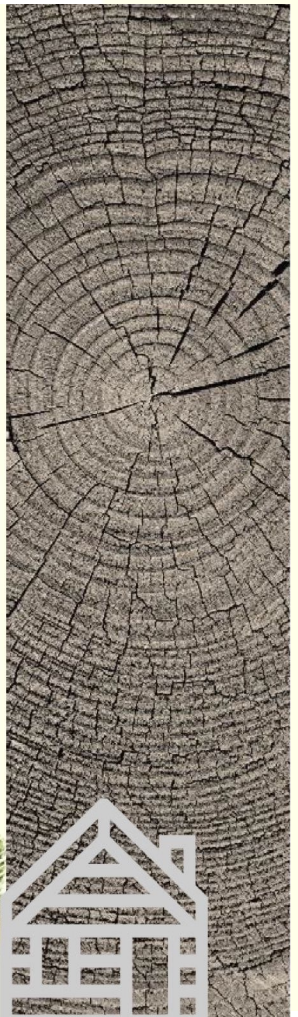
Wood & Staff

MANUFACTURED BY TECHNOLOGY

« DOUBLE TIMBER »



Made from environmentally friendly, natural material

Double beam - is a wall consisting of two dry profiled beams 50mm or 70mm thick and the free space between them, which is filled with insulation.

The insulation can be: mineral wool, ecowool and other insulation materials

It is assembled according to the principle of tongue-and-groove mortise locks, which are manufactured according to existing designs on precision cutting machines

Drying chambers are used to dry materials, which allows achieving a humidity of 10-15%

The main advantages of the DOUBLE BEAM technology

- The use of chamber-drying material minimizes shrinkage of the house to 1 - 2%
- Thermal insulation properties
- Precision of parts, quality of materials
- Does not require additional finishing

- Does not require installation of a capital foundation
- Installation speed

PRODUCTION TECHNOLOGY

Wood harvesting

The initial sorting of logs takes place in the forest. Thus excluding the presence of logs with defects that do not correspond to the diameter and bend

1

Sawing

2

Sorted logs undergo a sawing process on sawmill lines on sawmill lines with high precision

Chamber drying

3

The drying mode in the chamber is set taking into account the type of wood, the initial moisture content of the workpiece, and the glow. Sensors monitor job indicators. After 2-3 weeks, the timber reaches a humidity of 10-15%

Profiling

4

Special four-sided machines are used to create a cross-section of a workpiece with dimensions of 50*135mm or 70*135mm.

The surface of the timber becomes smooth and completely flat. On such machines, a profile for a tongue-and-groove connection is also created.

Manufacturing of corner crown joints

5

Cup-cutting machines are used, which make it possible to produce double cups with a wind lock in a beam in one step. Since two cups are produced simultaneously, high dimensional accuracy is ensured. Such timber makes a neat log house.

At each stage, the timber is rejected!

Workpieces affected by insects, dead wood, fallen knots, and altered geometry are removed from the production line.

Corner joints of timber

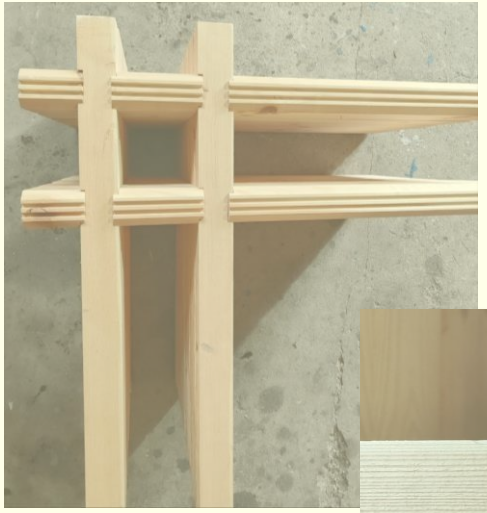
- Choosing the right connection type

and

- **precision manufacturing of all elements**

to ensure their tightest connection and create a corner design that eliminates through gaps -

the most important tasks in the manufacture of a log house!



Advantages of a corner joint in a bowl with a wind lock

The bowl connection is the most reliable!

Our production uses an offset bowl - with a wind lock, a more complex design that completely eliminates:

- possibility of moving the beam in any direction
- loss of joint tightness during shrinkage

A truly warm corner made of profiled timber can only be achieved with this connection!

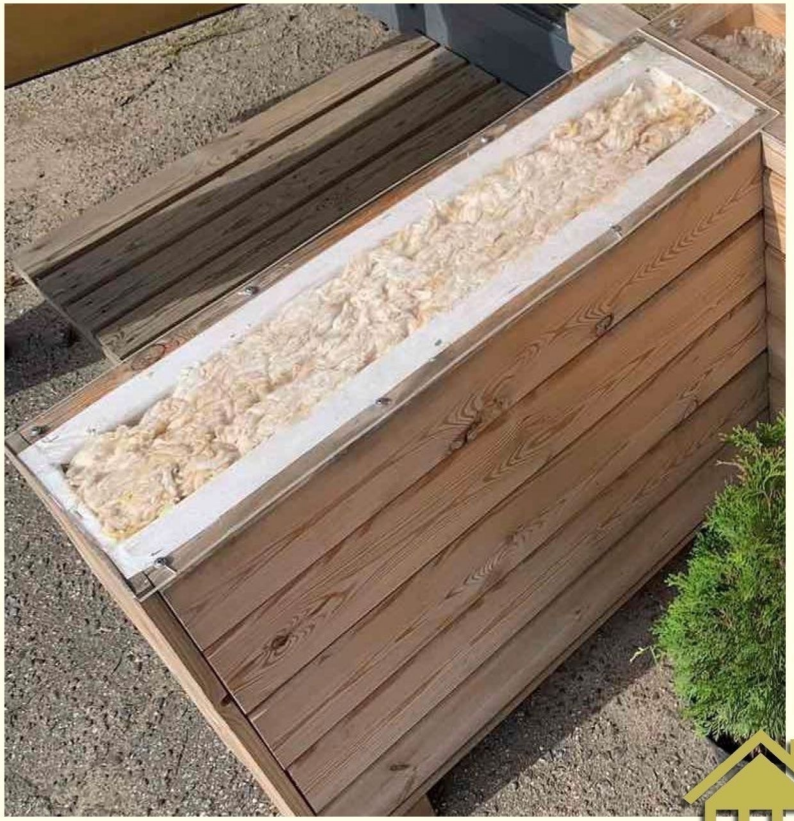
The bowl is cut out from four sides and the boundaries of the grooves on adjacent faces are shifted, so that when connected, each joint is covered by the transverse plane of a solid mass of timber. A kind of labyrinth is created for wind flows where they lose energy without penetrating inside the room, and the tightness of the connection remains unbroken; moisture also does not get inside the crowns. As a result, the corners inside the room remain dry and warm even in severe frosts

Thermal insulation properties of walls

Tests carried out on the heat transfer resistance of the building structure showed that a wall with a thickness of 290 mm, consisting of:

- two beams 70mm thick each
- 150mm of insulation (ecowool with a density of 45-50kg/m3), placed in the interior space

Heat transfer resistance is 3.362 m2*0C/W



Wall thickness of various materials to achieve heat transfer resistance 3.362 m2*0C/W

Wall material	Thermal conductivity coefficient W/(m°C)	Heat transfer resistance m2*°C/W.	Wall thickness, m
Double timber with insulation	0.089	3,362	0,29
Foam concrete and aerated concrete with limestone binder, 600 kg/m3	0,15	3,362	0,50
Hollow ceramic brick (density 1300 kg/m3 including void)	0,41	3,362	1,38
Silicate brick, 14 voids (density 1300 kg/m3)	0,52	3,362	1,75

THANK YOU FOR YOUR ATTENTION!