

## Case Study

# Woh Hup Technical Hub

Woh Hup Technical Hub, located along Gul Street 5, adopted various DfMA technologies such as Mass Engineered Timber (MET), Prefabricated Prefinished Volumetric Construction (PPVC), and structural steel. MET was used to construct the 4-storey office building with a total Gross Floor Area of 2,347 m<sup>2</sup>.



## Use of MET

The building uses Cross Laminated Timber (CLT) for floor slabs, walls, floors, and roofs, and Glued Laminated Timber (Glulam) for columns and beams. Approximately 300 tonnes of MET were used for the project.

Below are the dimensions of Glulam and CLT panels used for the project:

### Glulam

Description	Dimension
Column	400mm x 560mm
Main Beams	400mm x 720mm
Secondary Beams	200mm x 600mm
Perimeter Beams	200mm x 900mm

### CLT

Description	Dimension
Floor	2200mm x 5000mm
Floor	2200mm x 7500mm
Floor	2200mm x 10600mm



Installation of glulam beams  
(courtesy of Venturer Timberwork)



Installation of CLT floor slabs  
(courtesy of Venturer Timberwork)

### Acoustic and Durability Enhancements

To improve acoustic performance, a 10mm granulated acoustic mat was installed directly onto the CLT slabs and overlaid with carpet. This achieved an acoustic rating of around STC 44. The MET components were also treated on site for termite and water resistance.

### Productivity Gains

The lightweight and easy-to-install nature of MET enabled the structure to be completed in under six weeks. This led to a productivity improvement of over 20%. The installation rate reached 7.1m<sup>2</sup> per man-day, outperforming conventional concrete construction methods. The process also required only simple equipment, such as floor winches and cordless handheld tools.

Woh Hup Technical Hub sets a new benchmark for sustainable, efficient construction in Singapore’s built environment. Its successful use of MET highlights the material’s versatility and encourages broader industry adoption.

## Project Team

 <b>ROLE</b>	 <b>ORGANISATION</b>
Developer	Tanglin Corporation (Private) Limited
Architect	Lander Loke Architects
M&E Engineer	Neam Solutions
Main Contractor	Woh Hup (Private) Limited
CLT Supplier	KLH Massivholz GmbH
Glulam Supplier	Hasslacher Norica Timber

Date of commencement for MET structure: 10 October 2018

Date of completion for MET structure: 14 November 2018