



NORBORD Europe Ltd
 Station Road
 Cowie
 Stirling
 Scotland
 FK7 7BQ

DoP ref: **NP4LPDoPv5**

EN13986:2004 +A1:2015

2812

04

E1

P4

10mm to 38mm

Structural use in dry conditions

Essential characteristics	Performance
	Thickness(mm)
	18mm 1200x0300mm T&G 2 edges
¹ Characteristic Strength (N/mm ²)	
- Bending f_m	12.5
- Compression f_c	11.1
- Tension f_t	7.9
- Panel Shear f_v	6.1
- Planar shear f_r	1.6
¹ Mean Stiffness (MOE) (N/mm ²)	
- Tension E_t	1700
- Compression E_c	1700
- Bending E_m	2900
- Panel Shear G_v	830
Punching Shear Characteristic strength under point load F_{max,k} (kN) <i>(for floors and roofs)</i>	NPD
Punching Shear Mean stiffness under point load, R_{mean} (N/mm) <i>(for floors and roofs)</i>	NPD
Racking resistance (for walls) Characteristic Strength F_{Rd,max,k} (N)	NPD
Racking resistance (for walls) Mean Stiffness R_{mean} (N/mm)	NPD
Soft Body Impact resistance Floor/roofs Walls.	NPD
Embedment Strength f_h (N/mm²)	NPD

²Reaction 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/m ³ or at least class D-s2, d2 products with minimum density 400 kg/m ³ . 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 ³ . 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 ³ . 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 ² 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			

Essential characteristics	Performance				
	Thickness(mm)				
	18mm 1200x0300mm T&G 2 edges				
Water vapour permeability μ	NPD				
Release of formaldehyde	E1				
Release (content) of pentachlorophenol (PCP)	≤5ppm				
Airborne sound insulation (surface mass) R (dB)	NPD				
³ Sound absorption Frequency range 250Hz to 500Hz (α)	0.1				
³ Sound absorption Frequency range 1000Hz to 2000Hz (α)	0.25				
Thermal conductivity λ (W/m.K)	NPD				
Air Permeability V ₀ (m ³ /h)	NPD				
Durability					
Internal bond (N/mm ²)	0.35				
Swelling in thickness (%)	15				
⁴ Mechanical (creep k _{def}) Service class 1	2.25				
Mechanical (duration of load k _{mod})	Action Mode				
	Permanent	Long Term	Medium Term	Short Term	Instantaneous
Service Class 1	0.30	0.45	0.65	0.85	1.1
Biological	Use classes 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