Technology

The timber industry in 2000

Timber species used for sawmilling in Tasmania

Native forests

Wood characteristics affecting selection of milling species (native forests)

Mills do not base their selection of the timber species they process only on the availability of trees, there are certain characteristics of timber that make some species more suitable for milling and processing than others. These characteristics differ depending on the proposed end use of the timber.

Strength

Timbers of high density (a high proportion of woody material to moisture in a given volume) generally have high mechanical strength. A wood's density generally determines the load it is capable of supporting. (Note – timbers that have very high density, such as blue gum (*E.globulus*) and some stringy-bark (*E.obliqua*), are difficult to saw and season. This limitation is weighed up against their superior strength when selecting timber for particular purposes.) While sawmills value strong timber, veneer mills do not consider strength an asset when selecting logs – for their purpose, appearance is everything and in fact, logs of lower density are easier to slice.

Durability

A timber's durability refers to its natural resistance to wood-destroying organisms such as decay (fungal attack), termites and borers. The durability of some species can be improved by impregnating preservatives into the sapwood (and sometimes the heartwood).

Sapwood and heartwood

Sapwood is the wood just beneath the bark of a tree. It ranges from a few millimetres to nearly the whole trunk, depending on the age and species of the tree and it is where vital tissue and food materials (sugar and starch) for the tree's growth are stored. As a result, sapwood is particularly susceptible to decay and borer attack; however, it is very easy to impregnate with preservatives once cut. As trees mature, the sapwood is converted into heartwood – it ceases to be living tissue and becomes a repository for waste from the tree's growth process. The sapwood cells become blocked and increase a tree's strength, durability and density as it ages. The high 'stresses' in young trees are caused mainly by the high levels of sapwood present – these stresses cause logs to crack during felling and to 'spring' during sawing.

Mature Blue gum forest - *E.globulus*
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