

Knowledge Organiser Timber

Resistant Materials

Hardwood
Timber from a deciduous tree. They are slower growing and more expensive.
ash: a pale and attractive hardwood. Tough, flexible. Open grained. Used in furniture, steam bending, wood turning.
balsa: soft and lightweight, the wood is actually from a deciduous flowering plant, not a tree. Very light in colour with a distinct, straight grain. Used in model making, prototypes, craft, model aeroplanes.
beech: hard, tough, strong/close grained, white/pinkish brown. Prone to warping. Used in functional furniture, chairs, tables, tools, veneers.
Iroko: African tropical hardwood. Deep reddish brown, is a less ecologically damaging alternative to mahogany. Also known as African Teak. Used in boat-building, decorative furniture, traditional musical instruments.
mahogany: fairly strong, medium weight, durable. Interlocking grain. Pink reddish brown. Prone to warping. Used in indoor furniture, panelling, veneers
oak: strong, heavy, durable, hard and tough. Open grained. Light brown. Finishes well. Expensive. Used in construction, high-class furniture, boat building, veneers.
teak: very strong, hard, durable. Natural oils make it resistant to moisture. Golden brown. Very expensive. Blunts tools easily. Used in quality furniture, outdoor furniture, boat building, veneers.
walnut: an extremely durable, tight-grained wood. Its hard, dense grain make it ideal for machining and joint making. Polishes to a high quality finish. Used in restaurant tabletops, cabinet making, decorative features such as handles, bannisters, veneers and layers in plywood.

Softwood
Timber from an evergreen or coniferous tree. Fast growing.
Douglas Fir: pale to medium red/brown colour. Works well. Straight grained, dries quickly, fast growing. Used in construction, railway sleepers, joinery, flooring, decking.
Paraná Pine: fairly strong and durable. Straight grain. Pale yellow, red/brown streaks. Almost knot free. Tends to warp. Used in best quality indoor joinery, staircases, built-in furniture.
Scots Pine: pronounced straight grain. Light brown/yellow in colour. Polishes well. Used in general construction work and joinery.
spruce: fairly strong with small, hard knots. Creamy white, resistant to splitting. Not very durable. Used in general indoor work such as stud-walls, shelves.
Western Red Cedar: straight silky grain, dark reddish brown. Lightweight and not very strong. Natural oils make it durable against weather.

Properties of Timber and Sheet Materials		
Property	Definition	Found in
hardwood	Timber from a deciduous tree.	oak, ash, mahogany, walnut, beech, balsa
softwood	Timber from an evergreen or coniferous tree.	pine, red deal, cedar
tight-grained	Timber with a high ring count, slower growing and denser.	oak, beech
loose-grained	Timber with a low ring count- faster growing.	scots pine, red deal
dense	Can be deformed without losing toughness.	oak, beech
straight-grained	Timber which has grown straight, has a uniform grain.	oak, beech, red deal
knot	Irregularity in wood grain, where a branch or offshoot existed.	spruce, ash, some plywood
weather resistant	A tight-grained timber has good water and heat resistance.	oak, beech, ash, plywood
stiff	A timber that does not bend easily.	oak, ash, beech, plywood, MDF
easy to work	A timber that is either low or medium density. Easy to cut and shape.	red deal, scots pine, balsa, MDF
lightweight	A timber that is light in weight.	balsa, plywood, MDF
attractive grain	When polished or varnished, a timber's grain is eye-catching.	walnut, oak, ash, some plywood

Timber products	
Sheet materials manufactured from layers or particles of wood including MDF, plywood and hardboard.	
MDF: mid-brown colour. Will swell if exposed to moisture. Sheets can be heavy. Smooth finish. No grain. Available in a wide range of sheet sizes and thicknesses. Used in flat-pack furniture, vacuum-form moulds, product modelling, architectural models. Often covered in veneer for a natural timber appearance.	hardboard: Made from wood chip and pulp, cheaper substitute to plywood. Used when space filling as opposed to requiring strength. No regular grain. Used in countertops, flooring, flat-pack furniture.
veneer: very strong, hard, durable. Natural oils make it resistant to moisture. Golden brown. Very expensive. Blunts tools easily. Used in table tops, flat pack furniture, plywood, cabinet-making.	plywood: Reddish brown or white in colour. Layered in odd numbered sheets. Strong. Susceptible to splintering Used in sheds and cladding, furniture, flooring, boats (marine ply).

