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DoP ref: **NP4DoPv6**

EN13986:2004 +A1:2015

2812

04

E1

P4

10mm to 38mm

Structural use in dry conditions

| Essential characteristics | Performance | | | | | | |
|---|---------------|--------------|--------------|--------------|--------------|--|---------------------------------|
| | Thickness(mm) | | | | | | 18 T&G 400mm centres |
| | >10 to 13 | >13 to 20 | >20 to 25 | >25 to 32 | >32 to 40 | | |
| ¹ Characteristic Strength (N/mm ²) | | | | | | | |
| - Bending f_m | 14.2 | 12.5 | 10.8 | 9.2 | 7.5 | | 12.5 |
| - Compression f_c | 12 | 11.1 | 9.6 | 9.0 | 7.6 | | 11.1 |
| - Tension f_t | 8.9 | 7.9 | 6.9 | 6.1 | 5.0 | | 7.9 |
| - Panel Shear f_v | 6.6 | 6.1 | 5.5 | 4.8 | 4.4 | | 6.1 |
| - Planar shear f_r | 1.8 | 1.6 | 1.4 | 1.2 | 1.1 | | 1.6 |
| ¹ Mean Stiffness (MOE) (N/mm ²) | | | | | | | |
| - Tension E_t | 1800 | 1700 | 1600 | 1400 | 1200 | | 1700 |
| - Compression E_c | 1800 | 1700 | 1600 | 1400 | 1200 | | 1700 |
| - Bending E_m | 3200 | 2900 | 2700 | 2400 | 2100 | | 2900 |
| - Panel Shear G_v | 860 | 830 | 770 | 680 | 600 | | 830 |
| Punching Shear Characteristic strength under point load $F_{max,k}$ (kN) <i>(for floors and roofs)</i> | NPD | NPD | NPD | NPD | NPD | | 5.4 |
| Punching Shear Mean stiffness under point load, R_{mean} (N/mm) <i>(for floors and roofs)</i> | NPD | NPD | NPD | NPD | NPD | | 840 |
| Racking resistance <i>(for walls)</i> Characteristic Strength $F_{Rd,max,k}$ (N) | NPD | NPD | NPD | NPD | NPD | | NPD |
| Racking resistance <i>(for walls)</i> Mean Stiffness R_{mean} (N/mm) | NPD | NPD | NPD | NPD | NPD | | NPD |
| Soft Body Impact resistance Floor/roofs Walls | NPD | NPD | NPD | NPD | NPD | | Impact Class 1 Pass Floor |
| Embedment strength f_h (N/mm ²) | NPD | NPD | NPD | NPD | NPD | | NPD |

| 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 _{fl} |

a -Mounted without an air gap directly against class A1 or A2-s1, d0 products with minimum density 10kg/m³ or at least class D-s2, d2 products with minimum density 400 kg/m³.
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/m³.
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.
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/m² 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

| | >10 to 13 | >13 to 20 | >20 to 25 | >25 to 32 | >32 to 40 | | | | 18 T&G 400 centres | | |
|--|--------------------|-----------|-----------|-----------|-------------|------------|--|--|--------------------|--|--|
| Water vapour permeability μ | NPD | NPD | NPD | NPD | NPD | | | | NPD | | |
| Release of formaldehyde | E1 | E1 | E1 | E1 | E1 | | | | E1 | | |
| Release (content) of pentachlorophenol (PCP) | ≤5ppm | ≤5ppm | ≤5ppm | ≤5ppm | ≤5ppm | | | | ≤5ppm | | |
| Airborne sound insulation (surface mass) R (dB) | NPD | NPD | NPD | NPD | NPD | | | | NPD | | |
| ³ Sound absorption Frequency range 250Hz to 500Hz (α) | 0.1 | 0.1 | 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 | 0.25 | | | | 0.25 | | |
| Thermal conductivity λ (W/m.K) | NPD | NPD | NPD | NPD | NPD | | | | NPD | | |
| Air Permeability V_0 (m³/h) | NPD | NPD | NPD | NPD | NPD | | | | NPD | | |
| Durability | | | | | | | | | | | |
| Internal bond (N/mm²) | 0.45 | 0.45 | 0.40 | 0.35 | 0.30 | | | | 0.45 | | |
| Swelling in thickness (%) | 11 | 10 | 10 | 10 | 9 | | | | 10 | | |
| ⁴ Mechanical (Creep k_{def}) service class 1 | 2.25 | 2.25 | 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 | 0.30 | | 0.45 | | 0.65 | 0.85 | | | 1.10 | | |
| Biological | Use class 1 | | | | | | | | | | |

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