# DECLARATION OF PERFORMANCE

DoP Reference Number: - NP5DoPv6

Norbord Europe Ltd
Station Road
Cowie
Stirling
FK7 7BQ

## Unique Identification code of the product type*

<table>
<thead>
<tr>
<th>P5 &gt;6mm to 40mm*</th>
<th>Intended Use</th>
<th>Systems of AVCP</th>
<th>Notified Body</th>
<th>Harmonised standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>Internal use as structural components in humid conditions</td>
<td>2+</td>
<td>2812</td>
<td>EN13986:2004 +A1:2015</td>
</tr>
</tbody>
</table>

*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 P5 >6mm to 40mm*)

### Essential characteristics

<table>
<thead>
<tr>
<th>Thickness(mm)</th>
<th>Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;6 to 10</td>
<td>&gt;10 to 13</td>
</tr>
</tbody>
</table>

#### 1Characteristic Strength (N/mm²)

- **Bending $f_b$**: 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 $f_p$**: 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

#### 2Mean Stiffness (MOE) (N/mm²)

- **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 $G_p$**: 960 960 930 860 750 690 930 860

#### Punching Shear Characteristic strength under point load $F_{max,k}$ (kN) (for floors and roofs)

- NPD  NPD  NPD  NPD  NPD  NPD  5.4 5.4

#### Punching Shear Mean stiffness under point load, $R_{mean}$ (N/mm) (for floors and roofs)

- NPD  NPD  NPD  NPD  NPD  NPD  840 560

#### Racking resistance (for walls) Characteristic Strength $F_{Ra,\text{max},k}$ (N)

- NPD  NPD  NPD  NPD  NPD  NPD  NPD  NPD

#### Racking resistance (for walls) 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/mm2)

- NPD  NPD  NPD  NPD  NPD  NPD  NPD  NPD

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NP5DoPv6
Reaction to fire
(see notes to table for field of application details and associated documentation references)

- Without an air gap behind the panel\(^{a,b,f}\)
  - Class (excluding floorings)\(^{h}\):
    - 9: D-s2,d0
    - 9: D-s2,d2
- With a closed or open air gap ≤ 22mm behind the panel\(^{d,e}\)
  - Class (Flooring)\(^{h}\):
    - 15: D-s2,d0
    - 18: D-s2,d0
- Closed air gap behind the panel\(^{d,e}\)
  - Class (Flooring)\(^{h}\):
    - 15: D-s2,d0
    - 18: D-s2,d0
- With an open air gap behind the panel\(^{d,e}\)
  - Class (Flooring)\(^{h}\):
    - 15: D-s2,d0
    - 18: D-s2,d0
- Any end use\(^{a}\)
  - Class (Flooring)\(^{h}\):
    - 3: E
    - 3: E

\(^{a}\) - 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

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<table>
<thead>
<tr>
<th></th>
<th>&gt;6 to 10</th>
<th>&gt;10 to 13</th>
<th>&gt;13 to 20</th>
<th>&gt;20 to 25</th>
<th>&gt;25 to 32</th>
<th>&gt;32 to 40</th>
<th>18 T&amp;G 400 centres</th>
<th>22 T&amp;G 600 centres</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water vapour permeability (\mu)</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
</tr>
<tr>
<td>Release of formaldehyde</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
<td>E1</td>
</tr>
<tr>
<td>Release (content) of pentachlorophenol (PCP)</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
<td>≤5ppm</td>
</tr>
<tr>
<td>Airborne sound insulation (surface mass) (R) (dB)</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
</tr>
<tr>
<td>Sound absorption Frequency range 250Hz to 500Hz ((\alpha))</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
<td>0.1</td>
</tr>
<tr>
<td>Sound absorption Frequency range 1000Hz to 2000Hz ((\alpha))</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
<td>0.25</td>
</tr>
<tr>
<td>Thermal conductivity (\lambda) (W/m.K)</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
</tr>
<tr>
<td>Air Permeability (V_0) (m(^3)/h)</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
</tr>
</tbody>
</table>

**Durability**

<p>| Internal bond (N/mm(^2)) | 0.45 | 0.45 | 0.45 | 0.40 | 0.35 | 0.30 | 0.45 | 0.40 |
| Internal bond after cyclic test (N/mm(^2)) | 13 | 11 | 10 | 10 | 10 | 9 | 10 | 10 |
| Swelling in thickness (%) | 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 |
| Mechanical (Creep (k_{sa})) service class 1 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 | 2.25 |
| Mechanical (Creep (k_{sa})) service class 2 | 3 | 3 | 3 | 3 | 3 | 3 | 3 | 3 |</p>
<table>
<thead>
<tr>
<th>Mechanical (Duration of Load, $k_{mod}$)</th>
<th>Action Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Permanent</td>
</tr>
<tr>
<td>°Service Class 1</td>
<td>0.30</td>
</tr>
<tr>
<td>°Service Class 2</td>
<td>0.20</td>
</tr>
<tr>
<td>Biological</td>
<td>Use classes 1 &amp; 2</td>
</tr>
</tbody>
</table>

NOTES TO TABLE

1 Taken from EN 12369-1:2001


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