



# Japanese **Mass Timber**

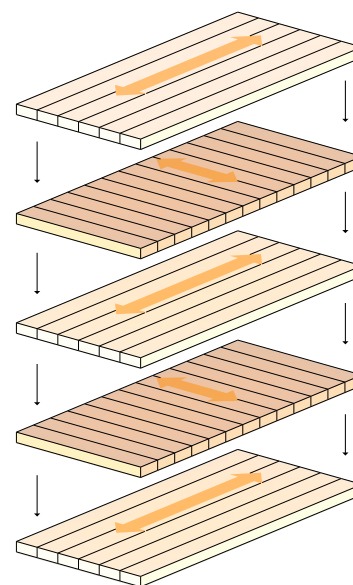
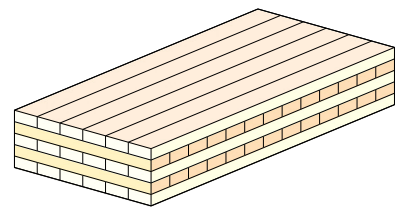




## CLT (Cross Laminated Timber)

Cross-Laminated Timber (CLT) is an engineered wood product made by stacking layers of solid wood boards at right angles (usually 90°) and gluing them together. This crosswise arrangement gives the material exceptional **strength, stability, and rigidity**, making it ideal for construction—especially in **tall wooden buildings**.

Max size: Width 3,000 mm, Length 12,000 mm  
Thickness / Layers: 90–270 mm (3 to 9 layers)



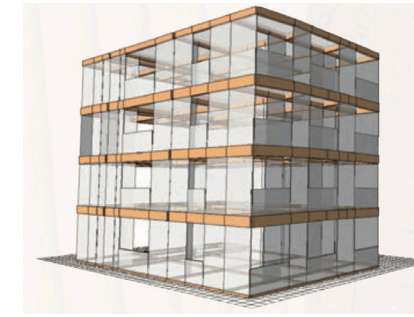


# Why Build with CLT ?



## Structural performance

CLT offers excellent bending, compression, and shear strength, ensuring high safety across various applications. With proper design, seismic performance can also be improved.



Seismic simulations conducted by Associate Professor Nakagawa at Kyoto University confirmed that the structure would remain standing even during a major earthquake.



## Fire resistance

Fire tests have confirmed the safety of CLT. Wood burns slowly at a rate of about 1 mm per minute. Even if a 90 mm thick CLT panel burns for one hour, the wall will not burn through.

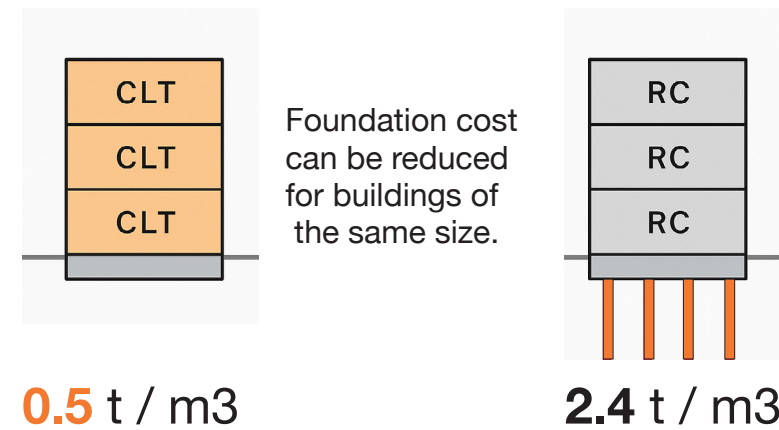


# Why Build with CLT ?



## Light weight

Weighs less than one-fifth compared to reinforced concrete. Reduces foundation costs and material transportation expenses.



## Workability

Panels are pre-processed at the factory and transported to the construction site. As a dry construction method, no curing period is required.

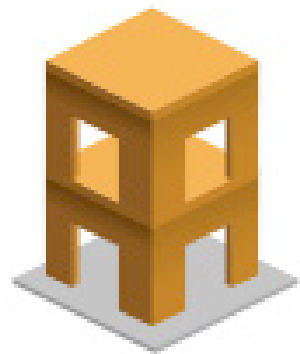




# CLT Costruction Methods

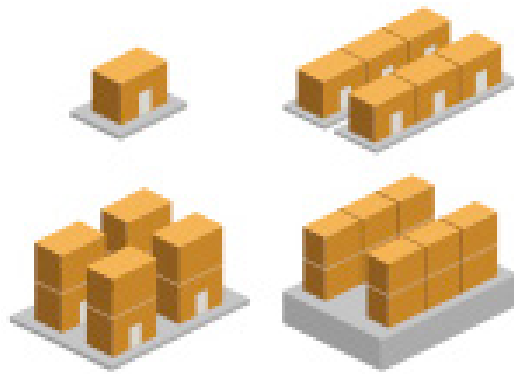
## CLT Panel Method

Utilizes large CLT panels for simple and efficient construction.



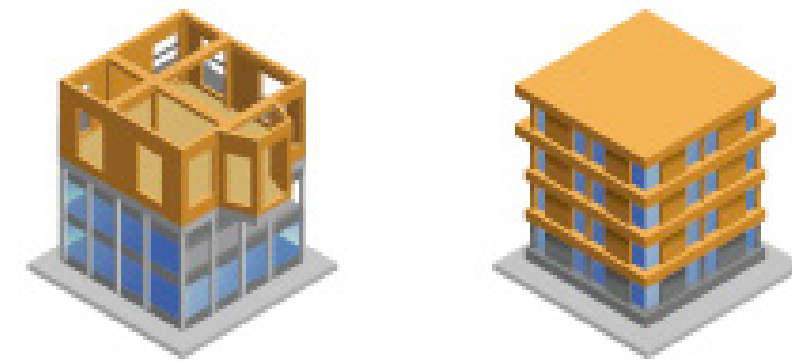
## Unit Construction Method

Prefabricated units are transported to the site and assembled, enabling shorter construction periods, easy connection, and reusability.



## Concrete/Steel Stucture x CLT

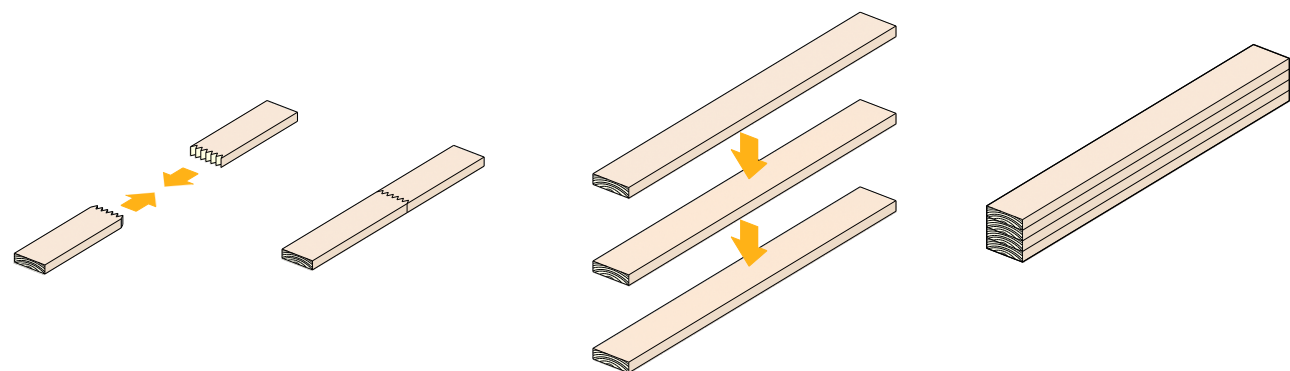
CLT can be easily combined with common building materials like concrete and steel, making it a flexible choice for a wide range of construction projects.





# Glulam

Glulam, short for glued laminated timber, is a structural engineered wood product made by bonding layers of timber together with durable, moisture-resistant adhesives, creating **larger, stronger, and longer-lasting** beams and columns.





# Key Japanese Wood Species

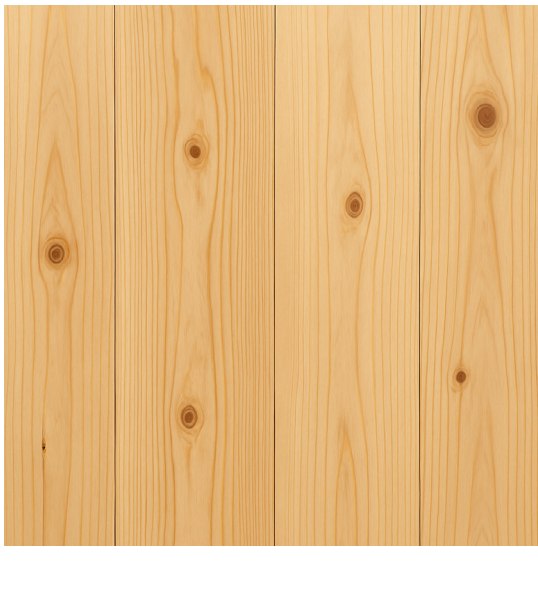
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## **SUGI** (Japanese Cedar)

*Cryptomeria japonica*

Sugi offers a sustainable and eco-friendly alternative to traditional building materials. Its **lightweight** yet strong properties make it perfect for structural elements like beams, columns, and cladding, while its natural aesthetics bring warmth and character to any space. With a growing focus on sustainable design, Sugi provides a renewable, carbon-storing solution that reduces the environmental footprint of buildings.



## **HINOKI** (Japanese Cypress)

*Chamaecyparis obtusa*

Hinoki offers aesthetically pleasing option. Its resilience to moisture and decay makes it perfect for both interior and exterior applications, from structural beams to decorative cladding. Hinoki's unique characteristics, such as its rich texture and natural scent which elevate a level of **luxury** and wellness to building designs, creating serene, inviting spaces that promote a connection to nature.



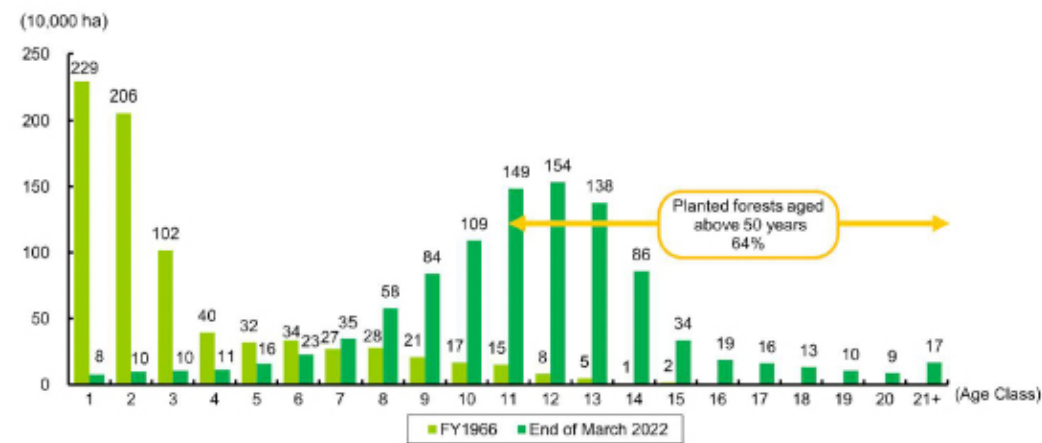
# Forest Resources of Japan

## Aging forests ready for responsible harvesting

Japan’s forests cover about 25 million hectares, which accounts for two-thirds of the national land area. About 40% of them are planted forests. 64% of the planted forests are aged above 50 years and entering their period of use.

The forest area consists of private forest, public forest, and national forest, which account for 57%, 12%, and 31%, respectively.

### Area of planted forest age class



Sources: Forestry Agency “State of Forest Resources” (March 31, 2022) and “Forest Resources of Japan” (April 1968)  
Note: Age-classes are divided by 5 year-period steps. “Age-class 1” includes the 1st to 5th year after planting with the year of planting counted as the 1st year.

## Total production

<b>CLT production in Japan:</b>	<b>Glulam production in Japan:</b> (Construction Usage Only)
18,000 m <sup>3</sup> (YR2023, Total)	1,590,000 m <sup>3</sup> (YR2023, Total)
10 mills	143 mills
Production Capacity: 100,000 m <sup>3</sup>	

## Short delivery time

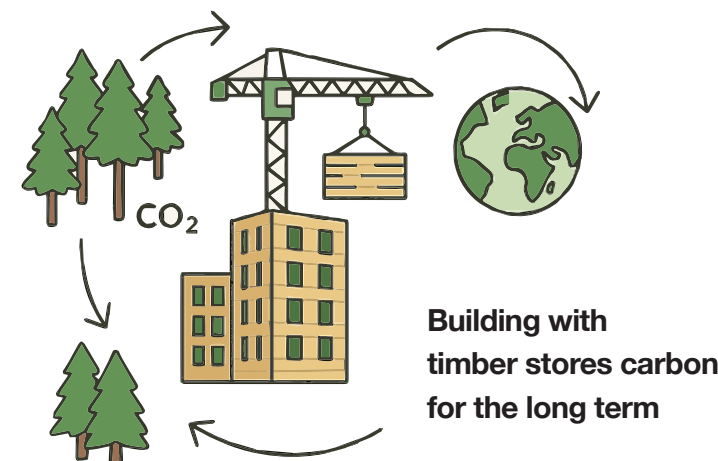




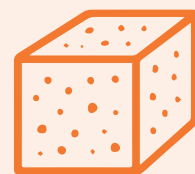
# Sustainability

## Timber: A Sustainable, Low-Carbon Material

Wood naturally stores carbon, and engineered wood like CLT extends that storage over the long term. Sustainable forestry—harvesting mature trees and replanting—maintains the carbon cycle while reducing reliance on fossil fuels and high-emission materials. Timber construction not only lowers CO<sub>2</sub> emissions but also promotes reforestation, making it a key strategy in the shift toward a decarbonized, climate-resilient future.



Producing 1 tonne of :



**Concrete**

emits 159 kg of CO<sub>2</sub> into the atmosphere.



**Steel**

emits 1,240 kg of CO<sub>2</sub> into the atmosphere.



**Timber**

removes 1,700 kg of CO<sub>2</sub> from the atmosphere.

## Sustainable Green Ecosystem Council / PEFC National Governing Body in Japan

With over 280 million hectares of PEFC-certified forest, PEFC is the largest forest certification system in the world.

In 2014, the Sustainable Green Ecosystem Council (SGEC), one of Japan's forest certification systems, joined the PEFC alliance, becoming the fourth national member in Asia.

In 2016, SGEC achieved PEFC endorsement, which marked a new start as an international certification system.

Today, Japan has more than 2.2 million hectares of SGEC-certified forests.

Possibility to supply 100% PEFC approved lumber need to be re-confirmed in prior by supplier



Logo mark approved to be used by SGEC/PEFC Japan





**ITOCHU KENZAI CORPORATION**

7F, Nomurafudosan Nihonbashi-Odemmacho Bldg., 1-4 Nihonbashi-  
Odemmacho, Chuo-ku, Tokyo 103-8419, Japan

TEL. 03-3661-3281

FAX. 03-5695-7582