Mass Timber Construction Success Checklist

Mass timber construction offers speed, sustainability, and design flexibility – but it also requires a higher level of coordination than traditional structural systems. Its prefabricated components and tight tolerances call for early planning, clear communication, and a shared understanding across the project team. Ensuring that all partners – including those less familiar with timber construction – are aligned on these unique requirements helps avoid costly delays and, more importantly, positions the team to fully capitalize on the benefits mass timber has to offer.

Industry Authors

SEAGATE

Construction Checklist

Design Phase

Tolerances

- ☐ Can structural details accommodate construction tolerances for different materials?
- ☐ Are tighter tolerances required from steel/concrete trades at mass timber interfaces? Are these requirements communicated to concrete/steel trades?

Crane Specification Confirmed and Access (as required)

- ☐ Have structural details been provided for crane openings and subsequent infill?

Coatings & Finishes

- ☐ Are all timber and steel coatings clearly outlined in the architectural and structural specifications? Have these been discussed with respective suppliers and an agreement reached regarding shop vs field applied?
- ☐ Are all exterior/exposed structural connections coated to avoid staining? Is primed steel acceptable to the design team for concealed or encapsulated timber?
- ☐ Do exposed exterior members have adequate coatings for moisture and UV protection and are touch-ups required for damaged coatings?

Tender Phase

Moisture Management Plan (MMP)

- ☐ Was a MMP prepared with input from a Mass Timber Supplier?
- ☐ Does the MMP cover mitigation procedures in case of significant exposure to wetting?
- ☐ Has the design team provided clear requirements on the MMP?
- ☐ Is the scope of the MMP clearly defined between the installer, supplier, and GC?

Mass Timber Materials

- ☐ Has miscellaneous steel hardware scope been clearly divided between mass timber and steel suppliers? (e.g. beam hangers, drag plates)
- ☐ Have visual expectations for exposed delegated-design timber elements been discussed with design team and Owner?

MEP Penetrations

Penetrations may not be fully coordinated thus resulting in fabrication delays if done after tender occurs. Site penetrations should be avoided to capitalize on speed of construction.

- ☐ Are exact penetration sizes and locations shown on MEP drawings?
- ☐ Have all MEP penetrations been coordinated with architectural and structural?
- ☐ Has the MT supplier defined a maximum size for field-cut penetrations? Has this been communicated to the trades?

Sequencing & Laydown

- ☐ Is a laydown area provided, and is contingency allowed for schedule changes?

Confirmed Schedule

- ☐ Does each trade understand their schedule window, and have they notified the GC of the effects of schedule changes?

Confirmed Site Specific Safety Requirements

- ☐ Is there a shared crane? If yes, are all trades working in the same area aware of safety protocols?

Bracing Discussions

Bracing Plans (including time and documents required to produce engineered plans)

- ☐ Has a Temporary Works engineer been engaged to provide bracing plans?
- ☐ Do any structural elements need long-term support because of temporary stability issues? (e.g. cantilevered panels supported by overframing beams)

Bracing Connections – Column & Beam

- ☐ Can the members be braced without direct fasteners to avoid visual damage? Have patching requirements been defined in case fastening is required?

Bracing Connections – Slab & Floor

- ☐ Does the floor system attach to the permanent lateral bracing immediately upon installation or is a temporary bracing scheme required?

Rigging

- ☐ Has a Temporary Works engineer been engaged to provide rigging plans?
- ☐ Are there any oversized, prefabricated elements that need specialized rigging instructions?

Pre-Mobilization (approximately 3 weeks prior to on-site work)

Survey & Existing Connections As-Builts

- ☐ Is the existing structure within tolerance for mass timber (e.g. are embeds out of place)?

Trade Connections

- ☐ Are locations of large vs. tight tolerances clear to the trades responsible?

Supplier Confirmation

- ☐ Is Delivery Schedule confirmed?

Sequencing & Laydown

- ☐ Are the correct members in first delivery, and is the unloading area confirmed?

Pre-Mobilization (approximately 1 week prior)

Installer Site Review

- ☐ Is the supporting structure substantially complete and ready to receive mass timber elements?
- ☐ Are there site-specific hazards that may affect erection, such as proximity to adjacent buildings?
- ☐ Is building access well-defined?

Mobilization

Laydown & Staging Areas

- ☐ Are staging areas suitable for temporary MT storage in case of overflow?
- ☐ Are staging areas well protected from the elements to avoid exposing MT to moisture?

Deliveries

- ☐ Is it clear who is responsible for receiving/signing off on material delivery and is there a clear QC process?

Waste Disposal

- ☐ Is wood waste being separated from other waste streams?

Safety – Work Area Clear of Materials and Safe for Install

- ☐ Is there a fire-safety plan in case welding adjacent to MT is required? Has this been communicated to the trades?

Material Delivery

Just-in-Time (JIT) Deliveries

- ☐ Can MT deliveries be scheduled to match the rate of construction to avoid storing materials on site?

Truck Unload vs. Install

- ☐ Is MT loaded last-in first-out?

Installation

Material Issues

- ☐ Have clear expectations been defined for acceptable visual imperfections such as gaps, checks, and cracks?
- ☐ Are there visual damages that would constitute a complete replacement?

Crane Time

- ☐ Is crane time dedicated to the installer or is there an agreed upon strategy for sharing?

Other Considerations

Choosing your Team

- ☐ Is the procurement model selected based on the team's experience with MT?
- ☐ Are trades familiar with common MT construction practices?
- ☐ Do steel/concrete suppliers have the capacity to coordinate with the MT supplier through 3D modelling?

Knowing What You Want from the Build

- ☐ Have clear expectations on the visual quality of MT elements been discussed with the design team and Owner? Are there any architecturally-sensitive elements that need additional attention?

Post Install

Success after the Installation

- ☐ Have the supplier and installer discussed lessons learned?

Material Finishing

- ☐ Are minor cracks/checks required to be patched?
- ☐ Are patching requirements for concealed connections well defined by the design team?

Material Care

- ☐ Is the Owner aware of future maintenance requirements for exposed MT elements?

Authors

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