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## Timber processing – back, quarter or radial sawn; different looks for different applications



**Taking naturally variable round logs and turning them in to the multitude of beautiful and useful timber products people desire and use takes, experience, knowledge, skill, innovation - and passion!**

There are a several ways round logs can be sawn to maximise recovery and minimise waste while also providing a desired look or grade. The three main options are to: backsaw, quartersaw or radial saw; each method delivers a different recovery and products of different stability and grain pattern - a key attribute for timber's selection in appearance grade applications.

### Sawing Techniques

**Backsawing** allows wider boards to be cut, and more of the log to be used. It also gives variable and interesting grain patterns valued by appearance product manufacturers. However, backsawn boards are sometimes prone to higher shrinkage and cupping.

**Quartersawing** provides a more stable board, however by its nature smaller boards are produced and the grain patterns tend to be more straight and regular.

**Radial Sawn Timber** uses a different approach that works with the biology of a tree and is based on the principle of cutting logs into wedge-shaped pieces - much like a cake is cut. As a result, higher recovery rates are obtained, particularly from young lower quality logs; up to 40% to 80% of log volume compared to the 30% - 50% from conventional sawing techniques. Radially sawn boards do not distort as much as they dry and they have a distinctive appearance, making them a popular choice for a range of applications, from fencing and cladding to decking, skirting and joinery.

### Moisture Content

Structural timber can be either 'unseasoned' (also called "green") with a moisture content greater than 15%; or 'seasoned' (also called kiln-dried (KD)) with a moisture content average between 10% and 15%.

Drying timber increases its strength, stiffness, stability, and capacity to hold fasteners.

Appearance timber is all seasoned. The moisture content varies depending on application but generally:

- Interior: not more than 14% and not less than 9%
- Exterior: not more than 18% and not less than 10%

### Timber Grading

Sawn structural timber can be either graded visually, mechanically or proof graded. Hardwoods are traditionally visually graded to the F-grade system (i.e. F8, F17, F22, F27), while softwoods are predominately machine graded and use the MGP quality system (MGP10, MGP12, MGP15).

Appearance product grades for softwood include; clear, appearance, select, standard or utility. The hardwood products grades are; select, medium feature and high feature depending on the amount of natural characteristics (gum vein, knots, squiggly worm pin-hole, etc.) in the wood

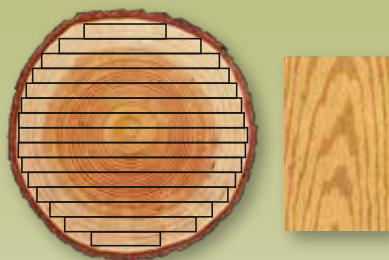
### Low Embodied Impacts

From an environmental perspective timber processing requires very little energy for production. Timber products have a very low embodied energy compared to alternative building materials.

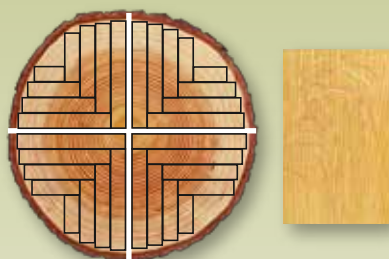
Energy for drying timber often comes from, or is supplemented by, burning sawdust and off-cuts produced during the milling process.

Timber products are also greenhouse positive in that they sequester CO<sub>2</sub> as carbon for the life of the product. Timber is also renewable, reusable, recyclable and biodegradable.

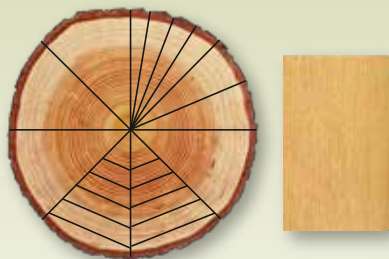
**For more in information on timber processing, drying and grading visit [woodsolutions.com.au](http://woodsolutions.com.au)**



**Backsawn**



**Quarter Sawn**



**Radial Sawn**

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