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The Nation's Top Contract Glaziers



A Conversation with
Vitro's Leadership

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RISING TIMBER

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Loewen's timber curtainwall can be used to give a high-end residence a warm and unique aesthetic.

Photo: John Wingfelder, Architect; Kim Smith Photography

He adds, "Glulams can, in some cases, minimize the need of splices because now you can laminate a number of smaller pieces into longer beams and larger sections. However, this leads to logistical challenges because the longer and heavier the piece of timber or glulam, the more difficult it is to handle, machine, finish and deliver to the jobsite."

Additionally, Header explains that customers are discovering the benefits of integrating aluminum into the construction of timber curtainwall, mainly on the exterior, because of aluminum's high-performance characteristics. These trends, coupled with new provisions for tall mass timber, will likely lead to increased demand for timber, he says.

Another major trend O'Connor has noticed is projects where the timber curtainwall matches the structural and cross-laminated timber. This is also contributing to the growing number of timber curtainwall specifications.

Breaking Barriers

While owners and architects are becoming more interested in timber products, some barriers do exist to increased specification. Installer reluctance is one obstacle. O'Connor says glazing contractors need further training on timber products so they're more comfortable installing them, and his company offers both training and technical support for timber projects.

"Education about timber curtainwall and its features within the architectural community is paramount. It's also important to outline for the industry that the product is not just for residential but can be used in the commercial and institutional market segments for projects such as universities," says O'Connor.

He adds that cost can sometimes be a barrier, with timber being value engineered out of some projects in favor of more traditional commercial materials such as aluminum.

Wall agrees that education on the performance and lifecycle benefits of timber versus metal as well as the availability and application possibilities is needed to drive further adoption of timber curtainwall products.

Supply issues are another challenge. Header says he is not only seeing a shortage of certain species of timber as a barrier to increased specification, but also quality irregularities of the timber that a curtainwall product demands. In the long term, architects and owners are demanding taller timber curtainwall, and with that comes specific engineering challenges.

"Once a timber curtainwall exceeds 24 feet, it typically requires splices which are costly,

and often do not meet the aesthetics of the design team. To meet these increased wall sizes, the framing width also needs to increase, causing wider sightlines—that’s another design aesthetic that customers are trying to avoid,” says Header. “Technically speaking, the height of curtainwall can cause inter-story drift design challenges and can increase expansion and contraction difficulties from the mixed use of materials such as glass, wood, aluminum and sometimes steel. This issue is amplified if it’s a multi-story curtainwall. Finally, the use of faux wood finishes on the portions of the curtainwall that are exposed to elements, such as exterior aluminum caps, can assist in solving many of the exterior weather exposure and performance challenges timber curtainwall products face, namely fading, warping and deterioration.”

He adds that shades, fins and particularly caps, due to their size, are vulnerable to weather and can become a warranty issue. Incorporating aluminum eliminates this issue, as it is a material that performs well when exposed to elements.

Wall explains that with the ongoing popularity of large glass sizes, the timber curtainwall needs to be thicker to maintain structural requirements.

“Longer spans require deeper timber depths,” he says, adding that this is a tradeoff that the industry is growing more familiar with. Though he emphasizes that those who want the beauty and environmental impact of wood will specify the material despite those aesthetic or cost concerns.

Installation Considerations

The installation of timber curtainwall is similar to that of traditional aluminum curtainwall, but there are some considerations glaziers should keep in mind when working with wood. Brin Keenan, owner of Keenan Building Solutions of Hartland, Vt., explains that the major difference is how the material should be handled.

He describes aluminum curtainwall as being difficult to damage, whereas timber dents and scratches more easily. In addition, timber needs to be protected from wet weather conditions.

“The installation site for timber has to be 100% weatherproof. When constructing a wall, if it can’t be completed in a day it needs to be covered from the outside,” says Keenan. “Moisture is a big concern for water spotting on the natural wood.”

When installing timber curtainwall, he adds that glaziers need to be more mindful



Photo: doublespace

Osler Bluff Ski Club in Collingwood, Ontario, features nearly 1,500 square feet of RAICO Therm+HI 56 and 76-mm timber curtainwall from Unicel Architectural, which helps create an open and inviting atmosphere throughout the structure.

and careful of outside conditions to prevent damage, which could lead to a need for sanding or other time-costing correctional measures to return the timber finish to the state desired by the client.

According to Keenan, the rest of the timber curtainwall installation mirrors that of prefabricated aluminum curtainwall.

Into the Future

Some changes may be required for the timber curtainwall market to broaden. Header says changes are needed in education, standardization and volume.

“Items such as the quality of hardwood need to be spelled out more clearly so we can ensure that the wood suppliers are meeting the specifications. As the demand for timber curtainwall gains traction, over time, this fringe product will become more mainstream, and drive costs down,” he says. “We predict this market will grow as people become more educated, specifications are standardized, and production and acceptance of this product expands globally.”

And as energy codes become increasingly stringent in the U.S. and Canada, Wall says timber curtainwall specification is poised to grow.

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