

Product design (b) natural and manufactured timber

Hardwoods

- This wood comes from trees that lose their leaves during autumn.
- Hardwood trees are slow-growing and therefore less amounts are available, which makes it more expensive.

Oak is a moderate brown colour with close, straight grain. Oak is a tough and durable hardwood, it polishes well and is used for high quality furniture, doors, skirting and staircases.

Beech is a pink-tinted, closely grained hardwood. Beech is a very tough and durable material and is smooth to finish. It is popular with products that require a hard-wearing and robust material.

Mahogany is a dark red/brown hardwood with very close grain. It cuts and polishes easily, and gives a deep finish, popular for furniture and cabinet making.

Natural timber availability

Hardwoods and softwoods are available in a variety of forms including plank, board, strip, square and dowel. Natural timbers need to be cut at the sawmill and seasoned before use. Many are planed and cut to standard sizes ready for sale.

Softwoods

- This wood comes from trees that are evergreen, possibly bearing pinecones and needles, not leaves.
- Softwood trees grow quicker and in more locations. They are readily available and less expensive.

Pine is a pale-yellow coloured wood with darker brown grain. It is lightweight, easy to work, used for construction and furniture products.

Cedar is lightweight, pale with even texture. It is more expensive than pine but not as strong. Good for outdoor use, fencing, decking and shed construction.

Larch is a darker shade with brown grain, used for exterior cladding and boats, as it is water resistant and durable. It is more expensive than other softwoods.

Manufactured board

Man-made boards like MDF (medium density fibreboard), plywood and chipboard are all manufactured boards. They are made from wood fibres, normally collected from recycled wooden materials, bonded together with resins to form sheets.

MDF is made from small fibres which are mixed with a wax and resin, then heated and compressed into the desired thickness. MDF has no grain, and is easy to work. It is popular for interior DIY furniture.

Chipboard is made from small 'chips' of timber bonded together to produce a dense sheet. Kitchen worktops can be made using chipboard with an additional veneer applied for aesthetic and functional purposes.

Plywood is made from layers of wood, bonded together at an angle of 90 degrees to increase strength and rigidity. Sometimes, the facing layers can be high quality, e.g. birch, to provide a better aesthetic finish.

Finishes for hardwoods and softwoods

Surface finishes can be aesthetic and functional. High-traffic areas like floors might require a hard-wearing and sealing finish like polyurethane, which can be oil or water based, and matt, semigloss or high gloss finish.

Waxes and oils are popular to provide enhancement of the natural grain in the wood.

Stains and varnishes help to add colour to natural wood, and even change colours to match colour schemes. Preservatives are sometimes used to provide protection and ensure the wood is long-lasting.

Finishes for manufactured boards

Man-made boards like plywood are often finished depending on the visibility of the veneers. Plywood can have natural grain on the face veneers, so a spray-on lacquer or a paint-on varnish might be best.

MDF can be stained to match other natural woods, or it can be painted. However, as MDF is very porous, it is best to seal any exposed edges first to avoid paint being absorbed.

Chipboard can look unattractive and is normally finished with a veneer. On kitchen worktops, this is a melamine layer that provides heat, scratch and water resistance, and a variety of colours and patterns that can enhance the look of the user's kitchen.