

Folding Step Ladder

Timber (Pine):

- 1400 x 90 x 19 (Frame)[2 x legs 696x90x19]
- 2600 x 70 x 19 (Back legs)[2x Back leg 590x70x19, 2x Back leg brace 425x70x19, 1x Frame back support 475x70x19]
- 480 x 140 x 19 (Top tread)[Top Tread 475x140x19]
- 810 x 115 x 19 (Treads)[2x Treads 401x115x19]

Miscellaneous:

- 500mm x 8mm rope
- 2 x Gate hinge
- 2 x Door latch
- Timber screws (8g, 65mm,28mm,19mm)
- Timber PVA glue

Tools and machinery:

- Lead pencil
- Metal Rule
- Tri-Square
- Marking Gauge
- Drop mitre saw
- Table saw
- Radial arm saw
- Plunge router
- Drill press
- Cordless drill

Marking Out

- Mark out timber to the above measurements, ensure that all markings allow for blade width and your waste timber is marked clearly using a sharp pencil, metal rule and a tri square.
- Make sure that the base of the legs and through housing trenches for frame legs are marked out at 22.5°, also mark the angle of the back support at 22.5°.
- Mark out the trenches of the back leg braces and the through housing trench of the frame at a depth of 7mm using a marking gauge.

Cutting

- Cut timber to the marked out length using a drop mitre saw.
- Use a hand plane or a correctly calibrated table saw to get the 22.5° angle on the back frame support.
- Cut trenches using a plunge router, to get the trenches at 22.5° use a jig with a guide set to correct angle.
- Use a router with a round-over bit to put a rounded edge on the top tread.
- Cut 15mm chamfer on front corners of treads so that there will be no sharp corners to bump legs on when using ladder.

Drill

- Once trenches are cut, mark out screw locations ensuring holes are as close to the centre as possible and 20mm in from edges.
- Mark screw holes for top tread 15mm in from front edges and 35mm from end edges.
- Using a drill press, pre-drill holes for screws.
- Drill holes for rope roughly 200mm up from base of legs.

Assembly

- Dry fit all pieces.
- Glue and screw together back legs.
- Glue and screw front legs and treads.
- Glue and screw back frame support onto frame.
- Glue and screw top tread.
- Affix hinges onto back leg and back frame support.
- Feed rope through the holes and tie off.
- Affix latches to side of frame legs can be closed and held in place.

Name: _____

Date: _____