### Test Report

**Client:** Timberwood Panels Pty Ltd  
76-106 National Blvd  
Campbellfield VIC 3061

**Test Number:** 16-004836  
**Issue Date:** 03/10/2016  
**Print Date:** 4/10/2016

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**Sample Description**

Clients Ref: “Fire rated medium density fibreboard (FR MDF)”

- **Rigid panel**
- **Colour:** Brown and Black
- **Nominal Composition:** Medium density fibreboard
- **Nominal Mass per Unit Area/Density:** 770kg/m³

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**Method of Test for Heat and Smoke Release Rates for Materials and Products using an Oxygen Consumption Calorimeter**

<table>
<thead>
<tr>
<th>Specimen</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Heat Release Rate</td>
<td>26.9</td>
<td>28.9</td>
<td>29.2</td>
<td>28.3 kW/m²</td>
</tr>
<tr>
<td>Average Specific extinction area</td>
<td>73.8</td>
<td>18.8</td>
<td>15.0</td>
<td>35.9 m²/kg</td>
</tr>
</tbody>
</table>

*(according to Specification C1.10 of the Building Code of Australia)*

**Test orientation: Horizontal**

<table>
<thead>
<tr>
<th>Specimen</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irradiance</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50 kW/m²</td>
</tr>
<tr>
<td>Exhaust flow rate</td>
<td>24</td>
<td>24</td>
<td>24</td>
<td>24 L/sec</td>
</tr>
<tr>
<td>Time to sustained flaming</td>
<td>42</td>
<td>30</td>
<td>37</td>
<td>36 sec</td>
</tr>
<tr>
<td>Test duration</td>
<td>340</td>
<td>300</td>
<td>305</td>
<td>315 sec</td>
</tr>
<tr>
<td>Peak heat release after ignition</td>
<td>82.6</td>
<td>98.0</td>
<td>88.3</td>
<td>89.6 kW/m²</td>
</tr>
<tr>
<td>Average heat at 60 s</td>
<td>67.6</td>
<td>73.3</td>
<td>70.1</td>
<td>70.3 kW/m²</td>
</tr>
<tr>
<td>Average heat at 180 s</td>
<td>35.6</td>
<td>39.1</td>
<td>36.9</td>
<td>37.2 kW/m²</td>
</tr>
<tr>
<td>Average heat at 300 s</td>
<td>26.6</td>
<td>28.9</td>
<td>29.2</td>
<td>28.2 kW/m²</td>
</tr>
<tr>
<td>Total heat released</td>
<td>8.1</td>
<td>7.8</td>
<td>7.9</td>
<td>7.9 MJ/m²</td>
</tr>
<tr>
<td>Average effective heat of combustion</td>
<td>2.5</td>
<td>3.0</td>
<td>2.9</td>
<td>2.8 MJ/kg</td>
</tr>
</tbody>
</table>
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Initial thickness 12.0 12.0 12.0 12.0 mm
Initial mass 99.4 95.8 95.3 96.8 g
Mass remaining 72.2 73.3 72.3 72.6 g
Mass percentage pyrolysed 27.3 23.4 24.1 25.0 %
Mass loss 27.2 22.5 23.0 24.2 g
Average rate of mass loss 10.7 9.7 9.9 10.1 g/m².s

These test results relate only to the behaviour of the product under the conditions of the test, they are not intended to be the sole criterion for assessment of performance under real fire conditions.

The results of these fire tests may be used to directly assess fire hazard, but it should be recognised that a single test method will not provide a full assessment of the fire hazard under all fire conditions.

Tests were conducted with a wire grid placed over the sample during testing. This was done to contain intumescenting sample within the sample holder.
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Specimen: 1

Heat release rate (kW/m²)

Effective heat of combustion (MJ/kg)

Smoke production rate ([m²/s])

Specific extinction area (m²/kg)

42318  14810

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- Chemical Testing: Accreditation No. 983
- Mechanical Testing: Accreditation No. 985
- Performance & Approvals Testing: Accreditation No. 1356

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Mass loss rate (g/s)

Total heat released (MJ/m²)

Mass (g)

Rate of smoke release ([m²/s]/m²)

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Specimen: 2

Heat release rate (kW/m²)

Effective heat of combustion (MJ/kg)

Smoke production rate ([m²/s])

Specific extinction area (m²/kg)

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Mass loss rate (g/s)

Total heat released (MJ/m²)

Mass (g)

Rate of smoke release (m²/s/m²)

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**Specimen:** 3

**Heat release rate (kW/m²) vs Time (s)**

**Effective heat of combustion (MJ/kg) vs Time (s)**

**Smoke production rate (m³/s) vs Time (s)**

**Specific extinction area (m²/kg) vs Time (s)**

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Mass loss rate (g/s)

Total heat released (MJ/m²)

Mass (g)

Rate of smoke release (m²/s)/m²

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