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Eikelaarstraat 33  
3600 Genk  
Belgium

DoP ref: NGOSB3DoPv5

EN 13986:2004 +A1:2015

1161

08

E1

OSB/3 (EN300) 6mm to 32mm

Sterling OSB3 zero

Structural use in humid conditions

Essential characteristics	Performance													
	6 to 10		>10 to <18		18 to 25		>25 to 32		15 T&G 600/400/300mm		18 T&G 600mm		22 T&G 600mm	
Thickness range (mm)	0	90	0	90	0	90	0	90	0 - 90		0- 90		0-90	
<sup>1</sup> Characteristic Strength (N/mm <sup>2</sup> ):														
- Bending $f_m$	18.0	9.0	16.4	8.2	14.8	7.4	NPD	NPD	16.4	8.2	14.8	7.4	14.8	7.4
- Compression $f_c$	15.9	12.9	15.4	12.7	14.8	12.4	NPD	NPD	15.4	12.7	14.8	12.4	14.8	12.4
- Tension $f_t$	9.9	7.2	9.4	7.0	9.0	6.8	NPD	NPD	9.4	7.0	9.0	6.8	9.0	6.8
- Panel Shear $f_v$	6.8		6.8		6.8		NPD		6.8		6.8		6.8	
- Planar shear $f_r$	1.0		1.0		1.0		NPD		1.0		1.0		1.0	
<sup>1</sup> Mean Stiffness (MOE) (N/mm <sup>2</sup> ):														
- Tension $E_t$	3800	3000	3800	3000	3800	3000	NPD	NPD	3800	3000	3800	3000	3800	3000
- Compression $E_c$	3800	3000	3800	3000	3800	3000	NPD	NPD	3800	3000	3800	3000	3800	3000
- Bending $E_m$	4930	1980	4930	1980	4930	1980	NPD	NPD	4930	1980	4930	1980	4930	1980
- Panel Shear $G_v$	1080		1080		1080		NPD		1080		1080		1080	
- Planar Shear $G_r$	50		50		50		NPD		50		50		50	
Punching Shear, Characteristic strength under point load $F_{max,k}$ (kN) <i>(for floors and roofs)</i>	NPD		NPD		NPD		NPD		1.68/1.85/1.78		2.25		3.04	
Punching Shear, Mean stiffness under point load, $R$ (N/mm <sup>2</sup> ) <i>(for floors and roofs)</i>	NPD		NPD		NPD		NPD		190/333/514		269		445	
Characteristic serviceability strength under point load $F_{ser,k}$ (kN) <i>(for floors and roofs)</i>	NPD		NPD		NPD		NPD		1.67/1.71/1.78		2.20		2.81	
Soft Body Impact resistance <i>(Floor/roofs/Walls)</i>	NPD		NPD		NPD		NPD		Impact Class 1 Pass Floor		Impact Class 1 Pass Floor		Impact Class 1 Pass Floor	

<b>Racking resistance Characteristic Strength</b> $F_{Rd,max,k}$ (N) (for walls)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<b>Racking resistance Mean Stiffness <math>R_{mean}</math></b> (N/mm) (for walls)	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<sup>5</sup> Embedment strength $f_h$ (N/mm <sup>2</sup> )	Calculation according to EN 1995-1-1 (8.22)						
<b>Release of formaldehyde</b>	E1	E1	E1	E1	E1	E1	E1
<b>Release (content) of pentachlorophenol (PCP)</b>	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm
<b>Airborne sound insulation (surface mass) R (dB)</b>	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<sup>3</sup> Sound absorption, Frequency range 250Hz to 500Hz ( $\alpha$ )	0.1	0.1	0.1	0.1	0.1	0.1	0.1
<sup>3</sup> Sound absorption, Frequency range 1000Hz to 2000Hz ( $\alpha$ )	0.25	0.25	0.25	0.25	0.25	0.25	0.25
<b>Thermal conductivity <math>\lambda</math> (W/m.K)</b>	0.13	0.13	0.13	0.13	0.13	0.13	0.13
<b>Air Permeability (<math>\Delta p=50Pa</math>) according to EN 12114, <math>V_0</math> (m<sup>3</sup>/h m<sup>2</sup>)</b>	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<b>Durability</b>							
<b>Internal bond (N/mm<sup>2</sup>)</b>	0.34	0.32	0.30	0.29	0.32	0.32	0.30
<b>Swelling in thickness (%)</b>	15	15	15	15	15	15	15
<b>Moisture resistance Internal bond after boil test (N/mm<sup>2</sup>)</b>	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<b>Internal bond after cyclic test (N/mm<sup>2</sup>)</b>	NPD	NPD	NPD	NPD	NPD	NPD	NPD
<b>Bending strength after cyclic test – major axis (N/mm<sup>2</sup>)</b>	9	8	7	6	8	8	7
<sup>4</sup> Mechanical (Creep $k_{def}$ ) service class 1	1.5	1.5	1.5	1.5	1.5	1.5	1.5
<sup>4</sup> Mechanical (Creep $k_{def}$ ) service class 2	2.25	2.25	2.25	2.25	2.25	2.25	2.25
<b>Mechanical (Duration of load <math>k_{mod}</math>)</b>	<b>Action Mode</b>						
	Permanent	Long Term	Medium Term	Short Term	Instantaneous		
<sup>4</sup> Service Class 1	0.4	0.5	0.7	0.9	1.1		
<sup>4</sup> Service Class 2	0.3	0.4	0.55	0.7	0.9		
<b>Biological</b>	Use classes 1 & 2						

<b>Thickness range (mm)</b>	<b>6 to 10</b>	<b>&gt;10 to &lt;18</b>	<b>18 to 25</b>	<b>&gt;25 bis 32</b>
<b>Avg. Dens. (kg/m<sup>3</sup>)</b>	≥ 600			

<b>Watervapourtransmission according to EN 12572:2001</b>	
<b>Thickness (mm)</b>	<b>15</b>
<b>μ Dry</b>	125
<b>μ Wet</b>	82

<b><sup>2</sup> Reaction to fire</b>  <b>(see notes to table for field of application details and associated documentation references)</b>		Minimum thickness	Class (excluding floorings) <sup>g</sup>	Class (Flooring) <sup>h</sup>
	<b>Without an air gap behind the panel</b> <sup>abef</sup>	9	D-s2,d0	D <sub>fl</sub> ,s1
	<b>With a closed or open air gap ≤ 22mm behind the panel</b> <sup>cef</sup>	9	D-s2,d2	-
	<b>Closed air gap behind the panel</b> <sup>def</sup>	15	D-s2,d0	D <sub>fl</sub> ,s1
	<b>With an open air gap behind the panel</b> <sup>def</sup>	18	D-s2,d0	D <sub>fl</sub> ,s1
	<b>Any end use</b> <sup>ef</sup>	3	E	E <sub>fl</sub>
<p>a -Mounted without an air gap directly against class A1 or A2-s1, d0 products with minimum density 10kg/m<sup>3</sup> or at least class D-s2, d2 products with minimum density 400 kg/m<sup>3</sup>.</p> <p>b -A substrate of cellulose insulation material of at least class E may be included if mounted directly against the wood-based panel, but not for floorings.</p> <p>c -Mounted with an air gap behind. The reverse face of the cavity shall be at least class A2-s1, d0 products with minimum density 10 kg/m<sup>3</sup>.</p> <p>d -Mounted with an air gap behind. The reverse face of the cavity shall be at least class D-s2, d2 products with minimum density 400 kg/m<sup>3</sup>.</p> <p>e -Veneered, phenol- and melamine-faced panels are included for class excl. floorings.</p> <p>f -A vapour barrier with a thickness up to 0,4 mm and a mass up to 200 g/m<sup>2</sup> can be mounted in between the wood-based panel and a substrate if there are no air gaps in between.</p> <p>g -Class Provided for in Table 1 of the Annex to decision 2000/147/EC.</p> <p>h -Class Provided for in Table 2 of the Annex to decision 2000/147/EC .</p>				

**NOTES TO TABLE**

1-Taken from EN 12369-1:2001

2-Reaction to fire classes from Table 1 of Commission Decision 2003/43/EC of January 2003 (OJEU L13 of 18.1.2003) corrected by Corrigendum (OJEU L33 of 8.2.2003) and amended by Commission decision 2007/348/EC of May 2007 (OJEU L131 of 23-05-2007); also reproduced in Table three of EN 13986:2004+A1:2015 for wood-based panels installed according to CEN/TR 12872

3-Taken from Table 10 of EN 13986:2004+A1:2015

4-Taken from Eurocode 5 EN 1995-1-1 2004+A2:2014

5-Embedment strenght can be calculated according to EN 1995-1-1 2004+A2:2014, by taking the OSB panel thickness (t) and the diameter of the used fastener (d) in account:

$$f_{h,k} = 65 d^{-0,7} t^{0,1}$$