

**DECLARATION OF PERFORMANCE**  
DoP Reference Number: - **NP4DoPv6**  
**Norbord Europe Ltd**  
**Station Road**  
**Cowie**  
**Stirling**  
**FK7 7BQ**

Unique Identification code of the product type*	Intended Use	Systems of AVCP	Notified Body	Harmonised standard
P4 >10mm to 40mm*	Internal use as structural components in dry conditions	2+	2812	EN13986:2004 +A1:2015

\*The unique identification code of the product type is a combination of the technical class and the individual product's nominal thickness

**Declared performance (covering a range of product-types P4 >10mm to 40mm\*)**

Essential characteristics	Performance									
	Thickness(mm)									
	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40			18 T&G 400mm centres		
<sup>1</sup> Characteristic Strength (N/mm <sup>2</sup> )										
- 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		
<sup>1</sup> Mean Stiffness (MOE) (N/mm <sup>2</sup> )										
- 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) (for floors and roofs)	NPD	NPD	NPD	NPD	NPD			5.4		
Punching Shear Mean stiffness under point load, $R_{mean}$ (N/mm) (for floors and roofs)	NPD	NPD	NPD	NPD	NPD			840		
Racking resistance (for walls) Characteristic Strength $F_{Rd,max,k}$ (N)	NPD	NPD	NPD	NPD	NPD			NPD		
Racking resistance (for walls) 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 <sup>2</sup> )	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>
	<b>Without an air gap behind the panel</b> <sup>abef</sup>	9	D-s2,d0	D <sub>fi</sub> ,s1
	<b>With a closed or open air gap ≤ 22mm behind the panel</b> <sup>cef</sup>	9	D-s2,d2	-
	<b>Closed air gap behind the panel</b> <sup>def</sup>	15	D-s2,d0	D <sub>fi</sub> ,s1
	<b>With an open air gap behind the panel</b> <sup>def</sup>	18	D-s2,d0	D <sub>fi</sub> ,s1
	<b>Any end use</b> <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				

	>10 to 13	>13 to 20	>20 to 25	>25 to 32	>32 to 40			18 T&G 400 centres		
<b>Water vapour permeability <math>\mu</math></b>	NPD	NPD	NPD	NPD	NPD			NPD		
<b>Release of formaldehyde</b>	E1	E1	E1	E1	E1			E1		
<b>Release (content) of pentachlorophenol (PCP)</b>	≤5ppm	≤5ppm	≤5ppm	≤5ppm	≤5ppm			≤5ppm		
<b>Airborne sound insulation (surface mass) R (dB)</b>	NPD	NPD	NPD	NPD	NPD			NPD		
<sup>3</sup> <b>Sound absorption</b> Frequency range 250Hz to 500Hz ( $\alpha$ )	0.1	0.1	0.1	0.1	0.1			0.1		
<sup>3</sup> <b>Sound absorption</b> Frequency range 1000Hz to 2000Hz ( $\alpha$ )	0.25	0.25	0.25	0.25	0.25			0.25		
<b>Thermal conductivity <math>\lambda</math> (W/m.K)</b>	NPD	NPD	NPD	NPD	NPD			NPD		
<b>Air Permeability <math>V_0</math> (m<sup>3</sup>/h)</b>	NPD	NPD	NPD	NPD	NPD			NPD		
<b>Durability</b>										
<b>Internal bond (N/mm<sup>2</sup>)</b>	0.45	0.45	0.40	0.35	0.30			0.45		
<b>Swelling in thickness (%)</b>	11	10	10	10	9			10		
<sup>4</sup> <b>Mechanical</b> (Creep $k_{def}$ ) <b>service class 1</b>	2.25	2.25	2.25	2.25	2.25			2.25		
<b>Mechanical</b> (Duration of Load, $k_{mod}$ )	Action Mode									
	Permanent		Long Term		Medium Term	Short Term		Instantaneous		
<sup>4</sup> <b>Service Class 1</b>	0.30		0.45		0.65	0.85		1.10		
<b>Biological</b>	<b>Use class 1</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

The performance of the product identified is in conformity with the declared performance.

This declaration of performance is issued in accordance with regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

John Robb

At: - Cowie, Scotland

On: - 07-12-2021

Two handwritten signatures in blue ink, one on the left and one on the right, both appearing to be the name 'John Robb'.