



# CLT Structures and Thermally Modified Wood

Discover advanced wood construction technologies that are transforming the industry worldwide

# What is CLT?

Cross Laminated Timber (CLT) — a revolutionary technology of multi-layered cross-laminated wood panels that transforms the approach to modern construction.

The wood layers are glued at a 90° angle to one another, creating an incredibly strong and stable structure capable of withstanding enormous loads.

## Areas of application

- Load-bearing walls of buildings
- Floor slab structures
- Roof structures
- Interior partitions
- Facade elements





# Advantages of CLT Structures



## Environmental sustainability

100% natural, renewable material with a negative carbon balance. Every cubic meter of CLT absorbs about one ton of CO<sub>2</sub>.



## Durability

The lifespan of buildings made of CLT exceeds 100 years with proper use and maintenance of the structures.



## Thermal insulation

The panels do not allow air to pass through and do not freeze, ensuring a comfortable indoor climate throughout the year.



## Fast installation

Assembling a typical CLT house takes only a few days thanks to factory-prepared elements.

# CLT Production Technology

01

## Raw Material Preparation

Coniferous and hardwood lumber dried to exactly 12% moisture to ensure structural stability

02

## Eco-Friendly Bonding

Bonding layers with eco-friendly adhesive free of phenol and formaldehyde, safe for human health

03

## Panel Pressing

Forming multilayer panels under high pressure with a crosswise arrangement of fibers

04

## Finishing

Panels reach lengths of up to 16 meters and widths of up to 3.5 meters with factory-grade surface quality

📄 **Ready for processing:** CLT panels are delivered with a perfectly smooth surface, ready for finishing without additional preparation

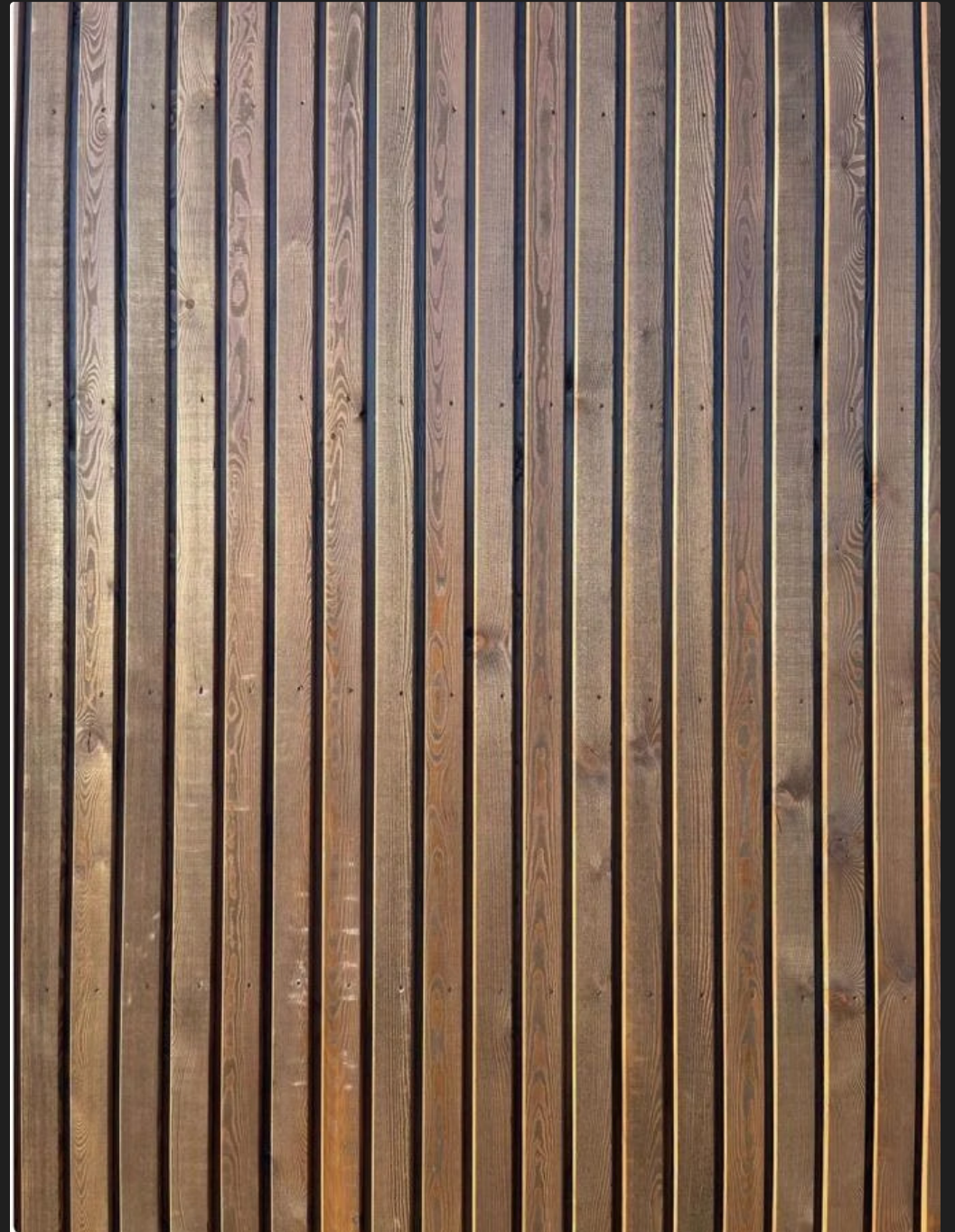


# Thermowood: what is it and why?

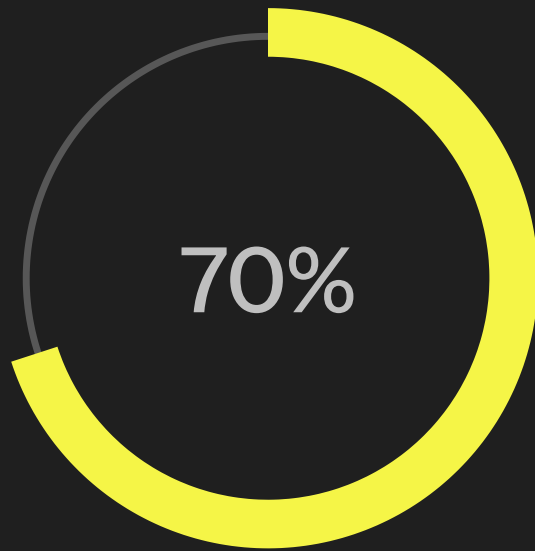
Thermally modified wood is an innovative material obtained by heat-treating wood at a temperature of 160-240°C without the use of chemical substances.

## Key improvements

- Increased moisture resistance by 50-70%
- Complete protection against rot and insect pests
- Improved thermal insulation properties by 20-25%
- Dimensional stability without deformation
- Elegant dark wood tone



# Thermo wood performance



## Reduced water absorption

Significantly improved moisture resistance



## Environmental sustainability

Completely natural process without chemicals

An environmentally clean material is ideal for facades, terraces, saunas, and interior finishes in commercial and premium-class spaces.



# Comparison of CLT and Traditional Materials



## Lightweight structure

The weight of CLT panels is 5 times lower than concrete — lighter foundations, reduced transportation costs, and the ability to build on weak soil



## Monolithic structure

A complete structure without shrinkage or deformation, unlike traditional timber construction — stable geometry throughout the entire service life



## Construction cleanliness

Minimal construction waste thanks to factory-prepared elements and precise fitting of all components



## Extreme conditions

The ability to build in permafrost conditions and at temperatures down to -60°C — an ideal solution for northern regions

# Project examples in CLT and thermowood



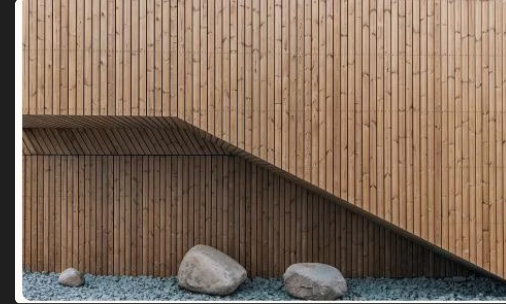
## Modular homes

Fully factory-prepared structures — a turnkey house delivered in 2-3 months with maximum comfort



## Multi-story buildings

Residential buildings up to 10 stories using CLT panels and efficient thermal insulation — a new standard in urban construction



## Thermowood facades

Ventilated facades that retain their aesthetic appearance and durability for decades without maintenance

CLT and thermowood technology is successfully used worldwide — from private residences to large commercial facilities and public buildings.

# Economic Benefits and Sustainability

## Financial Advantages

- **Fast return on investment** thanks to construction timelines shortened by 40-60% compared to traditional technologies
- **High liquidity** of CLT properties — growing demand for eco-friendly premium residential buildings
- **Reduced heating costs** by up to 35% thanks to excellent thermal insulation and airtight structural assemblies
- **Compliance with standards** of “green” construction, including LEED, BREEAM, and environmental regulations



60%

Construction timeline reduction

35%

Heating savings

100+

Years of building lifespan



# The Future of Timber Construction

## CLT and thermo-wood — next-generation technology



### Innovation

Eco-friendly and cost-effective solutions for residential and commercial buildings of any complexity



### Reliability

Technology proven over time and through successful international experience in more than 50 countries



### Partnership

We invite you to collaborate and apply modern materials in your projects

**Join the revolution in timber construction — choose CLT and thermo-wood for your projects today!**