DTBase©

Study Guides

Topic 1: *Materials*

Section 1: *Woods*

- Hardwoods
- Softwoods
- Manufactured Boards
- Uses

How to use these notes:

- Actively use your brain!
- **Highlight** as you go through, **annotate** your **own explanations and tips** to understand things.
- Take these notes and rewrite them, this makes your brain actively process the information!

Hardwoods

Oak

- Strong
- Works well
- Durable
- Expensive
- Heavy
- Prone to splitting
- Can be physically hard

Uses: Garden furniture, construction, High quality furniture

Mahogany

- Easy to work
- Durable
- Finishes well
- Very few knots
- Grain can be variable
- Prone to warping
- Physical hardness varies

Uses: Furniture, Veneers, Floorboards

Beech

- Physically hard
- Tough
- Polishes well
- Can be prone to warping
- Not suitable for outside applications
- Can be difficult to work

Uses: Workshop benches, School desks, Furniture

Jelutong

- Straight grain
- Easy to work (low density)
- Little tendency to warp or split
- Durable
- Can be easily stained
- Sap blunts tools
- Relatively expensive
- Suspect to biological corrosion

Uses: Carving, model making, patternmaking

Balsa

- Lightweight
- Easy to work
- Grows very quick (sustainable)
- Can be expensive
- Not very durable
- Not waterproof

Uses: String instruments, model making

Softwoods

Pine

- Straight grain
- Easy to work
- Affordable
- Prone to knotting
- Not very durable
- Rots/corrodes easily

Uses: Roof joists, Floorboards, Construction, Furniture

Cedar

- Doesn't warp easily
- Easy to work
- Naturally resistant to wear and decay
- Prone to knotting
- Susceptible to biological corrosion
- Highly flammable unless treated

Uses: Garden sheds, Decking, Floorboards

Larch

- Aesthetically pleasing
- Easy to work
- Good availability
- Natural resins can damage tools
- Prone to knotting/warping

- Difficult to treat

Uses: Furniture, Cladding, Boatbuilding, Veneers

Redwood

- Aesthetically pleasing
- Very durable
- Doesn't warp
- Easily dented
- Expensive
- Can have irregular grain

Uses: Furniture, Construction, Exterior furniture, Veneers

Manufactured boards

Plywood

- Widely available
- Cheap
- Uniform strength
- Easy to work with
- Can be finished easily with varnishes etc
- Only comes in certain thicknesses
- Edges can splinter
- Doesn't do well with moisture
- Not as durable as natural timber

Uses: Beams, Interior structures, shipping crates

Medium density fibreboard

- Widely available
- Cheap
- Doesn't warp due to lack of grain structure
- No knots
- Comes in any size/thickness
- Not as durable as natural timber
- Doesn't take nails/screws well
- Doesn't do well with moisture
- Poor surface finish without veneer

Uses: Roofing, Tables, Cabinets

Particle board

- Cost-effective/cheap
- Lightweight
- Easy to laminate
- Made from recycled material
- Poor strength
- Prone to expansion in moisture
- Resin in particle board Is toxic

Uses: Flat-pack furniture, Flooring, Wall panelling

Blockboard

- Good stability
- Inexpensive.
- Can take varnish, paint, and laminate coat
- Good for screwing and nailing.
- Doesn't twist/warp
- Lightweight
- Doesn't degrade tools quickly
- Weaker than natural timber
- Swelling can occur with moisture
- Prone to biological attack
- Short lifespan/poor durability

Uses: Shelving, furniture, Wall panels