

Natural timbers		Manufactured boards
Hardwood	Softwood	
		
Obtained from deciduous tree, which lose their leaves in Autumn -Grow in warmer climates. -Grow slowly (80+ years) -More difficult to sustain than softwoods. -Are more expensive than softwoods	Obtained from coniferous trees, which keep their leaves (also known as evergreen, -Grow in colder climates (Scandinavia) -Grow quickly (30 years) -Thin needle like leaves -Easier to sustain -Easy to work with -Usually cheaper than hardwoods.	Made from the waste sections of felled trees. The wood is reduced to pulp, particles or strips and formed into sheets. -Come in sheet form (usually 1.2m X 2.4M) -Stable and uniform thickness -Less expensive -Available in variety of thicknesses

Types of Hardwood

Name	Image	Properties	Uses
Ash		Tough and flexible, wide grained, shock resistant and finishes well	Sports equipment, hand tools, kitchen cabinets
Beech		Strong, dense close grain but is prone to warping and splitting	Furniture, children's toys
Mahogany		Strong and durable, easy to work with and finishes well	High end furniture
Oak		Strong and relatively lightweight, finishes well.	Flooring, furniture, timber buildings
Balsa		Good strength for an extremely lightweight material, fast growing,	Insides of table tennis bats, modelling material

Manufactured boards

MDF (medium density fibreboard) 	No surface grain as MDF is made up of fibres. Other varieties of MDF are fire retardant and moisture resistant. No knots or imperfections drilled very easily. Glues well with PVA. Finishes well when sealed. Versatile material . Comes in a range of thicknesses.	Plywood 	Different types are available specifically for different uses such as: Marine Ply rot resistant, steam resistant, used in boat construction. Ply is relatively strong due to the veneer grain layered in opposite directions.	Chipboard 	Durable when laminated, lightweight, expands when in contact with moisture. Used for kitchen worktops (when laminated)
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Sustainable Timber

Wood is considered to be sustainable material as trees can be grown to replace those used for timber or fuel. A big issue is in many parts of the world timber is being used faster than trees are being replanted. This causes deforestation which is seen as a key factor to global warming.



To regulate this The Forest Stewardship Council (FSC) are dedicated to ensuring that timber supplies are regulated and sustainably harvested.

Finishing Natural Timbers

Timbers can be treated with a number of surface finishes, these include Paint, Stain, Wax & Varnish. Applying these finishes can:

- Seal the wood to protect the surface from heat and water
- Enhance the grain & surface
- Colour the surface
- Give a specific aesthetic appeal.

Finishing Manufactured Boards

Veneer
A sharp blade cuts very thin layers of wood called veneer. A layer of veneer can be glued onto less expensive manufactured board to produce a more attractive finish and imitate natural timbers but maintain the properties of a manufactured board.

Laminating

Laminating involves bonding by gluing strips of materials together in layers to create a strong structure. An example of this is wooden beams. If thinner materials are used for lamination the curves can be more complex.



Types of Softwood

Name	Image	Properties	Uses
Western red cedar		Light weight very durable with a fine grain. Decay resistant, Good for outdoor use, Low shrinkage, Expensive	Fence post, cladding, decking...
Scots pine		Relatively durable outdoors and indoors. Medium weight. Relatively strong, Grows straight, Reasonably priced, Can have many knots, must be treated for outdoor use	Pulp in the making of paper and engineered board. Roof timber, skirting boards...
Parana Pine		Good strength and weight. Generally Knot free, Reasonably priced, not suitable for outdoor use	Staircases, 1ndoor furniture
Spruce		Medium weight and durability. If timber used outdoors and untreated will decay after 12 months. Fast Growing, Knotty, Not recommended for outdoor use.	Paper manufacture, pallets,



-Hardwoods
-Softwoods
-Manufactured boards
-Sustainable
-Managed woods
-Seasoned
-Grain
-Tough
-Durable
-Lightweight
-Veneer
-Laminating



Sources and Origins



Stock Forms



How to join woods



Design and Technology



BOHUNT
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Materials core: Timbers