

# Design & Manufacture

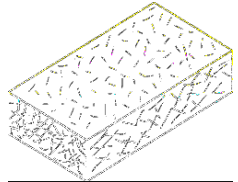
## Homework 9

### Manufactured Boards

These are made from the waste wood left over from conversion. They use thin sheets (plywood), small blocks (blockboard), wood chips (chipboard) and wood fibres (fibreboard). They are generally cheaper than solid wood and can be made into large sheets that do not warp or twist easily.

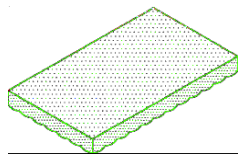
#### Chipboard

Made by compressing and gluing small chips of waste wood. When in use it is normally covered by a plastic coating or hardwood veneer.



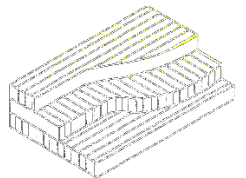
#### Hardboard

Made by compressing and gluing pulped wood. It is smooth on one side and rough on the other.



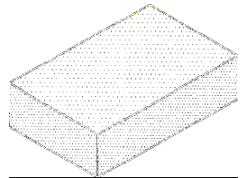
#### Plywood

Made from thin sheets of wood (veneers), glued together with the grain direction at 90° to the one next to it. They always have an odd number of layers 3,5,7 etc. to reduce warping



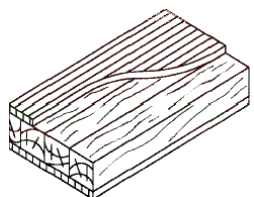
#### Medium Density Fibreboard (MDF)

Made from fine wood fibres, compressed and glued together. When in use it is normally covered by a plastic coating or hardwood veneer.



#### Blockboard

Strips of softwood are glued together and then sandwiched between two hardwood veneers. The edges look rough and are often covered with a thin hardwood strip



NAME	PROPERTIES	USES	COST
Plywood	Strong in all directions, quite stable but can warp. A water-proof ply is available.	Tabletops, worktops door fronts, drawer bottoms, small boats (waterproof ply)	Med
MDF	Does not warp easily, cuts and planes well without splitting, needs a finish.	Tabletops, worktops, veneered furniture, clock cases.	Med
Blockboard	Does not warp easily. Very strong, rigid and rather heavy. Edge finishing is difficult.	High quality furniture, stage flooring, fire doors.	High
Chipboard	Heavy, can warp easily, joining pieces together is not easy, needs a finish.	Cheap plastic coated furniture, roofing boards, partitions	Low
Hardboard	Not very strong, warps easily, needs a finish.	Door panels, cheap drawer bottoms, cabinet backs.	Low

# Questions

What is the environmental advantage of making and using chipboard?

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Explain how Plywood is constructed?

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Which manufactured board might you choose to make a longer shelf for heavy books?

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List different uses for manufactured board that you can find at home, and state which type of board you think are being used.

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