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mass timber

Mercer Mass Timber Building Solutions

CLT/Steel Hybrid

November 2024

Framed System

CLT/Steel Hybrid

CLT slabs offer a competitive solution for steel frame structures, integrating seamlessly with steel erection. Unlike concrete on metal deck slabs, CLT requires no curing time or back-shoring, leading to schedule savings while reducing the carbon footprint of the steel frame. Additional cost and time savings, along with added value, can be realized by exposing the CLT ceilings.

Key Value Drivers

Cost

- Increased market value and reduced costs if CLT is left exposed
- CLT can achieve fire resistance up to 2 hrs, eliminating the need for ceilings[1]

Schedule

- Schedule savings due to no curing
- Off-site BIM coordination CLT/Steel leads to a virtual clash-free install, minimizing the risk of site delays
- 4D BIM and just-in-time CLT delivery fully coordinated with the steel erection

Asset Value

- **Biophilia:** Human response to wood leads to increased productivity and reduced stress when users are in environments that utilize natural materials
- **Design Features:** Exposed natural materials in the units, with CLT ceiling left exposed
- **Structural:** High strength/stiffness CLT diaphragms that work well with approved lateral load resisting systems (BRBs, RC shear walls, etc.)

Sustainability

- Sustainably sourced CLT expends 70% less carbon than the equivalent volume of concrete

For more information about our technical services or any product within the Mercer Mass Timber product portfolio, please contact us at clt@mercerint.com or visit mercermasstimber.com.

Technical Services

Technical Offerings: Design-Assist, Estimating/Preconstruction

Project Delivery: Logistics and Procurement

Fabrication: Shop Drawings, CNC Machining, and CLT Panel Prefab

Installation: Full Erection, Logistics Planning & Sequencing, Lift/Bracing Engineering, Site Supervision/Consultation, and 4D Construction Scheduling

Mass Timber Product Portfolio

Layup: 3, 5, 7 and 9-ply **Sizing:** Up to 12'x60'

Species: Spruce-Pine-Fir (SPF), Douglas-Fir-Larch (DF-L), Southern Yellow Pine (SYP)

Visual Grade: Architectural Appearance (AA), Industrial Appearance (IA)

CLT Grade: 1.4V 875 = V2, 1.4V 750 ≥ V3, 1.8M ≥ E1, E3

GLT Grade (Manufactured): 24F-V8, 20F-V7, 16F-V6 (DF-L)

Glulam Grade:

- Western Species: 24F-V4 DF, 24F-V8 DF, Comb. 2 L2 DF
- Southern Species: 24F-V3 SP, 24F-V8 SP, Comb. 50 N1D14 SP