

## CE DECLARATION OF PERFORMANCE

according to Regulation (EU) No. 305 of the European Parliament and the Council of 9 March 2011

DOP no.	DOP-745-01
1 Unique product identification code:	745 (recipe no.) 8 to 40 mm (panel thickness)
2 Use:	Structural or load-bearing components for indoor use in dry and humid conditions
3 Name and Manufacturer Registered trade name or registered brand and contact address of the manufacturer:	<b>EGGER OSB 4 TOP</b> <b>EGGER OSB HDX</b>  EGGER Holzwerkstoffe Wismar GmbH & Co KG Am Haffeld 1 D-23970 Wismar web: <a href="http://www.egger.com">www.egger.com</a>
4 not applicable	
5 System for the assessment and verification of constancy of performance of the building product:	System 2+
6 Harmonized standard:	EN 13986:2004+A1:2015
Notified body:	no. 0765  Wilhelm-Klauditz-Institute (WKI) Bienroder Weg 54 e D-38108 Braunschweig Germany

7 Declared performance:

Specification		unit	Panel thickness [mm]				
			> 8 - 10	> 10 - < 18	18 - 25	> 25 - 30	> 30 - 40
Bending strength	acc. to EN 310 - 0° major axis o°	N/mm <sup>2</sup>	≥ 30	≥ 33	≥ 31	≥ 29	≥ 25
	acc. to EN 310 - 90° minor axis	N/mm <sup>2</sup>	≥ 16	≥ 20	≥ 18	≥ 16	≥ 15
Modulus of Elasticity	acc. to EN 310 - 0° major axis o°	N/mm <sup>2</sup>	≥ 4800	≥ 5300	≥ 5200	≥ 5000	≥ 4800
	acc. to EN 310 - 90° minor axis	N/mm <sup>2</sup>	≥ 1900	≥ 2500	≥ 2300	≥ 2100	≥ 1900

Essential characteristics		unit	Panel thickness [mm]					Harmonized technical specification		
			> 8 - 10	> 10 - < 18	18 - 25	> 25 - 30	> 30 - 40			
Durability	thickness swelling 24h	%	≤ 12	≤ 10	≤ 10	≤ 10	≤ 10	EN 13986:2004+A1:2015		
	Internal bond - option 1	N/mm <sup>2</sup>	≥ 0,17	≥ 0,16	≥ 0,13	≥ 0,10	≥ 0,08			
	bending - major axis - option 1	N/mm <sup>2</sup>								
	mechanical			k <sub>def</sub>	k <sub>mod permanent</sub>	k <sub>mod long</sub>	k <sub>mod medium</sub>		k <sub>mod short</sub>	k <sub>mod instantenous</sub>
		SC1	1,50	0,40	0,50	0,70	0,90		1,10	
biological ( use class)			UC 1 & 2							
Release of Formaldehyde	acc. to EN 717-1	ppm	< 0,03 (no added formaldehyde) – emission class E1							
Release of PCP		ppm	< 3,0							
Density		kg/m <sup>3</sup>	≥ 600	≥ 620	≥ 620	≥ 600	≥ 600			
Water vapour permeability	μ (dry / wet)	-	200/150	200 / 200						
Thermal conductivity		W/mK	0,13							
Airborne sound insulation	sound absorption coefficient	-	0,10 / 0,25 (frequency range 250 - 500 Hz / 1000-2000 Hz)							
	sound insulation R	dB	R = 13 * lg(m <sub>A</sub> ) + 14 (area mass related m <sub>A</sub> , frequency range 1 to 3 kHz)							
Air permeability	acc. to EN 12114 (at 50Pa pressure difference)	m <sup>3</sup> /(m <sup>2</sup> * h)	NPD	≤ 0,12						
Reaction to fire *)		class	class floor covering	Minimum thickness [mm]						
	without air gap behind OSB <sup>a,b,e,f</sup>	D-s2, d0	D <sub>fl,s1</sub>	9mm						
	with closed air gap or open air gap ≤ 22 mm behind OSB <sup>c,e,f</sup>	D-s2, d0	-	9mm						
	with closed air gap behind OSB <sup>d,e,f</sup>	D-s2, d0	D <sub>fl,s1</sub>	15mm						
	with open air gap behind OSB <sup>d,e,f</sup>	D-s2, d0	D <sub>fl,s1</sub>	18mm						
without restriction <sup>e,f</sup>	E	E <sub>fl</sub>	3mm							

Essential characteristics		Einheit	Panel thickness [mm]					Harmonized technical specification
			> 8 - 10	> 10 - < 18	20 - 25	> 25 - 30	> 30 - 40	
<b>Characteristic Strength</b>								EN 13986:2004+A1:2015
<b>Bending <math>f_m</math></b>	0° - major axis	N/mm <sup>2</sup>	24.5	25	25	25	20	
	90° - minor axis	N/mm <sup>2</sup>	13	15	15	15	15	
<b>Tension <math>f_t</math></b>	0° - major axis	N/mm <sup>2</sup>	11.9	12	12	12	10	
	90° - minor axis	N/mm <sup>2</sup>	8.5	10	10	10	10	
<b>Compression <math>f_c</math></b>	0° - major axis	N/mm <sup>2</sup>	18.1	19	19	17	15	
	90° - minor axis	N/mm <sup>2</sup>	14.3	16	16	15	14	
<b>Shear <math>f_v \perp</math> panel surface</b>	0° - major axis / 90° - minor axis	N/mm <sup>2</sup>	-	10	10	10	10	
	<b>Shear <math>f_v</math> in panel surface</b>	0° - major axis / 90° - minor axis	N/mm <sup>2</sup>	6.9	9	9	8	
<b>Bending <math>f_m</math></b>	0° - major axis	N/mm <sup>2</sup>	1.1	1.6	1.6	1.6	1.6	
<b>Mean stiffness values</b>								
<b>Bending <math>E_m</math></b>	0° - major axis	N/mm <sup>2</sup>	6780	7000	7000	7000	6000	
	90° - minor axis	N/mm <sup>2</sup>	2680	3000	3000	3000	3000	
<b>Tension <math>E_t</math></b>	0° - major axis	N/mm <sup>2</sup>	4300	4300	4300	4300	4000	
	90° - minor axis	N/mm <sup>2</sup>	3200	3200	3200	3200	3200	
<b>Compression <math>E_c</math></b>	0° - major axis	N/mm <sup>2</sup>	4300	4300	4300	4300	4000	
	90° - minor axis	N/mm <sup>2</sup>	3200	3200	3200	3200	3200	
<b>Shear <math>G_v \perp</math> panel surface</b>	0° - major axis / 90° - minor axis	N/mm <sup>2</sup>	1090	1500	1500	1300	1200	
	<b>Shear <math>G_v</math> in panel surface</b>	0° - major axis / 90° - minor axis	N/mm <sup>2</sup>	60	160	160	160	
<b>Impact resistance</b>		N/mm <sup>2</sup>	NPD	NPD	NPD	NPD	NPD	
<b>Embedding strength</b>		N/mm <sup>2</sup>	EN 1995-1-1, paragraph 8					
<b>Racking resistance</b>		N/mm <sup>2</sup>	EN 1995-1-1					
<b>Performance wall</b> EN 12871	soft body impact acc. to EN 596		Pass					
	Panel thickness	mm	≥ 9					
<b>Performance Floor</b> EN 12871 (major axis, 0°)	load category			A	A	D / C3		
	panel thickness	mm		15	18 / 22	30 / 30		
	cc-span	mm		≤ 410	≤ 625	≤ 600 / ≤ 800		
<b>Performance roof</b> EN 12871 (major axis, 0°)	load category			H	H			
	panel thickness	mm		12 / 15	18 / 22			
	cc-span	mm		≤ 625	≤ 833			

DIN EN 1995-1-in conjunction with the national annex or according to the a national technical approval, ETA or similar granted for the respective fastener.

In particular the following requirements apply:

The design value for the load-carrying capacity of nails, staples, screws and dowels in the side surfaces shall be determined in accordance with DIN EN 1995-1- in conjunction with the national annex at a load

- perpendicular to the central axis of the fastener with characteristic values for the embedment strength in N/mm<sup>2</sup>
  - for holes that were not pre-drilled:  $f_{h,k} = 65 * d^{-0,7} * t^{0,1}$
  - for pre-drilled holes:  $f_{h,k} = 50 * d^{-0,6} * t^{0,2}$

Here d is the fastener diameter in mm and t is the board thickness in mm.

- In the shank direction with a characteristic pullout value, where:  $f_{1,k} = f_{ax,k}$  (in accordance with DIN EN 1995-1-1)
  - for smooth-shank nails:  $f_{1,k} = 2 \text{ N/mm}^2$
  - for special nails with load-carry capacity class I:  $f_{1,k} = 3 \text{ N/mm}^2$
  - for staples and special nails with load-carrying capacity class II:  $f_{1,k} = 4 \text{ N/mm}^2$
  - for special nails with load-carrying capacity class III:  $f_{1,k} = 5 \text{ N/mm}^2$
  - for screws:  $f_{1,k} = 10 \text{ N/mm}^2$

For loading for head pull-through of nails or screws through EGGER OSB 4 TOP of thickness  $t \geq 20 \text{ mm}$  the characteristic value for the head pull-through parameter in N/mm<sup>2</sup> is:

$$f_{2,k} = 15 * d_k^2$$

Here  $d_k$  is the head diameter in mm. For smaller board thicknesses of  $12 \text{ mm} \leq t < 20 \text{ mm}$  the characteristic value for the head pull-through parameter shall be reduced by a factor of  $t/20$ .

The design value for the load-carrying capacity of nails, staples and screws in the narrow surfaces shall be determined in accordance with DIN EN 1995-1-1 in conjunction with the national annex at a load

- perpendicular to the central axis of the fastener and normal to the board plane with characteristic values for the embedment strength in N/mm<sup>2</sup>
  - for holes that were not pre-drilled:  $f_{h,k} = 52 * d^{-0,7} * t^{0,1}$
  - for pre-drilled holes:  $f_{h,k} = 40 * d^{-0,6} * t^{0,2} * k$

Here d is the fastener diameter in mm and t is the board thickness in mm.

perpendicular to the central axis of the fastener and in the board plane with characteristic values for the embedment strength in N/mm<sup>2</sup>

- for holes that were not pre-drilled:  $f_{h,k} = 16 * d^{-0,7} * t^{0,1}$
- for pre-drilled holes:  $f_{h,k} = 12 * d^{-0,6} * t^{0,2}$

- in the shank direction for screws, staples and special nails with a characteristic pullout value, where:  $f_{1,k} = f_{ax,k}$  (in accordance with DIN EN 1995-1-1)
  - for special nails with load-carry capacity class I:  $f_{1,k} = 2 \text{ N/mm}^2$
  - for staples and special nails with load-carry capacity class II:  $f_{1,k} = 2.5 \text{ N/mm}^2$
  - for special nails with load-carrying capacity class III:  $f_{1,k} = 3.5 \text{ N/mm}^2$
  - for screws:  $f_{1,k} = 8 \text{ N/mm}^2$

If the distance a between the fastener farthest away from the loaded edge and the edge is less than 70% of the thickness of the component made from EGGER OSB 4 TOP a transverse reinforcement with full-thread self-tapping screws shall be implemented.

DIN EN 1995-1-1 in conjunction with the national annex shall apply for the design of connections between EGGER OSB 4 TOP boards as well as between EGGER OSB 4 TOP and solid timber or glued laminated timber.

The minimum distances of the fasteners in the side surfaces of EGGER OSB 4 TOP shall be determined according to DIN EN 1995-1-in conjunction with the national annex or according to a national technical approval, ETA or similar granted for the respective fastener as for structural plywood.

The minimum distances of the fasteners in the narrow surfaces of EGGER OSB 4 TOP  $t > 10$  mm are, irrespective of the chip alignment in the covering layer, as follows:

Minimum distance from each other in the board plane:	$a_1 = 12 d$
Minimum distance from each other perpendicular to the board plane:	$a_2 = 5 d$
Minimum distance from the edge in the board plane:	$a_3 = 15 d$
Minimum distance from the edge perpendicular to the board plane:	$a_4 = 5 d$

The minimum distances of the staples in the narrow surfaces of EGGER OSB 4 TOP  $t > 10$  mm are, irrespective of the chip alignment in the covering layer, as follows:

Minimum distance from each other in the board plane:	$a_1 = 35 d$
Minimum distance from each other perpendicular to the board plane:	$a_2 = 5 d$
Minimum distance from the edge in the board plane:	$a_3 = 35 d$
Minimum distance from the edge perpendicular to the board plane:	$a_4 = 5 d$

## 8 not applicable

The product performance according to number 1 corresponds to the declared performance according to number 7. Solely the manufacturer is responsible for drafting the declaration of performance according to number 3.

Signed for and in the name of the manufacturer by:



Thomas Schlund

EGGER Building Products - Head of Division  
Technology/Production

Wismar, 01.02.2018

### \*) Note:

- a Without air gap installed directly on products in classes A1 or A2-s1, d0 with a minimum raw density of  $10 \text{ kg/m}^3$  or at least products of class D-s2, d2 with a minimum raw density of  $400 \text{ kg/m}^3$ .
- b An underlayment made of cellulose thermal insulation material of at least class E may be used if installed directly behind the wood-based material; however, this does not apply to flooring.
- c Installed with air gap behind, the product bordering with its rear side the empty space must correspond at least to class A2-s1, d0 with a minimum raw density of  $10 \text{ kg/m}^3$ .
- d Installed with air gap behind, the product bordering with its rear side the empty space must correspond at least to class D-s2, d2 with a minimum raw density of  $400 \text{ kg/m}^3$ .
- e With the exception of flooring, the class also corresponds to veneered, phenol and melamine-faced boards.
- f A vapour barrier with a thickness of up to  $0.4 \text{ mm}$  and a mass of up to  $200 \text{ g/m}^2$  may be installed between the wood-based material and the underlayment if there is no air gap in between.