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DoP ref: **NP5DoPv6**

EN13986:2004 +A1:2015

2812

04

E1

P5

8mm to 38mm

Structural use in humid conditions

Essential characteristics	Performance								
	Thickness(mm)								
	>6 to 10	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40		18 T&G 400mm centres	22 T&G 600mm centres
<sup>1</sup> Characteristic Strength (N/mm <sup>2</sup> )									
- Bending $f_m$	15.0	15.0	13.3	11.7	10.0	8.3		13.3	11.7
- Compression $f_c$	12.7	12.7	11.8	10.3	9.8	8.5		11.8	10.3
- Tension $f_t$	9.4	9.4	8.5	7.4	6.6	5.6		8.5	7.4
- Panel Shear $f_v$	7.0	7.0	6.5	5.9	5.2	4.8		6.5	5.9
- Planar shear $f_r$	1.9	1.9	1.7	1.5	1.3	1.2		1.7	1.5
<sup>1</sup> Mean Stiffness (MOE) (N/mm <sup>2</sup> )									
- Tension $E_t$	2000	2000	1900	1800	1500	1400		1900	1800
- Compression $E_c$	2000	2000	1900	1800	1500	1400		1900	1800
- Bending $E_m$	3500	3500	3300	3000	2600	2400		3300	3000
- Panel Shear $G_v$	960	960	930	860	750	690		930	860
Punching Shear Characteristic strength under point load $F_{max,k}$ (kN) <i>(for floors and roofs)</i>	NPD	NPD	NPD	NPD	NPD	NPD		5.4	5.4
Punching Shear Mean stiffness under point load, $R_{mean}$ (N/mm) <i>(for floors and roofs)</i>	NPD	NPD	NPD	NPD	NPD	NPD		840	560
Racking resistance <i>(for walls)</i> Characteristic Strength $F_{Rd,max,k}$ (N)	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD
Racking resistance <i>(for walls)</i> Mean Stiffness $R_{mean}$ (N/mm)	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD

Soft Body Impact resistance Floor/roofs Walls	NPD	NPD	NPD	NPD	NPD	NPD		Impact Class 1 Pass Floor	Impact Class 1 Pass Floor
Embedment strength $f_h$ (N/mm <sup>2</sup> )	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD

<sup>2</sup> Reaction to fire  (see notes to table for field of application details and associated documentation references)		Minimum thickness	Class (excluding floorings) <sup>g</sup>	Class (Flooring) <sup>h</sup>
	Without an air gap behind the panel <sup>abef</sup>	9	D-s2,d0	D <sub>fi</sub> ,s1
	With a closed or open air gap ≤ 22mm behind the panel <sup>cef</sup>	9	D-s2,d2	-
	Closed air gap behind the panel <sup>def</sup>	15	D-s2,d0	D <sub>fi</sub> ,s1
	With an open air gap behind the panel <sup>def</sup>	18	D-s2,d0	D <sub>fi</sub> ,s1
	Any end use <sup>ef</sup>	3	E	E <sub>fl</sub>
	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> . 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. 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> . 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> . e -Veneered, phenol- and melamine-faced panels are included for class excl. floorings. 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. g -Class Provided for in Table 1 of the Annex to decision 2000/147/EC h -Class Provided for in Table 2 of the Annex to decision 2000/147/EC			

	>6 to 10	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40		18 T&G 400 centres	22 T&G 600 centres
Water vapour permeability $\mu$	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD
Release of formaldehyde	E1	E1	E1	E1	E1	E1		E1	E1
Release (content) of pentachlorophenol (PCP)	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm		≤5ppm	≤5ppm
Airborne sound insulation (surface mass) R (dB)	NPD	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	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	0.25
Thermal conductivity $\lambda$ (W/m.K)	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD
Air Permeability $V_0$ (m <sup>3</sup> /h)	NPD	NPD	NPD	NPD	NPD	NPD		NPD	NPD
<b>Durability</b>									
Internal bond (N/mm <sup>2</sup> )	0.45	0.45	0.45	0.40	0.35	0.30		0.45	0.40
Swelling in thickness (%)	13	11	10	10	10	9		10	10
Internal bond after cyclic test (N/mm <sup>2</sup> )	0.25	0.25	0.22	0.20	0.17	0.15		0.22	0.20
Swelling in thickness after cyclic test (%)	12	12	12	11	10	9		12	11
<sup>4</sup> Mechanical (Creep $k_{def}$ ) service class 1	2.25	2.25	2.25	2.25	2.25	2.25		2.25	2.25
<sup>4</sup> Mechanical (Creep $k_{def}$ ) service class 2	3	3	3	3	3	3		3	3

Mechanical (Duration of Load, $k_{mod}$ )	Action Mode				
	Permanent	Long Term	Medium Term	Short Term	Instantaneous
<sup>4</sup> Service Class 1	0.30	0.45	0.65	0.85	1.10
<sup>4</sup> Service Class 2	0.20	0.30	0.45	0.60	0.80
Biological	<b>Use classes 1 &amp; 2</b>				

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