

Product information

Tiling and floor covering guidelines

INTRODUCTION

All screed must be tested for moisture content prior to the laying of any type of floor covering. The underfloor heating must also have been fully commissioned.

Tarmac recommend the use of a anti-fracture mat when fixing natural stone tiles to underfloor heated screed in order to help absorb expansion and contraction caused by the heating and cooling of the screed.

When tiling onto a heated screed it is imperative to achieve a solid bed of adhesive, this will improve adhesion strength, fully support the tile and eliminate any voids under the tile.

The use of movement joints is very important as they will give some flexibility to the finished installation of the tiles/floor coverings. Expansion joints may be positioned as stated in BS5328.

TEMPERATURE

Levelling compounds, adhesives and grouts **MUST NOT BE APPLIED** when the temperature of the material, substrate or ambient is below 5°C. Doing so will impact on the long term performance of the products used.

At temperatures above 30°C the setting times of the material will accelerate meaning the materials will become difficult to use.

SCREED PREPARATION - SANDING

Topflow Screed A

If using Topflow Screed A (flowing anhydrite screed), this will require heavier sanding/grinding to remove surface laitance. Sanding at 7-10 days will also improve drying performance.

Topflow Screed A - SP

Topflow Screed A - SP requires a light sanding with 60 grit sandpaper to form a surface key prior to the application of subsequent floor coverings. In both instances the dust residue needs to be vacuumed up.

Although the laitance of this product is substantially reduced, the product still requires abrading prior to the application of floor coverings to remove dirt, building debris and any other contaminants to ensure a suitable key for the application of primers and adhesives. Again it is advisable to remove any visible laitance at 7-10 days to assist in the drying process.

Topflow Screed A - FD

Follow the instructions above for Topflow Screed A - SP.

Topflow Screed A - Thermio

This product requires sanding at 7 days to aid drying in line with the process for Screed A.

Topflow Screed A - Excelio

This product does not need sanding but abrading prior to floor coverings in line with the instruction Topflow Screed A - SP.

Topflow Screed C

Unlike anhydrite based screeds, Topflow Screed C should not experience any bleed. Unless installed above recommended workability range, in which case some bleed may occur. This means the surface of the screed may not require sanding prior to the application of floor coverings. It is however recommended that the surface of the screed be lightly abraded to ensure a good key to receive primers and adhesives. (over application of curing agent may result in the floor needing to be sanded prior to floor coverings being applied).

MOISTURE TESTING

In ideal environmental conditions Topflow Screed A has a natural drying time of 1mm per day up to 40mm and 0.5mm after that (depth above 50mm may impact on this timeframe). Topflow Screed C will be dry within 21 to 28 days. Drying times can be greatly affected by site conditions so it is advised that the atmosphere is kept as dry as possible. Commissioning the UFH and/or using dehumidifiers can greatly improve these figures. Prior to the application of coverings the screed moisture must be tested using either a hair hygrometer, carbide bomb or oven test for results to be below 75% RH (0.5% moisture).

Note: It may be possible to use gypsum cement-based adhesives at a higher RH value. Manufacturer's guidance to be followed.

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UNDERFLOOR HEATING SYSTEM COMMISSIONING

Force drying of Topflow Screed A and Screed C can begin as early as seven days following installation by various methods.

Screed A - Unheated

Force drying of floors that do not contain underfloor heating can commence at 7 days by using dehumidifiers or electric heaters.

Screed A - Heated

At 7 days, Commission heating and set temperature to 20°C, increase daily by 5°C increments up to 50°C (water temperature should not exceed 55°C) and allow to run for 7 days. Then reduce by 5°C per day down to 20°C, turn system off, allow to stand for 2 day before undertaking any moisture testing.

Screed C - Unheated

Force drying of floors that do not contain underfloor heating can commence at 7 days by using dehumidifiers or electric heaters. Surface DPM's can also be used as per manufacturer's instructions.

Screed C - Heated

Day 1 - set temperature to 5°C above ambient.

Day 2 onwards - increase temperature by 5°C a day up to a running temperature of 40°C hold for 3 days. Reduce by 10°C per day down to 20°C. Leave for 2 days before doing any moisture testing.

Space heaters and dehumidifiers in combination with fossil fuel fired heaters (e.g. gas heaters) must be avoided as they will raise humidity.

MOVEMENT JOINTS

BS5328-4 advises that stresses may develop within the tiling system as a result of movement caused by factors such as drying shrinkage within the screed and thermal and moisture changes within the tiling. These stresses if not properly controlled can be sufficient to cause loss of adhesion, bulging or cracking of the tile.

There are two types of movement joints in floors:

Structural - these pass through the tile, screed and floor slab. Structural joints in the screed and tiled finish must always align with the joints in the floor slab. The joints need to be sufficient width to allow the sealant to accommodate the expected movement.

Non Structural - passes through the tile and the tile adhesive only and does not penetrate the slab. The need for non-structural joints around the perimeter of the room and non structural joints dividing the floors into bays will depend upon the floors dimensions, the screed or the bedding system and the tile type. Where perimeter joints are required (when there is more than 2 metres between retaining structures) they must also be provided around features such as columns, steps etc.

Where possible intermediate joints should be located at points of high stress in the concrete base, such as over supporting beams.

Flexible joints should be placed;

- Over supporting walls and beams at intermediate positions to accommodate deflection of the base and movement in the flooring.
- At floor perimeters and to divide the floor into bays of sizes no greater than 10m x 10m. Wherever possible they should coincide with the structural features e.g. columns and openings, or they can be planned to provide a decorative panelled effect.

Note: Where the substrate includes an underfloor heating system, the floor must be divided into bays not greater than 25m² with intermediate joints not greater than 5 linear metres.

- Where tiling is continuous across junctions of different background materials e.g. from screed to timber floors.
- Perimeter movement joints must be inserted where the tiling abuts restraining surfaces such as perimeter walls, columns, curbs, steps and plant fixed to bases. In floors with dimensions of 2m or less between restraining surfaces, perimeter joints are not necessary unless the conditions can generate stresses that are likely to be extreme e.g. violent temperature changes or prolonged immersion in liquid.

PRIMING

Topflow screed must be primed using a suitable primer prior to the application of floor adhesives or self levelling compounds.

Product Type	Curing Required	Sanding at 7 Days	Abrade prior to floor coverings
Topflow Screed A	No	Yes	No -Maybe required to clean floor
Topflow Screed A -SP	No	No	Yes
Topflow Screed A - FD	No	No	Yes
Topflow Screed A Thermio	No	Yes	No - Maybe required to clean floor
Topflow Screed A Excelio	No	No	Yes
Topflow Screed C	Yes	No	Yes



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