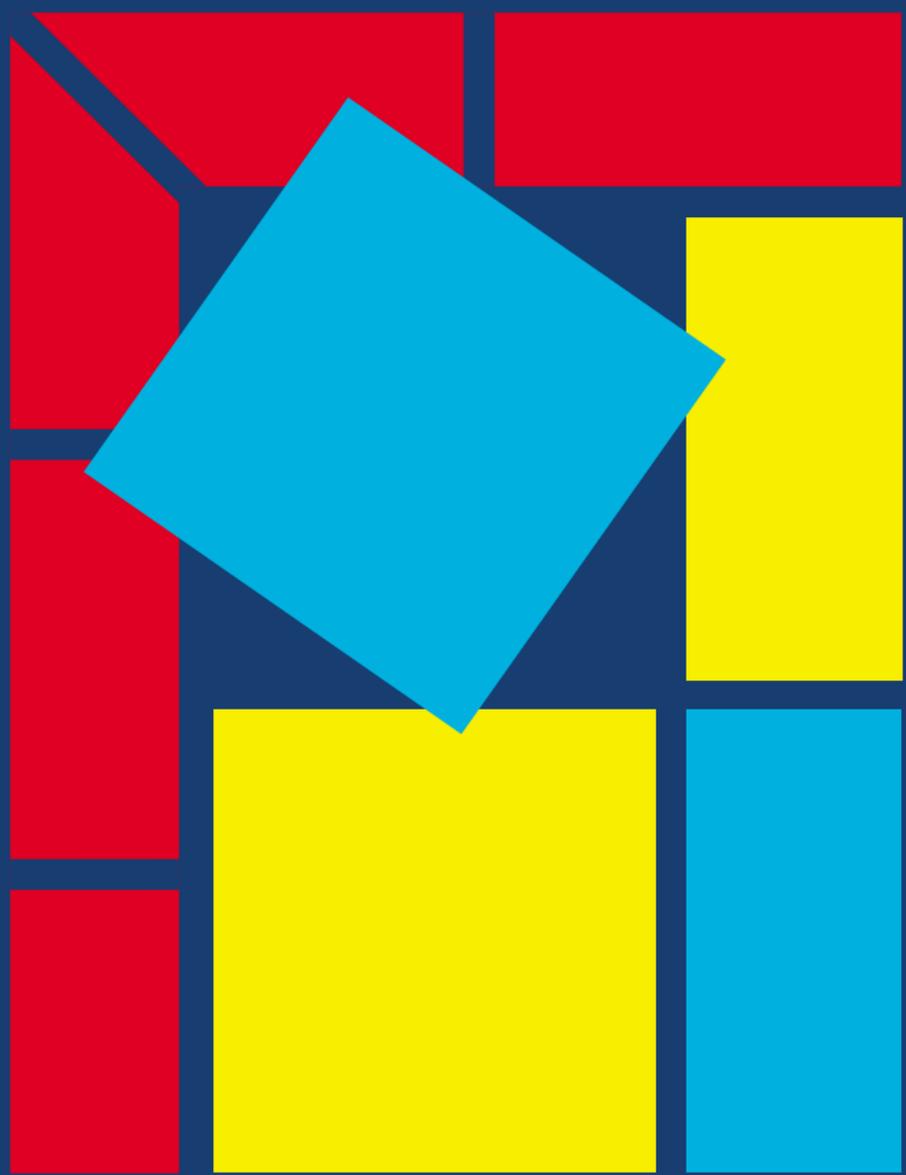


# Tiling interior walls and floors



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## **Tiling interior walls and floors**

Tiling demands patience and precision. This pamphlet takes you through the process for tiling ordinary interior walls and floors. Complicated room or wall shapes require extensive cutting and unusual tile shapes are difficult for the inexperienced handyperson. If you haven't tiled before, start with a simple, undemanding project.

Shower tiling requires waterproofing of the substrate. This is beyond the skill of the average homeowner and the consequences of a leak can be expensive. Leave shower tiling to experienced, professional tilers.

### **Materials required**

- Tiles
- Tile adhesive
- Tile grout

Depending on the situation, you may also need:

- Silicone sealant
- Tile spacers

### **Floor versus wall tiles**

There are a large variety of ceramic tiles available. Floor tiles are obviously subject to considerably more weight and wear than wall tiles. Therefore, while floor tiles can sometimes be applied to walls, wall tiles must never be used on floors.

Floor tiles are often thicker than wall tiles, or they may be vitrified (baked extremely dense and hard). This makes them more wear and damage resistant. Both wall and floor tiles may be glazed with a baked on gloss but, this coating is harder for floors.

Do your homework when choosing tiles. Using inappropriate tiles can have disastrous consequences.

### **Checklist:**

Note: specialist tools can be hired.

- Tape measure
- Pencil
- Carpenter's square
- Contour gauge (helpful)
- Chalk line (for some situations)
- Spirit level - for wall tiling
- Notched trowel for spreading adhesive
- Tile nippers

- Pointed plasterer's trowel, putty knife or old knife
- Tile cutter. The type the tile sits in is more accurate than hand versions run against a straightedge.
- Rod saw for cutting tiles freehand.
- Emery stone or fine Carborundum paper for smoothing cut tile edges
- Bucket for mixing grout
- Squeegee
- Firm sponge
- Clean cloths
- Rubber gloves (optional but cement based products can burn your skin)

## **Floor tiling - before you begin**

### **Preparing the surface**

What can you tile over? The floor surface must be clean, dry, sound, flat and RIGID. Smooth concrete is ideal, as it's perfectly rigid. However, concrete floors should be at least four months old before tiling, so most of the shrinkage in the concrete has occurred.

Timber and particleboard floors can be tiled over, but ALL flex must be taken out first. If you can feel the floor flexing when walked over, it's not suitable for tiling. More floor joists may need to be installed.

A screwed and glued overlay of fibre cement board provides a smooth substrate for the tiles on top of timber floorboards.

A damp-proof membrane is required when tiling over particle board in kitchens and bathrooms.

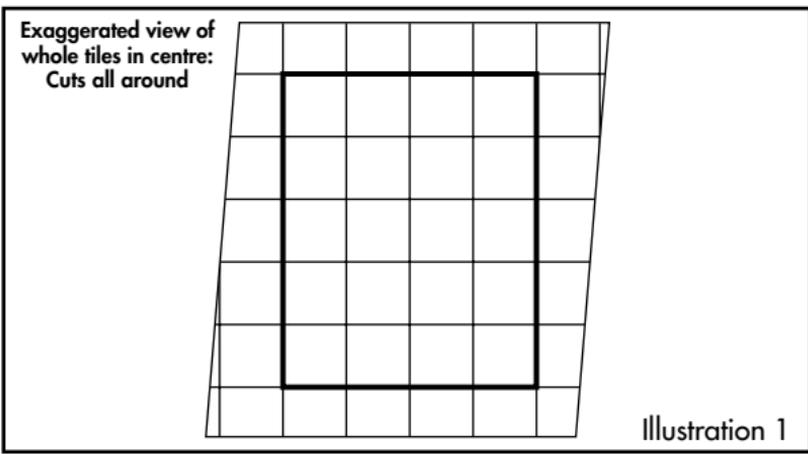
### **Setting out procedure**

(Squaring-off the area)

You will need to establish horizontal and vertical lines to tile to. The length or width of a floor (or the height and width of a wall) is rarely an exact multiple of your tile width. So you will need cut tiles at one or both ends of both horizontal and vertical lines.

- Cuts at both ends:

It is usually better to have cuts along all edges, rather than a full tile at one end and a cut at the other. Then if the side walls are out of square, the change in cut tile width is less noticeable.

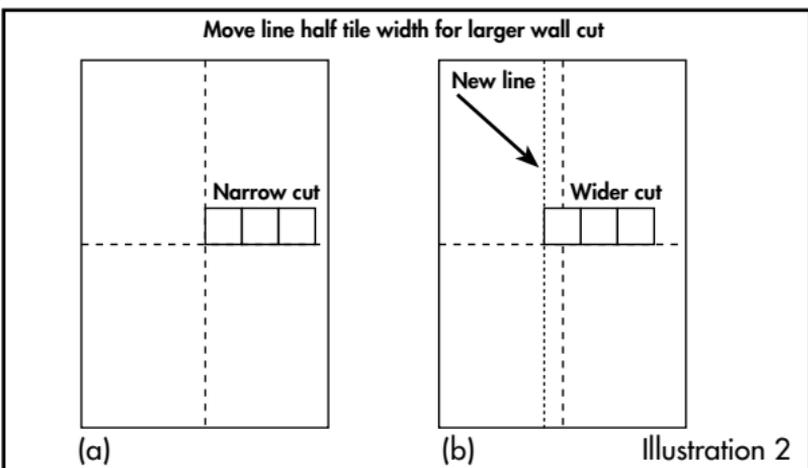


The aim is to set full tiles in a squared rectangle in the centre of the floor, with cut tiles all around the edges. This is the same for a whole wall. (See Illustration 1 ).

### Setting out procedure

For a square or rectangular room:

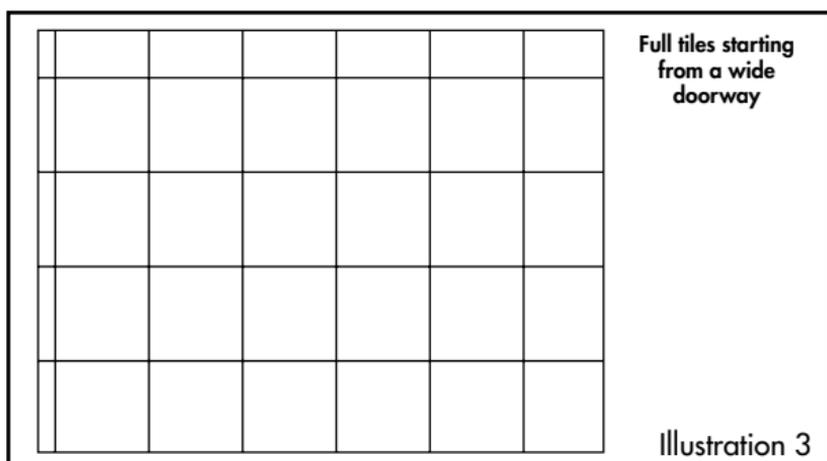
1. Stretch a chalk line between the centres of two facing walls. Snap the line, then do the same between the other pair of walls. The resulting lines must cross at the centre of the room at a precise 90° angle. Check with a carpenter's square. If necessary, adjust the line angle until it is 90°.
2. Taking one line at a time, lay the tiles side by side along the floor from the line to one end. If less than half a tile width remains between the last full tile and the wall or end, move the centre point half a tile width in the other direction. This will ensure a larger piece of tile at each end, giving a more attractive effect. (See Illustration 2a & 2b).



3. Repeat with the other line.

- Cuts at one end only:

You may want to start with full tiles from a very visible line: e.g. a wide doorway, or where the tiles give way to carpet. This is particularly appropriate where cut tiles against the opposite wall will be concealed by furniture. (See Illustration 3).



## Installation

### Laying the tiles:

1. Starting at your chosen edge, or from the centre line, lay tiles in one quarter of the floor at a time.
2. Lay all full tiles before laying cut tiles.
3. As you lay, check the lines of tiles are straight and at  $90^\circ$  to each other.
4. Floor tiles are often thicker, and have to be stronger than wall tiles. They can be difficult to cut. For smooth curved cuts and cutouts use a rod saw. Support the tile well while cutting.
5. Use a contour gauge to duplicate irregular shapes, or make cardboard patterns. Cut out as neatly as possible, then transfer the shape to the tile.

### Applying grout:

1. As some terracotta floor tiles are porous, grout may be difficult to remove and could discolour and stain them. Check tile and grout compatibility when ordering.
2. For glazed or vitrified tiles, grout as with wall tiles.

3. After the grout has dried, fill joint around edge of room with appropriate silicone. Silicones matching grout colours are available.
4. Seal grout with silicone sealer.

## **Wall tiling - before you begin**

Wall tiling presents the added difficulty of holding tiles on the wall while the adhesive sets. You may need to make up 50mm wide straight timber furring strips to use as tile guides and supports.

### **Checking the wall surface:**

If the wall has too much give or flex, you may need to strip off the lining, fix more studs and/or noggins, then reline with a suitable substrate.

Wall tiles can be applied over plasterboard, fibre cement board, plywood, solid plaster, brick or blockwork. MDF board or chipboard are also fine, but not in wet or humid areas.

### **Preparing the surface:**

Walls must be dry, flat, firm, clean, grease and soap free, with no loose paint, plaster or dust. Holes, dents and rough areas should be filled with a plaster based filler, then sanded smooth.

Bare plasterboard, MDF or particleboard should be sealed with an oil based sealer. Tiling over joints in MDF or particleboard can cause problems unless a proper movement control joint is formed.

Sound painted surfaces should be sanded and scratched to give the tiles grip.

### **Setting out procedure:**

For tiling the whole wall:

Setting out for walls is similar to floors, but you obviously can't lay tiles out dry on the wall. Mark a stick of timber in tile widths (see Illustration 4). Use that to calculate the position of full tiles. As with floors, adjust the position of the guide lines to ensure even and attractive lines of cut tiles along all edges.

Use your spirit level to draw a plumb vertical line from the centre-point, to the top of the area to be tiled.

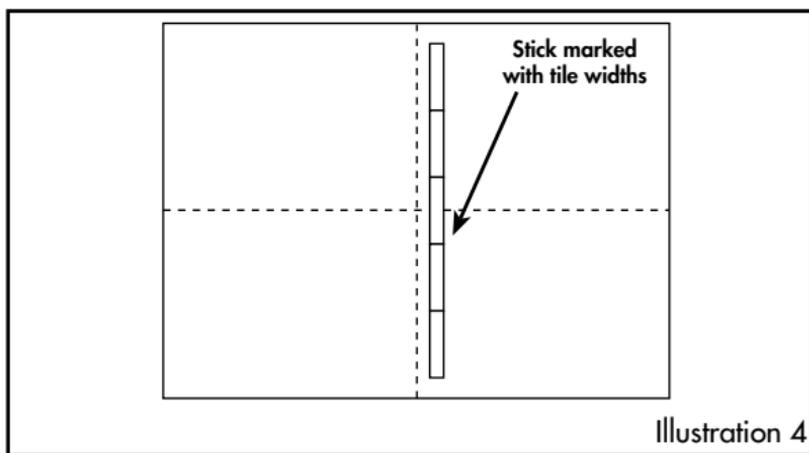


Illustration 4

For tiling part way up a wall: (e.g. to a dado)

Ideally, the desired height will be achieved using only full tiles. You'll probably want to finish along the top with a full tile anyway.

Use your spirit level to identify the lowest point of the wall. Floors and baths often run off a little. Set an upright tile against the wall at that spot. Using your spirit level, draw a perfectly horizontal line across the wall from the top of the tile. (See Illustration 5).

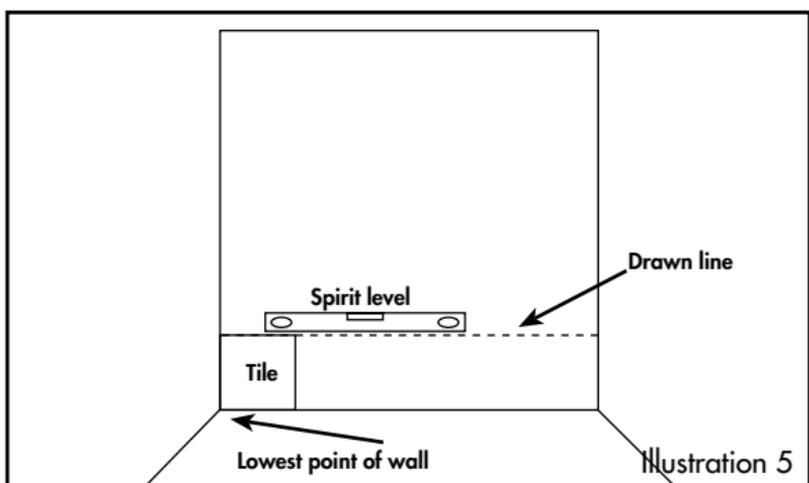


Illustration 5

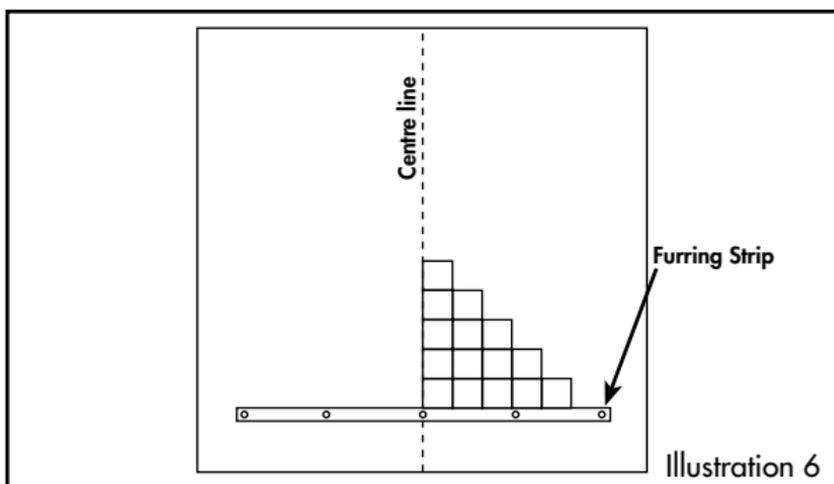
This is where you can use your first furring strip. Nail a straight batten up to and beneath that line, to support the second line of tiles. They will be applied first. Find and mark the vertical centre line as with a full wall and start with a full tile from that line. Where there is an obvious outside corner or edge, like the front of a bath recess, start from the outside corner and work to the inner corner.

All but one of the bottom row of tiles may need cutting. It depends on the setout.

## Installation

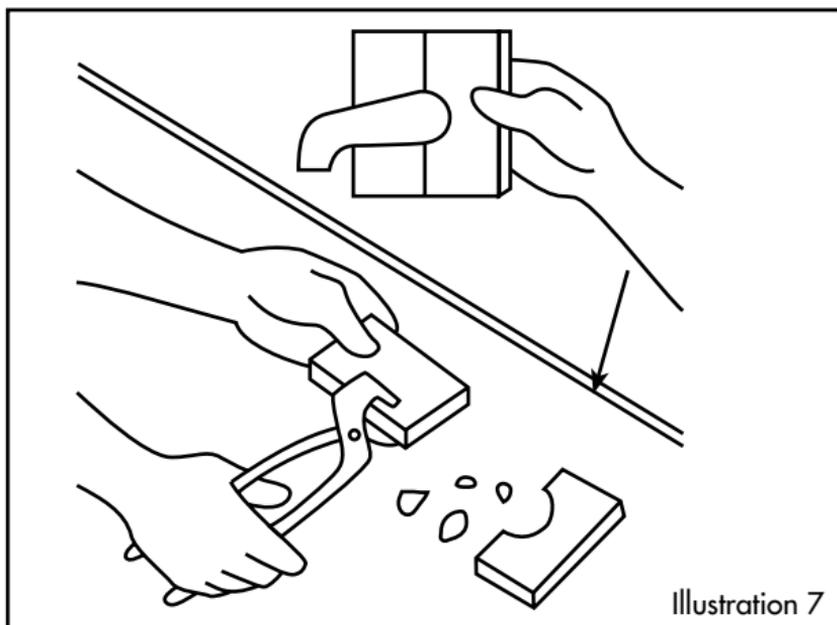
### Applying tiles to the wall

1. Apply full tiles before cut tiles. Start either at the vertical centreline or from a full tile edge.
2. Apply tile adhesive to the wall, covering a small manageable area at a time until you get the hang of things. Spread it with a notched trowel so that all areas are evenly ribbed. For hard to reach areas, spread the adhesive on the back of the tile before placing it.



3. Place tiles carefully in the pattern shown. (See Illustration 6). Either flop them up into position from the bottom edge, or press them into place with a slight twist. Too much sliding about forces adhesive up into the joints. Press firmly into place.
4. Use your level often to check horizontal and vertical alignment of tiles as you go.
5. When all the full tiles are glued, wipe away any adhesive in unoccupied spaces. Do not allow it to dry. Leave the full tiles 4 or 5 hours to set, before removing furring strips, and/or applying the cut tiles.
6. When measuring a tile for cutting, allow for the width of grout lines.
7. Cutting tiles in a straight line is not difficult, and gets easier the better your cutter is. If you have more than a dozen visible cuts, hire a good tile cutter.

8: For curved cuts or notches, mark the area of tile to be removed with a pencil. Use tile nippers to cautiously nip away the waste, a little at a time. If the cut will be covered by fixture plates or flanges, the cut doesn't need to be perfect. To apply a tile completely around a pipe, first cut the tile in half, then nip away the space for the pipe. (See Illustration 7). For a neater edge, cut with a rod saw.



9. Remove any adhesive on the face of the tiles with an appropriate solvent, cleaner or a razor blade. Allow tiles to set at least 24 hours before grouting.

### Applying grout

1. Mix grout according to packet instructions. Depending on the job, you may use latex grout additive instead of, or as well as water.
2. Spread grout over tiles. (See Illustration 8).
  - use squeegee
  - spread diagonally
  - force grout into joints
3. Wipe excess grout off with clean damp sponge. Use the rounded handle of a knife or a shaped piece of dowelling, to clean out, shape and smooth grout in joints.

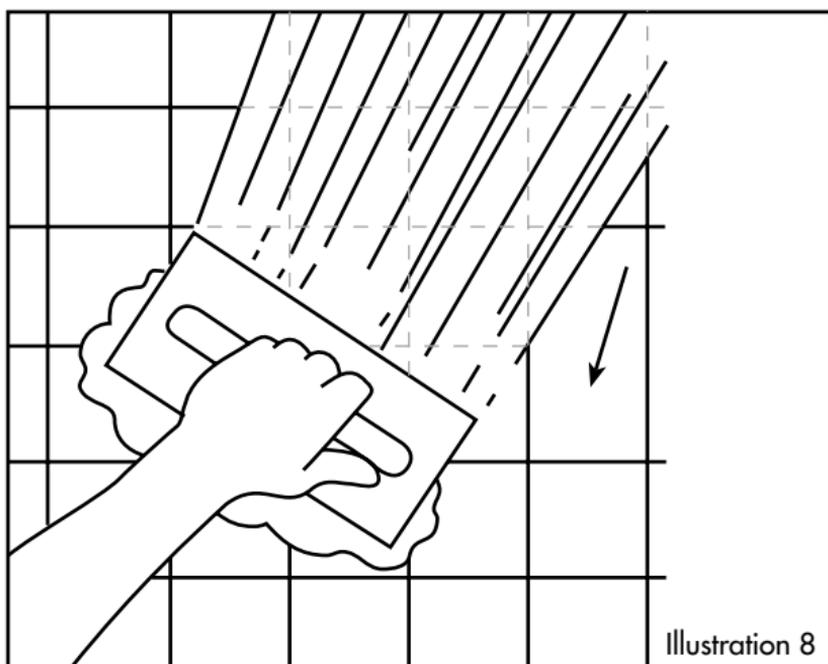


Illustration 8

**IMPORTANT:** Remove grout from floor/wall or wall/wall joints and fill with an appropriate silicone to accommodate movement. Grout can crack in these situations.

4. After the grout dries enough to form a haze on the tile, polish the surface with a dry cloth. Coat the grout with silicone sealer to prevent discolouration.

Reference: BRANZ Good Tiling Practice Guide

Produced in association with



The Building Research Association of New Zealand

**Please Note:**

Whilst the advice and recommendations contained in this brochure have been produced with proper care, they are offered only with the objective of assisting those interested in home improvement projects and PlaceMakers does not accept responsibility for the advice, recommendations, etc. contained herein.