

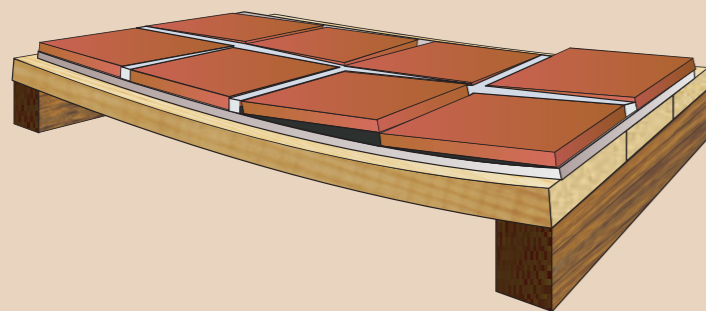
Tiling onto wood

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*

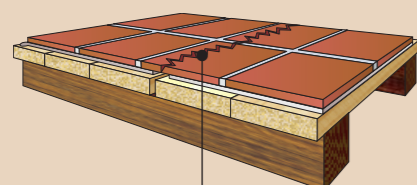


The floor will deflect according to the load applied and the stiffness of the structure (joist size, spacing etc).

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

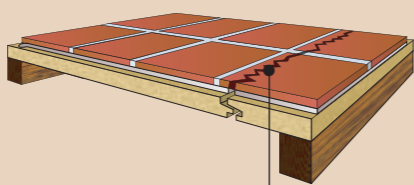
2 Localised movement at unsupported board joints *Cracking in certain places as you walk on the floor*

Non-tongue and grooved timber



Cracked tile

Unsupported tongue and grooved joint

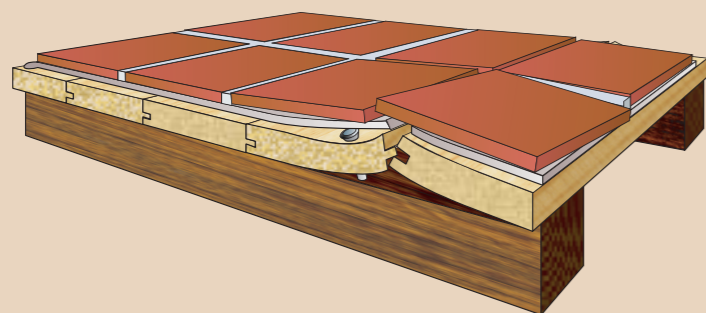


Cracked tile

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.

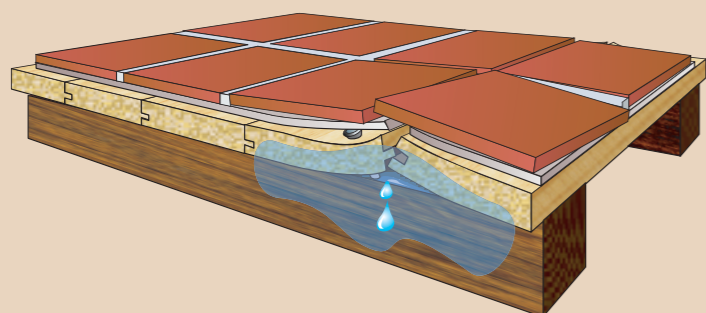
3 Temperature related expansion and contraction



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

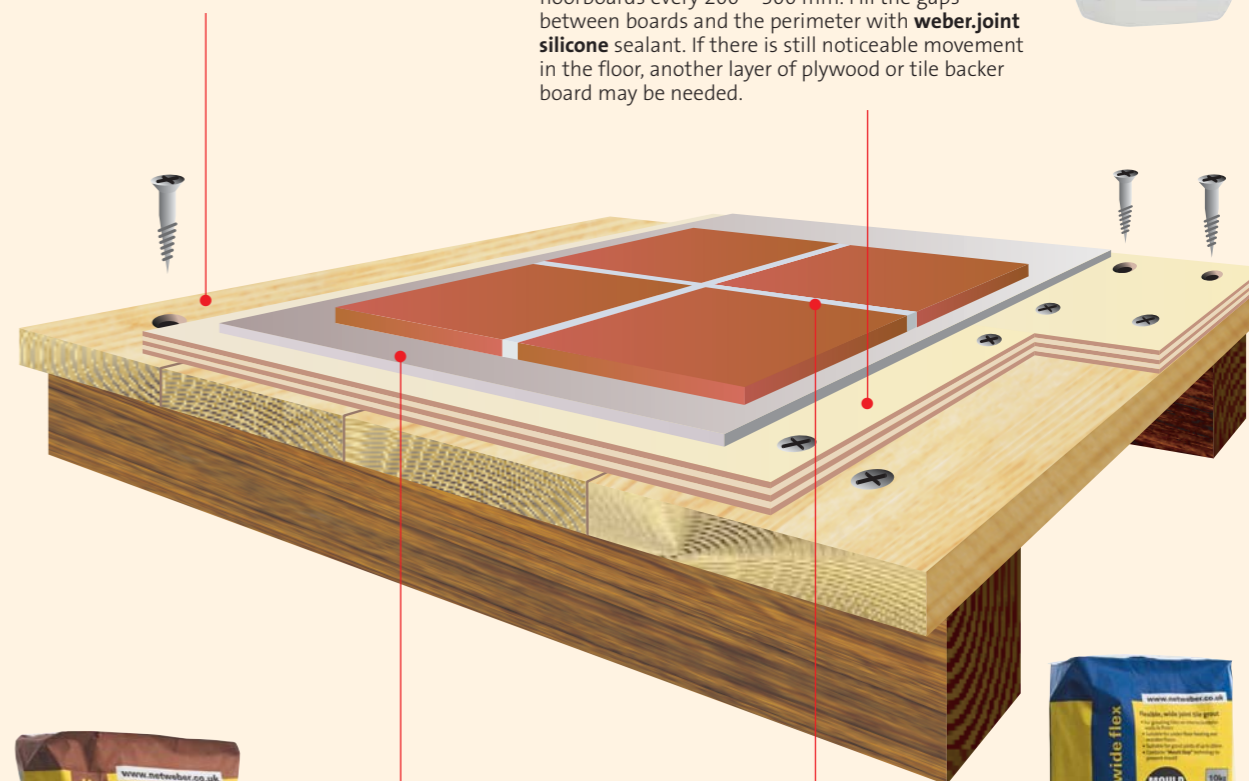
- weber PR360
- weber.set rapid SPF
- weber.joint wide flex or weber.joint pro
- weber.joint silicone

Stage 1: Assess and prepare the floor

Make sure the floor will be capable of supporting the expected load with minimal deflection. It must be stable, well supported, ventilated underneath and level. Brace any areas that need extra support with noggins between the joists. Any defective boards should be cut out and replaced. Existing boards should be screwed down to joists with two screws at each end and another two wherever they cross joists.

Stage 2: Fix the over-boarding

For small floors with no noticeable deflection 9 mm WBP plywood can be used for over-boarding. If there is some limited deflection, a minimum of 15 mm WBP plywood or equivalent tile backer board should be used. Prime the plywood with **weber PR360**. Lay the boards so that the joints do not coincide with the joints in the existing timber and leave slight gaps between boards and at the perimeter for expansion. Screw the plywood or tile backer board to the floorboards every 200 – 300 mm. Fill the gaps between boards and the perimeter with **weber.joint silicone** sealant. If there is still noticeable movement in the floor, another layer of plywood or tile backer board may be needed.



Stage 3: Fix the tiles

Fix the tiles into a solid bed of **weber.set rapid SPF** at least 3 mm thick. Leave joints at least 3 mm wide for grouting and make provisions for movement.

Stage 4: Grout

Leave the adhesive to set for 2 to 3 hours. Fill the joints between tiles with **weber.joint wide flex** or **weber.joint pro**. Use **weber.joint silicone** sealant to fill the perimeter movement joints.

