WINTER 2014-15

• Award for the Anvil Fenestration “excellence”

• Sealants
  Where windows meet the wall

• Vancouver Building Bylaw

• FEN-BC Conference
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Your ad could be here.
Get on board with western Canada’s fenestration magazine...
We’re all geared up to reach key decision-makers in glass, glazing, windows and doors. Come grow with us!
Delta-based Phoenix Glass Inc. has been awarded the 2014 Fenestration Association of BC Project of the Year Award for its stunning fenestration work on New Westminster’s newest landmark.

The Anvil Centre captured the prestigious Fen-BC honours for a project that in “design or construction excellence, energy efficient buildings or new uses of technology” represented the best in British Columbia.

The high profile Anvil Centre, a combination of a community centre and a high-rise angular office tower, challenged the skills of Phoenix and the blue chip team it called in on the project.

“The architectural concept required large, hanging structural canopies and structural glass walls and four-sided structural silicone glazed (SSG) curtainwall. Also, vertical surfaces intersected obtuse angled surfaces.”

The Phoenix Glass Inc. (PGI) team was comprised of Jim Lebedovich, general manager; Mike Anderson, project manager; Graham Sheane, project superintendent; and Ken Maggs and Norm Sluis from the PGI drafting department. Architects Musson Cattell Mackey Partnership recruited engineers Mark Layton and Ivan Chu of Layton Consulting Ltd. (LCL) for the initial preliminary designs. PGI retained Layton Consulting for the remainder of the project, including all on-site structural engineering services and certification of the glazing systems.

Architecturally designed for enclosure within different glazing systems by the Phoenix Glass team, the angular building pushed the boundaries of engineering limits. The architectural concept required large, hanging structural canopies and structural glass walls, four-sided structural silicone glazed (SSG) curtainwall, glass...
Congratulations

to the 2014 winners of the Project of the Year Award

Anvil Centre
(New Westminster Civic Centre)
doors, stacking doors, structural all-glass walls and stand-offs. Additionally, battered (sloped) vertical surfaces intersected obtuse angled surfaces, making for tough installation and creative engineering. Before the preparation of the tender documents, LCL assisted in several design changes to improve the project’s feasibility, so as to utilize readily accessible products and minimize costs. Even though pre-engineering assisted in averting any major design issues with minimal reinforcements, PGI faced the daunting task of custom manufacturing and installing systems to meet the architectural designs.
Some areas of highlight include:

**Faceted curtainwall system at the office tower**

PGI was able to use their own unitized wall system for the curtainwall, yet since the Anvil Centre has nine separate floor plans, navigating the frame relationships between floors was challenging.

For instance, the connections of the pre-glazed frames on the west wall of the third level with the fourth level frames south wall had to be installed in conjunction with their relationship to the fifth level frames, of which part sits on a curb and part stacks on the fourth level. This essentially required two different heights of pre-glazed frames. Things were further complicated as there is a sloped wall on the fifth and sixth level's east wall which meets the vertical south east corner curtainwall coming up from level four. Ultimately, the curtainwall system was modified to meet the many changes in both elevations and floor plans.

**Podium:**

The 45-foot vertical glazing wall of the atrium consists of 12’ by 4’ sealed units, structurally glazed. The architect requested outrigger arms in lieu of horizontal mullions with setting block tabs. The design was complicated by the mandated large size of the insulated glass unit (IGU) and thus finite element modeling was required to preliminarily size the glass. In the end, a special support system with only four support locations per panel was used.

The $44 million Anvil Centre opened this past October to welcome 7,000 visitors and receive wide applause from across the region. “The Anvil Centre is surely one of the most spectacular civic venues in the Lower Mainland,” enthused *The Province*.

Anvil Centre and its eight-storey office building were built on spec by the City of New Westminster and, like the innovative fenestration, the confidence soon proved its worth. Shortly after the Centre opened, the 138,000-square-foot office tower was sold to an investment group headed by Vancouver developer Joseph Segal for $36.5 million.
As delegates learned at the Fenestration West conference in October, window installation is often paramount to a window’s performance. And proper sealing of the window is a key issue to ensure that the window is not the reason water is getting into the building envelope.

The installation of a window in an adequately prepared opening in which a sill pan and back dam have been installed should be straightforward provided measures are taken to:

- consider the installation of a sill flashing membrane and the proper lapping of flashing layers;
- include a drainage gap at the windowsill; and
- ensure that there is continuity of both the thermal barrier and air barrier to the window component.

Fortunately, manufacturers have stepped up with new sealants to make window installation easier. The following are some examples.

At the Fen-BC conference, Sam Aird of Tremco Commercial Sealants and Waterproofing introduced the newest member of the ExoAir air barrier product line. ExoAir® 111 is a high-performance, impermeable, self-adhered sheet designed to be applied to exterior cavity walls in order to control air infiltration/exfiltration, vapour transmission and water penetration. ExoAir 111 can also serve as a detailing or transition membrane into window and door openings. It is designed to be installed when both the air and surface temperatures are -6°C to 115°C without primer.

Next, Aird shared information on Tremco’s ExoAir® Trio, a pre-compressed open-cell flexible polyurethane foam tape impregnated with synthetic resin. Available in numerous standard sizes, ExoAir Trio is installed pre-compressed at 1/5th of its operating range. When installed, ExoAir Trio expands into the rough opening to create a seal that is airtight, thermally efficient and vapour-permeable, especially for rough openings in stud walls. It can be installed onto frozen and damp substrates in virtually any weather condition.

ExoAir Trio and the entire T3 product line from Tremco are compatible with all ExoAir air Barrier products to ensure a complete seal from window to wall and the gap around window and doors. The T3 is a unique system offering a combination of product technologies that create airtight, watertight, thermally efficient seals around windows and doors.

Aird also demonstrated that ExoAir® Flex Foam, part of the T3 product line, can be tied in a knot as an indication of its flexibility and strength.

Speaking to the diversity of window-to-wall product solutions, Aird added that another air barrier product, ExoAir® 230 provides strong UV resistance to allow prolonged exposure to the elements with no material degradation. The product’s high-density polypropylene film protects the butyl membrane against incidental damage during construction. ExoAir 230 has put up some impressive numbers. For example, under a water exposure test, set at nearly 10 times conventional testing, the window assembly still passed with no water leaks.

Sika is a recognized leader in the field of specialty products for the construction industry including a diverse range of sealants and adhesives especially adapted for the window and door industry.

Sikasil® WS-295 is an elastomeric, neutral-cure silicone sealant. Unaffected by...
most atmospheric conditions, its versatile, no-bleed formulation makes it suitable for above grade, horizontal and vertical, interior or exterior applications, including structural glazing and weather sealing.

Sikasil® WS-305 CN is a neutral-cure silicone adhesive. It can be used for weatherproofing and sealing applications where durability under severe conditions is required. It adheres well to many substrates, including glass, metals, coated and painted metals, plastics and wood, so is particularly suited as a weather-seal for curtainwalls and windows.

Dow Corning Corp., meanwhile, describes its structural silicone sealant as a high-performance solution to glazing challenges. According to the company, the new Dow Corning® 121 structural glazing sealant is easy to use and fast-curing with the potential to simplify installation and reduce repair time.

Supplied in a two-part cartridge complete with a static mixer, the sealant is a neutral-cure RTV silicone sealant with a 1-to-1 mix ratio. With easy mixing, simplified dispensing and a 24-hour cure, this can eliminate the need for specialized mixing equipment, according to the company. In addition, the sealant can minimize quality assurance issues, ensuring adhesion and structural strength on many substrates without using a primer. The product can be used for repair or replacement of structurally glazed glass and other substrates. According to Dow Corning, it is equally suitable for on-site structural glazing, including storefront systems or attachment of panel stiffeners, as it is for in-shop structural glazing.

Garibaldi to host Glass Day

Garibaldi Glass will host its 5th annual Glass Day on Friday May 1st, at the company’s Burnaby plant, 8183 Wiggins Street. “Each year the event continues to grow and has become an industry known event,” says Sales Manager Duane Rose.

Glass Day participants take guided tours of Garibaldi’s state-of-the-art facility, learn about its manufacturing capabilities, attend educational seminars and meet suppliers and industry association partners.

The event will run from 1:00 to 7:00pm. Seminar space is limited. Attendees are encouraged to pre-register at www.garibaldiglass.com.
Speakers spark Fen-BC Fall conference

By Frank O’Brien

The Fenestration Association of BC (Fen-BC) annual conference in October drew a sterling lineup of speakers who explained aluminum extrusions, powder coatings, acoustic testing and, of course, details on imminent and significant changes to the BC and Vancouver building codes.

It was the latter presentations that drew a remark from Texas-based acoustic expert Michael Black. “I thought I had heard of complex window regulations before, but I hadn’t until I got here,” he said.

Black’s comment drew knowing laughs from delegates and followed an address from building energy and code specialist Murray Frank of Constructive Home Solutions Inc., and Al Jaugelis of RDH Building Engineering Ltd., who helped explained the intricacies of the new building code energy requirements that will affect most of the residential window and door industry, particularly in southwest BC, in the New Year.

Depending on a building’s location, it will be subject to either the new Subsection 9.36 of the BC Building Code or the new Subsection 10.2 of the as-yet unpublished 2014 Vancouver Building Bylaw (VBBL), which for the first time make the energy performance of windows and doors in residential buildings a mandatory code requirement.

Vancouver Building Bylaw

In Vancouver, which has its own full-fledged building code, one- and two-family dwellings windows and glass doors will have to meet what Jaugelis called “the strictest fenestration energy requirement in North America.”

This requires, for example, a USI value of 1.4, compared to a USI of 1.8 in the rest of southern BC under the new provincial building code, and a USI of 2.0 as currently required by the BC Energy Efficiency Act. Skylights in Vancouver are to be rated at a minimum USI of 2.4, Jaugelis explained, which he said are aggressive standards for a fairly mild climate.

Questions remain about how side-hinged doors, which are not referenced in the city bylaw, will be addressed. The city had yet to formalize parts of the fenestration regulations, just weeks before they come into effect.

“Some of this information I am taking from verbal discussions with the city building department,” Jaugelis noted.

Since the VBBL for Part 9 includes increased home insulation and other energy upgrades aside from doors and windows, the city will be leaning on ‘certified energy advisors’ to prequalify a new house for the bylaw’s energy requirements even before a permit is issued, and to sign off when the house is built. A certified energy advisor will charge from $1,500 to $2,000 per house.

“It is a pretty complicated process,” Jaugelis said. “These certified energy advisors will be kind of deputized as semi-building inspectors. Details yet to come. Code not yet published.”

Energy advisors

The certified energy advisors (CEA) will be trained in energy modeling software and equipment to complete an EnerGuide rating on a home, explained Murray Frank. The advisor’s role will include an energy by-pass checklist and confirmation that all mechanical, windows and other systems, aside from insulation and airtightness, are in accordance with the Vancouver Building Bylaw, he explained.

Frank’s company plans to offer CEA services.

There are aspects of the CEA that are still
to be worked out, including what the charge per house would be. “[Some] may sharpen their pencils but we will not know until the service rolls out and the pricing levels out,” he wrote in an email to Fenestration West following the Fen-BC conference.

There are also training issues to be ironed out.

“For the CEA to evaluate the mechanical, it was expected that TECA (BC’s Thermal Environmental Comfort Association) would provide some training guidance,” Frank stated, “I have learned that there is generally very low interest from TECA in supporting scaled-down training in mechanical as the [City of Vancouver] is expecting the modified CEA to inspect fully trained tradespersons.”

I thought I had heard of complex window regulations before, but I hadn’t until I got here

However, TECA is having difficulty in supporting a lesser trained individual signing off on a greater trained individual, he explained.

“We support that the modified CEA should be trained completely in everything related to the Energy Bypass Checklist, and this is the service that our company intends to supply,” he said. “We are developing training for CEAs to support BC Hydro’s and Fortis BC’s endorsement of Energy Star which is expected to form the basis of the utilities’ rebate and incentive programs.”

However, Frank added that the CEA training does not require hands-on experience in construction.

“There is no requirement that they have ever set foot on a job site in their life,” he said.

There could be some lively moments on Vancouver job sites when a semi-trained, semi-building inspector attempts to inspect, and perhaps stall or stop, the work of a seasoned residential builder or window installer.

Installation guide published with video

BURNABY – A guide entitled Best Practices for Window and Door Replacement in Wood-Frame Buildings has been published by Fen-BC and BC’s Homeowner Protection Office, with an online video. The guide explains best practices for window and door replacement in wood-frame buildings, from single-family homes to multi-unit residential buildings.

A valuable reference tool for construction industry professionals, including builders, replacement contractors, window and door manufacturers and others, this guide:

- outlines building code requirements for replacement and installation procedures;
- includes a comprehensive list of installation detailing samples; and
- addresses unique challenges presented by BC’s coastal climate.

The guide was developed in partnership with the Fenestration Association of BC, BC Hydro PowerSmart and the City of Vancouver.

Copies of the guide are available online through www.fen-bc.org. There is also a video explaining best practices on the HPO web page, www.hpo.bc.ca.
Old, new windows merge in makeover

Award-winning heritage makeover includes high-performance glazing

By Frank O’Brien
Photos: Rob Leshgold, Glen Stokes

The redevelopment of a 105-year old heritage office building at 564 Beatty Street, which captured an award from the Vancouver Regional Construction Association, has turned Class B space into 50,000 square feet of Class A premises by merging century-old windows with the latest in curtainwall technology.

The six-storey brick and beam building was completely refurbished and four storeys of contemporary offices were added above in the unique project by Reliance Properties Ltd.

Saanich-based Vintage Woodworks restored or replaced the old windows, while Phoenix Glass Inc. provided the curtainwall system.

The project has been closely watched because it holds the potential for transforming older and underused Vancouver office buildings into high-value commercial space. Levels two through six are fully restored heritage brick and beam, and levels seven through 10 are new concrete and glass construction.

“The finished result is a LEED Gold building in a contemporary simple cubic form made of glass and steel atop the restored heritage façade,” said Reliance president Jon Stovell.
The fenestration work was particularly challenging. The wood windows on the first through sixth floors were totally refurbished, which included stripping the original lead paint and patching and refurbishing the century-old window frames and sashes, which were then primed and painted.

Older windows that required replacement were either aluminum windows that were added during a renovation in the 1970s, or wood-frame windows that had to be extended to allow more light into the lower levels.

The new wood windows were made to replicate the original frames, with new single-glazed 6mm tempered glass installed.

In the heritage structure, the new windows utilized three types of systems: sliding doors, curtainwall and punch-out aluminum windows. The punch-out aluminum windows were used in the south wall of the heritage portion on the fifth and sixth floors, where previously there were no openings. The punch-out windows consist of aluminum frames with double-pane low-E glass. Also in this south wall heritage area, a curtainwall system was used for the “art wall”, a
bypass system between floors five and six which used aluminum framing and a double-pane clear glass with a frit pattern used on the inside of the glass as a design feature.

The curtainwall system used for the new portion of the project, the seventh floor and higher, is an aluminum curtainwall with double pane low-E glass.

“What makes this project unique is the extent to which we preserved the original building: we did not gut the inside and rebuild; rather we maintained the old building – floors, columns, ceilings, walls – while performing the seismic upgrade, reinforcing the building footings, and constructing the new floors on top,” explained David Bowyer, construction manager with ITC Construction Group.

The project took the Gold Heritage Restoration Award in this year’s Vancouver Regional Construction Association Awards of Excellence.

Developer: Reliance Properties Ltd.
Curtainwall: Phoenix Glass Ltd.
Heritage windows: Vintage Woodworks
Masonry: Dominion Masonry Ltd.
Mechanical contracting: Sentrax Mechanical Contracting Ltd.
Electrical contracting: Chambers Electric Corp.
Roofing contractor: J.R. Troy
Green roof contractor: Blue Pine Enterprises Ltd.
Fenestration West gains new team member

The publishers of *Fenestration West* magazine are pleased to announce the appointment of Pat Higinbotham as advertising manager.

Higinbotham, who joined the staff of Market Assist Communications Inc. in January, is working closely with publisher Michael Siddall, editor Frank O’Brien and art director Paddy Tennant. “A dedicated advertising service representative is valuable,” says Higinbotham “but what’s more important is that we operate as a team.”

“The key to any successful publication is department heads who work together,” agrees O’Brien. “That cooperation helps the magazine grow; and that, in turn, will support the industry, the association, its members and all our readers.”

“Pat’s background makes her ideally suited for this position,” notes Siddall. “She is resourceful, creative, and an excellent communicator. We are lucky to have her on board.”

In addition to editorial, corporate and commercial photography, Higinbotham’s career has spanned marketing and customer service roles in a range of industries including commercial printing and publishing, community television production, trade magazine ad sales and transportation logistics.

Higinbotham has started the process of connecting with existing *Fenestration West* advertisers to make sure they are informed about the magazine’s recently revamped advertising program. The 2015 package includes a new Portal On Professionals section, advertorial options, reduced rates, Fen-BC member discounts and a selection of special offers to choose from. It even has options for online advertising and a buy-one-get-one promotion with the magazine’s sister publication, *Roofing BC*.

“My focus is customer service,” says Higinbotham. “I meet people on their terms to help them grow their business.”

Higinbotham can be reached at 604-835-2295 or email sales@fenestrationwest.ca.

Seattle’s glass-roofed super office

At its annual conference this past October in Vancouver, the Architectural Institute of BC presented a discussion on what has been called the world’s greenest office building – and the oversized glass solar rooftop that powers it.

The US$18.5 million, six-storey Bullitt Centre in Seattle, designed by Miller Hull Partnerships, is built to be “zero-energy” and to meet the rigorous standards of the Living Building Challenge. While the 52,000-square-foot building is outfitted to cutting-edge environmental standards, such as insulation and energy-saving heating and cooling systems, it is completely powered by the 575 photovoltaic solar panels on the roof. It was completed in 2013.

What is remarkable about the Bullitt Centre, and of interest to Vancouver developers, is that it is solar-powered in a rainy climate that is much like BC’s coast.

Providing enough solar panels to bring the net-zero energy goal within reach in cloudy Seattle meant an array covering 14,000 square feet, projecting as much as 20 feet beyond the building’s perimeter.

In all, the solar grid delivers 242 kilowatts of power, according to the designers.
**Window maker fears Vancouver bylaw**

Small local businesses that manufacture residential windows could be forced out of business by a new Vancouver building code for houses considered the most stringent in North America.

The new bylaw is also expected to increase construction prices in a city already ranked as having the world’s second least affordable housing.

“I simply can’t afford the testing costs,” said Peter Fenger, principal of Peter Fenger Builders Ltd., which has been crafting custom-made wood-frame windows from his two-person south Vancouver shop for more than 40 years.

Fenger and all other residential window makers are required to have all their windows tested to ensure they conform to higher energy standards in the new *Vancouver Building Bylaw*, which comes into effect January 1, 2015, after a 10-month delay.

A basic window energy measurement is the U-value, which measures the heat escaping through a window. The lower the U-value, the better a window is at keeping heat inside the building.

Under climate zones outlined by Natural Resources Canada’s Energy Star program for windows, Vancouver falls under the most temperate Zone A. However, the new City of Vancouver Building Bylaw requires that windows meet the standards of Zone C, the same level as in northern BC towns such as Dawson Creek.

The city’s bylaw consequently requires windows to have a U-value of 1.4. This compares with a U-value of 2.0 under the current city standards for Part 9 buildings, which covers one- and two-family homes and residential buildings of three storeys or fewer.

The lower rating may have a minuscule effect on overall energy performance, but it means big changes in Vancouver’s window industry, which is characterized by double panes of glass.

A study done of all windows in the Energy Star Canada database by Vancouver-based RDH Building Engineering showed that fewer than one percent of double-pane windows met a U-value of 1.4.

Fenger estimates that it would cost $40,000 to test his current line of windows to the new standard, but because his windows are mostly one-off custom creations, each window he produces would also have to be tested.

It costs approximately $1,600 to test a window to the new standards at either of the two test laboratories in Metro Vancouver.

“The city has told me that no grandfathering is allowed,” Fenger said.

Will Johnston, Vancouver’s chief building official and director of the licensing and inspections department, said the new bylaw will be in effect for all new residential construction and for “substantial renovation” permits taken out after January 1.

If windows are being replaced, they also have to conform to the new building bylaw, he confirmed. Vancouver’s heritage-designated houses are exempt from the standard.

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**Fenestration Canada Annual Meeting & Conference**

June 4-6, 2015
Fairmont Hotel Vancouver
Glass-floored Skywalk wows visitors, judges

The Glacier Skywalk has proved a huge hit with visitors to Jasper National Park. The cantilevered, glass-floored platform more than 900 feet (280 metres) above the Sunwapta Valley opened in May 2014 and attracted more than one million visitors during its first six months of operation.

But it is the glass floor that is the true attraction. The floor is made of tempered and heat-strengthened glass, selected by Alberta-based Sturgees Architecture and Read Jones Christoffersen Engineering.

PCL Construction was the general contractor for the $21 million project.

Aside from awing tourists, the project also wowed judges. The project won the World Architecture Festival Award, the Canadian Design-Build Institute Award of Excellence, the Canadian Consulting Engineering Awards’ Award of Excellence, and the Consulting Engineers of Alberta Award of Merit for Environmental Assessment and Monitoring.
“I quit” myths

There is no time limit for employees to give notice; it must be in the contract
by Robert Smithson

What happens when an employee says “I quit”?

Whether the notice obligation is set out in an employment contract or not, a resigning employee faces legal consequences for abandoning employment without giving appropriate notice.

In some Canadian provinces, employment legislation dictates the notice requirement for resigning employees. BC’s Employment Standards Act, on the other hand, contains no such requirement (the notice of termination obligations set out in Part 8 of the BC legislation apply only to employers, not employees).

In the absence of a contractual clause, employees still have a common law obligation to provide reasonable notice of resignation. The employee’s notice obligation is intended to allow the employer a reasonable amount of time to arrange its affairs or find a substitute employee.

If the employee fails to provide reasonable working notice of resignation, the courts can award damages against the employee. This is an extremely rare occurrence in Canada but, when the departing employee possessed specialized skills or left the employer in a very vulnerable situation, the employer could obtain significant damages for wrongful resignation.

It is good practice for both employers and employees to agree, in an employment contract, on the appropriate notice of resignation. As with most other elements of the employment relationship, getting it in writing will likely avoid costly disputes later on. The difficult question can be, when establishing the notice obligation in a contract, how lengthy should the notice period be?

Two weeks notice

For some reason there has developed a widely-held notion that two weeks’ notice of resignation is sufficient in most instances. Where that came from is anybody’s guess because there is no accepted formula for notice.

In entry-level or unskilled positions two weeks’ notice may be sufficient but in most other responsible occupations the period should be lengthier. Depending on the degree to which the position requires specialized skills, the employer could be facing a period of three to six months to find a replacement.

The important thing is for the employer to reasonably assess its circumstances, as well as those of the labour market. The outcome of that assessment should dictate the notice period, which goes into the employment contract.

If there is no employment contract containing a resignation clause, the employee should examine the situation and provide ample notice to allow the employer a fair opportunity to manage the transition. Most employees should provide notice of resignation, in writing, to their immediate boss.

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.

Legal View

Ray Turner, president of Edmonton-based Lenmak Exterior Innovations Inc. took time from mansing the Lenmak booth at Fen-BC’s Fall conference to explain what the buzz was all about.

Turner hefted a lightweight rectangular box. “This is it,” he said.

The “it” is Lenmak’s EnvaTherm, a patented line of insulated panels designed for use in glazed curtainwall assemblies.

Meant to replace panels filled with fiberglass or mineral insulation, the EnvaTherm panels are packed with foam insulation, bonded to the light metal panels.

According to Turner, the light-density foam insulation offers improvements over traditional curtainwall components. Each unit is lighter – up to 80 percent lighter than competing products – for easier handling and installation. The self-sealing insulation restricts vibration and noise due to heat and pressure imbalances, he said.

EnvaTherm recently received CAN/UCL approval for use in non-combustible exterior curtainwall assemblies in buildings of any height, Turner added. See lenmak.com for more information.
Building permits decline in Metro Vancouver

A robust commercial construction cycle appears to be waning as BC’s Lower Mainland-Southwest region saw a large drop in building permits in November 2014.

Permits rose in Abbotsford, however, led by a surge in multi-family residential construction.

Total building permits issued across the Lower Mainland-Southwest region, typically a key sign of future construction activity, fell 58 percent in November to $516.5 million from $1.223 billion in October, 2014.

In Metro Vancouver, building permits fell across the board in November 2014 compared to the previous month, with non-residential permits dropping 83 percent and residential permit values decreasing 29 percent. Year over year, non-residential building permits declined 32 percent and residential permits were 30 percent lower.

In Abbotsford, it was the opposite, with total building permit values increasing 103 percent in November compared to October 2014. Year over year, total building permits rose 4 percent, with non-residential permits up 145 percent. Abbotsford’s building permits bounced back in November compared to October’s low on the strength of a large rebound of 1,073 percent in commercial permits,” the VRCA noted.

Energy Star specs released for windows, doors and skylights

Natural Resources Canada has released the technical specifications that determine how residential windows, doors, and skylights sold in Canada qualify for the Energy Star initiative.

The new performance metrics, updated for Version 4.1, effective February 1, 2015, are as follows:

- **U-Factor**: The heat transfer per time per area and per degree of temperature difference in W/m²·K (Btu/h ft²·°F). The U-factor multiplied by the interior-exterior temperature difference and by the projected fenestration product area yields the total heat transfer through the fenestration product due to conduction, convection, and long-wave infrared radiation. A U-factor in Btu/h ft²·°F multiplied by 5.678263 converts the value to W/m²·K.

- **Solar Heat Gain Coefficient (SHGC)**: The ratio of the solar heat gain entering the space through the fenestration product to the incident solar radiation.

- **Air leakage**: the flow of air that passes through fenestration products in L/s/m². Air leakage infiltration is the flow of air into the building envelope and exfiltration is the flow of air out of the building envelope. An air leakage in cfm/ft² multiplied by 5.08 converts the value to L/s/m².

- **Energy Rating (ER)**: a unitless value derived from a formula that balances heat loss (U-factor), air leakage loss and potential passive solar gain of a fenestration product. The ER is applied to fenestration systems intended to be installed in a vertical orientation in low-rise residential buildings.

The simplified ER equation is as follows: ER = (57.76 × SHGCw) – (21.90 × Uw) – (1.97 × L75) + 40. A complete explanation of the ER equation may be found in the CSA A440.2 Standard.

Energy Star assigns climate zones for Canada (see illustration). Most of BC’s population falls into the more balmy Zone 1, but the province also has Zone 2 and colder Zone 3 areas. The qualification is accumulative. For example, a model that qualifies for Zone 3 also qualifies for Zones 1 and 2.

For windows, the maximum U-factor for Zone 1 is U-1.6. It is U-1.4 for Zone 2 and U-1.20 for Zone 3. The maximum air leakage for all zones is 1.5.
ON THE CUTTING EDGE

A look at what’s new – and what is coming – in the window and door industry

New wood swinging patio doors
This year, U.S.-based Home Builder magazine named Jeld-Wen’s new line of Premium Wood swinging patio doors as one of the best new door products. It was honoured for its unique options such as operable, venting sidelights and more than 300 design configurations. The new Premium Wood swinging patio doors are available in a wide variety of panel designs, 21 exterior clad colors and 10 interior finish choices. They are available through Jeld-Wen Canada.
Visit www.jeld-wen.ca.

Switchable glass aimed at housing market
Guardian switches it up
Switchable glazing is making inroads into commercial applications, but Guardian Glass is angling for the residential market with its Guardian Reveal that switches from clear to can’t-see-through-it with a switch, motion detector or daylight sensor. “With Guardian Reveal, windows, interior walls and partitions become dynamic design elements that control light and privacy,” the company claims. The Reveal glass is laminated with a liquid crystal film and PVB (polyvinyl butyral) or EVA (ethylene vinyl acetate) Interlayer. Visit www.guardian.com.

New lock-latch-tilt hardware
Building on the popularity of its award-winning Fusion System, Truth has now embarked on the next generation combination lock-and-tilt latch system, the “Harmony” System. Aptly named, this system beautifully integrates the check rail lock and tilt latch together in a manner which creates “a new level of installation ease,” Truth states. Fabricators will appreciate the ease of installation as they just snap in the tilt latch and screw down the lock.

Have a new “cutting edge” fenestration product?
Send the information in to Fenestration West magazine at editor@fenestrationwest.ca
World’s toughest glass wraps 1 World Trade Centre

As befits the replacement for twin towers leveled by a terrorist attack, the 1 World Trade Centre in New York City – tallest building in the Americas – sports the strongest security glass ever installed for “the toughest structure ever created in New York City,” according to Inhabit New York, an architectural magazine.

The blast-resistant, ultra-low-iron glass, installed as more than 2,000 panes of double-pane curtainwall, are attached to the building’s steel and concrete frame without the use of mullions. Entrances at the base include a blast-resistant glass known as dichroic, which allows certain wavelengths of light through while reflecting others, creating prismatic effects. This European-made glass covers the entire ground level of the “bomb-proof” building.

The tower’s base and stairwells are made from iCrete, a super-strong, fast-setting concrete that can withstand 14,000 pounds per square inch of pressure. The skyscraper also has 45,000 tons of structural steel to hold the landmark together. Visit onewtc.com.
Selling or buying a business

Assets or share transactions a key decision when buying or selling

A common and divergent point of view applies to business transactions: sell shares or buy assets. Often business owners will be told (by accountants and lawyers) to sell shares, while a buyer and their advisors often suggest buying the company’s assets.

There’s a lot of information to consider, but who is right and who is wrong?

Perhaps a better question might be what is best for both parties under the circumstances considering tax implications, potential liabilities, industry etc.

For example:
- What are the potential liabilities that are quantifiable?
- What is the percentage liability; and is there a mechanism to manage it?
- What are the seller’s or buyer’s tax implications on a share sale vs. an asset sale, and how does that impact the transaction price?
- What are the mechanical implications to each party on a share vs. asset transaction?

To provide some further clarity to the subject, consider the following:

Depending where you are located, there are governing, licensing and legal issues to consider in terms of who is brokering the business.

In Canada, all share sales require a real estate licensed broker if the transaction involves a real estate component, as defined under the Real Estate Staging Association (RESA) as Land, Building or a Lease. And, since most businesses include a lease, such transactions will require a real estate licensed broker.

And, if less than 100 percent of the shares are sold, then such a sale is governed under the Securities Act and will require a Securities license.

Asset sale

In an asset sale, the seller may take a big tax bite if the sale of the business qualifies under the Capital Gains Exemption. If so, then the seller will seek an offsetting premium in sale price to compensate. And with effective mechanisms to manage the potential liabilities, this may be advantageous.

A buyer could still be liable for GST or source deductions to CRA even when purchasing assets. Severance pay can also become a buyer’s liability, as a different entity running the same business could be deemed continuous employment.

A buyer would need to re-establish credit and relationships with vendors and clients, re-negotiate material contracts and licenses, etc.

There are also advantages to buyers in an asset transaction, such as depreciation and amortization of assets. However, the seller may be hit with an asset re-capture tax, which could kill a deal.

Share sale

A seller may be able to take advantage of the one-time $800,000 capital gains exemption; allowing the seller to accept less for the business, making the deal more attractive to both parties. Again, this is assuming all potential liabilities can be managed through legal instruments.

With the exception of material contracts, in which a change of control of the entity applies, the purchaser can assume such contracts without the need to negotiate, re-qualify or re-apply for credit. The same contract provisions apply to receivables and payables.

A share sale is often a smoother transition for both the buyer and the seller.

So, as we can see, an asset vs. share sale or purchase is a complex issue, and one that needs to be assessed on an individual basis as each situation and scenario will differ.

In some cases, it may not make a difference. But, in others, it could be a deal breaker for either the buyer or the seller.

A professional valuation of a business would consider such implications; before you take action speak to a qualified, knowledgeable, professional business broker, lawyer and accountant.

Arthur Klein is a business broker with Pacific Business Brokers, Vancouver. He can be reached at 604-696-6111, or through www.pacificbusinessbrokers.com

Big Vancouver projects set to start

Some large Vancouver construction projects were issued permits in October 2014 that will help keep contractors working over the next few years. October set a record of $1 billion in permits for the Lower Mainland, led by government spending.

The big projects include:
- The expansion of the BC Children’s Hospital, with a construction value of $287 million. (The entire project, which includes upgrades and expansion to the adjacent Women’s Hospital, is valued at $680 million);
- The Kensington Garden residential development by Westbank, valued at $65 million;
- A new residential apartment tower by Onni, worth $46 million;
- A new building at Langara College, with construction costs of $45 million; and
- A new residential apartment tower on Main Street, by Bosa, valued at $27 million.

Arthur Klein is a business broker with Pacific Business Brokers, Vancouver. He can be reached at 604-696-6111, or through www.pacificbusinessbrokers.com
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What do Windows and Race Cars Have in Common?

EuroLine’s ThermoPlus™ window system uses GENEÖ® profiles that are made with high-tech RAU-FIPRO®, a hybrid of fiberglass and vinyl that is based on the same composite materials used in aircraft and Formula One race cars. As a result, our 4700-Series ThermoPlus window system provides the stability, static properties and low thermal expansion of fiberglass combined with the low maintenance and high thermal performance of high-grade vinyl.

EuroLine’s window and door systems are used in commercial, institutional and residential projects across Canada and the US, and provide unsurpassed thermal comfort and energy savings.