

EN

**HASSLACHER**  
**NORICA TIMBER**

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

# Glued Laminated Timber Birch

The highest load-carrying capacity with an unique look.

# Product information

## Glued Laminated Timber Birch

### Advantages

- + Unique, appealing look
- + Slender beam dimensions
- + Up to 100 % higher mechanical properties than those of spruce softwood
- + Volume savings in construction

### Areas of application

- + Beams and beam systems
- + In case of high compressive stresses perpendicular to grain
- + Engineered timber structures with large spans and heavy loads
- + Truss constructions

### Surfaces

- + Quality: Birch with brown heart

### Product standard/certification

European Technical Assessment ETA-19/0031

### Bonding

MUF-adhesive type 1 acc. to EN 301/302

### Moisture content

11 % ± 2 %

### Reaction to fire

D-s2, d0

### Charring rate

0,55 mm/min acc. EN 1995-1-2

### Dimensional tolerances

acc. to EN 14080

### Service classes

Service classes 1 and 2 acc. to EN 1995-1-1

## Mechanical properties for the design of glued laminated timber birch

Strength classes		
Bending strength	$f_{m,g,flat,k}$	32 N/mm <sup>2</sup>
	$f_{m,g,edge,k}$	$k_{sys}^{1) *}$ 36 N/mm <sup>2</sup>
Tensile strength	$f_{t,0,g,k}$	24 N/mm <sup>2</sup>
	$f_{t,90,g,k}$	0.6 N/mm <sup>2</sup>
Compressive strength	$f_{c,0,g,k}$	30 N/mm <sup>2</sup>
	$f_{c,90,g,k}$	4.5 N/mm <sup>2</sup>
Shear strength	$f_{v,g,k}$	4.9 N/mm <sup>2</sup>
Rolling shear strength	$f_{r,g,k}$	1.8 N/mm <sup>2</sup>
Modulus of elasticity	$E_{0,g,mean}$	15,000 N/mm <sup>2</sup>
	$E_{0,g,05}$	12,600 N/mm <sup>2</sup>
	$E_{90,g,mean}$	650 N/mm <sup>2</sup>
	$E_{90,g,05}$	540 N/mm <sup>2</sup>
Shear modulus	$G_{g,mean}$	850 N/mm <sup>2</sup>
	$G_{g,05}$	710 N/mm <sup>2</sup>
Rolling shear modulus	$G_{r,g,mean}$	65 N/mm <sup>2</sup>
	$G_{r,g,05}$	54 N/mm <sup>2</sup>
Density	$\rho_{g,k}$	600 kg/m <sup>3</sup>
	$\rho_{g,mean}$	620 kg/m <sup>3</sup>

1)  $k_{sys}$  ... Systemfactor according to EN 1995-1-1



The warehouse for storing sawn timber was built as a noise protection structure covering an area of 1,000 m<sup>2</sup>. The largest free span of 27 m is realised by a trussed system in glued laminated timber birch with a total height of 3 m. The structure's design is also innovative since the framework's vertical beams are made of spaced columns, which allow the main girders (in glued laminated timber birch as well) crossing their central axis and thus being arranged on the same level. This saves construction height and ensures maximum vertical clearance below the timber structure. The main girders themselves are 18 m single span beams with a cantilever of 5.75 m.

#### Project information: Industrial hall in Stall

Location: Latzendorf; near Stall, in the region of Mölltal

Client: NORITEC Holzindustrie GmbH

Project planner: Johann Ploessnig

Statics and construction: DI Markus Lackner

Building contractor: NORITEC Holzindustrie GmbH

Year of construction: 2015

Utilised products: Glued laminated timber birch, timber framework structure

Special features: First application of birch as a load-bearing construction



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## HASSLACHER group

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