

TECHNICAL INFORMATION SHEET

Tiling No.6 - Tiling on Gypsum Screed

GENERAL

Gypsum based screeds are based on a binder of calcium sulphate rather than cement. Generally they are pump applied 'Flowing Screeds' and there has been a growth in the popularity of their use when installing underfloor heating systems. The screeds can be based on Anhydrite or alpha-Hemihydrate forms of gypsum. While gypsum based screeds are suitable for tiling onto, there are a few extra critical points in their preparation.

For full details please refer to the Tile Association's guidance document "Tiling to Calcium Sulfate based Screeds".

PREPARATION

Moisture Content – The screed must be dry. Unlike cement based materials which can remain strong even when wet, gypsum based materials gain strength by a process of crystallization and so must be fully dry before covering. Moisture content should be checked with a carbide bomb moisture meter and a reading of less than 0.5% moisture indicates the screed is dry (Hair Hygrometers are not recommended and electronic meters are only indicative). The moisture content level and test are critical, and should be carried out at several points.

Surface Preparation – Some gypsum based screeds suffer from a weak surface layer. This must be mechanically removed before proceeding, e.g. by STR type machine and then brushing/ vacuuming to remove. Ideally this preparation is carried out about 1 week after laying the screed. Other types can have a very dense, glassy surface finish. Again this should be mechanically prepared before proceeding, e.g. by STR type machine and then brushing/ vacuuming to remove.

Priming – Due to the risk of an adverse chemical reaction between the sulphate in the screed and cementitious materials, it is imperative that gypsum screeds are suitably sealed before over-coating with cement based materials e.g. tile adhesives. This is achieved as follows: first apply one coat **Larsen Acrylic Primer** diluted 1:1 with water and allowed to dry; second coat apply **Larsen Acrylic Primer** neat and allow to dry; check the floor to ensure it is fully sealed and if necessary apply a third neat coat; apply tile adhesive when the final coat has fully dried (changing from a 'milky' pink to a clear pink) .

Note – If the screed is heated, please also follow our recommendations for tiling onto heated screeds. Gypsum based screeds are generally not suitable for use externally or in areas of permanent dampness.

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FIXING METHOD & MATERIALS

There are no specific requirements for the choice of adhesive or grout – this choice is based on normal factors: tile type; if the screed is heated; if a fast setting adhesive is required; etc.

MOVEMENT JOINTS

Proprietary movement joints should be used. Movement joints should be provided in accordance with BS 5385 Part 1 and 2 and their location should be decided at design stage.

Generally, gypsum based screeds contain fewer movement joints than cement based screeds and often they may not suit the laying out of tiling joints. However, it may still be necessary to include movement joints in the tiling to accommodate stresses as a result of thermal or other movement.

It is important that attention is given to the provision and location of sufficient movement joints in the tiling when the screed contains underfloor heating; when external heat sources are present (e.g. a sunroom); when large format tiles are used; and in larger open plan areas.

It is not common for movement joints to be included in domestic tiling, however they are particularly important when tiling larger open plan areas with large format tiles and with underfloor heating.

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