Easy-to-build steps

Timber steps are practical and easy to build

Photography John Halfhide; styling Rebecca Byrne; diagrams Tech View Studio

A basic set of verandah steps is one of the more useful home projects you can build. You could use brackets to hold the treads, but it's more professional-looking to set them into housings routed into the strings. By Dieter Mylius

Here's how

Step 1 Dig two 300 x 300 x 300mm footings one metre apart and 1300mm from the edge of the verandah. Fill with fine, dryish concrete, finishing slightly above ground level.

Step 2 Set out the steps on the strings (A). First draw a line (margin) 45mm down from the top edge, along the inside faces of strings. Mark out and cut a right-angled triangle on a scrap of plywood with a long side of 325mm and short side of 140mm as a template for setting out the stairs on the string.

Step 3 Refer to diagram. From the base end of the string, measure in 150mm along the margin. Place the sharp point of the template on this point, with the hypotenuse along the margin. Draw around the triangle, then slide the template along the line so the sharp point aligns accurately with the end of the first triangle. Draw in the next triangle and repeat for all steps needed. The other string is a mirror image of the first. Extend the tread lines to the bottom edge of each string, then add a second line 45mm beneath the first. Run a short vertical line down from the margin between the top and bottom tread lines.

Step 4 Measure the distance between a 19mm router cutter and the edge of the router base and clamp a straight batten to the string to rout out the tread housing to a depth of 15mm. Set for both

Continued

Easy-to-build steps (Cont)

upper and lower edges of the tread, and to remove centre waste. For small routers make cuts in two stages: first half depth, then full depth. Square off the rounded end of housing with a sharp chisel.

Step 5 To trim the bottom of the string, measure 140mm down from the top of the base-end housing and mark a line parallel with the housing. Then measure 45mm from the front of the housing and draw a line perpendicular to the tread. Cut the base to shape.

Step 6 At the top, mark 325mm from the front of the tread housing to the back of the housing. If the existing verandah decking is flush with the verandah joist supporting the strings, this is the cut-off line. If the decking overhangs the joist, measure the overhang and add it to the measure-ment on the string. Cut a notch at the top of the string corresponding to the overhang and thickness of the decking. Drill holes through the tread housings ready to screw on the treads.

Step 7 Prepare the treads (B) to the required width by ripping 190 wide timber to a width of 160mm. Paint ends of treads and inside housing with timber preser-vative before assembly.

Step 8 Lay one string across sawhorses, and stand one bottom tread in the housing. Screw on from underside. Insert a 10mm spacer, then screw in the other tread. Repeat for the upper treads. Place the assembly on the ground and add the other string.

Step 9 Slide in and fasten the other treads. Drill a 10mm hole 30mm under the bottom and top treads. Counterbore to take a washer and nut. Cut tie rods to 1090mm, push through and locate with washer and nut. Screw two angle brackets to the top back edge of each string and two brackets drilled out to take 8mm an-chors at the base. Stand the steps in place and drill through for screws at top and anchors at base. Fix in place, then stain or paint as required.

Working out step sizes

- A comfortable average step for most people has a rise or tread height of 170-175mm and a going or tread length of 270-280mm. To calculate step dimensions, add twice the rise to the going. The result should be within 20mm of 610mm.
- These steps are a total height of 700mm and project out 1300mm to clear an existing garden bed.
- To work out your steps, divide the total height by 170. This gives 4.12 steps. For steeper steps choose four 175mm rises, for shallower ones five 140mm rises. Divide the horizontal distance by 4 (there is always one less tread than the number of rises) for a going of 325mm.

See Buying Guide

What you will need

Item	Part	Size	Material
A	Strings (2)	290 x 45 x 2100mm	Treated pine
B	Treads (8)	190 x 45 x 1030mm	Treated pine
C	Tie rods (2)	1200mm x 3/8 inch	Threaded steel rod

You will also need two bags of premixed concrete, off-cut of plywood, four 3/8 inch washers and locking nuts, four galvanised angle brackets, masonry anchors, assorted screws.