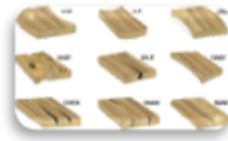


Sources, origins, physical & working properties



Primary Sources

Softwood	Fast growing from colder climates
Hardwood	Slower to grow from warmer climates
Manufactured board	Manmade from natural timber

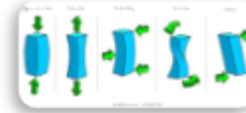
Primary Sources

Seasoning	Reducing moisture content
Defects in timber	Shrinkage, Splits, Shakes, Knots Fungal attack

Selection of Materials & Components

Functionality	Availability	Cultural factors
Aesthetics	True cost	Ethical factors
Environmental factors	Social Factors	Biodiversity

The impact of forces & stresses



Reinforcing & Stiffening

Lightweight

Compressive strength

Durable

Strength to weight ratio

Defects

Tensile strength

Cross-section

Types of natural timber

Hard Wood	Softwood
Jelutong	Westen red cedar
Beech	Scots pine
Mahogany	Parana pine
Oak	
Balsa	



Natural & Manufactured Timber Knowledge Organiser

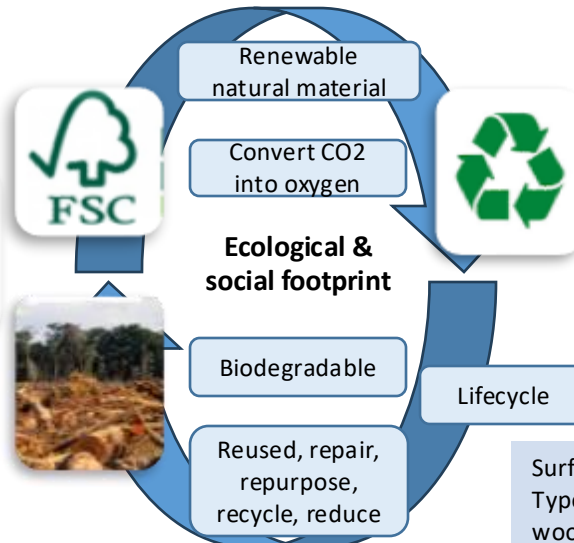
Eduqas Product Design

Scales of production

One-off production	Batch production	Jigs & devices
Mass production	Continuous flow production	

Types of manufactured timber

Manufactured timber
Medium-density-fibreboard (MDF)
Plywood
Chipboard
Hardboard



Tools & processes



Wastage	Marking out	Sawing wood
Shaping wood	Drilling wood	Joining wood
Adhesives	Woodscrews	KD fittings
Lamination & steam bending	Veneering	Computer-aided manufacture

Surface treatments & Finishes

Surface preparation: abrasive papers, free from dust, dirt, oil
 Types of Finish: wood stain, preservative, Tanalising, varnish, wood oil, wax, paints, veneer.

What type of timber is known for being fast-growing from colder climates?

- A) Hardwood
- B) Softwood
- C) Manufactured timber
- D) Medium-density-fibreboard (MDF)

Which type of timber is slower to grow and comes from warmer climates?

- A) Scots pine
- B) Balsa
- C) Hardwood
- D) Chipboard

What is a common defect in timber that can occur due to moisture issues?

- A) Knots
- B) Fungal attack
- C) Lamination
- D) Steam bending

Which manufactured board is made from natural timber?

- A) Plywood
- B) Hardwood
- C) Softwood
- D) Balsa

Natural & Manufactured Timber Knowledge Organiser

Eduqas Product Design

Jelutong is a type of hardwood.

- True
- False

Hardwood is faster to grow than softwood.

- True
- False

What is one of the ecological benefits of timber?

- A) Non-biodegradable
- B) Converts CO₂ into oxygen
- C) Requires high energy to produce
- D) Is not renewable

What is the process of reducing moisture content in timber called?

- A) Seasoning
- B) Veneering
- C) Lamination
- D) Tanalising

Manufactured timber includes materials like MDF and plywood.

- True
- False

Which manufactured board is made from natural timber?

- A) Plywood
- B) Hardwood
- C) Softwood
- D) Balsa

MDF is a type of manufactured timber.

- True
- False

The process of seasoning timber involves increasing its moisture content.

- True
- False

Can timber be reused, repaired, or repurposed?

- True
- False