Tiling onto wood

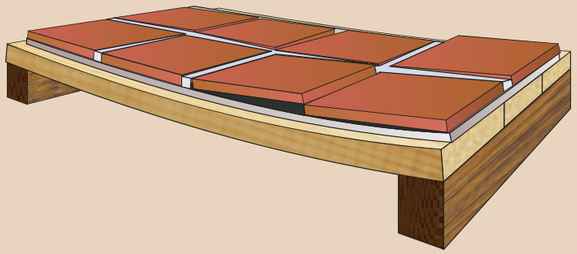
Timber floors and ceramic tiles are not natural bedfellows – tiles are inherently rigid and brittle whereas timber floors are flexible.

There are many types of wooden floor but in principle the challenges that they present to the tiler are all the result of this mismatch.

There are a number of contributing sources of movement in timber floors which need to be considered when fixing ceramic tiles or natural stones.

1 General deflection due to the applied load

Felt as bounce as you walk across the floor



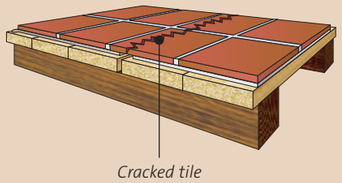
The floor will deflect according to the load applied and the stiffness of the structure (joist size, spacing etc).

If the adhesive is not flexible or laid thick enough to absorb the amount of movement, the tiles will either de-laminate or crack. Large tiles will exacerbate the deflection across each tile's width.

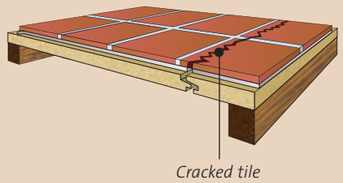
2 Localised movement at unsupported board joints

Creaking in certain places as you walk on the floor

Non- tongue and grooved timber



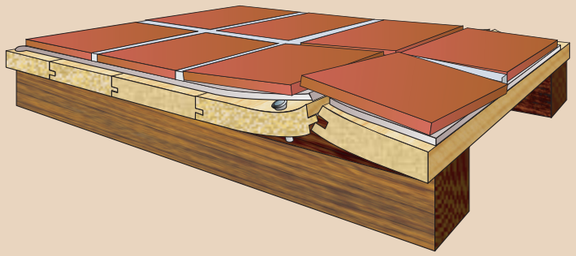
Unsupported tongue and grooved joint



Any inadequately supported joint will cause a highly localised movement which will crack the tile.

Joints may be supported by joists, noggings, or each other's tongues and grooves.

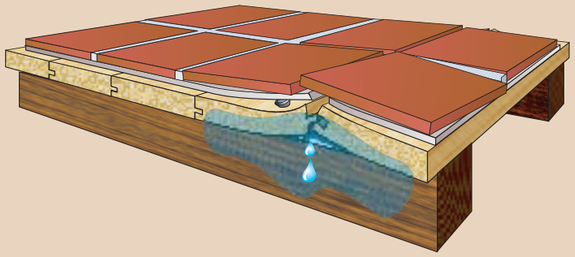
3 Temperature related expansion and contraction



Wood expands and contracts with changes in ambient temperature at a different rate to mortars, ceramics and stones.

As a further complication, timber expands much more across the grain than it does along the grain (this is not really a factor with manufactured boards such as plywood).

4 Moisture/humidity related expansion and contraction



Wood swells if it gets wet even with changes in atmospheric humidity.

This can be a problem in potentially wet areas such as showers and bathrooms and also if the wood is not dry when installed (e.g. if it has been kept outside).

Overboard with plywood or tile backer-board

The most secure system for tiling wooden floors is to screw fix another layer of boarding over the top of the original timber. This increases the rigidity of the floor, prevents localised movement and if a water-resistant tile backer board is used virtually eliminates moisture-related movement.

Screwing the boards down also helps prevent any pullout of fixings.

Products required

weber AD250
weber.set SPF or **weber.set rapid SPF**
weber.joint wide flex
weber SL450 or **stoneset flexible NC sealant**

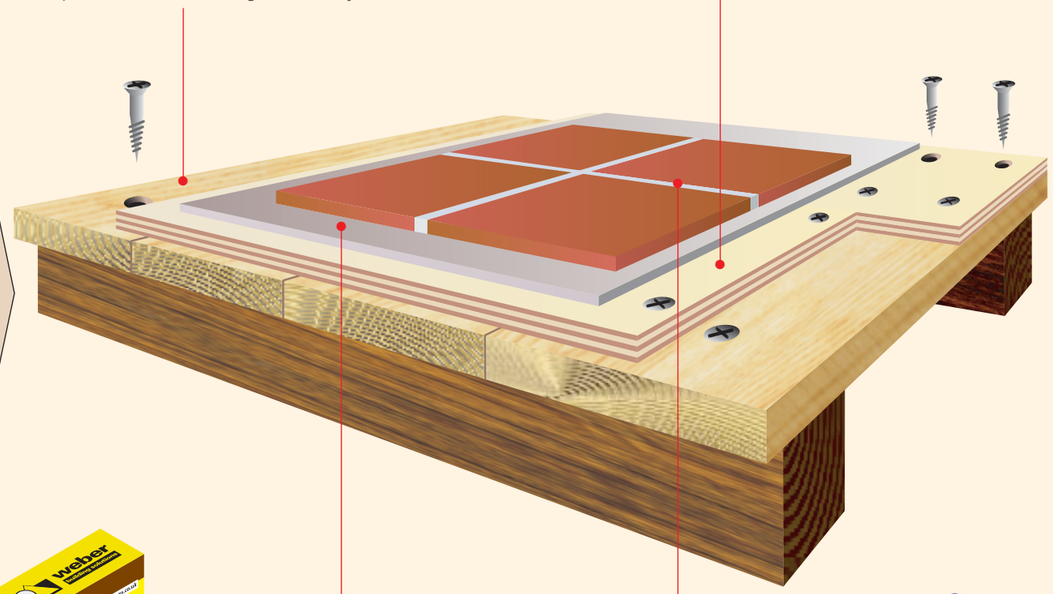
Stage 1: Assess and prepare the floor

Make sure that the floor will be capable of supporting the expected load. It must be stable, well supported, ventilated underneath and level. Verify that the extra height from over-boarding can be accommodated.

Brace any areas that need extra support with noggings between the joists. Any defective boards should be cut out and replaced. Screw the existing floor to the joists.

Stage 2: Fix the over-boarding

Use WBP grade plywood at least 15 mm thick. Prime the back and edges of the plywood with **weber AD250**. Lay the boards so that the joints do not coincide with joints in the existing timber and leave slight gaps between the boards to allow for expansion. Screw the floor every 200 to 300 mm. Leave a movement joint around the perimeter.



Stage 3: Fix the tiles

Fix the tiles into a solid 3 mm bed of **weber.set rapid SPF** or **weber.set SPF**. Leave joints at least 3 mm wide for grouting and make adequate provision for movement (around the perimeter and dividing large areas into bays).

Stage 4: Grout

Leave the adhesive to set for 2 to 3 hours if a rapid adhesive has been used or 24 hours if a standard adhesive has been used. Fill the joints between the tiles with **weber.joint wide flex**.

Use **weber SL450** or **stoneset flexible NC sealant** for the perimeter movement joints.

For detailed instructions, please refer to the relevant product data sheet. For further information, please contact our Technical Helpline on 01525 722137.