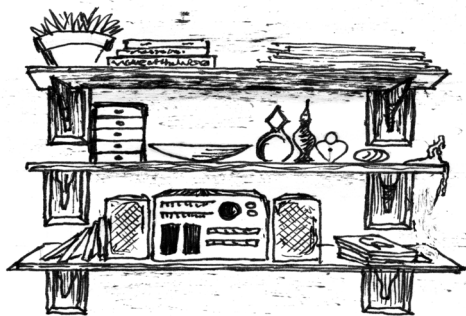


Project Ideas & Information

Wall Mounted Shelving



Before purchasing tools, timber and materials, read every step thoroughly then talk to one of our experts

Wall-mounted shelves of some size and shape usually become a necessary part of almost everyone's home. The purpose of this project sheet is to discuss some of the most common wall mounted shelving systems and construction methods that can be accomplished by the average home handyman.

No matter what shelving system you ultimately decide upon, take into account the visual effect you want from your wall system, what it will hold, and the structural elements required. Draw a plan to aid you in making a materials list, so that you will have all necessary materials on hand when you begin building.

Alcove Shelving

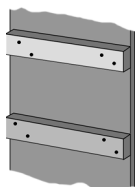
Alcoves are usually a great place to install shelving because it is a great way of using space that might otherwise go to waste and the finished project does not generally encroach into the room.

Draw up a plan of the shelving layout and take multiple measurements to ensure that the opposite walls are plum and run square with the back wall.

Support Options

Battens

Timber battens are inexpensive and are easily fixed to walls that are smooth and more or less square to each other. The battens are fixed to opposite walls and support the shelves at each end. For heavier loads or wide spans, you can add a third batten along the back wall for additional support.



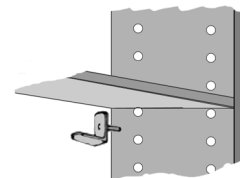
To make battens less obtrusive from the front you should cut them a little shorter than the depth of the shelf. You could also shape the ends for a softer look.

Use a level and pencil to mark out the intended positions of the battens on the walls before fixing them to the walls using one of the methods described further on.

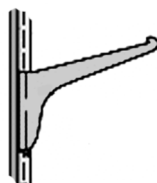
Plug-in shelf supports

Perhaps the trickiest method of all, this system comprises of a pair suitably wide lining boards, into

which a series of shelf support holes have been drilled. Each board is fixed to the side walls of the alcove and shelf supports are plugged into the pre-drilled holes to support the shelves. Laying out and drilling the post support holes is an exacting exercise and is not advised for the novice handyman, however there are some predrilled boards available on the market that might suit your circumstance.



Standards and Brackets



This system comprises of slotted metal uprights (standards) and moveable metal brackets. Although a very simple system to construct, the main concern is that the standards need to be attached to the studs of the back wall of the alcove.

You can read more about this system further on.

Cutting shelves to fit alcoves

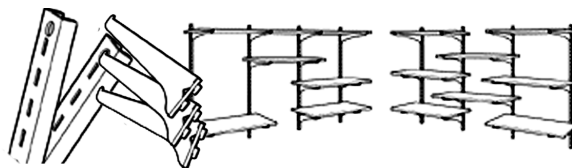
Don't attempt to cut all the shelves to the same size unless:

1. The walls of the alcove are even and true (or you have lined them).
2. You are using a standards and bracket system. In this case cut the shelves so they all fit the width of the alcove at its narrowest point, allowing a small clearance.

In all other situations it's best to measure and cut each shelf individually.

Adjustable Slotted Shelving

At the core of the adjustable slotted shelving system are the standards themselves which are long metal strips containing sets of slots at roughly 30mm intervals into which you lock the brackets. Because of their length, standards tend to be more stable than individual brackets as they spread the load over a greater area of the wall. This system is an excellent method of shelving that is easy to fit and very versatile. It provides a neat, sturdy fully adjustable system that blends into most homes.



As with any shelving project, you should draw up a plan of the shelf layout before you start, keeping in mind the following information.

Standards need to be fixed to a solid surface, so if you intend to fix them to a hollow wall, the standard positions will be governed by the position of the timber studs (usually at 450mm centres) in the wall. If dealing with a masonry or brick wall, the standards can be fitted anywhere.

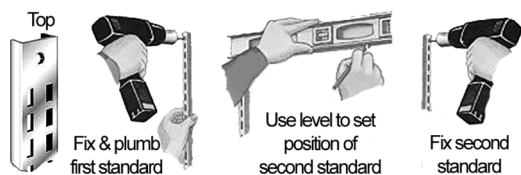
If you use three or more standards you can greatly increase the layout possibilities of your shelves ... you can fit shelves of different lengths, none of which need necessarily span the entire system.

Always arrange the shelves in decreasing order of depth, from bottom to top. Using this method you could even use the bottom shelf as a lightweight desk, leave a gap, and then continue with regular shelving higher up. For safety, the ends of shelves should extend past their supports by at least 50mm, so they cannot slip off the brackets when loaded.

Fixing Standards

Before fixing any standards you should be aware that they have a defined top and bottom. The top end usually is the one with a countersunk screw hole closest to the edge and you should position the standards so their top ends are closest to the ceiling.

On a hollow wall use a stud finder or other method to locate the wall studs where you'll mount the shelf standards.



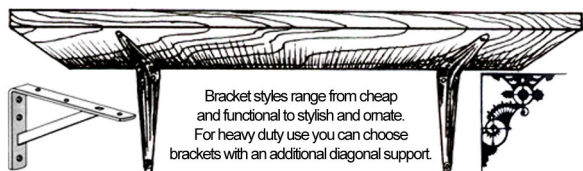
Mount the first standard at the desired height using 63 – 75 mm screws. Use a level to make sure the standard is plumb and then place the level on the top of the mounted standard, and make a level mark at the stud location where the next standard will go.

Fix the next shelf standard to the wall, again, use a level to make sure the standard is plumb. Attach one set of brackets to the wall standards, double check for level and then install the shelves.

On a solid masonry wall, follow the same procedure as above but fix the standards by screwing through each of the fixing holes into drilled and plugged holes in the wall.

Angled Bracket Shelves

Simple one-piece, 90° angled shelf brackets are ideal for single shelf applications or in cases where fixed shelving is required. Bracket styles range from cheap and functional to stylish and ornate. For heavy duty use you can choose brackets with an additional diagonal support.



Whatever type you choose, use the recommended bracket spacing for the shelf material and the likely load the shelf will have to support.

Fixing Brackets

Angled brackets normally have one long arm and one short arm. You should attach the bracket's longer arm to the wall and use the shorter arm to support the shelf.

Use the same fixing and levelling methods as described above for the standard and bracket system.

Choosing Shelving Material

The most common material used for shelves below, but that does not mean you are limited to these. Old fence palings, sheet metal and even woven rope can be viable options in some shelving applications.

Solid timber is strong and available in a variety of widths to suit most shelving locations. To minimise sagging, choose a minimum of 19mm thickness and support the shelf at a minimum of 600mm intervals.

Melamine coated or veneered particleboard is the most common pre-finished shelving available. Generally 16mm thick, it comes in a wide selection on widths and lengths and a variety of facings. It should be supported at 450mm intervals for all but the lightest loads.

MDF (medium density fibreboard) is easily routed or planed to give a decorative finish and is ideal for painted finishes. Choose at least 18mm thick and support a minimum interval of 600mm.

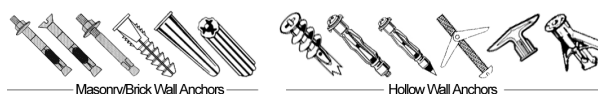
Glass is ideal, if not somewhat expensive, for light to medium loads and is particularly suitable for displaying china, crystal and other fine ornaments. Check with your local glazier to find out what options are available to you.

Fixing Methods

Wall fasteners for shelf hardware can be broadly categorised into those for solid or hollow surfaces.

Solid walls include brickwork, block work and concrete and many different anchor types are available. Generally a hole is drilled into the wall, and the anchor is put into the hole, then a screw is driven into the insert. The screw expands the insert sideways, and it grips the inside of the hole tightly. Anchors come in a variety of sizes and the size of hole and screw required for installation is normally detailed on the pack.

If you are fixing to bare brickwork, try to get the anchor into brick rather than mortar as some mortar is very soft and will not take the imposed load.



Hollow walls are usually constructed with timber studwork covered with plasterboard and require different fixing techniques. If at all possible, locate the studs within the wall and line up your fixing points with these. If this is not possible it will sometimes be necessary to actually secure onto the covering, be it plaster board, hardboard or similar.

There are many different hollow wall fixings available so you will need to check out their suitability for your particular situation. Generally speaking hollow wall anchors should only be used where the force is downward, such as fixing battens to the side walls of an alcove. They are not particularly suitable in situations where the shelf tends to pull the anchor outward, such as when you use angled shelf brackets..

Shelving Hints

- Wider-spaced shelves tend to look best at or below table height - around 750-900mm. Set the first level of shelves here, then work out the spacings up and down.
- You can make timber shelves more rigid and reduce the chance of sagging by screwing and gluing a timber batten to the front and/or rear edge (or to the underside) of a shelf.

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