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DoP ref: **NMDF.HDoPv5**

EN13986:2004 +A1:2015

04

E1

MDF.H

>4mm to 38mm

Non-Structural use in Humid conditions

Essential characteristics	Performance					
	>4 to 6	>6 to 9	>9 to 12	>12 to 19	>19 to 30	>30 to 45
Thickness (mm)						
<sup>1</sup> Water vapour permeability $\mu$	NPD	NPD	NPD	NPD	NPD	NPD
Release of formaldehyde	E1	E1	E1	E1	E1	E1
Release (content) of pentachlorophenol (PCP)	$\leq 5$ ppm	$\leq 5$ ppm	$\leq 5$ ppm	$\leq 5$ ppm	$\leq 5$ ppm	$\leq 5$ ppm
<sup>2</sup> Airborne sound insulation (surface mass) R (dB)	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
<sup>3</sup> Sound absorption Frequency range 1000Hz to 2000Hz ( $\alpha$ )	0.2	0.2	0.2	0.2	0.2	0.2
Thermal conductivity $\lambda$ (W/m.K)	NPD	NPD	NPD	NPD	NPD	NPD
<sup>4</sup> Air Permeability $V_0$ (m <sup>3</sup> /h)	NPD	NPD	NPD	NPD	NPD	NPD
Durability						
Internal bond (N/mm <sup>2</sup> )	0.70	0.80	0.80	0.75	0.75	0.70
Swelling in thickness (%)	18	12	10	8	7	7
Internal bond after cyclic test (N/mm <sup>2</sup> )	0.35	0.30	0.25	0.20	0.15	0.10
Swelling in thickness after cyclic test (%)	25	19	16	15	15	15
Biological	Use classes 1 & 2					

<sup>5</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>
	<b>Without an air gap behind the panel</b> <small>abef</small>	9	D-s2,d0	D <sub>fl</sub> ,s1
	<b>With a closed or open air gap ≤ 22mm behind the panel</b> <small>cef</small>	9	D-s2,d2	-
	<b>Closed air gap behind the panel</b> <small>def</small>	15	D-s2,d0	D <sub>fl</sub> ,s1
	<b>With an open air gap behind the panel</b> <small>def</small>	18	D-s2,d0	D <sub>fl</sub> ,s1
	<b>Any end use</b> <small>ef</small>	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 Table 9 of EN 13986:2004+A1

2 Calculated according to clause 5.10 of EN 13986:2004+A1

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

4 Taken from Table 11 of EN 13986:2004+A1

5 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 8 of EN 13986:2004+A1:2015 for wood-based panels installed according to CEN/TR 12872