



Nanyang Technological University, Academic Building South (NTU ABS)

Singapore, Asia

The Nanyang Technological University (NTU) in Singapore throws a spot light on what is possible to achieve with sustainable materials and innovative construction methods for their latest campus facility.

The six-storey Academic Building South (ABS) is now the largest timber building in Asia. Understandably for such a large-scale project, the quality of the wood and trust of the partnership were top considerations in selecting Stora Enso to provide 7 700 m³ of sustainable cross-laminated timber (CLT) from Ybbs Austria.

The design brief was to create a world-class large-scale timber building which inspires the human senses and stimulates learning. This incredible timber structure invites you into a creative space for learning with it's exposed structural wood elements.

At NTU, students are encouraged to spend significant portions of their syllabus interacting with professors, other students and industry partners. The design supports this learning model, with each of the 25 classrooms fully equipped with the latest technology to enhance the university's collaborative learning approach.

Shipping the PEFC-certified wood from Stora Enso Ybbs, Austria took 29 shipments in 230 containers from Sep 2019 and June 2021. This only emitted 1 024 tonnes of greenhouse gases (wood is so light to transport, especially by sea). 5 845 tonnes of carbon dioxide (the leading cause of climate change) were removed from the atmosphere when the trees were growing and while stored in the building. It will only take 125 minutes in the Austrian forests to grow back the CLT volume used for this project.

All CLT components were pre-CNC cut, and delivered as walls, floors and stair panels to ease the construction time. At the CLT mill, Stora Enso added larch ply on both faces. The larch for the narrow edges was added in Singapore. Lifting plates were also installed in Singapore. All FINs were pre-coated at the warehouse before installation.

General

Delivery year
Under Construction

Building type
Education

Area (m²)
42000

Storeys
6

Units
460



Photo credit: Steeltech Industries PTE Ltd



Products

Products

CLT

Product volume (m³)

7 700

Product quality

INV / NVI and BVI (BVI including larch special surface on both sides)

Number of truck deliveries

29



Photo credit: Steeltech Industries PTE Ltd



Team

Developer

Nanyang Technological University

Structural Engineer

Aurecon Group

Specialist Timber Engineer: Urban Ltd (until July 2020)

Specialist Timber Engineer: CadMakers (since July 2020)

Architect

Toyo Ito & Associates, RSP Architects Planners & Engineers (Pte) Ltd

RSP Architects Planners & Engineers (Pte) Ltd

MEP Designer

Squire Mech Pte Ltd

Main contractor

Newcon Builders (Pte) Ltd

Timber Subcontractor: Steeltech Industries PTE Ltd



Photo credit: Steeltech Industries PTE Ltd



Photo credit: Steeltech Industries PTE Ltd



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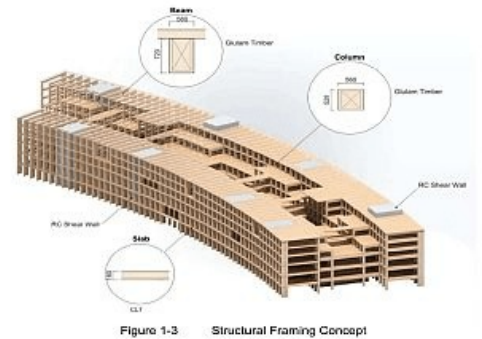


Photo credit: NTU