Lay a timber floor

• An easy-to-follow guide to achieving a perfect result.
• Outlines all the tools you will need for the job.
• Includes a materials checklist.

PLEASE NOTE:
Before starting this project or buying any materials, it is worth your time to read all steps thoroughly first to be sure you understand what is required.

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**MIGHTY HELPFUL CHECKLIST**

<table>
<thead>
<tr>
<th>ORDER</th>
<th>Solid Timber</th>
</tr>
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<tbody>
<tr>
<td>- Selected tongue and groove floorboards</td>
<td></td>
</tr>
<tr>
<td>- 50 x 2.8mm bright steel bullet head nails</td>
<td></td>
</tr>
<tr>
<td>- Selected clear timber floor finish or stain</td>
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<tr>
<th>Particleboard</th>
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<tr>
<td>- Selected particleboard flooring</td>
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<tr>
<td>- Construction grade adhesive (cartridge)</td>
</tr>
<tr>
<td>- 50 x 2.8mm bullet head nails for hardwood joists</td>
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<tr>
<td>- 65 x 2.8mm bullet head nails for softwood joists</td>
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<tr>
<td>- 100 x 38mm hardwood for joint noggings</td>
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</tbody>
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**Other materials**

- Verbal quotes are indicative only. Written quotes on materials are available upon request from your Mitre 10 store.

**MIGHTY TOOLS FOR YOUR MITREPLAN**

- Claw hammer
- Hand saw
- Circular saw
- Bolster chisels and/or pinch bar
- Nail punch
- Floor cramps (hired) or timber wedges (home-made)
- Pencil
- Measuring tape or rule
- Carpenter’s square
- Hand planer
- Caulking gun (for laying particleboard)
- Drum sander (hired)

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**Walk all over a floor you’ve made yourself – with help from Mitre 10.**

Solid timber floorboards that have been sanded, sealed and polished can give a room an atmosphere of warmth, rich colour and luxury. They are hard-wearing, easy to clean and can usually last a lifetime without giving trouble. But there may eventually come a time when they become loose, worn, rotted or uneven with annoying creaks. Then it’s time to think of a new floor. In this MitrePlan, we show you step-by-step how easy it is to lay a new timber floor. Or, if you plan to carpet or tile the floor entirely after you’ve laid it, special particleboard flooring is an alternative. It’s generally cheaper than timber floorboards and there is a general purpose grade suitable for use in bathrooms, laundries and toilets. The choice is yours. All you need are the right tools and the right advice – from Mitre 10.

**Solid Timber Floors**

**Step 1: Buying floorboards**

Floorboards are made from dressed softwood or hardwood in a variety of timbers selected for their hard wearing qualities. So in choosing, it really comes down to the timber colour and grain that pleases you most. For estimating quantities, standard widths (excluding the width of the tongue) are 80, 110 and 140mm but can vary slightly. So it’s a good idea to check first with your Mitre 10 timber supplier to find out the exact width of the boards stocked before carefully working out how much timber you’ll need. Or, better still, ask the staff at your Mitre 10 store to work it out for you. Simply multiply the length of your room by its width to find the floor area in square metres, and give them the measurement.

Also keep in mind the thickness of the board. Thicker or thinner boards may create problems with levels where old and new join each other. The thickness of dressed floorboards is generally 19mm. Most hardwood flooring is now end-matched so ends of timber are cut square with either tongue or groove edge.

**Step 2: Removing the old floor**

Skirting boards and architraves which extend to the floor will need removing first. Exercise care so they can be re-used when the floor is completed. Start near a wall, but not right up against it, and lever up the first board. Floorboards have either square or tongue and groove edges.

If square, insert a bolster chisel or metal lever into a gap between the boards and prise up the board enough to insert another chisel or level on the opposite side (Fig. 1). Then work both levers along the board until it is free and can be lifted off.

With tongue and groove floor, start by cutting through the tongue of the first board with a circular saw (Fig. 2). Set the depth of cut to the floorboard thickness, tilt the saw forward and lower the blade into the gap between two boards. Saw along the length of the board ensuring that you don’t cut into any of the joints. Once the first board is removed, use a stout length of timber as a lever and a shorter piece as a fulcrum to lever up the rest of the boards one at a time (Fig. 3).

If any of the boards are screwed down, be sure to undo the screws first.

**Step 3: Laying new floorboards**

Before starting, check that the joists haven’t sagged out of level. Place a straight floorboard on its edge across the joists to see if there are any gaps between them (Fig. 4). If there are, cut packing pieces, then plane or chisel them to the right thickness to fill each gap, and nail them to the tops of the joists.

Then measure and cut the first four or five boards to length. Make sure the ends are cut squarely and any boards that butt join against each other always do so in the centre of a joist. And stagger the joins so that there are five boards between joins on the same joist. This does not apply if using end-matched flooring. Lay flooring at random using short...
then long lengths. Also remember to stagger colours to avoid dark or light patches.

Start laying by positioning the first board to fit against the wall. Pencil in where it goes around any obstacles and cut it to fit. Fix this first board with a slight curve in the centre to compensate for any hollowing of the boards as you cramp them. Progressively check that the floor board edges are positioned to a straight line parallel to the wall you are moving towards.

After nailing the first length, lay the next three or four in position and cramp them tightly together. You can hire floor cramps for this, or make a pair of timber wedges. Nail a temporary timber piece to the joists and tap the wedges together between the boards and the fixed timber piece (Fig. 5). If you’re using cramps, place a solid piece of timber (such as 100 x 58mm) between the cramp and the floorboard. This protects the edge of the floor and gives even cramp pressure.

Then nail the boards to the joists and remove the clamps or wedges. Continue cramping and nailing further groups of boards, always ensuring that the two boards butt together meet in the centre of the joists, until the floor is almost completed – unless end-matched timber is used.

At the end wall, you’ll probably be left with a narrow gap. To cut the final board to fit, plane the tongue off the last floorboard. Wedge one of the boards tightly against the last nailed board. Then place the other board on top of it, butted hard against the wall lining or frame (Fig. 6). Using the top board as a straightedge, pencil a line on the length of the bottom one. Cut the bottom board along the pencil line, then lay the whole board next to the wall. Press them both flat into position and nail down (Fig. 7). Finally, punch all the nail heads below the surface.

**Step 4: The finishing touch**

Why not make a feature of your brand new floorboards? A coating of Tung oil not only protects them, but enhances the timber’s colour and grain. Tung oil is a clear coating that dries to a patina finish providing a natural look and feel, or if you want to change the colour of the boards, you can stain them before sealing with Tung oil.

Before coating, fill any imperfections and nail holes with water-based wood filler. Then sand the entire surface smooth. You can hire an industrial-type drum sander for this. Start with medium/ coarse sandpaper to strip away the rough surface, and finish off with a finer grade. Always sand with the grain as sanding across the grain will leave scratches. After sanding, vacuum the floor thoroughly, then rub over with a mineral turpentine-damped cloth to remove any residue dust.

Apply a coat of Tung oil and let it dry thoroughly. Then lightly sand and remove the dust before applying a second coat. Further coats can be applied until the desired effect is achieved.

**Particle Floors**

**Step 1: Buying particleboard**

Today’s structural grade particleboard sheet flooring is an inexpensive and hard wearing material that is increasingly being used especially in new homes. It comes with tongue and grooved edges and square straight edges. The tongues are rigid PVC to ensure a tight, precise fit of unsupported edges, and colour-coded to signify their thickness and application. Where joist centres are 450mm apart, choose 19mm thick Yellow tongue, but use 22mm thick Red tongue where joist centres are spaced 600mm apart.

To work out how much you’ll need, the standard sheet size for both Yellow and Red tongue is 3600 x 900mm. In doing your calculations, keep in mind that the last sheet in a row may be cut and the offcut used to start the next row of sheets as long as the offcut is no less than the joist spacing in length.

**Step 2: Laying particleboard**

Start by removing the old floor, following Step 2 for laying solid timber floorboards. Make sure that the joists are level and nail packing pieces to them to bring up to level if necessary.

Check that there is adequate sub-floor ventilation – and that the bottom of the floor is at least 400mm from the ground. Begin laying against a wall. Apply just enough adhesive to the joists to cover the area of the sheet. Remove the plastic tongue from the first sheet and lay it with the brand name and information side down, allowing a 10mm expansion gap between the edge of the sheet and the wall (Fig. 8).

If necessary, cut the sheet to size first. Then, using 50 x 2.8mm nails for hardwood or Cypress Pine joists, and 65 x 2.8mm for softwood such as Pine joists, tack it in position along the outside grooved edge. This will help make laying the new row of sheets easier. Repeat until the first row is complete.

On the second and subsequent rows, fit the tongues of the sheets into the grooved edges of the ones just laid. Ensure that the butt joints are staggered (Fig. 9) and that non-tongue and grooved ends finish on a joist. After each row has been laid, nail off the previous row as Fig. 10.

At this point, you no longer need the grooved edge of sheets. So measure the required amount needed to fit against the wall from the grooved edges, remembering to allow for the 10mm expansion gap as for the first wall, and cut to size. Then apply adhesive and nail in position as before.

Finally, punch all nail heads below the surface and sand to a flat, even finish with 40-60 grit paper before laying any floor coverings.
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MIGHTY HELPFUL HINTS TO MAKE THE JOB EASIER

- Buy your floorboards a week or two before you start laying and stack them flat inside the house. This gives the timber a chance to dry out, especially if it has been stored outdoors, and prevent any shrinkage which could result in unwanted gaps after you have laid them.

- Try to match the thickness of new floorboards with the ones you are replacing. If the ones you buy are thicker, they might not fit under the existing skirting boards.

- The quickest, easiest way to remove old floorboards is to use a long piece of timber as a lever and a shorter piece as a fulcrum.

- Pull nails from old floorboards as you remove them to avoid injuring yourself if you tread on one.

- When cutting particleboard with an electric circular saw, use a tungsten carbide tipped blade. Particleboard quickly blunts normal blades.

- Don’t leave timber debris lying underneath timber floorboards after you’ve laid them. It could encourage the spread of rot.

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