

## Tasmanian Oak: *Eucalyptus delegatensis*, *E. obliqua* & *E. regnans*

Other common names: Australian Ash

**The Timber** Warm, dense and resilient, Tasmanian Oak is the preferred hardwood for a wide range of applications. It works extremely well and produces an excellent finish. It can be used in all forms of construction as scantlings, panelling and flooring, and can be glue-laminated to cover long spans. Veneers, plywood and engineered products are also available. It is also a popular furniture timber, and eucalypt fibre is sought after for reconstituted board and the production of high quality paper.

Tasmanian Oak is light in colour, varying from straw to reddish brown with intermediate shades of cream to pink. It is recognised for its excellent staining qualities, which allow ready matching with other timbers, finishes or furnishings.

**The Resource** Tasmanian Oak is the name used for three almost identical species of eucalypt hardwoods that are normally marketed collectively. *E. delegatensis* grows at higher altitudes, while *E. regnans* is found in wetter sites. *E. obliqua* has a wide distribution, occurring in wet forests but also extending into drier areas. The name Tasmanian Oak was originally used by early European timber workers who believed the eucalypts showed the same strength as English Oak.

Eucalypts are light demanding and grow best where they are not overshadowed. Regeneration occurs after fire, and seedlings establish best on bare mineral soil in the absence of leaf litter. In Tasmania, eucalypts may live for 400 years or more and regularly attain a height of 70m; some individuals have been recorded as reaching 100m. Mature trees may be 3-4m or more in diameter.

Over 850,000 hectares of eucalypt forest on public land are managed for sustainable multiple uses that include timber production, tourism, recreation and conservation. This includes 50,000 hectares of eucalypt plantation. There are also 940,000 hectares of eucalypt forest on private property of which over 100,000 hectares is eucalypt plantations. More than 2.5 million hectares of land in Tasmania is in secure reserves in which logging is not permitted. These reserves include 45% of the forest area of the state. Approximately 450,000m<sup>3</sup> of logs are sawn each year.





### Tasmanian Oak properties:

<b>Colour</b>	Generally straw to light, reddish brown.
<b>Grain</b>	Grain is usually straight, open and even. It is occasionally coarse-grained or fiddlebacked. Growth rings are visible and usually conspicuous.
<b>Texture</b>	Uniform and smooth.
<b>Durability</b>	In-ground contact: Class 4. Outside above ground: Class 3. Termite resistance of heartwood: Not resistant. Refer to AS 5604-2005 Timber - Natural durability ratings. For exterior applications, it should be painted or coated.
<b>Lyctid susceptibility</b>	Sapwood is generally susceptible. Tasmanian Oak is usually sold free of sapwood.
<b>Sizes</b>	Dressed seasoned timber 40 to 285mm wide by 12 to 40mm thick. Undressed seasoned timber 50 to 300mm wide by 19 to 50 mm thick. Lengths up to 5400mm long are available, with the bulk of production between 2700 and 4200mm long.
<b>Density</b>	Approximately 700kg/m <sup>3</sup> at 12% moisture content. Unseasoned density approximately 1000kg/m <sup>3</sup> .
<b>Shrinkage (green to 12% MC)</b>	Approx. 5.5% radial, 11% tangential before reconditioning; 3.5% radial, 6.5% tangential after reconditioning.
<b>Movement</b>	Between 25% and 5% MC, radial movement is approximately 0.23% per 1% MC change; tangential movement about 0.36% per 1% MC change.
<b>Strength groups</b>	Seasoned SD3 and SD4, unseasoned S3 and S4.
<b>Joint group</b>	Seasoned JD3, unseasoned J3.
<b>Structural grades</b>	Most commonly available stress grades are F17 seasoned, F8 unseasoned.
<b>Toughness (Izod)</b>	1J3 unseasoned, 1J8 seasoned.
<b>Hardness (Janka)</b>	4.2kN unseasoned, 5.7kN seasoned.

### Fire hazard properties: flooring (AS ISO 9239.1)

<b>Critical radiant heat flux</b>	> 2.2 and < 4.5kW/m <sup>2</sup>
<b>Smoke development rate</b>	< 750%.min

### Fire hazard properties: wall and ceiling lining (AS/NZ 3837)

<b>Material group no.</b>	3
<b>Average extinction area</b>	< 250m <sup>2</sup> /kg

### Workability

<b>General</b>	Tasmanian Oak is highly resilient and relatively easy to work.
<b>Blunting</b>	Moderate. Can be severe in dense material.
<b>Sawing</b>	Cuts fairly cleanly with moderate feeding force.
<b>Planing</b>	Moderate feeding forces required. Surfaces very smooth and lustrous when working with the grain.
<b>Moulding</b>	Surfaces are true and clean, even end grain. Holds edges well.
<b>Boring</b>	Easy to drill. Holes are usually clean and to size.
<b>Rebating + mortising</b>	Generally produces excellent results.
<b>Turning</b>	Turns well with sharp arrises.
<b>Nailing</b>	Pre-drilling is often necessary in seasoned or denser material. Nails hold well.
<b>Gluing</b>	Glues satisfactorily with most common adhesives.
<b>Bending</b>	A good to fair bending timber. 25mm material bends reasonably well to a radius of 100mm.
<b>Finishing</b>	Readily worked to a smooth, lustrous surface. Most finishes adhere very well. Stains very well.

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