

## CLT (Cross Laminated Timber) – The most modern ecologically oriented cross-laminated timber construction technology



In Europe, for more than 20 years, construction contractors have been successfully operating in the field of CLT technology, which meets all modern architectural and design standards. At the moment, eco-building and CLT technology are in the topicality of European construction - like no other, they provide the most direct support for ecological construction.

Despite the fact that it is accepted to believe that CLT is expensive in the first calculation compared to other building materials, almost no one emphasizes the advantages of CLT in further works - facade insulation, external and internal finishing, as well as making changes after the construction is installed. The use of CLT in construction subsequently provides many advantages, which subsequently reduce the overall construction costs:

1) Fast and accurate construction (all parts and their assemblies are prepared in the factory according to drawings);

- 2) Minimal waste management in the facility;
- 3) Constructive elements are monolithic slabs and is **easily adaptable** to the construction of communications and ventilation **without affecting their structural stability**;
- 4) CLT panels have **perfect geometry**;
- 5) When carrying out internal works, **no additional structures are required** for fastening plaster or any other finishing material;
- 6) CLT construction insulation product does not need to use adhesives;
- 7) CLT panels can be left exposed in the interior, saving on the cost of interior decoration;
- 8) Complex assemblies or fasteners are not required for the construction of ventilated facades;
- 9) CLT can be used for **any facade solution**;
- 10) CLT is a product with a **low CO2 footprint**;
- 11) CLT in wooden structures **perfectly regulates the internal climate and it is more pleasant to live and stay** in such houses;
- 12) CLT allows the construction of **private houses** as well as **commercial buildings** and **multi-storey buildings**.

CLT panels are made from coniferous species - spruce and pine - which contain resins that contain phytoncides - biologically active substances that are present in pine and spruce sap and suppress the growth of pathogenic bacteria, fungi and protozoa. In such conditions, children develop faster, people live longer in years, but people who lead an active way of life do it even more actively!

CLT panels do not freeze like concrete, but are just as monolithic material

CLT panels have very good heat resistance properties because the material is very dense

CLT panels can be used not only in partition covers, but also in mezzanine covers as load-bearing structures. They can also be separate as mezzanine covers in buildings of other technologies

Very good sound insulation properties. More than 50% better sound deadening compared to parallel-glued wood panels. (used in the construction of concert halls)

CLT material has almost no burning properties due to its density. In the event of a fire, only the obvious layer of wood catches fire, this is explained by the more difficult access of oxygen to each subsequent layer of the board, slowly charring the board retains its load-bearing properties for up to 2 hours

CLT panels are used in addition to the construction of floors in existing buildings, without creating an excessive load on the foundations in relation to other materials used for this purpose

CLT panels are easy and quick to assemble, they have a clear margin of durability and safety

CLT panels are seismically stable

The impact of rodents on the CLT panel is minimal, because due to the cross-glued technology, the pest is unable to gnaw the perpendicular wood layer

CLT boards have combined finishing options, both inside and outside

By using CLT in construction, more usable area is obtained. Architects and clients have the opportunity to choose almost any architectural style. CLT technology is used in the construction of both private and multi-storey public buildings - in the construction of concert halls, state institutions, kindergartens and other buildings, because their construction and operation is more ecological and people feel more comfortable in them.

CLT - "organic concrete of the 21st century"

CLT surfaces are allowed to have visual defects (bruising, cracks, fallen branches, lack of planing);

CLT exposed planes are allowed to have natural cracks in the lamellas, small gaps between the lamellas and repair places after disassembly and assembly of transport fasteners;

Small adhesive residues on the surface of the boards are permissible;

Permissible constructive shifts after the assembly of panels in the facility, which do not affect the stability of the structures and the building's layout;

## **Contacts**

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