Supertall Timber: Functional Natural Materials for High-Rise Structures

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Bleached Bamboo
19.2kN/23.2kN

Caramelised Bamboo
19.6kN/24.7kN

Sitka spruce
11.3kN/13.5kN

TREET, Bergen, Norway
SWECO
2015
Home Insurance Building
William Le Baron Jenny
1884
Gliwice Radio Tower
118 m
1934

enough to house a billion people
Residential Development, Hangzhou, China
Oakwood Tower:
• Oakwood Tower would use some 65,000m³ of structural timber in its construction.
• Oakwood Tower would use structural softwood from PEFC or FSC certified forests.
• Oakwood Tower would lock-in 50,000t CO₂ in the building timber frame, equivalent to the annual CO₂ emissions of 5,000 Londoners.
• Oakwood Tower would displace more CO₂ intensive materials such as steel or concrete, creating additional CO₂ savings.
• Oakwood Tower’s timber structure would be four times lighter than its concrete equivalent.
• Oakwood Tower would be quicker and quieter to build when compared to conventional construction.
Bothress towers 75 perimeter 15 m x 15 m with 2.5 x 2.5 m corner columns.

Central tower 20 m x 20 m corner L-shaped walls in CLT 175 mm thick 5 m long.

Corner columns 2.5 x 2.5 m glulam columns.

Bracing every 10 stories 175 x 175 mm glulam sections.

Horizontal braced every 10 stories 1.3 x 1.3 m glulam sections.

7.5 m x 2.5 m black glued glulam column.