



## News From MTI

Hello Mass Timber Colleagues!

# Feature: Ascent Crowned World's Tallest Timber Building

*By Thornton Tomasetti*



*Ascent rises 25 stories in Milwaukee's East Town neighbourhood. Photo courtesy KAA Design Group / Nairn Olker.*

Just before it fully opened in Milwaukee, Wisconsin, this past summer, Ascent had the distinction of being named the tallest mass timber building in the world by the Council on Tall Buildings and Urban Habitat. The 25-story, 493,000-square-foot, mixed-use building features a six-story concrete base with 19 timber-framed floors above. It contains 259 apartments, a pool on the sixth floor, and a top-floor amenity level. Thornton Tomasetti provided structural design services to [Korb & Associates Architects](#) and led the mass timber design program for the project, developed by New Land Enterprises.



*The installation of one of the tower's many mass timber columns. Photo courtesy Thornton Tomasetti.*

Thornton Tomasetti's work included not only the full design of the structural system and connections, but also providing special inspections of the mass timber system. The design team worked with the USDA's Forest Products Laboratory to complete a three-hour fire testing program for glulam columns, which proved that the timber structural members met or exceeded fire rating code requirements. This test was an important milestone in achieving a variance from the city to allow the building to go from the five stories and 80 feet prescribed by code to its ground-breaking 25 stories/284 feet. In addition to numerous meetings with the city, the design team met with the Milwaukee Fire Department to better understand their concerns and integrate the necessary adjustments into the building's design. Thanks to timber's ability to create a char layer during a fire event, ensuring the structure maintains adequate capacity, Ascent's design is able to expose the mass timber construction wherever possible and display its natural beauty.





*The interior of one of the apartment units. Photo courtesy KAA Design Group / Nairn Olker.*

The mass timber residential floors are constructed above a five-level concrete parking garage, while two concrete cores provide lateral stability. A system of glue-laminated timber (glulam) beams and columns supports cross-laminated timber (CLT) floors, which are 7 inches thick and covered by a 2.5-inch-thick gypcrete topping. An efficient system of post-tensioned concrete beams transfer loads from the timber residential floors to the concrete structure below. Timber's low weight (about one third of concrete's) not only allowed for minimizing this transfer system, but also reduced the number of concrete-filled steel pipe piles that support the building. Intensive coordination and substantial prefabrication reduced installation time, leading to significant cost savings during construction, where a crew of just 12 was able to install one floor per level. A sustainable material, mass timber also helped the building exceed Milwaukee's energy conservation code requirements. For more information on Ascent, contact [Thornton Tomasetti](#).

## **2022 Wood Solutions Conference**

*By WoodWorks!*

# TORONTO

Wood Solutions Conference  
Thursday, November 24, 2022



Design Professionals and Timber Enthusiasts, the 2022 Wood Solutions Conference is fast approaching. This specialized design and construction conference is dedicated to showcasing innovative advancements and applications for wood products. Leading-edge experts from near and far will inform and inspire you at the 2022 Toronto Wood Solutions Conference. The event will take place Thursday, November 24, 2022 – 8:00am – 5:00pm ET at the Paramount Event Space (Woodbridge). You can earn up to 6 continuing education credits by attending the full day of sessions.

<https://www.eventbrite.ca/e/wood-solutions-conference-toronto-tickets-380409965447>

The event offers a diverse schedule of 14 educational sessions to choose from. International guest architect, Robert Schmitz from White Arkitekter, will discuss the timber movement in Sweden and his firm's internationally renowned project, the Sara Cultural Centre, which is an impressive multi-purpose mass timber building that contains a regional theatre, a museum, an art gallery, a library, and a 20-storey hotel. Other featured projects include T3 Bayside in Toronto, Tallwood 1 (the first 12-storey wood building constructed under the new EMTC code provisions), and the National Centre for Indigenous Laws in Victoria.

Additional topics include:

- Light Wood Frame + Mass Timber Hybrid Solutions for Mid-Rise
- Mass Timber Fire Demonstration Test Findings and Outcomes
- Encapsulated Mass Timber Construction Code Provisions



- Mass Timber-Concrete Composite Panel Development for Tall Wood Buildings
- Treated Wood
- Prefabricated Solutions for Multi-Unit Housing
- Important Features of Wind Resilient Buildings
- Innovative Envelope Solutions

Don't miss this valuable day of wood design education!

## Other Updates

- The Mass Timber Design Manual, vol, 2, is an all-in-one compendium of industry resources that includes technical guides, cost and design checklists, case studies, and best practice guidelines. The manual is written by Think Wood, a forest industry supported organization located in the United States. [Download the manual](#) from the Think Wood website.
- Missed an update? Check out the [news highlights](#) on our website for a selection of the latest news.

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Mass Timber Institute Website



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