### Essential characteristics

#### Performance

<table>
<thead>
<tr>
<th>Thickness range (mm)</th>
<th>6 to 10</th>
<th>&gt;10 to &lt;18</th>
<th>18 to 25</th>
<th>&gt;25 to 32</th>
<th>&gt;32 to 40</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>90</td>
<td>0</td>
<td>90</td>
<td>0</td>
</tr>
</tbody>
</table>

#### Characteristic Strength (N/mm²):

- **Bending** $f_b$:
  - 18.0
  - 9.0
  - 16.4
  - 8.2
  - 14.8
  - 7.4
  - NPD
  - NPD
  - NPD
  - NPD

- **Compression** $f_c$:
  - 15.9
  - 12.9
  - 15.4
  - 12.7
  - 14.8
  - 12.4
  - NPD
  - NPD
  - NPD
  - NPD

- **Tension** $f_t$:
  - 9.9
  - 7.2
  - 9.4
  - 7.0
  - 9.0
  - 6.8
  - NPD
  - NPD
  - NPD
  - NPD

- **Panel Shear** $f_v$:
  - 6.8
  - 6.8
  - 6.8
  - NPD
  - NPD

- **Planar shear** $f_r$:
  - 1.0
  - 1.0
  - 1.0
  - NPD
  - PD

#### Mean Stiffness (MOE) (N/mm²):

- **Bending** $E_m$:
  - 3800
  - 3000
  - 3800
  - 3000
  - 3800
  - 3000
  - NPD
  - NPD
  - NPD
  - NPD

- **Compression** $E_c$:
  - 3800
  - 3000
  - 3800
  - 3000
  - 3800
  - 3000
  - NPD
  - NPD
  - NPD
  - NPD

- **Panel Shear** $G_v$:
  - 1080
  - 1080
  - 1080
  - NPD
  - NPD

- **Planar Shear** $G_r$:
  - 50
  - 50
  - 50
  - NPD
  - NPD

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

- for floors and roofs
  - NPD
  - NPD
  - NPD
  - NPD
  - NPD

#### Punching Shear, Mean stiffness under point load, $R$ (N/mm²)

- for floors and roofs
  - NPD
  - NPD
  - NPD
  - NPD
  - NPD

#### Characteristic serviceability strength under point load $F_{Serv,k}$ (kN)

- for floors and roofs
  - NPD
  - NPD
  - NPD
  - NPD
  - NPD

#### Soft Body Impact resistance

- (Floor/roofs/Walls)
  - NPD
  - NPD
  - NPD
  - NPD
  - NPD

#### Racking resistance

- Characteristic Strength $F_{Rd,max,k}$ (N)
  - for walls
    - NPD
    - NPD
    - NPD
    - NPD
    - NPD

- Mean Stiffness $R_{mean}$ (N/mm)
  - for walls
    - NPD
    - NPD
    - NPD
    - NPD
    - NPD

#### Embedment strength $f_e$ (N/mm²)

- Calculation according to EN 1995-1-1 (8.22)

---

Norbord NV  
Eikelaarstraat 33  
3600 Genk  
Belgium  

DoP ref: **NGOSB2DoPv5**  
1161  
08  
1E1  
OSB/2 (EN300) 6mm to 32mm  
Sterling OSB2 zero  
Structural use in dry conditions
<table>
<thead>
<tr>
<th>Property</th>
<th>NPD</th>
<th>NPD</th>
<th>NPD</th>
<th>NPD</th>
<th>NPD</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Water vapour permeability ( \mu )</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release of formaldehyde</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>
</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>
</tr>
<tr>
<td>² 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>
</tr>
<tr>
<td>³ 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>
</tr>
<tr>
<td>Thermal conductivity ( \lambda ) (W/m.K)</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
<td>0.13</td>
</tr>
<tr>
<td>Air Permeability ( (\Delta p=50Pa) ) according to EN 12114, ( V_0 ) (m³/h m²)</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
<td>NPD</td>
</tr>
<tr>
<td><strong>Durability</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Internal bond (N/mm²)</td>
<td>0.34</td>
<td>0.32</td>
<td>0.30</td>
<td>0.29</td>
<td>0.26</td>
</tr>
<tr>
<td>Swelling in thickness (%)</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>⁴ Mechanical, (Creep ( k_{def} )) service class 1</td>
<td>2.25</td>
<td>2.25</td>
<td>2.25</td>
<td>NPD</td>
<td>NPD</td>
</tr>
<tr>
<td>Mechanical (Duration of load ( k_{mod} ))</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Action Mode</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Permanent</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Long Term</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Medium Term</td>
<td></td>
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<tr>
<td>Short Term</td>
<td></td>
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</tr>
<tr>
<td>Instantaneous</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Biological</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use class 1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thickness range (mm)</th>
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<th>&gt;10 to &lt;18</th>
<th>18 to 25</th>
<th>&gt;25 to 32</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avg. Density (kg/m³)</td>
<td>&gt; = 600</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Reaction to fire</th>
<th>Minimum thickness</th>
<th>Class (excluding floorings)⁵</th>
<th>Class (Flooring)⁶</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without an air gap</td>
<td>9</td>
<td>D-s2,d0</td>
<td>Dₙ,s1</td>
</tr>
<tr>
<td>behind the panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With a closed or open</td>
<td>9</td>
<td>D-s2,d2</td>
<td>-</td>
</tr>
<tr>
<td>air gap ≤ 22mm</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>behind the panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Closed air gap behind</td>
<td>15</td>
<td>D-s2,d0</td>
<td>Dₙ,s1</td>
</tr>
<tr>
<td>the panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>With an open air gap</td>
<td>18</td>
<td>D-s2,d0</td>
<td>Dₙ,s1</td>
</tr>
<tr>
<td>behind the panel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any end use of</td>
<td>3</td>
<td>E</td>
<td>Eₙ</td>
</tr>
</tbody>
</table>

² Reaction to fire (see notes to table for field of application details and associated documentation references)

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.
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

5-Embedment strength can be calculated according to EN 1995-1-1 2004+A2:2014, by taking the OSB panel thickness (t) and the diameter of the used fastener (d) in account:

\[ f_{h,k} = 65d^{-0.7} t^{0.1} \]