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Declaration of performance

No.: PM – 004 – 2015

1.	Unique identification code of the product:	Beam BauBuche GL70 according to ETA- 14/0354 dated 20 February 2015
2.	Intended use:	Glued laminated timber made from hardwood – Beech laminated veneer lumber for structural applications according to ETA-14 /0354 dated 20 February 2015
3.	Manufacturer:	Beam BauBuche GL70 – laminated veneer lumber beams (LVL) Pollmeier Furnierwerkstoffe GmbH Pferdsdorfer Weg 6 99831 Creuzburg, Germany
4.	Authorised representative:	No authorised representative
5.	System of assessment and verification of constancy of performance:	System 1
6.	European Assessment Document:	EAD 130010-00-0304 dated March 2015
	European Technical Assessment:	ETA-14 /0354 dated 20 February 2015
	Technical Assessment Body:	Austrian Institute of Construction Engineering (Österreichisches Institut für Bautechnik)
	Notified Body:	MPA Stuttgart 0672 Certificate number: 0672 – CPR - 0561

7. Declared performances:

7.1 Product description

This declaration of performance applies to glued laminated timber of type "FST", which consists of lamellas made from laminated beech veneer lumber for structural applications. The lamellas conform to EN 14374.

FST (glued laminated timber made from laminated veneer lumber) consists of at least three lamellas that are glued together. The surfaces are planed or sanded.

This declaration of performance does not apply to openings in glued laminated timber made from laminated veneer lumber.

This declaration of performance does not apply to treatment with wood preservatives and flame retardants.

The wood species used is European beech (fagus sylvatica L.).

Table 1: Dimensions and specifications

Feature	Dimension	Specification
Height	mm	120 to 600
Width	mm	80 to 300
Length	m	≤ 18.0
Number of layers	-	3 to 15

7.2 Area of application

FST (glued laminated timber made from laminated veneer lumber) is intended to be used as a load-bearing or non-load-bearing element in buildings and timber structures.

The product must only be exposed to static or quasi-static influences.

FST (glued laminated timber made from laminated veneer lumber) may be employed in environments assigned to service classes 1 and 2 according to EN 1995-1-1.

The design of FST (glued laminated timber made from laminated veneer lumber) is performed under the responsibility of a specialist with experience in the use of products of this type.

Protection of the product must be considered in the design of the building.

Elements made from FST (glued laminated timber made from laminated veneer lumber) must be installed properly.

The design of FST (glued laminated timber made from laminated veneer lumber) can be performed on the basis of EN 1995-1-1 and EN 1995-1-2, taking into account Annex 1 of the European Technical Assessment. The standards and regulations applicable at the place of use must be observed.

When using fasteners, the provisions of the standard DIN EN 1995-1-1 in conjunction with DIN EN 1995-1-1/NA and the European technical approvals for the respective fasteners must be observed.

In addition, the provisions of the declaration of performance PM-003-2015 apply. When designing the fasteners, a characteristic density of the FST (glued laminated timber made from laminated veneer lumber) of 680 kg/m^3 must be applied.

7.3 Declared performances of BauBuche GL 70

Table 2: Mechanical resistance and stability

Key feature	Method of assessment	Class / usage category / numerical value
Bending strength $f_{m,k}$	EN 408	70 MPa[1)]
Modulus of elasticity parallel to the grain of the lamellas		
– $E_{0,mean}$	EN 408	16,700 MPa
– $E_{0,05}$	EN 408	15,300 MPa
Modulus of elasticity perpendicular to the grain of the lamellas		
– $E_{90,mean}$	EN 14374	470 MPa
– $E_{90,05}$	EN 14374	400 MPa
Tensile strength		
– parallel to the grain of the lamellas $f_{t,0,k}$	EAD 130010-00-0304	55 MPa [2)]
– perpendicular to the grain of the lamellas $f_{t,90,k}$	EN 384	0.6 MPa

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Key feature	Method of assessment	Class / usage category / numerical value	
Compressive strength		Service class 1	Service class 2
– parallel to the grain of the lamellas $f_{c,0,k}$	EN 408 and EAD 130010-00-0304	59.4 MPa[3)]	49.5 MPa [3)]
– perpendicular to the grain of the lamellas $f_{c,90,k}$	EN 384 and EAD 130010-00-0304	10.2 MPa	8.5 MPa
Shear strength $f_{v,k}$	EN 408	4.0 MPa [4)]	
Shear modulus			
– G_{mean}	EN 14374	850 MPa	
– G_{05}	EN 14374	760 MPa	
Density			
– ρ_{mean}		≥ 740kg/m^3	
– ρ_k		≥ 680 kg/m^3	

1) For flatwise bending, the characteristic strength may be multiplied by the factor $k_{h,m} = \left(\frac{600}{h}\right)^{0,14}$, where h is the height of the FST cross-section in mm.

2) The characteristic tensile strength may be multiplied by the factor $k_{h,t} = \left(\frac{600}{h}\right)^{0,15}$, where h is the larger side length of the LVL cross-section perpendicular to the longitudinal axis in mm.

3) The characteristic compressive strength may be increased for n > 3 by the factor $k_{c,0} = \min(0.0009 * h + 0.892; 1.18)$. H is the height of the FST cross-section in mm, and n is the number of laminations.

4) The characteristic shear strength may be multiplied by the factor $k_{h,v} = \left(\frac{600}{h}\right)^{0,25}$, where h is the height of the FST cross-section in mm.

7.4 Fire protection

Key feature	Method of assessment	Class / usage category / numerical value
Fire behaviour	Decision of the Commission 2005/610/EC	European class D – s2, d0
Fire resistance	EN 1995-1-2	Burning rate β_0 = 0.65 mm/min β_n = 0.7 mm/min

7.5 Moisture protection, sound insulation, thermal insulation

Key feature	Method of assessment	Class / usage category / numerical value
Creep and duration of load	k_{mod} and k_{def} according to EN 1995-1-1 for glued laminated timber	
Dimensional stability	The moisture content must not change to such an extent that undesirable deformations occur during use.	
Moisture content	EAD 130010-00-0304	5 to 10%
Bonding quality	EN 14374	passed
Service classes	EN 1995-1-1	1 and 2
Sound attenuation	not assessed	
Thermal conductivity λ of lamellas made from laminated veneer lumber	EN ISO 10456	0.17 W/(m·K)
Thermal inertia, specific thermal capacity c_p of lamellas made from laminated veneer lumber	EN ISO 10456	1,600 J/(kg·K)

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7.6 Formaldehyde class

Key feature	Method of assessment	Class / usage category / numerical value
– Formaldehyde	EN 717-1	E1

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No. 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Ralf Pollmeier (Managing Director)

Creuzburg, 30 October 2015

Signature