

Large sized wall, floor and roof panels made of cross laminated timber (X-LAM).



- Off-site production
- Large sized
- Fast installation
- Dry building system
- Dimensionally stable
- Earthquake-proof
- Carbon neutral
- Environmental friendly
- Sustainable
- Energy saving
- Recyclable
- Fire resistant
- Air tight
- Solid building system

Picture credit: Nicole Meisinger

LAMINATED TIMBER
DERIX

LAMINATED TIMBER
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Supporting elements can be designed easily and efficiently

One building material for all purposes

High material quality combined in one product: X-LAM as a solid cross laminated panel can easily substitute brick, block, concrete and timber frame systems. The areas of application are:

Large solid panels form walls, roofs, floors and even lift shafts and stairs. They can be used as bracing and load bearing elements internally and externally (protected against weather) in residential, community and industrial buildings. X-LAM panels have three, five, seven or more uneven layers right-angled stacked on each other in which

the surface area of the panels is glued together in a press. The advantages for architects and designers are obvious. Due to its layer structure individual top layers could be used if needed and an excellent structural performance can be achieved, even with a high acoustic and thermal characteristics. Except the maximum size restrictions there is no grid to be considered. It is easy to realise constructional systems with small components height and a low dead load. This means to achieve high flexibility at the least possible costs.

From the X-LAM product line we offer you building elements with the following performance:

PANEL SIZES:

Length: 6,00 to 17,80 m
Width: 2,00 to 3,50 m
Thickness: 50 to 400 mm

TIMBER SPECIES / GRADES:

Spruce C24 | moisture 10% ± 2% | density: 480 kg/m³
(other species and grades on request)

MELAMIN RESIN:

Glue Type 1 DIN EN 301, certified for load bearing internal and external timber elements, weather resistant, transparent glue line, emission category E1

MACHINING:

5-axis-CNC-Portal, according to customer specification

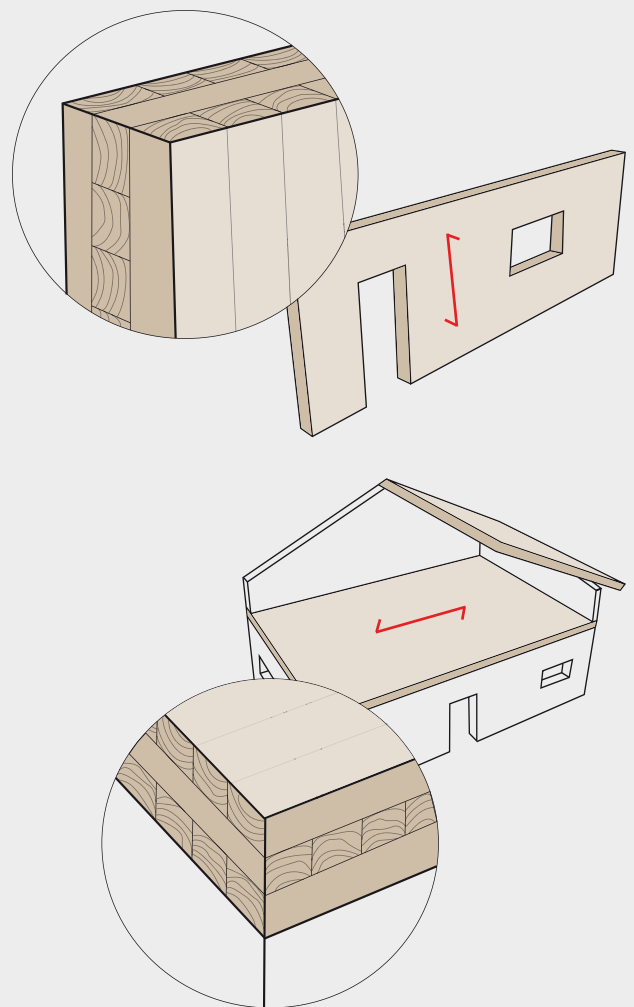
CHARING RATE:

0,90 mm / minute for layers without side gluing
0,65 mm / minute for layers with side gluing

DIMENSION STABILITY:

|| to panel surface 0,01 % per % moisture change
⊥ to panel surface 0,20 % per % moisture change

Thermal contivity λ : 0,13 W / (mK)
Specific thermal capacity c: 1,61 kJ / (kgK)
Damp diffusion resistance μ : 20-50



Easy, quick and custom fit on site

- Off-site production
- Ready for installation
- Highly prefabricated
- Short installation time
- Dry building system
- Accurately fitting and highly stable
- Marginal shrinking and moisture expansion



For unconventional and creative thinking professionals

Constructional systems with maximum flexibility

X-LAM offers designers and architects maximum flexibility: the constructions of X-LAM can be individually adjusted to suit the structural, acoustic and thermal requirements.

Thanks to the application of the cross-laminated technology, the X-LAM panels offer a maximum stability, because horizontal and vertical loads can be transferred easily. Other wood-based materials, like OSB, LVL or gypsum boards, as a substitute for single layers could optimise the system.

From the X-LAM product line we offer you various building elements in three surface qualities:



	ID*	size (mm)	layer (n)	build up* (mm)	dead load (KN/m ²)	
Wall Build Up vertical application	V-63 / 3s (XLX)	63 mm	3	$\overline{21}$ 21 $\overline{21}$	0,30	
	V-85 / 3s (XLX)	85 mm	3	$\overline{32}$ 21 $\overline{32}$	0,41	
	V-96 / 3s (XLX)	96 mm	3	$\overline{32}$ 32 $\overline{32}$	0,46	
	V-112 / 3s (XLX)	112 mm	3	$\overline{40}$ 32 $\overline{40}$	0,54	
	V-105 / 5s (XLXLX)	105 mm	5	$\overline{21}$ 21 $\overline{21}$ 21 $\overline{21}$	0,50	
	V-138 / 5s (XLXLX)	138 mm	5	$\overline{32}$ 21 $\overline{32}$ 21 $\overline{32}$	0,71	
	V-162 / 5s (XLXLX)	162 mm	5	$\overline{40}$ 21 $\overline{40}$ 21 $\overline{40}$	0,78	
	V-184 / 5s (XLXLX)	184 mm	5	$\overline{40}$ 32 $\overline{40}$ 32 $\overline{40}$	0,88	
	H-63 / 3s (LXL)	63 mm	3	21 $\overline{21}$ 21	0,30	
	H-85 / 3s (LXL)	85 mm	3	32 $\overline{21}$ 32	0,41	
	H-96 / 3s (LXL)	96 mm	3	32 $\overline{32}$ 32	0,46	
	H-101 / 3s (LXL)	101 mm	3	40 $\overline{21}$ 40	0,48	
H-112 / 3s (LXL)	112 mm	3	40 $\overline{32}$ 40	0,54		
H-120 / 3s (LXL)	120 mm	3	40 $\overline{40}$ 40	0,58		
H-105 / 5s (LXLXL)	105 mm	5	21 $\overline{21}$ 21 $\overline{21}$ 21	0,50		
H-138 / 5s (LXLXL)	138 mm	5	32 $\overline{21}$ 32 $\overline{21}$ 32	0,66		
H-162 / 5s (LXLXL)	162 mm	5	40 $\overline{21}$ 40 $\overline{21}$ 40	0,78		
H-184 / 5s (LXLXL)	184 mm	5	40 $\overline{32}$ 40 $\overline{32}$ 40	0,88		
H-191 / 7s (LXLXLXL)	191 mm	7	32 $\overline{21}$ 32 $\overline{21}$ 32 $\overline{21}$ 32	0,92		
H-223 / 7s (LXLXLXL)	223 mm	7	40 $\overline{21}$ 40 $\overline{21}$ 40 $\overline{21}$ 40	1,07		
H-234 / 7s (LXLXLXL)	234 mm	7	40 $\overline{21}$ 40 $\overline{32}$ 40 $\overline{21}$ 40	1,12		
H-256 / 7s (LXLXLXL)	256 mm	7	40 $\overline{32}$ 40 $\overline{32}$ 40 $\overline{32}$ 40	1,23		
H-224 / 7s (LLXLXLL)	224 mm	7	32 32 $\overline{32}$ 32 $\overline{32}$ 32 32	1,08		
H-218 / 7s (LLXLXLL)	218 mm	7	40 32 $\overline{21}$ 32 $\overline{21}$ 32 40	1,05		
H-234 / 7s (LLXLXLL)	234 mm	7	40 40 $\overline{21}$ 32 $\overline{21}$ 40 40	1,12		
H-256 / 7s (LLXLXLL)	256 mm	7	40 40 $\overline{32}$ 32 $\overline{32}$ 40 40	1,23		
H-264 / 7s (LLXLXLL)	264 mm	7	40 40 $\overline{32}$ 40 $\overline{32}$ 40 40	1,27		
H-272 / 7s (LLXLXLL)	272 mm	7	40 40 $\overline{40}$ 32 $\overline{40}$ 40 40	1,31		
H-280 / 7s (LLXLXLL)	280 mm	7	40 40 $\overline{40}$ 40 $\overline{40}$ 40 40	1,34		

* x = $\overline{21}$ = layer \perp to longitudinal axis; L = |211 = || to longitudinal axis

Surface quality

Non visible NSi	Non visible quality is designed to be covered on site with additional layers such as gypsum or plywood. The top layers are sorted only by structural criteria. Without specification the quality of external layers is non visible quality.
Visible for industrial buildings ISi	ISi-quality shows the top layers sorted by visible criteria, low quality areas are cut off and finger jointed. The top layers are not side glued, but during the press process of the panels the top layer will be side pressed and joints between the boards will be minimised.
Visible for residential buildings WSi	WSi-quality is only for special applications such as living spaces. The visible side of the panel will be done using a high quality side-glued or multi-layer board.

X-LAM solid timber panels – the best for our (indoor) environment



Sustainability

Nowadays the basic material for the production of X-LAM panels is softwood. The timber comes from sustainable forestry in Europe and of course it is PEFC or FSC certified. Compared to other solid building systems the using of primary energy for the production of X-LAM is very low. This is why the use of X-LAM timber panels helps to reduce CO₂-emissions considerably and thus decreases the greenhouse effect for future generations.

Comfortable living spaces

By using X-LAM the owners of a building not only create a healthy indoor climate, but clearly demonstrate responsibility for the environment. Solid X-LAM panels help to regulate the indoor climate actively and so a healthy indoor environment is realised. Thanks to their thermal performance X-LAM panels serve also as the ideal protection against the summer heat. Thus, the highest living comfort can be realised while reducing the energy costs significantly.

Solid building system

X-LAM panels do not have any restrictions for additional internal loads such as kitchen cupboards, shelves etc.. Heavy furniture can be attached into the solid wall and floor panels easily just by using certified fixing systems. Due to its high stability the X-LAM building systems are even used in earthquake-prone areas.

Certificates

ETA
EEG-Conformity
PEFC
FSC



We are happy to inform you about the possibilities of cross laminated timber (X-LAM).



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