

## Pump-applied, free-flowing floor screed suitable for most applications

**Designed to provide a smooth level surface** in both commercial and domestic buildings prior to the application of floor finishes, FM Screed can be used bonded, unbonded or floating. It is particularly suitable for use with underfloor heating.

- Suitable for all residential and commercial floors carrying pedestrian traffic within BS8204 classification.
- Compatible with the majority of timber frame construction systems due to its density at 40mm thickness (80kg/m<sup>2</sup>).
- Its very low shrinkage values mean you require less construction joints than cement based screeds.
- It is protein free and will not harbour bacteria.
- It can receive foot traffic 48 hours after placing and partitions can be erected seven days after placing.
- It is installed by trained and competent contractors who have invested in the necessary equipment to install the product correctly.
- It is non-combustible and avoids the need for reinforcement.

### BENEFITS

- It is a more conductive medium than sand cement screed and is self-curing and self-compacting.
- It can be laid thinner than competing systems without detriment to its performance, so any underfloor heating pipes are closer to the surface (nominal cover to pipes 30mm).
- It can be force dried through the underfloor heating commissioning process as early as seven days after installation.
- It can be laid as a floating construction over most types of rigid insulation board or acoustic matting at a minimum thickness of 40mm.
- Environmentally friendly – a very sustainable choice with a synthetic calcium sulphate (gypsum) binder making a screed with over 36% recycled content and the ability to recycle 100% at the end of the building's life.
- It offers significant programme benefits, as areas of up to 2,000m<sup>2</sup> can be easily laid in one day.

### TECHNICAL DATA

Appearance/Colour	Off-white fluid mortar
Water Demand	13–18% b.w
pH	>10
Wet Density	2,200 kg/m <sup>3</sup>
Dry Density	2,000 kg/m <sup>3</sup>

### SPECIFICATION

Flow range	= 230mm–280mm
Maintenance of fluidity	= 2 hours
Compressive strength at 28 days	= CA25F4
Flexural strength at 28 days	= 4N/mm <sup>2</sup>
Density	= 2,200kg/m <sup>3</sup>
Thermal expansion	= 0.012mm/moK
Drying shrinkage at 28 days	= 0.02%
Thermal conductivity	= 2.0w/mK +/- 0.2
Fire rating (BS 476: Part 4)	= non-combustible

### PRODUCT RANGE

FM Screed Eco	CA25 F4
FM Screed Low Laitence	CA25 F4
FM Screed XTR	CA35 F6
FM Screed SoundBar	CA35 F6
FM Screed Steeldeck	CA25 F4
FM Screed Sky	CA25 F4/CA35 F6

### MINIMUM THICKNESS

Bonded	Minimum = 25mm
Unbonded over a solid base	Nominal = 35mm Minimum = 30mm
Floating over thermal/ sound insulation	Minimum = 40mm
Cover over conduits/ heating pipes	Nominal = 30mm Maximum = 80mm

## precautions of use

### SAFETY

The use of safety goggles, hard hat, ear defenders and gloves is recommended when placing concrete and screed.

### FIRST AID - EYES

Immediately flush eyes, including under lids, with water for at least 15 minutes to remove all particles. If necessary, seek medical advice.

### FIRST AID - SKIN

Wash skin with cold water and a pH neutral soap as soon as possible, except where open wounds are visible. Attention should be paid to wounds and fresh scars which should be covered with protective paraffin gauze.

Seek medical help in cases of prolonged contact with wet concrete.

### FIRST AID - INGESTION

Rinse mouth with clean water. If swallowing has occurred drink plenty of milk or water. Do not induce vomiting. Seek medical attention immediately.

### FIRST AID - INHALATION

Move to fresh air. If symptoms persist seek medical attention.

## FM SCREED VERSUS CONVENTIONAL SAND CEMENT

	FM SCREED	CONVENTIONAL SAND CEMENT
Productivity	<ul style="list-style-type: none"> <li>Easily up to 2,000m<sup>2</sup> per day</li> </ul>	<ul style="list-style-type: none"> <li>Only 100 to 150m<sup>2</sup> per day</li> </ul>
How quickly can you walk on the floor?	<ul style="list-style-type: none"> <li>Within 24 to 48 hours</li> <li>Self-curing</li> </ul>	<ul style="list-style-type: none"> <li>Should not be walked on for seven days</li> <li>Requires covering and curing</li> </ul>
Joints	<ul style="list-style-type: none"> <li>30–40 linear metres</li> <li>Following building construction joints</li> </ul>	<ul style="list-style-type: none"> <li>Can be laid in small bays of between 5–7 linear metres</li> </ul>
Performance	<ul style="list-style-type: none"> <li>Very low shrinkage</li> <li>Minimal cracking</li> <li>Will not curl</li> </ul>	<ul style="list-style-type: none"> <li>Shrinks</li> <li>Cracks</li> <li>Curls</li> </ul>
Surface Finish	<ul style="list-style-type: none"> <li>Easily achieves SR2 under BS8204</li> </ul>	<ul style="list-style-type: none"> <li>Dependant on contractor</li> <li>Curls and cracks at joints</li> </ul>
On Insulation	<ul style="list-style-type: none"> <li>No reinforcement required</li> <li>40mm minimum thickness in commercial buildings</li> <li>35mm minimum thickness in domestic buildings</li> </ul>	<ul style="list-style-type: none"> <li>D49 or fibre reinforcement</li> <li>65mm minimum thickness</li> </ul>
Average Drying Times	<ul style="list-style-type: none"> <li>40 days at 40mm</li> <li>Dependant on site conditions</li> <li>Can be force dried after seven days</li> </ul>	<ul style="list-style-type: none"> <li>Nine weeks at 65mm thickness</li> <li>Dependant on site conditions</li> <li>Must dry naturally</li> <li>Should be cured for one week</li> </ul>
Unbonded floor construction	<ul style="list-style-type: none"> <li>Polythene laid directly to substrate minimal preparation</li> <li>No reinforcement</li> <li>30mm minimum thickness</li> </ul>	<ul style="list-style-type: none"> <li>D49 or fibre reinforcement</li> <li>50mm minimum thickness</li> </ul>
Quality control	<ul style="list-style-type: none"> <li>Produced under BS EN 13454</li> </ul>	<ul style="list-style-type: none"> <li>Often mixed on-site by hand with poor quality control</li> <li>Inconsistent quality</li> </ul>
Installation	<ul style="list-style-type: none"> <li>Self-compacting</li> </ul>	<ul style="list-style-type: none"> <li>Requires thorough compaction, one of the main reasons of failure</li> </ul>
Environmentally friendly	<ul style="list-style-type: none"> <li>Contains over 36% recycled material</li> </ul>	<ul style="list-style-type: none"> <li>Cement manufacture uses 1.5 tonnes of CO<sup>2</sup>/tonne of cement produced</li> </ul>
Health and Safety	<ul style="list-style-type: none"> <li>Ergonomically friendly installation</li> <li>No cement burns</li> </ul>	<ul style="list-style-type: none"> <li>Very labour intensive</li> </ul>
Underfloor heating	<ul style="list-style-type: none"> <li>High thermal conductivity</li> <li>Reduced cover to heating elements</li> </ul>	<ul style="list-style-type: none"> <li>Low thermal conductivity</li> </ul>
Cost	<ul style="list-style-type: none"> <li>In most applications FM Screed gives cost/time savings over traditional hand applied sand and cement screed</li> </ul>	

## CONSIDERATIONS IN USE

- FM Screed is not suitable as a wearing surface itself, or for external or permanently wet areas such as swimming pool surrounds.
- The building should be weatherproof before screeding commences. Where applicable, especially on ground floors, there must be a damp-proof membrane below the screed or base.
- The screed should only be laid when the internal air temperature is between 5°C and 30°C.
- Cannot be laid to falls.

## FOLLOWING PLACING

No curing is required, however the floor should not be subjected to severe draughts, direct sunlight or heating for the first 48–72 hours to prevent rapid drying during this important early stage.

The room in which the screed has been laid should therefore be sealed for a minimum of 48 hours. After this time the room should be ventilated. Windows and doors should then be closed at night and reopened during the day to allow further ventilation.

## DRYING

- The ambient conditions must be suitable for the drying of the screed with low air humidity (preferably 60% RH or less) and good ventilation.
- Please note that moisture in the sub-base will impede the drying of the screed.
- Before floor finishes are laid, the moisture content of the screed should be ascertained to be at, or below the required level.
- Forced drying of FM Screed is possible if required. After seven days heaters and dehumidifiers may be used to improve drying conditions.
- The British standard for testing a base to receive a resilient floor covering is to use a Hair Hygrometer. This non-destructive test, when used strictly to the method defined in BS8203:2001, will give reliable results on FM Screed floor screeds.
- Drying time at 20°C 60% RH:
  - Up to 40mm thickness = 1 day/mm
  - Over 40mm thickness = 0.5 day/mm
- FM Screed will require heavy sanding to remove laitance. This is recommended at 7–10 days to assist drying.
- FM Screed low laitance will require light abrading to establish a mechanical key for subsequent floor coverings.

## FLOOR FINISHES

- Any type of floor finish can be applied to FM Screed.
- In order to ensure adhesion of floor coverings a primer that is compatible with floor covering adhesive must be used.
- Before floor finishes are laid, the moisture content of the screed should be checked by the floor finish contractor.

## BREEAM

Concrete and screeds can play an extensive role within BREEAM and can directly and indirectly contribute to achieving a number of credits. Credits influenced are not limited to those regarding physical properties, but also those surrounding the delivery of the project and the practical use of the building.

## ENVIRONMENTAL

FM Screed is produced using binder which is manufactured from an industrial by-product.

- FM Screed - Average 36% recycled content.
- Recyclability – 100% recyclable.
- Volatile Organic Compound (VOC) free.