

HASSLACHER
NORICA TIMBER

From **wood** to **wonders**.

CROSS LAMINATED TIMBER BIRCH

NEW

THE HIGHEST MECHANICAL PROPERTIES
WITH A NOBLE APPEARANCE.

PRODUCT INFORMATION

CROSS LAMINATED TIMBER BIRCH

ADVANTAGES

- ⊕ High-quality, noble appearance for visible applications
- ⊕ Up to 200% higher mechanical properties than those of spruce softwood
- ⊕ Volume savings of about one dimensional offset compared to cross-laminated spruce timber

AREAS OF APPLICATION

- ⊕ Walls with visible surface
- ⊕ Floors with visible surface
- ⊕ Walls and floors with high mechanical requirements

SURFACES

- ⊕ Standard quality: Birch with brown heart
- ⊕ Excellent quality: Birch with light brown heart and with excellent lamellas

SERVICE CLASS

Service class 1 and 2 according to EN 1995-1-1

ADHESION

MUF adhesive system

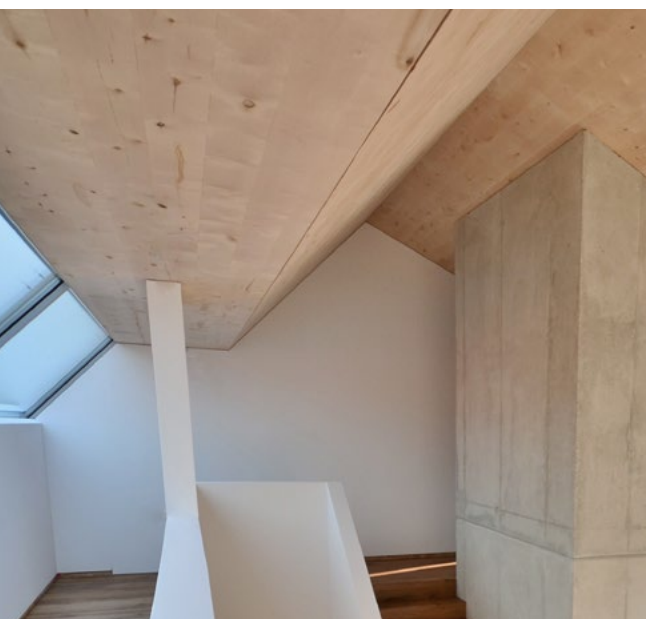
Adhesive type 1 according to EN301/302

WOOD MOISTURE CONTENT

10% ±2%

MECHANICAL PROPERTIES FOR THE DESIGN OF CROSS LAMINATED TIMBER BIRCH

Strength classes		
Bending strength	$f_{m,CLT,k}$	38 N/mm ²
Tensile strength	$f_{t,0,CLT,net,k}$	28,5 N/mm ²
Compressive strength	$f_{t,90,CLT,k}$	0,6 N/mm ²
	$f_{c,0,CLT,net,k}$	38 N/mm ²
Shear strength in-plane	$f_{c,90,CLT,k}$	5,0 N/mm ²
	$f_{v,CLT,IP,k}$	15 N/mm ²
Shear strength out-of-plane	$f_{T,node,k}$	2,5 N/mm ²
	$f_{v,CLT,OP,k}$	4,5 N/mm ²
Rolling shear strength out-of-plane	$f_{r,CLT,k}$	1,8 N/mm ²
Modulus of elasticity	$E_{0,CLT,mean}$	15,000 N/mm ²
	$E_{0,CLT,05}$	12,500 N/mm ²
	$E_{90,CLT,mean}$	650 N/mm ²
	$E_{c,90,CLT,05}$	540 N/mm ²
	$E_{c,90,CLT,mean}$	650 N/mm ²
Shear modulus	$E_{90,CLT,05}$	540 N/mm ²
	$G_{CLT,mean}$	850 N/mm ²
Rolling shear modulus	$G_{CLT,05}$	710 N/mm ²
	$G_{r,CLT,mean}$	175 N/mm ²
Density	$G_{r,CLT,05}$	145 N/mm ²
	$\rho_{CLT,k}$	600 kg/m ³
	$\rho_{CLT,mean}$	620 kg/m ³



The single-family house Raser, which is located in Eastern Styria, can best be described as a pilot project regarding the utilisation of hardwood boards for the manufacture of cross-laminated timber. Due to the birch's high mechanical properties, approximately 15% of volume was saved.

Additionally, the surfaces have also been equipped with excellent lamellas, which ensures gap- and crack-free optics. All visual surfaces are made of birch wood.

PROJECT INFORMATION: SINGLE-FAMILY HOUSE RASER

Location	St. Magdalena am Lemberg, in the region of Eastern Styria
Client:	Holz&Bau Hirschböck Hartberg
Project planner:	Ing. Wolfgang Raser
Statics and construction:	Ing. Wolfgang Raser, Graduate engineer Georg Jeitler
Building contractor:	Ing. Wolfgang Raser
Year of construction:	2014
Utilised products:	Excellent quality cross-laminated birch timber, laminated timber, solid structural timber
Special features:	The world's first cross-laminated birch timber house



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HASSLACHER group

Feistritz 1 | 9751 Sachsenburg | Austria
T +43 4769 22 49-0 | F +43 4769 22 49-129
info@hasslacher.com | hasslacher.com

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