

Declaration of Performance

CLT/2020/04

In accordance with Annex III of Regulation (EU) no. 305/2011

CLT – Cross Laminated Timber

1. Unambiguous identification of the product type
CLT – Cross Laminated Timber in accordance with ETA-14/0349
2. Intended use
Intended for use as a load-bearing, bracing or also non-load-bearing element in buildings or timber structures. May only be used in structures with predominantly static traffic loads in accordance with Eurocode 5 (EN 1995).
3. Manufacturer
Stora Enso Wood Products QY Ltd
Kanavaranta 1, 00160 Helsinki, Finland
4. Name and address of authorised representative
Stora Enso Wood Products Bad St. Leonhard GmbH
Wisperndorf 4, 9462 Bad St Leonhard, Austria
5. System for assessing and examining the constancy of performance
System 1
6.

a)	<u>Harmonised standard:</u> <u>Notified body:</u>	not relevant not relevant
b)	<u>European Assessment Document:</u> <u>European Technical Assessment:</u> <u>Technical assessment body:</u> <u>Notified body:</u>	European Assessment Document EAD 130005-00-0304 – “Solid wood construction elements in the form of slabs or panels for load-bearing components in structures”, April 2020 version ETA-14/0349 from 06.04.2020 Österreichisches Institut für Bautechnik (Austrian Institute for Structural Engineering), Schenkenstraße 4, 1010 Vienna, Austria Holzforschung Austria 1359
7. Declared performance

Number of layers:	3 ≤ n ≤ 20
Dimensions:	thickness 42 to 350 mm, width < 3.50 m, length ≤ 16.50 m
Wood type:	WPPA (SPF)
Sorting:	dry graded
Adhesive:	PUR type 1
Reaction to fire:	D-s2, d0
Thermal conductivity λ:	0,12 W/mK
Service class:	1 and 2 according to EN 1995-1-1
Specific heat capacity c _p :	1600 J/KgK
Resistance to vapour diffusion μ:	20 to 50
Durability:	According to EN 350-2
Strength class:	C24 according to EN 338 (≥ 90% C24/T14 / ≤ 10% C16/T11)
Timber treatment:	NPD
Release of hazardous substances:	NPD

8. Specific technical documents

Requirement	Verification method	Numerical value/standard	
Mechanical resistance and stability			
1. Mechanical actions perpendicular to the panel [1]			
Strength class of lamellas	EN 338	C24 / T14	
Modulus of elasticity:			
• parallel to the grain direction $E_{0, \text{mean}}$	EAD 130005-00-304, 2.2.1.2	12 000 N/mm ² [2]	
• perpendicular to the grain direction $E_{90, \text{mean}}$	EN 338	370 N/mm ²	
Shear modulus:			
• parallel to the grain direction G_{mean}	EN 338	690 N/mm ²	
• perpendicular to the grain direction, rolling shear modulus $G_{90, \text{mean}}$	EAD 130005-00-0304, 2.2.1.1	50 N/mm ²	
Bending strength:			
• parallel to the grain direction $f_{m, k}$	EAD 130005-00-0304, 2.2.1.1	C24, $1/k_{\text{sys}} \cdot 26.4$ N/mm ² [3]	
Tensile strength:			
• perpendicular to the grain direction $f_{t, 90, k}$	EN 338	0.12 N/mm ²	
Compressive strength:			
• perpendicular to the grain direction $f_{c, 90, k}$	EN 338	2,5 N/mm ²	
Shear strength:			
• parallel to the grain direction $f_{v, 090, k}$	EN 338	4 N/mm ²	
• perpendicular to the grain direction (rolling shear strength) $f_{v, 9090, k}$	EAD 130005-00-0304, 2.2.1.3	spruce: min. {1.25; 1.45 – $t_{cr}/100$ } [4] pine: min. {1.70; 1.90 – $t_{cr}/100$ } [4] REX: min. {1,25; 1,45 – $t_{cr}/100$ } [4]	
Comments: [1] CLT – Cross Laminated Timber with transverse layers of lamellae type “REX” may be considered equivalent to C24/T14 [2] $E_{0, \text{mean}} = 6800$ N/mm ² for lamellae type “REX” [3] $k_{\text{sys}} = \max. \{1.0; 1.1 - 0,025 \cdot n\}$, (n = number of boards in the cover layer) [4] t_{cr} = greatest transverse layer thickness in the cross-section			
2. Mechanical actions in the panel plane			
Strength class of lamellas	EN 338	C24 / T14	
Modulus of elasticity:			
• parallel to the grain direction $E_{0, \text{mean}}$	EAD 130005-00-0304, 2.2.1.1	12 000 N/mm ²	
Shear modulus:			
• parallel to the grain direction $G_{090, \text{mean}}$	EAD 130005-00-0304, 2.2.1.3	460 N/mm ²	
Bending strength:			
• Parallel to the grain direction $f_{m, k}$	EAD 130005-00-0304, 2.2.1.1	24 N/mm ²	
Tensile strength:			
• Parallel to the grain direction $f_{t, 0, k}$	EN 338	14,5 N/mm ²	
Compressive strength:			
• Parallel to the grain direction $f_{c, 0, k}$	EN 338	21 N/mm ²	
Shear strength:			
• Parallel to the grain direction $f_{v, 090, k}$	EAD 130005-00-0304, 2.2.1.3	3.9 N/mm ²	
3. Other mechanical actions			
Creep and duration of load	EN 1995-1-1		
Dimensional stability	Moisture content during use shall not change to such an extent that adverse deformations occur.		
Fasteners	According to EN 1995-1-1, the grain direction of the cover layer is taken as a reference.		
4. Resistance to fire			
Charring rate			
Charring of the cover layer	EAD 130005-00-0304	Floor/Roof	Wall
Charring of more layers than the cover layer		0.65 mm/min	0.63 mm/min
		1.3 mm/min [5]	0.86 mm/min
Comments: [5] until 25 mm of charring. Afterwards the charring rate 0.65 mm/min applies up to the next glue line			

The performance of the product specified above corresponds to the declared performance. The above-mentioned manufacturer is solely responsible for creating this Declaration of Performance in accordance with Regulation (EU) no. 305/2011.

Bad St Leonhard, on 06.04.2020


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