

Softwoods

Softwoods come from coniferous trees which have needles instead of leaves. Softwoods grow faster than hardwoods and so are cheaper they are also easier to work with as they are typically softer than hardwoods. This makes them ideal for using in the construction trade because they are cheap and relatively renewable with their fast growing speeds.



Softwood properties:

- Softwoods come from **coniferous** trees. (they do not lose their leaves)
- Softwoods have **needles** instead of **leaves**.
- Softwoods grow **faster** than **hardwoods** this makes them cheaper.
- Often used as **building** material.
- Trees grow tall and straight which makes it easier for the **manufacturer** to cut long straight planks of wood.

Softwood types	Grain image	Softwood uses	Example product
Scots pine - A straight-grained softwood but knotty. Light in colour. Fairly strong but easy to work with. Cheap and readily available. A softwood.		Used for DIY and cheap quality furniture. Mainly used for constructional work and simple joinery.	
Parana pine - Hard and straight-grained. Almost knot free. Fairly strong and durable. Expensive. Pale yellow in colour with red/brown streaks. A softwood.		Used for good quality knot free pine red / brown furniture such as doors and staircases.	
Spruce - Creamy-white softwood with small hard knots. Not very durable. A softwood.		Used for general indoor work, whitewood furniture used in bedrooms and kitchens.	
Yellow cedar - A pale yellow-coloured softwood with a fine even texture. Light in weight but stiff and stable.		Used for furniture, boat building, veneers, and model making.	
European redwood - Quite strong, Lots of knots, durable when preserved. cheap		Used for general woodwork, cupboards, shelves, roofs.	

Hardwoods

Hardwoods come from deciduous or broad-leaved trees. They are generally slow growing which tends to make them harder and more expensive. Please note though that not all hardwoods are hard, Balsa which is very soft and is often used for model planes is in fact a balsa wood!



Hardwood properties:



- Hardwoods come from deciduous or broad-leaved trees.
- Hardwoods are special as they are deciduous this means they lose their leaves in the autumn/winter months.
- You can distinguish hardwoods by the structure of the wood grain.
- Hardwoods grow slower than softwoods so they are more expensive.

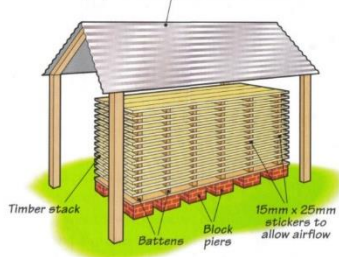
Hardwood types	Grain image	Hardwood uses	Example product
Beech - A straight-grained hardwood with a fine texture. Light in colour. Very hard so is ideal to be used where it is being bashed around and used often. Beech is also very easy to work with.		Used for furniture, toys, tool handles. Can be steam bent.	
Oak - A very strong wood which is light in colour. Open grain. Hard to work with. When treated it looks very classy and elegant. A hardwood.		Used for high class furniture, boats, beams used in buildings, veneers.	
Mahogany - An easy to work wood which is reddish brown in colour. This wood is very expensive. A hardwood.		Used for expensive indoor furniture, shop fittings, bars, veneers.	
Teak - A very durable oily wood which is golden brown in colour. Highly resistant to moisture and outdoor weather. A hardwood.		Used for outdoor furniture, boat building, laboratory furniture and equipment.	
Balsa - is a pale white to grey. It has a distinct velvety feel. It has exceptional strength to weight properties. It is the lightest and softest wood on the market. A hardwood.		Used for light work such as model making and model airplane construction.	

Seasoning Timber

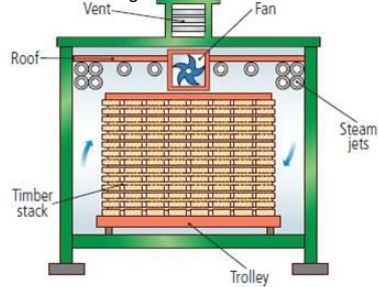
Seasoning is the removal of excess moisture from newly sawn timber. There are 2 types of seasoning:

Air Seasoning

Sloping roof to allow rainwater to run off



Kiln Seasoning



Advantages

- Cheap
- Some say the timber is stronger than kiln seasoned

Disadvantages

- Very slow (a year per 25mm thickness)
- Bugs and fungus survive
- Water content hard to control accurately
- Ends of planks can split

Advantages

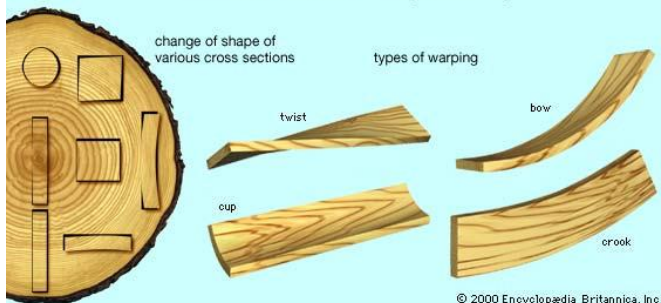
- Accurate water content achieved
- 12% or lower moisture content achievable.
- Kills bugs and fungus
- Fast.

Disadvantages

- Expensive

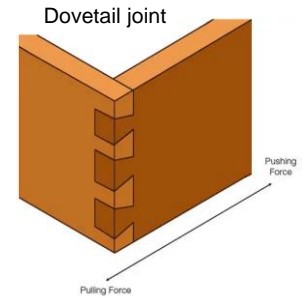
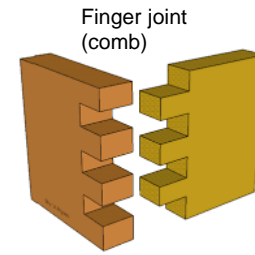
Defects in Slab sawn wood

Distortions of wood due to shrinkage and swelling

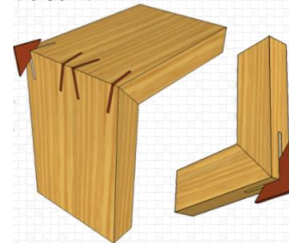


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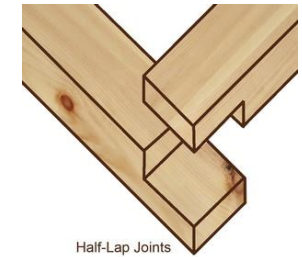
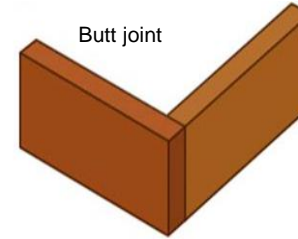
Basic wood joints



Mitre Joint



Butt joint



Types of finish



Varnish

- Provides a harder tougher surface.
- Heatproof and water proof
- Matt or gloss finishes available



Wax

- Enhances natural grain and colour of the timber
- But prone to marking if a hot cup is placed on the surface
- Needs regular reapplication



Wood stain

- Alters the colour of the wood
- Doesn't protect the wood
- Available in a range of colours.



Shellac

- This finish is actually a natural product.
- Protects the wood
- Can be affected by heat