

INTRODUCTION

Ceramic and quarry floor tiles provide a hardwearing and attractive surface for kitchens, bathrooms, hallways and conservatories.

Ceramic tiles can be laid on concrete or suitably prepared wooden floors and worktops. Be careful when setting them out because a lot of cutting work can be saved at this stage. The other important point is to get the whole surface flat and level so the edges of the tiles don't stick up. On uneven handmade or terracotta tiles, a few protruding edges are inevitable but you still need to be careful about how you lay them. There is an art in laying uneven tiles because it's impossible to lay a spirit level over several handmade tiles - you need to use your eye and judgement.

SKILL LEVEL ●●●●●

If you have some experience of cutting and fixing wall tiles then this will prove invaluable when moving on to the much tougher tiles used for floors and worktops.

SAFETY FIRST

Wear eye protection when using a tile cutter. Take care with sharp edges. Avoid prolonged skin contact with adhesive and grout.

TO COMPLETE THIS PROJECT YOU WILL NEED...

- Floor Tiles
- Grout
- Grouting Spreader
- Power Drill (optional - corded)
- PVA adhesive
- Spirit Level
- Spreader for Adhesive - Large Notched
- String Line
- Tape Measure
- Tile Adhesive
- Tile Cutting Machine
- Wall Tiles
- Worktop Edging

HOW TO: CERAMIC TILES FOR WORKTOPS AND FLOORS

2 - WORKTOPS

Tiled worktops are durable enough to withstand hot pans and will resist staining and abrasion provided that flooring grade tiles are selected.

The drawback of tiles is that the grout lines between the tiles can harbour dirt. It is therefore essential that the grout is durable.

Two part epoxy grout is used in commercial situations where food is prepared because it doesn't stain and it won't harbour bacteria easily. The problem is that this type of grout has to be mixed and applied very quickly because the setting time is only around half an hour; once it is set the only way to remove it is by sanding.

For a domestic kitchen, where the food is prepared on chopping boards and not directly on the tiles, you might find it easier to use an acrylic grout. This is more durable and resistant to staining than powder based wall tile grouts, but it won't last as long as epoxy grout. However, when the time comes to replace it, you can just rake out the top 2mm of grout and place more acrylic grout over the top.

3 - PREPARING CONCRETE FLOORS

Although some tiles, such as quarry tiles, will hold back a great deal of damp, it is not advisable to use tiles as a cure for damp floors.

You can test for damp by placing upturned jam jars on doughnut rings of putty. Leave them overnight and if in the morning there is moisture on the inside of the jars, the floor is damp ❶.

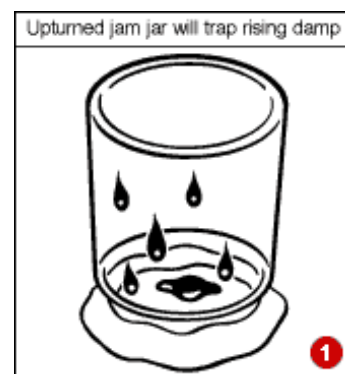
If there is rising damp in the floor, it should be treated first. You can use a paint-on solution such as water-based bitumen emulsion. Apply two coats and lightly sprinkle sharp sand on the top coat to give a good key for the tile adhesive.

In most cases, the adhesive used to stick down floor tiles can be laid in a thick bed which will allow for slight discrepancies in the floor surface. If the floor is uneven, it is better to float a screed over the floor. This can be done with a self-levelling screed which is mixed with water in a bucket, poured over the floor and spread with a trowel. Alternatively, for a thicker screed, you can mix up three parts sharp grit sand and one of cement with three parts water to one of PVA. This can be trowled into the low areas and feathered out at the edges.

Where a floor crosses from wood to concrete, as in a kitchen extension, it is almost certain to crack along the division if it is tiled over. To avoid this, you need either a flexible silicone joint at this point, or sheets of 1/2in plywood laid over the wood and concrete as an interlayer. The plywood can be stuck onto the concrete with panel adhesive.

4 - PREPARING WOOD

If you are tiling over floorboards, it is essential to lay down some 1/2 inch plywood first to provide a stable inter-layer. It should be fixed with screws or ring-shanked nails which won't pull out.



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5 - PRIMING

If you intend to use a cement-based tile adhesive, it is best to prime porous concrete surfaces and plywood first with some diluted PVA adhesive. This will prevent the moisture being drawn out of the adhesive before it has a chance to set properly.

6 - SETTING OUT

Very few rooms are perfectly square. You need to see what differences there are in the dimensions and work out how to deal with them. Starting from a line centred on a doorway or the middle of the room, try laying a row of tiles on the floor in a dummy run so you can see where the cut tiles will occur. If you end up with tiny slivers move the middle row one way or the other so the cut tile is more substantial **2**. For example, you can set the first row to straddle the centre line or to go either side of it.

To make sure the first row of tiles is perfectly straight, it is best to snap a line down the middle of the room with a piece of chalked string. Lay the string on pencil marks at either end and pull it tight then lift it slightly and let it ping onto the floor. This should leave a straight chalk line across the room **3**.

7 - LAYING THE TILES

Start furthest away from the door and work backwards so you complete the part nearest the door last. You must leave the tiles for 24 hours before walking on them. If you can't do this, lay some boards down on top of the tiles and tread gently.

You can start laying from the middle of the room towards the edges but complete a whole row each time, apart from the cut tiles at the edges which can be done later. Alternatively, for a larger area, temporarily fix two guide battens at right angles, set out from the line of the first row of whole tiles.

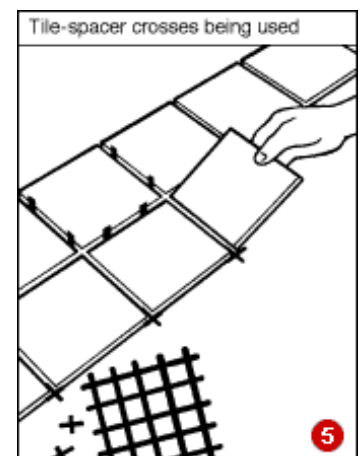
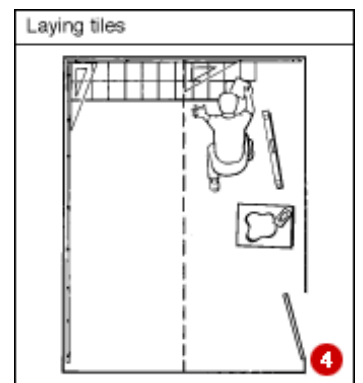
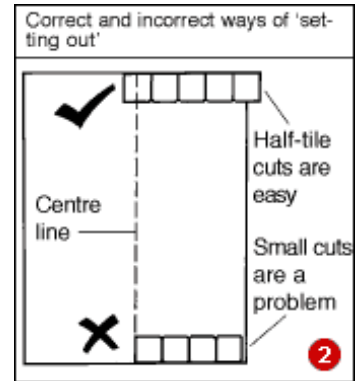
Trowel on enough adhesive to complete a square of tiles and then use the notched edge to comb through the adhesive to make ridges with a uniform height. Place the tiles on top of the adhesive and press down. Check each tile is level and in line with the adjacent tile **4**. Place a spacer next to the tile and then continue with the next one.

8 - SPACERS

Use spacers between tiles to establish grout lines. If the tiles are exactly the same size you can use tile-spacer crosses which you leave in place and grout over **5**. If the tiles vary slightly in size you are better off using pegs or small pieces of timber which you can pull out when the adhesive dries. You may have to use your judgement in keeping the lines roughly equal if the tiles vary greatly in size.

On very large floor areas, you should incorporate a flexible silicone joint to allow for expansion. This is best done in line with a room opening or division so it appears as a natural division.

Wipe off all traces of adhesive from the tile faces as you go and rake out between the tiles before the adhesive sets.



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9 - MOSAIC TILES

In small areas such as bathrooms with lots of obstructions on the floor or worktops it's best to avoid large tiles - there will be so few whole tiles that the effect will be lost. Mosaic tiles are ideal in these situations as they are easily cut to fit round obstacles **6**. The tiles are joined by a nylon mesh or a paper face which keeps them perfectly spaced. If your tiles have a mesh this is simply bedded in the adhesive whereas paper-faced tiles are laid with the paper uppermost. This should be removed when the adhesive sets.

Use a board and hammer to tap mosaics down.

10 - CUTTING TILES

Floor and worktop tiles are much harder to cut than wall tiles. There are several ways to cut them and much depends upon the tiles and your ability. At B&Q Warehouses you can try out a number of different tile cutters to find out which one suits you. Use the same type and size of tile that you intend to use on the floor or worktop. Large tiles are easier to cut.

If you are using a hand-wheel type cutter, make a single score line in one pass and then smartly snap the tile at the end **7**. You will find that hesitation produces bad results.

If you need to cut some very narrow strips of tile with a tungsten-wheeled cutter and want to keep them in one piece, it is better to cut a piece twice as wide as you need it and then cut this in half. Having two sides the same helps make the break even.

For a foolproof way of cutting tiles, obtain a diamond-wheel cutter with water lubrication. This will give you perfect cuts every time and, in many cases, will pay for itself, since there will be no wasted tiles **8**.

11 - GROUTING

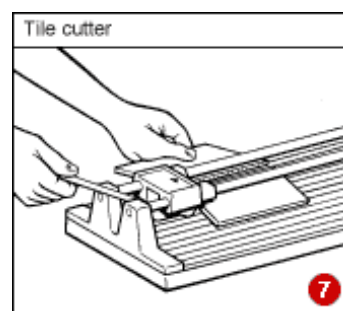
Mix grout thoroughly making sure there are no lumps. Most grouts are best left to stand for a few minutes before use. If the tiles are glazed, you can spread the grout all over the surface with a squeegee and then wipe off the excess with a damp sponge. Where the face of the tile is porous, i.e. terracotta or slate, you will need to point the grout lines with barely moist mortar. When the grout begins to set hard, it needs to be rubbed with a rounded stick or pointing tool. This will compact the grout to make it water resistant.

12 - ACRYLIC GROUT

Acrylic grout is applied straight from the tub with a spreader. Wipe off the excess with a barely damp sponge. If it is too wet it will cause orange-peel type crazing on the surface.

13 - UNDERFLOOR HEATING

You can add a real touch of luxury by incorporating underfloor heating. Lay continuous lengths of plastic heating pipe under the sand and cement screed. The temperature of the heating water should be substantially less than in the radiators since you need to avoid hot spots. This can be achieved by incorporating a mixing manifold into the flow and return.



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14 - DRILLING TILES

Use a power drill set at slow speed fitted with a masonry bit.

Avoid using hammer action on the drill as it could crack the tile.

For larger holes of 1/2in upwards, you can either buy a tungsten-tipped hole saw or drill several holes with a masonry bit and join them up with a carbide-blade saw. You will need to finish the hole off with a file.

15 - FINISHING EDGES OF TILES

On floors, most of the edges of tiles will be covered with a skirting board or door threshold strip, but on worktops you will need to cover the edge of the tiles with a piece of hardwood strip or a purpose-made tile edging. This could be plastic or special round-edged tiles.

It is best to place the strips in line first and then tile away from them towards the back edge. If the tiles meet a wall, then the wall tiles should be placed over the cut edges of the worktop tiles. Use a silicone sealant along the back and then tile over it.

16 - DRAINED FLOORS

Many people like to create a drained floor for use in a shower or utility area. Attention needs to be paid to every detail of the construction if it is to be watertight. You will need to build the floor with a fall towards the drain.

Low spots are to be avoided at all costs. There should be no give in the floor whatsoever so, if you are building on timber joists and boards, it should be built with a heavier construction than a normal timber floor. The point load of an average person moving from one foot to another will cause grout lines to crack if there is any movement. Don't use chipboard or plywood less than 25mm (1in) thick.