

SELECTING WOOD

Types of Wood

There are three types of wood, **Softwood**, **Hardwood** and **Manufactured Boards**.

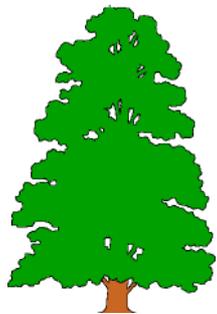
Softwood

Coniferous trees (trees that keep their needle-like leaves throughout the year) provide softwood. They can grow quickly with straight trunks. They are often grown in plantations and are replaced when they are cut down. The wood is quite cheap and is used in the building industry for windows and doors etc. When the trunk is converted the waste is used for making paper and card.



Hardwood

Deciduous trees (trees that lose their large leaves every winter) provide hardwood. They grow slowly and sometimes have twisted trunks. They are often not replaced when cut down. The wood is costly and is used for fine furniture and wooden toys, etc.



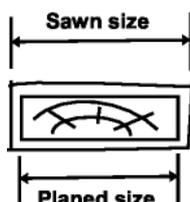
Note: The difference between softwood and hardwood is a biological difference, not one of softness and hardness. The softest wood is Balsa - it is a hardwood!

Manufactured Boards

These are made from the waste wood left over from conversion. They use thin sheets (plywood), small blocks (blockboard), wood chips (chipboard) and wood fibres (fibreboard). They are generally cheaper than solid wood and can be made into large sheets that do not warp or twist easily.

AVAILABILITY

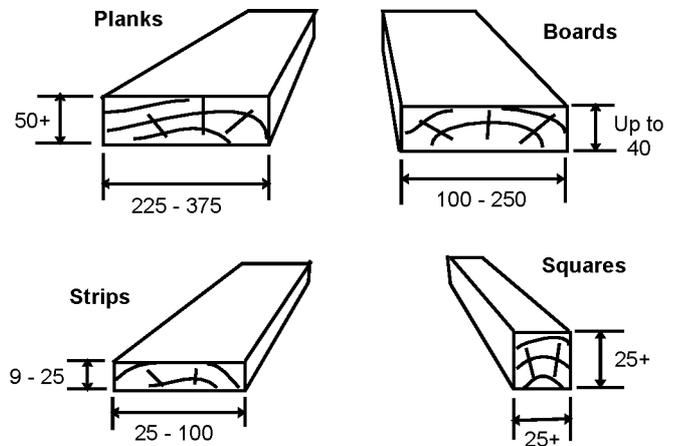
You can buy solid wood as rough sawn (very rough surface) or planed. The sizes shown at the wood yard are the rough sawn sizes (nominal size), if you buy the wood planed the true sizes will be up to 3mm less.



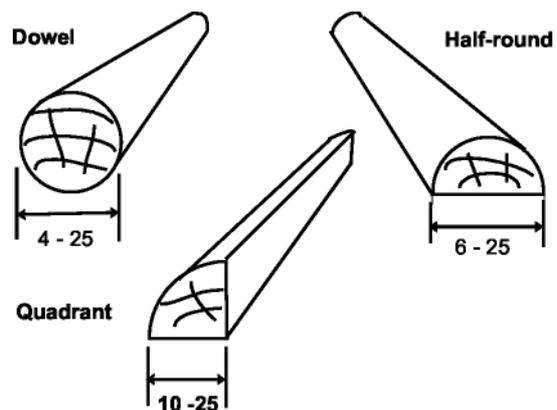
Planed planks can be planed top and bottom only, this is known as **PBS** (planed both sides). If the edges are planed as well it is known as **PAR** (planed all round).

Shapes and Forms

Wood yards sell wood in standard forms, the most common are shown below.



Note: The dimensions are in millimetres.



Choosing Softwood

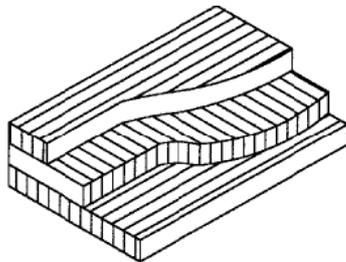
NAME	PROPERTIES	USES	COST
Scots Pine (Deal)	Straight grained, but knotty, quite strong and easy to work	Building construction. When used outside it needs protection. Takes paint well.	Low
Parana Pine	Straight grained with few knots, quite strong and durable, warps easily	High quality interior construction and furniture	High
Spruce (white-wood)	Quite strong, with small knots, resistant to splitting but not durable	Fitted furniture, e.g. kitchen cabinets.	Low
Cedar	Straight grained that is knot free. Very light in weight. Very durable, inside and outside. Quite soft.	Used outside for shed construction and quality fencing.	High

Choosing Hardwood

NAME	PROPERTIES	USES	COST
Ash	Light in colour, flexible and tough, steam bends well, varnishes well.	Tool handles, cricket bat handles, ladders, veneers.	Med
Beech	Mid-brown colour, hard, strong and tough, tends to warp, steam bends well.	High quality furniture, toys, tool handles, veneers	Med
Oak	Light brown, hard, tough, heavy and durable outside. Gets harder with age.	High quality furniture, garden furniture, boat building, veneers	High
Mahogany	Red in colour, medium weight, quite strong, durable inside, warps easily	High quality furniture, shop furniture, boat fittings, veneers.	High

Manufactured Boards

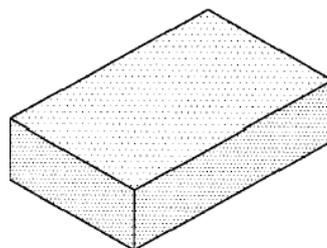
Plywood



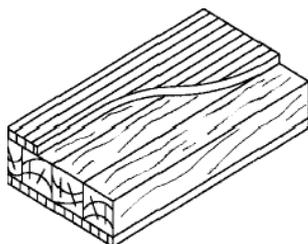
Made from thin sheets of wood (veneers), glued together with the grain direction at 90° to the one next to it. They always have an odd number of layers 3,5,7 etc. to reduce warping

Medium Density Fibreboard (MDF)

Made from fine wood fibres, compressed and glued together. When in use it is normally covered by a plastic coating or hardwood veneer.

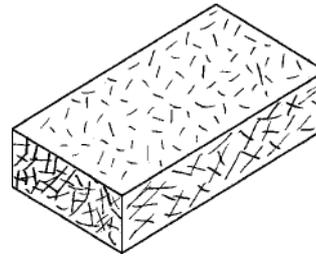


Blockboard



Strips of softwood are glued together and then sandwiched between two hardwood veneers. The edges look rough and are often covered with a thin hardwood strip

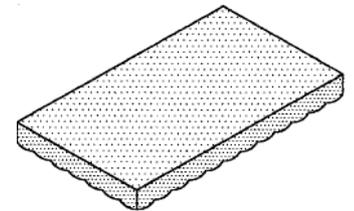
Chipboard



Made by compressing and gluing small chips of waste wood. When in use it is normally covered by a plastic coating or hardwood veneer.

Hardboard

Made by compressing and gluing pulped wood. It is smooth on one side and rough on the other.



NAME	PROPERTIES	USES	COST
Plywood	Strong in all directions, quite stable but can warp. A water-proof ply is available.	Tabletops, worktops door fronts, drawer bottoms, small boats (waterproof ply)	Med
MDF	Does not warp easily, cuts and planes well without splitting, needs a finish.	Tabletops, worktops, veneered furniture, clock cases.	Med
Blockboard	Does not warp easily. Very strong, rigid and rather heavy. Edge finishing is difficult.	High quality furniture, stage flooring, fire doors.	High
Chipboard	Heavy, can warp easily, joining pieces together is not easy, needs a finish.	Cheap plastic coated furniture, roofing boards, partitions	Low
Hardboard	Not very strong, warps easily, needs a finish.	Door panels, cheap drawer bottoms, cabinet backs.	Low

1. What sort of trees do hardwoods and softwoods come from
 2. What are manufactured boards made from?
 3. What do the terms 'PAR' and 'PBS' stand for?
 4. If you purchased wood that was advertised as 50mm wide and 25mm thick, but was PAR, what size would you expect the wood to be?
 5. What is the difference between a plank and a strip of wood?
 6. Which softwood might you choose to make a dog kennel from?
 7. Which hardwood might you choose to make a child's toy truck?
 8. Explain how plywood is constructed.
 9. Which manufactured board might you choose to make a long shelf for heavy books?
 10. What is the environmental advantage of making and using chipboard?
- A** List **five** different uses for wood and manufactured board that you can find at home, and state which type of wood or board you think are used.