

Use of UltraTileFix ProFlex CSA on calcium sulphate screeds

Flowable calcium sulphate screeds, also known as anhydrite, hemi hydrite or gypsum screeds, have many advantages over traditional sand/cement screeds such as:

Can be laid thinner, reducing weight loadings

May be made using industrial by-products so can be environmentally friendly

Increased speed of installation as they can be pumped

It is important that calcium sulphate screeds are identified before any tiling installations are carried out because they have different requirements. They may not be visually different from traditional screeds so always enquire, particularly if the screed contains underfloor heating.

Unlike sand / cement and cementitious products, which can still have extremely high tensile and compressive strength whilst retaining a high level of moisture, calcium sulphate screeds need to reach a level of dryness to enable them to perform correctly underneath the tiling. It is essential to know the moisture state of a calcium sulphate floor before commencing tiling.

Moisture testing before application of tiles

The approved standard moisture test method is to use a surface hygrometer. This is an insulated box, fixed to the unheated floor for typically 4 days, after which the moisture in the air, trapped in the box reaches equilibrium. This air is then tested using either an analogue or digital hygrometer. If the reading is less than 75%RH (relative humidity) then the screed is dry enough.

Other indicative test methods may be used to help identify if moisture is a concern or if the screed is close to dry. A simple test is to tape a piece of plastic to the floor for 48 hours. Moisture condensing on the underside of the plastic or a darkening of the screed indicates moisture levels are still significant. The recommended drying times of calcium sulphate screeds, as quoted by the manufacturers, are usually based on drying conditions at 20°C, low air humidity and an open surface with no materials overlaid. This does not represent a typical site scenario so they should not be relied upon.

Underfloor heating within the screed

It is also important to remember that underfloor heating must have been fully commissioned. This does not mean a simple air pressure test but means a full cycle through the heating range. This is necessary to:

Ensure there are no leaks in the system

Identify if any weaknesses are in the screed by showing likely points of cracking and spalling (typically due to poor installation of the screed with heating)

Assist the drying of the screed

If underfloor heating is present there should be expansion strips between the different heating zone areas to enable the screed to move independently, around any perimeters, and at upstands and door thresholds. In all cases these strips should not be tiled over but should be carried through to the upper tiled floor, using a silicone sealant or similar to enable a continuous floor to be achieved. When underfloor heating is present we advise that a polymer modified tile adhesive is used. It is always beneficial to use a

rapid set product on these screeds to minimise the migration of moisture between screed and adhesive during curing.

Preparation

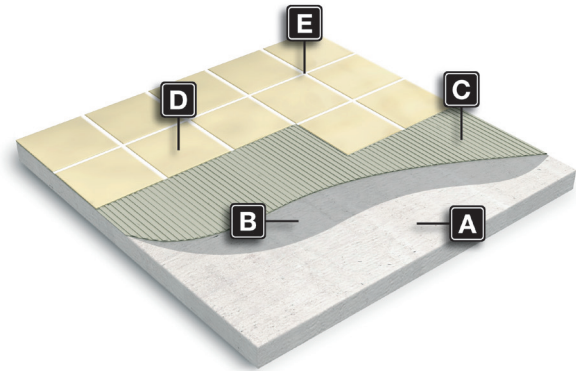
Once the above criteria has been completed it is advisable that all screeds are mechanically abraded using a rotary disc to remove laitance and weak upper surface (caused as a result of fines floating to the surface during wet installation) – consult screed manufacturer for their specific requirements. Poor removal of laitance is often a point of failure when tiling over, so it is essential that laitance is totally removed and all dust and debris is completely vacuumed away to leave a stable, open textured, dust free surface.

Tile adhesive selection

UltraTileFix have developed a calcium sulphate based tile adhesive perfectly suited for use on calcium sulphate screeds. UltraTileFix ProFlex CSA provides compatibility in its base materials as well as showing the same low tension throughout its curing process. What's more it is now rapid drying.

Priming

It is not essential to prime when using UltraTileFix ProFlex CSA as it would be with standard cement based tile adhesives due to its compatibility with the screed. However it is always good practice and ensures finer dust particles are bonded and sealed.



- A – Calcium sulphate screed
- B – Optional priming
- C – Apply UltraTileFix ProFlex CSA
- D – Install tiles
- E – Grout all joints