the FFI industry locally,” Collins said.

See more at can.sika.com.

Spydercrane gives lift to fenestration

Leavitt Machinery, which has 23 locations throughout Western Canada and the Pacific Northwest, has introduced Spydercrane, a mobile crane ideal for lifting large insulated glass units into place on commercial buildings. Spydercrane comes in various sizes, the smallest measuring just two feet wide and four feet high – small enough to fit in an elevator – yet capable of lifting 6,450 pounds.

“From the early results I am hearing, glass companies are saving about 30 percent of their labour costs with the Spydercrane,” said Leavitt sales representative George Njegovan. The mini-crawler cranes unfold with “spider leg” extensions that allows set-up safely on uneven surfaces and confined workspaces.

For details, visit www.leavittmachinery.com.
Solarban 70XL continues the legend

Fifty years old and still cutting edge? That is the take on the latest generation of Solarban, the solar control low-E glass from PPG Industries that was first introduced in 1964. Solarban was the first coated glazing to reflect heat away from buildings, improving occupant comfort and reducing utility expenses related to HVAC systems. The latest generation, Solarban 70XL, is the world’s first triple-silver-coated, solar control, low-E glass. In comparative studies by the U.S. Department of Energy, Solarban 70XL was shown to lower energy costs by 13 percent and initial HVAC equipment costs by 13 percent, and cut greenhouse gas emissions by 300 tons a year in a prototype window-walled office building. Not bad for a middle-age contender.

See more at www.corporateppg.com.

Gorilla Glass swings into buildings

Gorilla Glass from Corning is best known as the super-tough glass used in millions of smartphones, but Corning says it also has architectural potential. The company, which recently saw Gorilla Glass installed inside commercial elevators, says the “thin, lightweight and damage-resistant glass” can be laminated onto surfaces and could strengthen curtainwall façades, overhead glass canopies and triple-glazed windows. The glass is supplied in individual sheets that can be cut to size. “We can also bend thin laminates to desired curved shapes, resulting in an undistorted reflected image,” a Corning spokesman said. Gorilla Glass is currently being challenged in the smartphone market by lower-cost Sapphire Glass from PPG.

See more at www.corninggorillaglass.com.

Faster, easier decorative glazing

Vancouver, Washington-based ICD Coatings has developed CeramiGlass Frost Etch which the company claims can deliver decorative glass for architectural glazing in a greener, easy and inexpensive process. Frost Etch is a 100 percent water-based ceramic-like coating that simulates the look of an acid-etched process without the environmental concerns, according to ICD. It comes in a full range of colours and can be screen-printed, sprayed or roller coated. Frost Etch has zero volatile organic compounds or solvents, and takes less energy to cure. It even offers texture.

See more at www.icdcoatings.com.

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Probationary periods

Employers must be certain employee fits the job
by Robert Smithson

The employment probation period can be viewed as one long audition for a job, revealing an individual’s true skills, attitude, and ability to fit in. In my view, there simply is no substitute for viewing an individual on the job in real work situations.

But probation periods don’t just happen by magic. The employer must take certain steps to ensure it has gained the benefit of a probation period.

The employer and employee should agree, in writing, prior to the commencement of the employment, on the terms of a binding probationary period. There are numerous preferred components of an enforceable probation clause.

Three steps

First, the parties should define the standard of review – often the standard adopted will be “suitability” for ongoing employment. That’s a bit of a fancied-up way of saying the employee must be a good fit for the job.

Second, because suitability is a somewhat hazy standard, the parties should then go a step further and set out the primary criteria by which the employee will be measured. These might include, for instance, attitude, compatibility with co-workers and clients, ability to follow directions, demonstrated progress in acquiring the necessary skills of the job, good attendance, overall efficiency and output, adherence to company policies, etc.

Third, the length of the probation period should be clearly stated. The period is sometimes defined in terms of time worked rather than just the passage of calendar time (because time on the job is what’s required to assess the individual’s suitability for continued employment).

I prefer to define the probation period using the words found in the BC Employment Standards Act, being the first “three consecutive months of employment”. It is critical to ensure that the contractual terms, including the probation period, are compliant with the applicable employment standards legislation.

Fourth, documentation should be kept, during the probation period, of the employee’s progress in relation to the agreed-upon criteria. A good rule of thumb is that there should be at least one interim review of the employee’s performance and conduct before the final decision on suitability is made.

During the probation period, the employer should be pro-active in counseling the employee on their shortcomings. This eliminates surprises for the employee when the final review is performed. Specific instructions should be provided to the employee on achieving the desired standard. All of this should, of course, be documented.

Finally, the employer should conduct a final review, making a reasonable decision about suitability, prior to the expiry of the probation period. Court decisions indicate employers should, to whatever degree is possible, apply objective criteria in performing a good faith assessment of the probationary employee.

Court ruling

A recent BC Supreme Court decision demonstrates that a probation period doesn’t give the employer a carte blanche entitlement to ditch the employee at the first opportunity.

Geller was hired on probationary status by Sable Resources Ltd. in 2010 after completing a pre-apprenticeship program in heavy mechanics. While Sable was aware that Geller did not yet have his heavy-duty mechanic’s journeyman ticket, it seemed to think he was farther along in that process than he actually was.

Sable’s hiring letter for Geller stated, “Your first three months of employment is considered probationary. Permanent employment will be determined based on mutual satisfaction and job performance.”

A situation soon arose in which Sable needed Geller to work in unsupervised circumstances. This would have been contrary to industry requirements that an apprentice receive training and practical experience under the direction of a qualified, certified tradesperson.

Geller informed Sable that he was willing to continue to work in a situation in which there was a qualified heavy-duty mechanic available to give him the “agreed apprentice training and practical experience.” Sable terminated Geller’s probationary employment and, in turn, Geller sued for wrongful dismissal.

The BC Supreme Court stated that “a probationary employee must be given an opportunity to demonstrate his ability to meet the standard the employer set out” at the time of hiring. It found that Sable and Geller did not have a common understanding of their respective “roles relative to the apprenticeship or the degree of supervision available or required.”

The Court went on to state that it was incumbent upon Sable to “make its expectations clearer to [Geller] than it did.” Geller, it found, did not “have a reasonable opportunity to demonstrate his suitability for the job.” His claim of wrongful dismissal was upheld and damages were awarded.

The point the Geller and Sable case drives home is that the employer can’t make an arbitrary decision to terminate a probationary employment relationship. It must apply rational thought to the decision and make a reasonable decision, in all the circumstances, about the employee’s future.

Robert Smithson is a labour and employment lawyer, and operates Smithson Employment Law in Kelowna, BC. For more information about his practice, visit http://www.smithsonlaw.ca. This subject matter is provided for general informational purposes only and is not intended as legal advice.

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