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Original Mass Timber Maine Partners with University of Maine to Compare Structural Round Timber (SRT) to Steel and Glulam

UMaine expands the scope of its NSFA Mass Timber Study to evaluate materials on the basis of cost, structural capability and carbon impact.

Ashland, Maine – Original Mass Timber Maine (OMT Maine), a Structural Round Timber (SRT) market development initiative administered by the Town of Ashland, Maine, has contracted with the University of Maine to include SRT in a research project designed to understand the costs, capabilities, and carbon impacts of Maine forest-based building materials that could be used in a hypothetical instructional and research facility.

James J. Beaupré, Ph.D., E.I., Director of Industrial Cooperation for UMaine’s Office of Innovation and Economic Development, is directing the study. Its initial intent was to assess the impacts on budget, as well as carbon footprint, of using glulam and cross-laminated timber in place of steel and concrete for the building’s structural system. With OMT Maine’s contribution, the study has now been expanded to include the use of Maine-sourced SRT as a mass timber option.



Renderings created by Simons Architects using WholeTrees 3D tree models depicting how Maine-sourced SRT columns might appear in a hypothetical instructional and research facility, the subject of a study comparing SRT to steel and glulam. For high resolution versions of these images, please contact Greg Cabral.

The study, including its SRT overlay, is being conducted by Simons Architects, the Portland, Maine firm whose building design was the basis for the initial study. Simons has reviewed the architectural portion of the project to incorporate SRT in ways that support its overall goals. Thornton Tomasetti, a global engineering firm with offices in Portland, Maine, has assisted by ensuring the structural systems being compared are equivalent from an engineering standpoint; and this autumn, will add SRT to its Life Cycle Assessment report addressing carbon emissions associated with all three of the systems being compared. The group is working with Consigli Construction’s Portland, Maine, office to help assess cost

comparisons of the various systems, and with WholeTrees Structures, Madison, Wisconsin, who is bringing expertise on applicable species, connection details, 3D modeling of SRT for digital renderings, and price analysis for the SRT system.

“We feel lucky to have this opportunity to cost-effectively gather data-driven metrics the AEC community can use as a guide when choosing structural materials,” said Greg Cabral, Director of Market Development for OMT Maine. “We’re confident SRT will look good compared to the other options and we’re looking forward to sharing the results with design teams as well as contractors and building owners.”

Amelia Baxter, CEO of WholeTrees Structures, an SRT manufacturer serving OMT Maine as a consultant, said the study is a step in the right direction for the SRT industry. “We know we have a very strong carbon and sustainability story and that we can compete favorably on cost in many structural applications” she said. “This study will help us prove that.”

OMT Maine expects results from the cost and feasibility study later this year, to be followed by the Life Cycle Assessment Report in early 2022.

About Original Mass Timber Maine

OMT Maine is a fully funded three-year initiative designed to help private sector entities in and around the Town of Ashland to realize the potential Structural Round Timber offers for supporting rural economic development. Its objective is to demonstrate meaningful interest in and demand for SRT products, support the long-standing history of sustainable management of the Northern Maine forest, and attract private investment in SRT fabrication. Funding for the initiative is provided by the Forest Opportunity Roadmap coalition (FOR/Maine), in partnership with the Maine Development Foundation (MDF), and the Future Forest Economy Initiative (FFEI), coordinated by the Northern Forest Center. The effort is administered by the Town of Ashland and led by a steering committee of stakeholders representing private industry, Maine’s forest-related economic development efforts, funding partners, and the building design and construction sector. Its goal is to develop markets that will, by the end of year three, drive \$2 million in SRT sales for private sector producers located in and around Maine.

Facts about Structural Round Timber (SRT)

- SRT is 50% stronger than sawn heavy timber of the same diameter.
- SRT has structural applications as trusses, columns and beams in building projects of all types.
- Also known as the Original Mass Timber, SRT complements other mass timber products and competes favorably on both cost and sustainability with the products it might replace.
- SRT can be sourced regionally, with “Origin Stories” for SRT columns, beams and trusses connecting building users to specific forests and communities.
- SRT retains the natural form of whole trees, enhancing its contribution to biophilic aspects of the built environment.
- SRT is a renewable resource derived from sustainably managed forests; it requires minimal processing.
- 50% of the dry weight of wood is carbon sequestered from the atmosphere by trees as they grow. That carbon remains in the wood products used in construction. Because SRT requires minimal processing compared to milled or engineered wood products, less wood fiber is lost at the mill and much more of the tree’s sequestered carbon is stored in buildings, helping to slow climate change.
- Wood products require less energy to manufacture and fabricate than building materials such as concrete and steel. Because of its minimal processing, SRT leads the pack in this regard.
- SRT looks great, can handle the necessary structural loads, and has a fantastic sustainability story.

Key Links

<https://umaine.edu/foresteconomy/>
<https://umaine.edu/econdev/business-industry/>
<https://simonsarchitects.com/>
<https://www.thorntontomasetti.com/location/portland>
<https://www.consigli.com/location/portland-me/>

Additional Resources

www.originalmasstimber.com – OMT Maine’s web resource for building professionals
<https://originalmasstimber.com/media-news-room/> – Press Releases and additional media resources
<https://originalmasstimber.com/inspiration-gallery/> – Precedent global examples of SRT in modern design
<https://northernforest.org/> - The Northern Forest Center
<https://formaine.org/> - Focused on the future of Maine forest products
<https://www.mdf.org/> - Maine Development Foundation
<https://www.sevenislands.com/> - Seven Islands Land Company
<https://wholetrees.com/> - WholeTrees Structures
<https://redshift.autodesk.com/whole-trees/> - Video: Inspired Design Brings Trees a New Life