

# Mass Timber

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## **What is mass timber?**

Mass timber is produced by gluing, nailing, or dowelling wood products together in layers, creating exceptionally strong large structural panels, posts, and beams. These structurally engineered wood products are able to provide strength, lighter weight and better thermal insulation compared to traditional building materials.

The mass timber family of products includes cross-laminated timber (CLT), glue-laminated timber (glulam or GLT), and laminates veneer lumber (LVL).

## **Market drivers**

Several market drivers are increasing the demand for mass timber buildings:

- Faster construction times, reduced costs, and lightweight compared to concrete and steel, mean that mass timber can represent an exciting and innovative solution, both for new builds and for refurbishment or adding new floors to existing buildings.
- Mass timber can play an important role to meet emissions targets because today, 68% of a building's carbon emissions arise from construction. (This figure is calculated over the first two decades of a building's lifetime, with the remaining 32% of emissions relating to operational emissions.)
- There is a rising occupier demand for mass timber buildings because they are more climate friendly, and studies have shown an increase in the wellbeing of occupiers. In some instances, this has translated in a 9% increase in rental yields.

## **Mass timber can play a major role in reducing the embodied carbon of a building**

Developers can reduce buildings' embodied carbon emissions by using mass timber instead of concrete and steel. The net reduction depends on the carbon emissions across the mass timber supply chain. When the wood comes from a sustainable forest, the use of mass timber translates in a carbon removal solution because the carbon is captured by trees and then stored in mass timber buildings for several decades.

## **Regulation and need for collaboration**

- Early engagement between building developers looking to use mass timber and underwriters is critical to ensure that both parties have a full understanding of the potential risks and controls in place, particularly in relation to fire and moisture perils.

- There are many examples of fire testing which has been carried out by mass timber developers and fire engineers, however there is an opportunity for this to be more widely socialised and interrogated by the insurance industry.
- A common language to communicate and assess the risk parameters of mass timber could be valuable. There is also an opportunity for building regulations to evolve to provide greater guidance on acceptable practice. The network Built by Nature is working with the mass timber sector to create guidelines and gather best-in-class design principles, to de-risk projects by creating a common language and helping underwriters in their risk assessment.

### **Implications for the client**

- British Land are one of the UK's leading property companies and has a ESG strategy that includes developing net zero buildings by 2030. British Land is working towards constructing hybrid buildings (combining concrete and steel with mass timber) to increase the understanding of mass timber risks and helping underwriters to be more comfortable with its use.