

Declaration of performance

DOP CLTPLUS 2023-12

acc. to EU Regulation No. 305/2011

1. Unique product type identifier:	CLTPLUS Cross Laminated Timber by THEURL
2. Designated use:	Load-bearing and non-load-bearing use in structural engineering acc. to Eurocode 5 (EN 1995)
3. Manufacturer:	Theurl Timber Structures GmbH
4. Authorised representative:	No external representative
5. System for assessment and verification of performance reliability:	System 1
6b. European assessment document:	EAD 130005-00-0304
European technical assessment:	ETA-20/0843, 12.12.2023
Technical assessment centre:	Österreichisches Institut für Bautechnik (OIB), Schenkenstraße 4, 1010 Wien - AT
Notified body:	Holzforschung Austria 1359
Certificate number	1359-CPR-0810

7. Product characteristics	
Number of layers	3-9, symmetric design
Max. value of joint width between boards within one layer	2
Geometric data	Width 2,25 - 3,5 m Length 8 - 16 m Thickness 60 - 360 mm
Type of wood	Spruce PCAB or similar conifer, fir and pine
Strength class	Top layer C24 (EN338), innerlayer ≥ 90% C24, ≤ 10% C16
Wood moisture	10-12% (+/-2%)
Adhesive	1K PUR, EN 15425, finger jointing and surface bonding formaldehyde-free
Finger jointing	EN 14080
Adhesive strength of adhesive bonding between layers	Delamination test acc. to EN 14080, Appendix C, Method B
Fire characteristics	D-s2, D0, resolution of the Commission 2005/610/EC
Heat conductivity	0,12 W/m²K, EN ISO 10456
Specific heat capacity	1600 J/kgK, EN ISO 10456
Air permeability	Class 4 see air-tight, Class 4 acc. to EN 12207
Water vapour resistance factor μ	20-50, EN ISO 10456
Use class	1 and 2, EN 1995-1-1

8. Declared performance:		
Essential characteristics:	Performance	Assessment method
Mechanical characteristics:	CLTPLUS Cross Laminated Timber by Theurl acc. Appendix 2, ETA-20/0843	
Resistance of fire:	Charring rate	EAD 130005-00-0304, 2.2.2.2
	Charring of the cover layer β_0	0,65 mm/min
	Charring of more layers than the cover layer β_n^{**}	1,3 mm/min
	** until 25 mm of charring. Afterwards the charring rate 0,65 mm/min applies up to the next glue line.	
Panel loads:		
Strength class of lamellae:	C24	Acc. to EN 338
Young's modulus:	$E_{0,mean} = 11600 \text{ N/mm}^2$ parallel	$E_{90,mean} = 370 \text{ N/mm}^2$ vertical Appendix 3 ETA-20/0843
Shear modulus:	$G_{0,mean} = 690 \text{ N/mm}^2$ parallel	$G_{90,mean} = 50 \text{ N/mm}^2$ vertical EAD 130005-00-0304, 2.2.1.1
Flexural strength:	$f_{m,k} = 1/k_{sys} \cdot 26,4 \text{ N/mm}^2$ [1]	EAD 130005-00-0304, 2.2.1.1
Tensile strength:	$f_{t,90,k} = 0,12 \text{ N/mm}^2$	EN 338
Compressive strength:	$f_{c,90,k} = 2,5 \text{ N/mm}^2$	EN 338
Shear strength:	$f_{v,090,k} = 4,0 \text{ N/mm}^2$	Rolling shear $f_{v,9090,k} = 1,3 \text{ N/mm}^2$ EN 338 Appendix 3 EAD 130005-00-0304, 2.2.1.3
Remarks: [1]	$k_{sys} = \max\{\frac{1,1 - 0,025 \cdot n}{1}\}$	n = number of boards in top layer
Slab loads:		
Strength class of lamellae:	C24	Acc. to EN 338
Young's modulus:	$E_{0,mean} = 11600 \text{ N/mm}^2$ parallel	Appendix 3 ETA-20/0843
Shear modulus:	$G_{0,mean} = 450 \text{ N/mm}^2$ parallel	EAD 130005-00-0304, 2.2.1.1
Flexural strength:	$f_{m,k} = 24,0 \text{ N/mm}^2$	Appendix 3 ETA-20/0843
Tensile strength:	$f_{t,0,k} = 14,5 \text{ N/mm}^2$	EN 338
Compressive strength:	$f_{c,0,k} = 21,0 \text{ N/mm}^2$	EN 338
Shear strength:	$f_{v,090,k} = 5,0 \text{ N/mm}^2$	Appendix 3 EAD 130005-00-0304, 2.2.1.3

9. The performance of the above product corresponds to the declared performance. The manufacturer named above is solely responsible for drawing up the declaration of performance in accordance with Regulation (EU) No. 305/2011.

Steinfeld, 21.12.2023	Signed on behalf of the manufacturer:  THEURL AUSTRIAN PREMIUM TIMBER THEURL TIMBER STRUCTURES GMBH 9754 Steinfeld · Industriezone 1 · Tel. +43 4855 8411-500 ATU 73764489
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