F27 Seasoned Australian Hardwood

PRODUCT INSTALLATION REQUIREMENTS
Performance Statement

Where used and installed in accordance with the following requirements, Boral F27 seasoned hardwood will satisfy the performance requirements of the National Construction Code – Building Code of Australia (NCC – BCA), and AS 1684.2 and AS 1684.3 – Residential timber framed construction. See Design and Installation requirements for sizes and span tables.

Product Description

Intended use
Boral F27 seasoned hardwood is suitable for use in buildings in internal applications and for some species, in external above ground weather exposed applications. See table below to determine which species qualify for above ground durability class.

Moisture Content (MC)
Boral F27 seasoned hardwood will be supplied with a moisture content in the range of 10 to 15%.

Product Profile
Boral F27 seasoned hardwood will be supplied with planer dressed faces and edges. Small pencil round machined to arrises. Structurally graded with allowances applicable in line with AS2082.

At the time of supply, Boral F27 seasoned hardwood may contain minor surface checks that result from the drying process. Where exposed to direct sunlight, these can be expected to become more predominant. See Storage and Weather Protection on next page.

Product Identification
Products supplied will be identified on accompanying invoices and delivery dockets as well as by ink branding on the timber.

Stress Grades
Boral F27 seasoned hardwood is visually stress graded in accordance with AS 2082 – Timber – Hardwood – Visually stress graded for structural purposes, to achieve F27 stress grade. It can also be specified and ordered as Appearance Grade in accordance with AS 2082.

Sapwood
Boral F27 seasoned hardwood may contain limited amounts of sapwood as permitted by AS 2082.

Timber Species and Properties

The timber species supplied by for Boral F27 seasoned hardwood may comprise the following species: Blackbutt, Grey Gum, Ironbark, Silvertop Stringybark And Tallowwood, either as single species or mixed species, pending availability.

Where single species are required, this will need to be specified and ordered.

Some basic properties for these species are given in the table below:

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>BLACKBUTT</th>
<th>GREY GUM</th>
<th>IRONBARK</th>
<th>SILVERTOP STRINGYBARK</th>
<th>TALLOWWOOD</th>
</tr>
</thead>
<tbody>
<tr>
<td>STRENGTH GROUP</td>
<td>S2</td>
<td>S2</td>
<td>S2</td>
<td>S2</td>
<td>S2</td>
</tr>
<tr>
<td>JOINT GROUP</td>
<td>JD2</td>
<td>JD1</td>
<td>JD1</td>
<td>JD2</td>
<td>JD1</td>
</tr>
<tr>
<td>DENSITY (12%MC) (KG/M^3)</td>
<td>900</td>
<td>1100</td>
<td>1100</td>
<td>860</td>
<td>1000</td>
</tr>
<tr>
<td>UNIT TANGENTIAL MOVEMENT (UTM)</td>
<td>0.37</td>
<td>-</td>
<td>0.37</td>
<td>0.36</td>
<td>0.37</td>
</tr>
<tr>
<td>IN-GROUND DURABILITY CLASS</td>
<td>Class 2</td>
<td>Class 2</td>
<td>Class 1</td>
<td>Class 3</td>
<td>Class 1</td>
</tr>
<tr>
<td>ABOVE GROUND DURABILITY CLASS</td>
<td>Class 1</td>
<td>Class 1</td>
<td>Class 1</td>
<td>Class 3</td>
<td>Class 1</td>
</tr>
<tr>
<td>BUSHFIRE RESISTANT (AS3959)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>TERMITE RESISTANT (AS3660.1 AND AS5604)</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>LYCTID SUSCEPTIBLE (AS5604)</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Sizes and Tolerances
Boral F27 seasoned hardwood is available in the following cross-sections and lengths.

At the time of manufacture (machining), Boral F27 seasoned hardwood will be produced within the following X-section tolerances:

- Depth: -1 mm, +2 mm
- Breadth: -1 mm, +2 mm

As timber equilibrates in service some dimensional changes will occur and should be allowed for.

Packaging
Packs of Boral F27 seasoned hardwood will be supplied on gluts, covered with plastic and strapped.

<table>
<thead>
<tr>
<th>Width/Depth (mm)</th>
<th>Thickness (mm)</th>
<th>Readily Available Max Length (mm)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td></td>
<td>All sizes readily available in lengths to 6.0m</td>
</tr>
<tr>
<td>90</td>
<td>35</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>140</td>
<td></td>
<td></td>
</tr>
<tr>
<td>190</td>
<td></td>
<td></td>
</tr>
<tr>
<td>240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>290</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Longer lengths are available in nail plated sections. Nail plated members are not suitable for weather exposed applications (defined by AS 1684.2/3 Appendix B).

Design & Installation

Design
Boral F27 seasoned hardwood is supplied in finished dressed dimensions. AS 1684.2 and AS 1684.3, which are primary referenced documents under the NCC-BCA, and therefore ‘deemed to satisfy’, include span tables for the seasoned sizes and stress grade F27.

For applications that fall outside the scope and provisions of AS 1684, Boral F27 seasoned hardwood should be engineer designed, constructed and certified in accordance with AS 1720.1 – Timber Structures Code.

Durability and Preservative Treatment

Construction in Bushfire Prone Areas

Termite Management
Termite management of timber structures shall be in accordance with the NCC-BCA and AS 3660.1 – Termite management.

Installation and Building Practice
For residential construction, Boral F27 seasoned hardwood shall be installed in accordance with the requirements of AS 1684.2 and AS 1684.3 with respect to building practice, housing, notching, member support, connections, bracing and tie-down.

Moisture Movement
Boral F27 seasoned hardwood is supplied in the MC range of 10 to 15%. For most applications, little additional moisture movement (shrinkage/expansion) should result.

Where used in some environments however, moisture movement can be expected. For example:

- In internal applications in hot dry inland areas and in air-conditioned buildings, moisture content in the timber could get to as low as 8% and in non-conditioned hot humid tropical locations, as high as 16%.
- Similarly, in weather exposed applications, moisture contents may range from around 10 to up to 18%, depending upon prevailing prolonged weather exposure.

The wider/deeper the timber section, the greater moisture movement change will be and where required, due allowance should be made for potential movement.

Example: For a species with a UTM of 0.37, a 190 mm wide board could be expected to expand or shrink approximately 0.37x190/100 = 0.7 mm per 1% change in moisture content. For a 5% change in MC = 3.5 mm

Storage
Prior to installation, Boral F27 seasoned hardwood should be stored in a dry environment free from direct exposure to all weather conditions.

Once the installation is complete, a suitable finish should be applied which will reduce movement from moisture uptake and loss and will also reduce the effects of weathering. Dark coloured paints and stains should be avoided as they heat timber to elevated temperatures which cause greater loss of moisture and subsequent shrinkage and checking. Decay is also more active at higher temperatures. End grain and surfaces within joints should be sealed with an oil based primer, stain or water repellent to maximise service life. Application and maintenance of finishes should not be considered as a substitute for ensuring that the inherent durability (natural or by treatment) of the underlying
timber is appropriate to the service life required for the applicable hazard level. Finishes do not provide a complete moisture seal, but a suitable finish will reduce movement from moisture uptake and loss and will also reduce the effects of weathering.

**Weather Protection, Finishing and Maintenance**

Timber finishes are constantly being improved and new options developed. Check with your reseller or manufacturer for up-to-date details. https://www.woodsolutions.com.au/articles/timber-finishes-exterior

**Tannin Stains**

All hardwoods contain extractives such as tannin. When subjected to moisture and wetness, the tannins in hardwood can become mobilised and leach out of the timber which can result in unwanted dark staining occurring on surfaces impacted by the leachate.

Some species such as blackbutt have been reported to be less problematic than others but the best way to try and minimise leaching of tannins is to protect the timber from moisture by priming it all round as given above, including joints, notches, holes etc. The use of hot dipped galvanised or stainless steel fasteners in weather exposed applications will also minimise iron tannate staining.

**Safe Working**

Working with timber produces dust particles. Protection of the eyes, nose, mouth and hearing when sanding, sawing and planing is highly recommended. Refer to tool manufacturers for safe working recommendations for particular items of equipment.

A material safety data sheet (MSDS) for Boral F27 seasoned hardwood can be accessed at https://www.boral.com.au/timber

**Disposal of Offcuts and Waste**

For any treated timber, do not burn offcuts or sawdust. Preservative treated offcuts and sawdust should be disposed of by approved local authority methods.