# Glass Health No Concern for Royal Alexandra Hospital

**> > Seventeen-year-old glass project stands the test of time as new addition takes shape**

Temperatures as low as -47 degrees Fahrenheit. Wind speeds up to 40 miles per hour. Snow-loads as heavy as 32 pounds per square foot. Weather takes on a whole new meaning in Edmonton, Alberta, Canada, home to Royal Alexandra Hospital.

Despite Edmonton's sometimes harsh climate and the relative humidity levels of hospital life (up to 50 percent), Royal Alexandra Hospital did not shy away from glass when it constructed a 470,000 square-foot, eight-level complex in 1992. With nearly 50,000 square feet of high-performance glazing containing approximately 43,500 feet of Super Spacer®, the expansive glass provides an airy, light-filled corridor between the two original wings of the hospital.

> > The grand barrel-vaulted glass roof and expansive curtain walls of the atrium span the eight levels of the buildings, leaving a lasting impression – whether on the inside or outside of the structure.

**Royal Alexandra Hospital Atrium, built in 1992 (photo taken 2008).**

"Royal Alexandra Hospital has a rich history in downtown Edmonton," said Pat Taylor, facilities manager and 28-year employee of the hospital. "When the glass atrium was built it became a great source of pride for the community and the hospital staff. The height and the magnitude of the design is a unique piece of architecture we were happy to bring to the downtown."

According to Taylor, condensation resistance was important for the hospital when choosing the massive window systems for the project. Condensation is the formation of moisture on an insulating glass unit surface when surface temperature is lower than the localized air dewpoint. If a standard "cold edge" spacer exists and outside temperatures fall to zero degrees Fahrenheit, condensation will form on the glass edge even with 15 percent indoor relative humidity – so the hospital's 50 percent relative humidity and the often cold temperatures in Edmonton created a major concern for the hospital.

"We keep the humidity levels high for infection control," Taylor said. "The original architect looked at a variety of options for our window systems, including quadruple-pane with metal spacer. Super Spacer was the only system that gave us the condensation resistance and structural strength we required."

The possible snow-load was also a driving factor in the decision to proceed with Super Spacer. Because it is silicone foam, Super Spacer is able to expand and contract with snow-loads, wind loads and temperature changes.

Royal Alexandra was first featured in Edgetech's Warm Edge Digest in 1992 at the completion of the project. Over the past 17 years, the atrium has been inspected twice per year by Taylor's team for condensation and visual changes in the window systems.

"Our staff was hands-on during the construction, and we've continued to be very diligent about maintaining the atrium over the years," Taylor said. "In all of this time, we have never replaced one unit and have never seen signs of condensation. The glass looks as great as it did the first week. That is why Super Spacer was chosen for our new addition, which is set to be completed in late spring 2009."

## Hospital Infuses More Glass with Multi-Million Dollar Addition

With the success of its original atrium project in 1992, Royal Alexandra chose to make glass a major part of the new $200 million addition, The Robbins Pavilion.

According to head specification writer and building envelope specialist Keith Robinson of Cohos Evamy integratedesign, "The addition stays consistent to the existing aesthetics of Royal Alexandra with glass accounting for approximately 60 percent of 2 exterior walls. It was important for us to keep the same feel as the original atrium project, as well as provide the long-term durability and thermal efficiency the hospital has enjoyed over the years."

**Royal Alexandra Hospital Planned Expansion**

The specification process began for Robinson in 2005 when Cohos Evamy was commissioned by the hospital for the new project. Many of the same considerations were part of his decision making process, including condensation resistance, energy efficiency, wind resistance and structural strength. Sustainability also played a role as Robinson is always looking for ways to go above and beyond green standards and environmental regulations.

"Green building and sustainability are particularly important for hospitals because they are long-term owners and want to see a return on their investment over time," Robinson said.

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# Royal Alexandra Hospital, ...continued from page three

**Royal Alexandra Hospital Expansion**

> > Robinson continued, "By choosing sustainable window systems, the hospital will not need to incur the cost of replacements in 10 years. That is a big motivator and one of the reasons we chose Super Spacer once again for the addition."

Robinson has been aware of Super Spacer and has regularly specified it in his projects over the past 17 years.

"It caught my interest because it was like nothing I had seen before," Robinson said. "What I like most about Super Spacer is that it's made of silicone and the seals don't break down like a rigid seal. That is what enables it to expand and contract without developing stress cracks that cause the system to need replaced."

Robinson continued, "I also enjoy working with Edgetech as a company. When we are designing a structure for a client, it is my job to thoroughly investigate all suppliers because trust is very important. Super Spacer is easy to specify because Edgetech was able to provide us all of the structural information and numbers I needed to plug into our modeling system"

Robinson included Super Spacer in his original specification for Royal Alexandra, but left it open for companies to provide materials with the same benefits as Super Spacer. And of course, no one could. In fact, when the insulating glass supplier provided the first test units, they did not include Super Spacer. "We asked them to go back and follow the specification – it was that important to us," Robinson said.

During the specification process and throughout construction, Taylor and Robinson have worked closely to ensure the success of Royal Alexandra's newest addition.

"As I mentioned before, we are very hands on at Royal Alexandra," Taylor said. "All of the work is commissioned in-house and we perform regular site audits with the architect and builder. We are excited to see the latest project completed, and look forward to many more years of maintenance-free performance from our windows."

For more information visit www.cohos-evamy.com and www.edgetech360.com.

# Just warming up: Edgetech I.G. celebrates 20+ years of warm edge technology

> > In 1989, a breakthrough occurred in the fenestration industry – one that promised energy efficiency, durability and unmatched customer support. That promise was delivered and continues today as Edgetech I.G. Inc. celebrates more than 20 years as a leader and partner to the industry.

"We are enjoying the opportunity to reflect on the successes of the past 20 years," said Michael Hovan President of Edgetech. "The unmatched durability of Super Spacer® technology is clear as we look at projects that were completed in the early days that are still providing exceptional energy efficiency today."

Larry Johnson, Executive Vice President of Edgetech, noted that as the company celebrates its anniversary, it is looking ahead with a solid plan for the future.

"Edgetech's continued growth is a direct reflection of the fenestration industry's genuine need for an energy-efficient alternative that could not have been achieved without the driving force of our dedicated associates and customers," said Johnson. "While we're proud of our successes, we keep our eyes keenly focused on the future by refining and developing technologies that solve those industry challenges yet to come."

Since 1989, Super Spacer®, the world's only TrueWARM®, all-foam edge seal product line, has revolutionized the fenestration industry with maximum condensation resistance, durability and energy performance. In recent years, Edgetech has gained considerable market share internationally through its commitment to educating regulators, window manufacturers and homeowners worldwide on the energy-saving benefits of warm edge technology.

Today, the company continues its growth in the U.S. and Europe and has been named to the Inc. 5000 list of the fastest growing private companies in 2007 and 2008 by Inc. Magazine.

Edgetech will celebrate its 20th anniversary with special edition newsletters, ads and case studies on the many Super Spacer projects that have stood the test of time. Customers are encouraged to submit their stories and successes with Super Spacer at www.Edgetech360.com.



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