

-Glues without difficulty and holds nails and screws quite well.

Disadvantages (2):

-Low stiffness, shock resistance and decay resistance.

-Can distort significantly if not seasoned properly.

d) White Pine:

Uses:

-Carvings and sculpture, toys, novelties, musical instrument, boxes, match sticks, veneer, dowels and patterns.

Advantages:

-Works very easily with most machine or hand tools.

-Carves quite well.

-Holds nails and screws well without the need to pre-drill.

-Glues, paints and varnishes well.

Chapter 6: Composites

1) What are composites?

Materials which are made when two or more materials are combined by bonding.

2) Name two composites?

Carbon fibre and MDF.

3) What are the uses, advantages and disadvantages of the following composites?

a) Carbon Fibre:

Uses:

-Sports equipment such as tennis rackets and fishing rods, bicycle frames and wheels, aircraft and bicycle components.

Advantages (4):

-Excellent strength-to-weight ratio.

-Better tensile strength than steel alloys.

-Fabric can be placed in different directions to provide strength in specific areas of structure.

-Can be formed into complex and aerodynamic one-piece structures (distribute stress efficiently).

Disadvantages (5):

-Very expensive material.

-Only available in black (although surface finishes can be added to provide colour).

-Highly specialised manufacturing processes required.

-Cannot be easily repaired as structure loses integrity.

-Cannot be easily recycled.

b) MDF:

preview from Notesale.co.uk
page 10 of 17

-Frequent changes in production can cause costly re-tooling, which is reflected in the retail price.

c) Mass:

Uses (2):

- Electronic products such as mobile phones and game consoles.
- Graphic products such as clothes, labels, tickets and packaging.

Advantages (7):

- Highly automated and efficient manufacturing process.
- Specialisation of workforce to specific tasks.
- Rigorous quality control ensures identical goods.
- Excellent economies of scale in bulk-buying materials.
- Increased production leads to quick recovery of set-up costs.
- Low unit costs.
- Low labour costs.

Disadvantages (4):

- Low skilled workforce- low wages, repetitive nature of tasks leading to job dissatisfaction.
- Ethical concerns of manufacturing in developing countries.
- High initial set-up costs due to expensive machinery and tooling.
- Inflexible- cannot despond quickly to market trends.

Preview from Notesale.co.uk
Page 17 of 17