



MATERIALS FACTSHEET

Hardwood

- **Deciduous (leaf losing) trees.**
- **Slower growing.**
- **Expensive to buy.**
- **Colour varies enormously.**
- **Aesthetically pleasing grain patterns which vary depending on the wood.**
- **Denser.**
- **Greater strength and hardness than soft-woods.**
- **Examples of Hardwoods—Oak, Mahogany, Beech and Ash.**

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Oak

Properties

- Hard
- Tough
- Durable
- High density

Uses

- High quality furniture
- Garden benches
- Boat building
- Veneers

Advantages

- Finishes well

Disadvantages

- Contains an acid which corrodes steel

MATERIALS FACTSHEET

Mahogany

Properties

- Durable
- Medium density

Uses

- Indoor furniture
- Interior woodwork
- Window frames
- veneers

Advantages

- Finishes well
- Relatively easy to work

Disadvantages

- Prone to warping
- Some tropical types can be a bit soft and fibrous

MATERIALS FACTSHEET

Beech

Properties

- Hard
- Tough

Uses

- Workshop benches
- Children's toys
- Interior furniture
- Kitchen chopping boards and worktops

Advantages

- Finishes well
- Turns well

Disadvantages

- Prone to warping

MATERIALS FACTSHEET

Ash

Properties

- Tough
- Flexible
- Good elasticity

Uses

- Sports equipment
- Ladders
- Laminated furniture
- Tool handles

Advantages

- Flexible

Disadvantages

- Can become a bit splintered

MATERIALS FACTSHEET

Softwood

- **Coniferous (cone-bearing, evergreen) trees.**
- **Reach maturity in about 30 years.**
- **Cheaper than hardwoods.**
- **More sustainable than hardwoods.**
- **Resinous (they have lots of resin).**
- **Various in colour (although generally pale yellow with brown streaks).**
- **Less dense than hardwoods.**
- **Prone to water damage (absorbs water if not treated)**
- **Examples of softwood—Pine.**

MATERIALS FACTSHEET

Pine

Properties

- Lightweight

Uses

- Constructional woodwork (joists, roof trusses)
- Floorboards
- Children's toys
- Garden decking

Advantages

- Nice colour and grain pattern
- Grows relatively quickly in comparison to hardwoods

Disadvantages

- Prone to warping
- Knots can fall out and leave holes

MATERIALS FACTSHEET

Man-made wood

- Waste wood is used to make MDF and chipboard.
- Plywood is made from layers of veneers glued together.
- All are made in a factory.
- Used in mass produced furniture.
- Examples of man-made wood—plywood, chipboard, medium density fibreboard (MDF) and hardboard.

Advantages

- Available in large flat sheets (2440x1220mm) so can be used for large pieces of furniture without having to join together.
- Doesn't warp as much as natural timber.
- Can be decorated in many ways
- Can be flexible
- Waste wood used in making MDF, chipboard and hardboard.

Disadvantages

- Need sharp tools to cut and tools are easily blunted
- Thin sheets do not stay flat unless supported
- Difficult to cut traditional joints.
- Can generate harmful dust particles.
- Edges need to be treated to hide unsightly parts and also to stop water getting in.

MATERIALS FACTSHEET

Plywood

Properties

- Very strong in all directions
- Resistant to splitting because layers are in alternate directions

Uses

- Boat building (exterior quality plywood)
- Drawer and wardrobe bottoms
- Cheaper grades used in construction industry for hoarding and shuttering

Advantages

- Available in large sheets
- Thicker sheets will not warp or twist
- Thin sections can be laminated to create 2D shapes

Disadvantages

- Thin sheets very flexible and will warp if not correctly stacked or supported

Aesthetics

- Made of layers (veneers) normally 1.5mm thick
- Grain of each layer is at right angles to the layer either side of it, and there is an odd number so the outside layers run in the same direction
- Birch veneers used on the outside layers resulting in attractive surface

MATERIALS FACTSHEET

Chipboard

Properties

- Made from waste products bonded together using very strong resins
- Strong in all directions although not as strong as plywood
- Not very resistant to water but moisture resistant grades available

Uses

- Large floor boards and decking for loft spaces
- Shelving
- Kitchen worktops
- Flat-packed furniture

Advantages

- Makes good use of waste materials that are chipped up

Disadvantages

- Not very good around water because it will soak it up
- Will chip and flake on edges if not protected

Aesthetics

- No grain patterns
- Surface often veneered or covered with a plastic laminate

MATERIALS FACTSHEET

Medium Density Fibreboard (MDF)

Properties

- Very dense
- Stable and not affected by changing humidity levels
- Will break down and absorb water if it gets very wet

Uses

- Flat packed furniture
- Drawer bottoms
- Kitchen units
- Heat and sound insulation

Advantages

- Thin sheets can be formed to make 2D shapes

Disadvantages

- Not very good with water because it will soak it up at the edges

Aesthetics

- Excellent surface finish which can be veneered or painted

MATERIALS FACTSHEET

Hardboard

Properties

- Made from compressed fibres that have been soaked in resin before being compressed

Uses

- Drawer bottoms
- Cabinet backs
- Smoothing out uneven floors
- Lightweight internal door cladding

Advantages

- Cheapest of all manufactured boards

Disadvantages

- Not very strong as it has no grain

Aesthetics

- Side very smooth and underside textured