

Manufacturing of Tulipwood CLT panels

OPPORTUNITY

MultiPLY is a collaboration between AHEC, Waugh Thistleton Architects and Arup, as part of London Design Festival 2018, that challenges how we build our towns and cities. Combining sustainable American tulipwood with innovative methods of modular construction, MultiPLY confronts two of the current age's biggest challenges – the pressing need for housing and the urgency to fight climate change.

A unique partnership of business, academia and applied research came together to manufacture the tulipwood cross laminated timber panels (CLT) for MultiPLY. Glenalmond Timber, Construction Scotland Innovation Centre (CSIC) and Edinburgh Napier University's Centre for Offsite Construction + Innovative Structures (COCIS) all made key contributions.

PROJECT

Fabrication of 111 Tulipwood CLT panels for use in the 'MultiPLY' pavilion at London Design Festival.

MultiPLY uses cross-laminated timber (CLT), an engineered product where timber planks are laid perpendicular to one another and glued, forming strong, stable panels. CLT enables the construction of large-scale timber buildings without concrete or steel.

OUTCOMES

- Fabrication of 111 Tulipwood CLT panels, comprising 3 and 5 ply 20mm tulipwood lamellas of various widths, pressed using the Woodtec Fankhauser vacuum press.
- All glued faces of the lamellae were primed prior to assembly and the panels prepared and lacquered once fabricated and cured.



- The panels are the first ever hardwood CLT panels manufactured in the UK.
- The project has also demonstrated that tulipwood CLT can be a real precision product, with panels capable of being CNC machined to tolerances of +/- 1mm.
- The London Design Festival's timber pavilion, MultiPLY, is an example of a truly successful and innovative collaboration between leading industry and academic partners.

"Given the ever-increasing demand of solid laminate timber systems in the UK, MultiPLY has allowed us to demonstrate the manufacturing process, structural characteristics, flexibility, environmental credentials, visual impact and consistency of solid timber laminate systems such as CLT, and the benefits of modular construction." Mark Milne, technical manager, CSIC

SUPPORT

CSIC Project income - £32K

PROJECT DURATION

February 2018 - September 2018

Innovation Support: Process Innovation
Sub Sector: Construction Technologies