

Casing: Materials & Construction

Selection & Rejection of Materials & Joining Methods

You need to write about different materials & choose one Then write about different joining methods and choose 1.

Materials:

High Impact Polystyrene: Lightweight, Inexpensive, Does not shatter, easily formed into complex shapes, self coloured. Can crack, is thin, too flexible for large shapes, not ideal sounding for speakers

PVC Foamboard: Lightweight, Inexpensive, Does not crack, can be bent into shapes, self coloured. Can't be formed into complex shapes, edges can't be made shiny,

Acrylic: can be bent into shapes, stiff, self coloured, looks good (shiny). Lots of edge finishing required, brittle, can be fragile

Medium Density Fibreboard (MDF) Inexpensive, can be cut, drilled and joined easily, strong and stiff, Edges can be rough and easily damaged, Lots of filling and painting (finishing) required, Can only be made into basic box-like shapes

Pine: Wood grain looks appealing, strong & solid, sounds good for speakers. More difficult to machine than MDF, Lots of finishing required (sanding varnishing etc).

Construction (plastics):

Vacuum Forming in 2 halves: looks professional and neat, complicated shapes can be made. Former manufacture is tricky, screws must be lined up for fixings

Vacuum Forming with a Base: Simple formers can be made quickly, flat bottom for stability. Have to have a flat bottom, base must be screwed on,

Gluing a plastic box: Thicker plastics can be used, fiddly and fragile, accuracy is important

Construction (wood):

Gluing and Pinning Simple and strong, results are quick, lots of finishing required (filling and painting),

Screwing and counter-boring: quick and strong, can be disassembled during production screws can be hidden with plugs. Requires accuracy and skill,