

TILING TO A HEATED CALCIUM SULPHATE SCREED

These types of screed are more commonly referred to as Anhydrite; they are a gypsum based screed, in which the binding agent either consists of natural anhydrite, thermal anhydrite, alpha hemi-hydrate or mixes of these.

Calcium Sulphate based screeds are only suitable for internal dry areas, and are usually pump applied. As screeds they can be bonded, unbonded or floating, and can be laid much thinner than traditional cement / sand screeds and are therefore well suited for underfloor heating systems; However, they cannot be laid to falls.

Due to the nature of this type of screed their characteristic properties are:

- No shrinkage
- Self compacting
- High final strength (20-30 N/mm²)
- Weight saving
- No reinforcement required
- Can be used with underfloor heating

Drying times

These screeds, given ideal drying conditions, dry at a rate of 1mm/day up to a maximum thickness of 40mm and then at a rate of ½ mm per day for thicknesses above this.

Example:

A 50mm Gyvlon screed drying time: (40mm@1 day) + (10mm@ 2days) = 60 days

Laitance removal

During curing a weak, friable film may form on the surface; laitance. This will also reduce the rate at which the moisture can escape, therefore prolonging the drying time. Removal of this film is essential, and can be done by abrading, milling, or enclosed shot-blasting.

Once the surface has been removed, thoroughly vacuum to remove loose parts and dust. This process can be completed after 3 -10 days of application using the recommended equipment. Opening the surface, will also assist the screed to dry.

Force drying the screed with the use of under-floor heating systems, will also enhance the drying process. This may be permitted 7 days after the initial laying (check with the screed manufacturer for details).

The screed must be dry before any application of floor coverings; failure to follow this procedure prior to the application of subsequent impermeable floor coverings such as vinyl is likely to lead to failure of the floor finish at a later date; residual moisture content must not be greater than 0.5% for impermeable finishes such as vinyl and tiles and 1% for carpets.

The room must be well ventilated if force drying is used, as high air humidity will also retard the drying time.

If there is any doubt whether the screed is dry, contact the supplier.

Floor preparation

As an Anhydrite screed is porous and water- sensitive it will need priming with Mapei Primer G, or alternatively Mapei Eco Prim T, prior to tiling.

The surface should be primed twice using Mapei Primer G. The first coat should be diluted 1:1 with water, and applied to the whole area, ensuring a continuous coat of the primer. When dry, a second neat coat should be applied. DO NOT allow puddles to form on the floor.

The achieved flatness and surface texture may not be adequate for some thin floor coverings and coatings, therefore provision should be made to finish the screed by applying a smoothing compound to the hardened screed as part of the floor covering system just prior to laying the final floor covering.

The use of Mapei Ultraplan Renovation Screed is recommended for this purpose, a single part levelling compound suitable for thicknesses from 3 to 40mm.

Tiling

Tiles should be solid bedded in a flexible floor tile adhesive such as; Mapei Keraquick and Latex Plus.

The use of a separation membrane can be used, such as Mapei Mapetex System; this would eliminate the possibility of cracks being transferred to the tile surface, particularly if the heating system cannot be commissioned prior to tiling. When fixing natural stone and terrazzo to underfloor heating (especially to an electric cable system) a decoupling membrane should be used; as per BS 5385 Pt5.

After floor preparation, Mapei Mapetex System can be placed in a bed of Mapei Keraquick and Latex Plus.

Grouting

Once the adhesive has cured grouting can be carried out. This may be done using Mapei Ultracolor Plus.

Please note

This technical guide is designed to be read in conjunction with the relevant product technical data sheets and material safety data sheets.



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- “An overview of tile specification” RIBA approved CPD seminar
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- BIM
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