

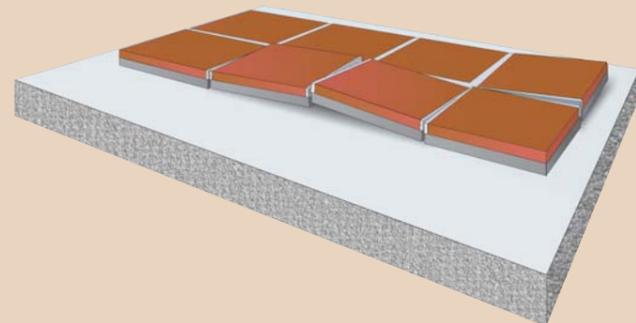
## Tiling onto anhydrite screeds

Although they cannot be used externally or in damp or wet conditions, anhydrite (calcium sulphate) screeds have become quite common as they offer benefits over

sand/cement screeds. They are relatively easy to lay, cheap, fast-setting, pumpable, self-levelling and offer minimal shrinkage. They are also suitable for use with under-

floor heating as long as pipes/elements are covered by a minimum of 25 mm. However, the tiler must be aware of the potential problems listed below.

### 1 These screeds have a gypsum content



When a cement-based adhesive is applied directly onto the floor, cement in the tile adhesive reacts with the gypsum in the screed resulting in a mineral called *ettringite* being formed at the interface.

The associated structural change is sufficient to cause a complete debond of the cementitious adhesive away from the screed base.

### 2 Anhydrite has a weak surface layer

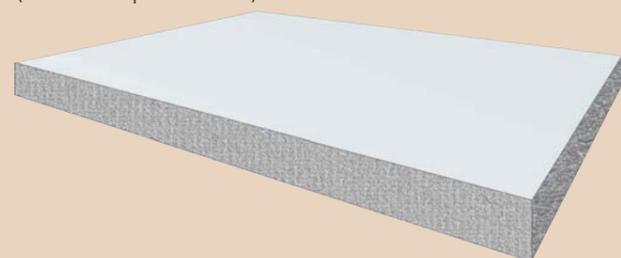


As anhydrite cures, a weak layer of laitance is formed on the surface.

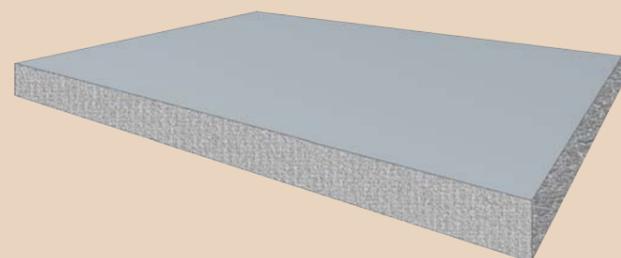
This layer is too weak to tile onto and also slows the drying time of the screed.

### 3 Anhydrite screeds may be difficult to identify

**Anhydrite Screed**  
(calcium sulphate based)



**Traditional cement and sand screed**



Anhydrite screeds are made from inert fillers such as sand, with a binder system based on calcium sulphate. Consequently they can look very similar to a sand/cement screed.

Anhydrite will tend to appear lighter, sometimes almost white, but in practice it is difficult to identify an existing anhydrite screed from a traditional one.

## Problem: Tiling onto anhydrite screeds

## Preparation of the surface prior to tiling

If a screed is known to be anhydrite it must be sealed before the application of a cement-based tile adhesive.

If the screed type is not known and it is believed that anhydrite is possible the screed should be thoroughly

sealed as a precaution prior to tiling.

### Products required

**weber PR360**  
**weber.set plus, weber.set rapid plus**  
**weber.joint wide**  
**weber.joint silicone**

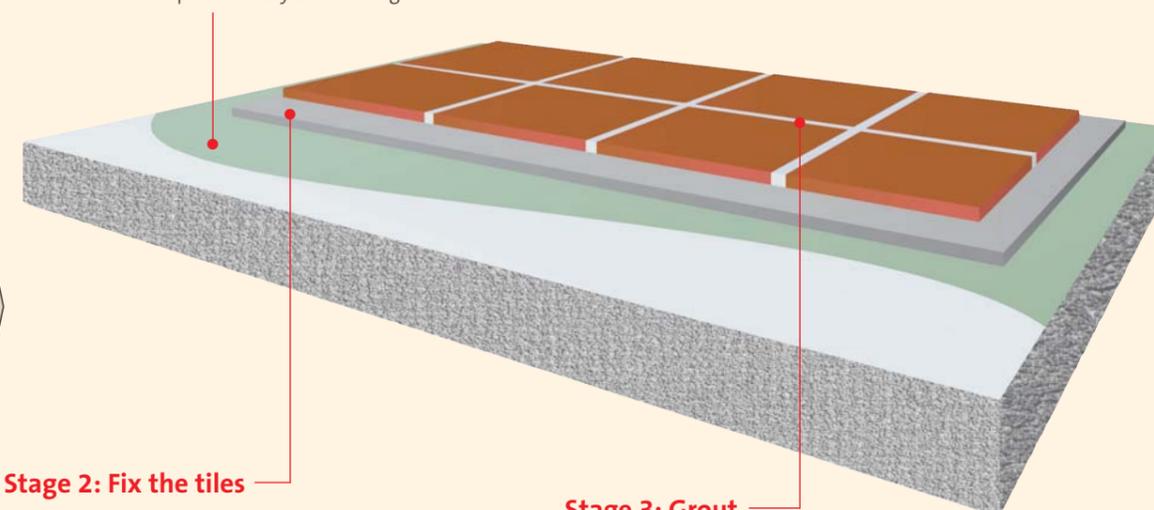
### Stage 1: Assess and prepare the floor

The cured anhydrite screed will have a layer of laitance that will need to be removed after 2 – 6 days (dependent on brand of screed used). This will provide a dense surface to tile onto and will aid drying.

Ensure the floor is fully dry – the residual moisture level should be less than 0.5%. Drying times vary according to the brand of screed used. Some are designed for fast-track use, whilst others require the standard drying times. If no other information is available assume the screed will take 1 day per mm up to 40 mm in thickness to dry in normal conditions. Screeds thicker than 40 mm will require 2 days per mm.



Seal the floor with **weber PR360** repeatedly until no more is absorbed and allow the primer to dry before tiling.



### Stage 2: Fix the tiles

Fix tiles into a solid, 3 mm bed of cement-based adhesive.

- For tiles up to 3600 cm<sup>2</sup> (60 x 60 cm) use **weber.set plus** or **weber.set rapid plus**



### Stage 3: Grout

Leave the adhesive to set, before grouting

- **weber.set plus** takes 24 hours to set
- **weber.set rapid plus** takes 3 hours to set  
Longer may be required at low temperatures.
- Grout with **weber.joint wide** grout

Ensure the joints are completely filled with grout. Use **weber.joint silicone** for the perimeter movement joint.

