

Mass Timber - Construction (RIBA 4-6)

Version: 1.1

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This Loss Prevention Standard relates to Stages 4 to 6 of the Royal Institute of British Architects (RIBA) Plan of Work – Construction, and provides guidance and support on the key hazards and areas for consideration during the construction of a Mass/Engineered Timber Building



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Introduction

Robust risk management controls throughout construction can reduce the risk of damage and help deliver a robust operational building constructed to all relevant standards, and which meets stakeholder expectations.

To help achieve this aim, the project shall be fully compliant with the current [Fire Prevention on Construction Sites Joint Code of Practice 10th Ed](#) or applicable local territory equivalent, and the architects, design team and principal contractors should continue to engage with the Construction and Property Insurers, and Broker, through to practical completion of the project.



Positive Features

A number of features can enhance the **project's** risk management profile:

- Temporary Electrical Installations - Formal documented electrical testing programme.
- Water Supply - Formal water management plan, wet permit to work and automatic water shut off devices provided for temporary and permanent systems.
- Engineered Timber Elements - Coordination clash detection review to avoid unmanaged or unrecorded site-based alterations to manufactured engineered elements.
- Drilling, Coring and Cutting Controls - A permit to control uncoordinated/unapproved work or changes.
- Fire Compartmentation - Permanent fire compartmentation and firestopping to be deployed at the earliest opportunity and reviewed/incorporated as the building progresses.
- Automatic Fire Detection - Monitored 24 hours/day and incorporated as the building progresses.
- Thermography - During hot work and electrical inspections.
- Security - 24 hours/day manned guarding and permanently monitored Video Surveillance Systems.

Increased Hazards

Mass timber projects will benefit from additional Risk Management focus and collaboration in respect of:

- Arson and Malicious Damage – Inadequate site security arrangements.
- Waste and Materials Storage - Inappropriate locations and management.
- Water Related Exposures - Inadequate water ingress and weather protection (both vertically and laterally).
- Moisture and Humidity – Inadequate humidity/moisture and quality management can result in mould and rot.
- Smoking - Illicit and unmanaged smoking.
- Catering - Cooking and canteen facilities in proximity to the build.
- Lithium-ion Batteries – Minimal storage and charging, and appropriately arranged on site.
- Renewable Energy – PV/Solar panels and/or Battery Energy Storage Systems (BESS).

Hot Work and Water Damage

Mass timber buildings are at increased risk from fire, including smoke and firefighting water in relation to Hot Works, and internal and external water damage from sources such as domestic supplies, rain, and flooding, which can lead to mould, rot and structural decay. These risks shall be managed and controlled during the construction works and mitigated via risk assessments and method statements. Formal hot work and wet work permit to work systems are required. The resources below provide guidance:

- [Aviva Hot Work Operations - Loss Prevention Standards.](#)
- [Aviva Escape of Water on Construction Sites - Loss Prevention Standards.](#)
- [Construction Insurance Risk Engineers Group \(CIREG\) - Managing Escape of Water Risk on Construction Sites \(5th Edition, November 2019\)](#)
- [Fire Prevention on Construction Sites Joint Code of Practice 10th Ed.](#)

Construction Risk Management and Procurement Strategy Considerations

- Experience and qualifications of the designers, principal and sub-contractors, suppliers, and installers.
- Site prohibited items/activities such as E-Bikes, E-Scooters, smoking and vaping.
- Project sequencing and programming.
- Protection of materials from delivery through to permanent installation, including moisture/rot management.
- Weather events including site-based monitoring, mitigation strategies, protection, and emergency response.
- Nature of welfare provision and location away from site activities.
- Logistics including staging, storage, hazardous materials controls, waste management and housekeeping.
- Use of mobile plant both engine and electrically powered, including charging and fuelling activities.
- Temporary loading of floor plates including mobile plant and materials storage.
- Temporary and permanent fresh water supplies including leak detection and automatic shut off devices.
- Wastewater discharge and back flow prevention devices.
- Charging and storage of lithium-ion batteries/equipment containing such batteries including power tools.
- Physical and manned security arrangements combined with appropriate Video Surveillance Systems (VSS).
- Temporary and permanent fire detection/suppression and firewater supplies installed as the works progress.
- Staged integration of passive fire protection and wet or dry risers.
- Confirm public fire water supplies and regular engagement with the Fire and Rescue Services.
- External and third-party risk exposures to and from the project.
- Emergency response and contingency plans to evolve as project progresses.

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[Aviva Risk Management Solutions – Specialist Partners.](#)

Sources and Useful Links

- [The Construction Insurance Risk Engineers Group \(CIREG\).](#)
- [The Fire Protection Association.](#)

Additional Information

Relevant Loss Prevention Standards include:

- Mass Timber – Planning and Design.
- Mass Timber – Handover and Use.

To find out more, please visit [Aviva Risk Management Solutions](#) or speak to one of our advisors.

Email us at riskadvice@aviva.com or call 0345 366 6666*

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