

TILING TO A HEATED CEMENT/SAND SCREED

Floors with underfloor heating generally operate below 30°C. The heating elements are usually incorporated in a suitable reinforced mortar screed with a minimum thickness of 75mm.

Before starting work ensure that

- The screed has been allowed to dry out for at least 3 weeks if containing Portland cement. However, if using a proprietary range of rapid setting screeds such as Mapei Topcem or Mapecem commissioning of the heating system can take place sooner.

Commissioning of the heating system

- After drying out, the screed has been heated slowly at a minimum rate of 5°C per day to a temperature of 25°C and maintained at that level for 3 days before being allowed to cool to room temperature.
- Before tiling commences the heating system has been turned off or in cold weather turned down to below 15°C.

Tiles should be solid bedded in a flexible floor tile adhesive such as; Mapei Keraquick. For large format tiles, the use of Mapei Keraquick incorporating Latex Plus is recommended.

On completion of tiling ensure that 7-10 days elapse before the floor is brought to its operating temperature at a maximum rate of 5°C per day.

Movement joints

Movement control joints should be incorporated at all perimeters of the screed, and also around all up-stands or anything which penetrates the screed. These joints are usually formed whilst the screed is being laid, by installing preformed 10mm thick strips of expanded polystyrene against the wall or up-stand. It is essential that movement control joints penetrate the full depth of the screed.

Movement joints should also be included per each area as follows: - Room per meters, column bases, control bays of size not greater than 40m², where tiles abut other materials, at the junctions of varying surfaces, directly above any joints in the structure of the building, where stresses are likely to be concentrated.

The screed should be cured and allowed to dry out for a minimum of 3 weeks, after which the floor should be brought to the intended surface temperature and maintained at this temperature for a minimum of 3 days, then allowed to cool to room temperature before tile fixing commences.

Alternatively, 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. 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.

Where electric heating is used with a timber sub-floor, an uncoupling membrane should be installed. Where it is necessary, the electric matt or cables should be located below the membrane to ensure that the adhesive bed is not thicker than specified.

Movement joints should be incorporated at all perimeters and up-stands, to coincide with those in the reinforced base screed. Intermediate movement joints should also be incorporated and will be required to penetrate through the thickness of the tile and bed down to the top of the reinforced base screed.

Again allow 7-10 days after the completion of tiling, before initially bringing the floor back up to its operating temperature at 5°C per day.

Proprietary systems may recommend alternative drying times and / or screed thicknesses; these recommendations should be followed when such systems are installed.



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- “An overview of tile specification” RIBA approved CPD seminar
- Product awareness seminar
- BIM
- NBS Plus specification
- Advice on standards
- Fixing specifications
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