



Norbord NV
Eikelaarstraat 33
3600 Genk
Belgium

DoP ref: NGOSB4DoPv5

EN 13986:2004 +A1:2015

1161

08

E1

OSB/4 (EN300) 6mm to 32mm

Sterling OSB4 zero

Heavy duty; structural use in humid conditions

Essential characteristics	Performance							
	6 to 10		>10 to <18		18 to 25		>25 to 32	
Thickness range (mm)	0	90	0	90	0	90	0	90
¹ Characteristic Strength (N/mm ²):								
- Bending f_m	24.5	13.0	23.0	12.2	21.0	11.4	NPD	NPD
- Compression f_c	18.1	14.3	17.6	14.0	17.0	13.7	NPD	NPD
- Tension f_t	11.9	8.5	11.4	8.2	10.9	8.0	NPD	NPD
- Panel Shear f_v	6.9		6.9		6.9		NPD	
- Planar shear f_r	1.1		1.1		1.1		NPD	
¹ Mean Stiffness (MOE) (N/mm ²):								
- Tension E_t	4300	3200	4300	3200	4300	3200	NPD	NPD
- Compression E_c	4300	3200	4300	3200	4300	3200	NPD	NPD
- Bending E_m	6780	2680	6780	2680	6780	2680	NPD	NPD
- Panel Shear G_v	1090		1090		1090		NPD	
- Planar Shear G_r	60		60		60		NPD	
Punching Shear, Characteristic strength under point load $F_{max,k}$ (kN) (for floors and roofs)	NPD		NPD		NPD		NPD	
Punching Shear, Mean stiffness under point load, R (N/mm ²) (for floors and roofs)	NPD		NPD		NPD		NPD	
Characteristic serviceability strength under point load $F_{ser,k}$ (kN) (for floors and roofs)	NPD		NPD		NPD		NPD	
Soft Body Impact resistance (Floor/roofs/Walls)	NPD		NPD		NPD		NPD	
Racking resistance Characteristic Strength $F_{Rd,max,k}$ (N) (for walls)	NPD		NPD		NPD		NPD	
Racking resistance Mean Stiffness R_{mean} (N/mm) (for walls)	NPD		NPD		NPD		NPD	
⁵ Embedment strength f_h (N/mm ²)	Calculation according to EN 1995-1-1 (8.22)							
Release of formaldehyde	E1		E1		E1		E1	

Release (content) of pentachlorophenol (PCP)	≤5ppm	≤5ppm	≤5ppm	≤5ppm	
Airborne sound insulation (surface mass) R (dB)	NPD	NPD	NPD	NPD	
³ Sound absorption, Frequency range 250Hz to 500Hz (α)	0.1	0.1	0.1	0.1	
³ Sound absorption, Frequency range 1000Hz to 2000Hz (α)	0.25	0.25	0.25	0.25	
Thermal conductivity λ (W/m.K)	0.13	0.13	0.13	0.13	
Air Permeability (Δp=50Pa) according to EN 12114, V ₀ (m ³ /h m ²)	NPD	NPD	NPD	NPD	
Durability					
Internal bond (N/mm ²)	0.50	0.45	0.40	0.35	
Swelling in thickness (%)	12	12	12	12	
Moisture resistance	NPD	NPD	NPD	NPD	
Internal bond after boil test (%)	NPD	NPD	NPD	NPD	
Internal bond after cyclic test (N/mm ²)	NPD	NPD	NPD	NPD	
Bending strength after cyclic test – major axis (N/mm ²)	15	14	13	6	
⁴ Mechanical (Creep k _{def}) service class 1	1.5	1.5	1.5	1.5	
⁴ Mechanical (Creep k _{def}) service class 2	2.25	2.25	2.25	2.25	
Mechanical (Duration of load k _{mod})	Action Mode				
	Permanent	Long Term	Medium Term	Short Term	Instantaneous
⁴ Service Class 1	0.4	0.5	0.7	0.9	1.1
⁴ Service Class 2	0.3	0.4	0.55	0.7	0.9
Biological	Use classes 1 & 2				

Thickness range (mm)	6 to 10	>10 to <18	18 to 25	>25 to 32
Avg. Dens. (kg/m ³)	≥ 650			

Watervapourtransmission according to EN 12572:2001	
Thickness (mm)	15
μ Dry	261
μ Wet	144

² Reaction to fire (see notes to table for field of application details and associated documentation references)		Minimum thickness	Class (excluding floorings) ^g	Class (Flooring) ^h
	Without an air gap behind the panel ^{abef}	9	D-s2,d0	D _{fi} ,s1
	With a closed or open air gap ≤ 22mm behind the panel ^{cef}	9	D-s2,d2	-
	Closed air gap behind the panel ^{def}	15	D-s2,d0	D _{fi} ,s1
	With an open air gap behind the panel ^{def}	18	D-s2,d0	D _{fi} ,s1
	Any end use ^{ef}	3	E	E _{fi}
a -Mounted without an air gap directly against class A1 or A2-s1, d0 products with minimum				

	<p>density 10kg/m³ or at least class D-s2, d2 products with minimum density 400 kg/m³.</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/m³.</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/m³.</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/m² 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>
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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 strength 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:

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