

# TECHNICAL INFORMATION

## TOPFLOW SCREED A

Topflow Screed A is a pump-applied, free-flowing floor screed suitable for most applications, including underfloor heating.

Designed to provide a smooth level surface in both commercial and domestic buildings prior to the application of floor finishes, Topflow Screed A can be used bonded, unbonded or floating.

It is particularly suitable for use with underfloor heating.

For advice on specifications and for proprietary systems contact your Tarmac representative.

- 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>)

### TOPFLOW SCREEN A 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

- 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

**TOPFLOW SCREED A VERSUS CONVENTIONAL SAND CEMENT**

| TOPFLOW SCREED A                       | 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 Topflow Screed A gives cost/time savings over traditional hand applied sand and cement screed</li> </ul>                          |  |

## 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

|                       |                 |
|-----------------------|-----------------|
| Screed A              | CA25 F4         |
| Screed A Low Laitence | CA25 F4         |
| Screed A XTR          | CA35 F6         |
| Screed A SoundBar     | CA35 F6         |
| Screed A Steeldeck    | CA25 F4         |
| Screed A Sky          | CA25 F4/CA35 F6 |

## MINIMUM THICKNESS

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

## CONSIDERATIONS IN USE

- Topflow Screed A 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 Topflow Screed A 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 Topflow Screed A floor screeds
- Drying time at 20°C 60% RH:
  - Up to 40mm thickness = 1 day/mm
  - Over 40mm thickness = 0.5 day/mm
- Topflow Screed A will require heavy sanding to remove laitence. This is recommended at 7-10 days to assist drying.
- Topflow Screed A low laitence will require light abrading to establish a mechanical key for subsequent floor coverings

## FLOOR FINISHES

- Any type of floor finish can be applied to Topflow Screed A
- 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.

## BES 6001 RESPONSIBLE SOURCING

Tarmac Readymix is proud to have achieved a 'Very Good' rating under BES 6001 Responsible Sourcing Certification for all production sites and products. This 'Very Good' rating extends to our industry-leading brands such as Topflow Self-compacting Concrete and Topflow Screed A. This independent third-party certification scheme assesses responsible sourcing policies and practices throughout the supply chain; measuring the social, economic and environmental impacts of our concrete products over their whole life, from raw state, through manufacture and processing, through use, reuse and recycling, until its final disposal as waste. Topflow Screed A is supplied via Tarmac's network of screed manufacturing plants.

## ENVIRONMENTAL

Topflow Screed A is produced using Gyvlon binder which is manufactured from an industrial by-product. Topflow Screed A - Average 36% recycled content. Recyclability - 100% recyclable. Volatile Organic Compound (VOC) free.

## 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.

#### 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.

#### INGESTION

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

#### INHALATION

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

For more details contact

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