

## Product Data Sheet No. 16

## S C R E E D

### TRUFLOW SELF LEVELLING SCREED

#### Identification

##### INTRODUCTION

Tarmac Truflow Self Levelling Screed is a calcium sulfate based pumpable self - smoothing floor screed for use in floor levelling applications. The product is factory produced under quality controlled conditions and conforms to the requirements of BS EN 13813. The product is delivered to site by truck mixer ready for immediate use and can be pump applied to create a smooth and level surface for the application of floor coverings, tiles and other floor finishes.

Tarmac Truflow Self Levelling Screed is highly versatile and can be applied as a bonded screed, unbonded screed or as a floating screed over thermal or sound insulation. It is also ideal for use in conjunction with most underfloor heating systems. It is suitable for use in most commercial and domestic buildings in both new build and refurbishment applications and can be readily applied over installed electrical and other services.

#### Advantages

- Delivered factory-produced and ready for immediate application
- Allows a rapid rate of application of up to 2000 m<sup>2</sup> per day
- Laid only by Tarmac approved Contractors
- Normally accessible to foot traffic within 24 hours
- Self-compacting without segregation
- Permits the designer to use lower minimum thicknesses compared to traditional cement sand screed systems
- Minimal need for joints
- Soundness category A according to BS 8204: Part 1 (BRE Screed Test)
- Class SR2 surface regularity ( $\leq 5$  mm in 2 m length)
- Protein free, will not harbour bacteria

PROPERTY	PERFORMANCE
Fresh wet density	2100 - 2200 kg/m <sup>3</sup>
Compacted, set and air dried density	2000 - 2100 kg/m <sup>3</sup>
Flexural strength class	F4 - F6
Flow properties <sup>1</sup>	Typically 220 mm
Drying shrinkage	Typically $\leq 0.02\%$
Open to foot traffic <sup>2</sup>	24 hours
Setting time <sup>2</sup>	4 - 6 hours
Fire rating <sup>3</sup>	Class A1 non combustible

Table 1 : Typical physical properties

- (1) Determined according to BS 8204: Part 7 annex A flow ring test
- (2) At 20°C and 65% relative humidity
- (3) Classification A1 without testing to BS EN 13501-1- (Commission Directive 96/603/EC)

#### Performance Characteristics

##### SPEED OF APPLICATION

This product permits rapid application rates to be achieved and its easy handling and pumping characteristics allow up to 2000 m<sup>2</sup> of screed to be laid per day.

##### COVERAGE PER m<sup>3</sup>

DEPTH OF SCREED	COVERAGE (m <sup>2</sup> )
30 mm	33.3
40 mm	25.0
50 mm	20.0
60 mm	16.7

Table 2 : Approximated coverage per m<sup>3</sup>

##### SURFACE REGULARITY

A surface regularity of class SR2 BS 8204; Part 7: 2003 can be readily achieved with this product. That is the departure from the underside of a 2 m straightedge resting in contact with the floor is  $< 5$  mm.

##### CATEGORY OF USE

The soundness categories of floors described in BS 8204: Part 1 for bonded and unbonded screeds are summarised below:

TYPE OF USE	EXAMPLES OF TYPES OF USE	CATEGORY
Areas expected to take heavy foot traffic and/or heavy trolleys and/or where later disruption would be unacceptable	Hospital operating theatres; X-ray rooms; Rooms where radioactive material is handled	A
Areas expected to take heavy foot traffic and/or medium weight trolleys	Public areas; Corridors; Main lift and lobby areas; Canteens and restaurants; Public rooms in residential hospital accommodation; Classrooms; Hospital wards and offices	B
Other areas expected to take foot traffic and lightweight trolleys	Light office use; Consulting rooms; Domestic housing	C

Table 3 : Categories of use

BS 8204: Part 7 states that soundness may be assessed using the BRE screed test as described in BS 8204: Part 1 (annex E) which measures the in situ crushing resistance of the floor. Tarmac Truflo Self Levelling Screed achieves a value of < 2 mm by this test and therefore meets the requirements of the most stringent category i.e. Category A applications.

#### MINIMUM THICKNESS

FLOOR TYPE	MINIMUM THICKNESS (mm)
Bonded	25
Unbonded	30
Floating	40
Over conduits and Over heating pipes	25

Table 4 : Minimum thickness

For all floor types abrupt changes in screed thickness should always be avoided as these may lead to the formation of cracks.

LEVELLING SCREED CONSTRUCTION	AREA OF USE	MINIMUM THICKNESS AT ANY POINT
Bonded screed	Domestic and commercial	25 mm
Unbonded screed	Domestic and commercial	30 mm
Floating screed	Commercial	40 mm
	Domestic only	35 mm

NOTE: Any deviations in the levels and surface regularity of the base slab should be taken into consideration when determining the thickness of the pumpable self-smoothing screed to be laid, so as to ensure the minimum/maximum thickness can be achieved.

Table 5 : Minimum thickness over insulation

The maximum compressibility of the insulation must be 5 mm.

#### GENERAL

Site preparation and application of Tarmac Truflo Self Levelling Screed may only be carried out by Contractors who have successfully completed Tarmac's training programme. A current list of licensed contractors can be obtained from your nearest Area Office.

The product has not been designed to be used as a wearing surface and is not suitable for use in external or permanently wet areas. The product should therefore not be applied to areas subject to prolonged wetting unless the screed is completely sealed with an impervious barrier.

#### Health & Safety

Wear suitable protective clothing and eye protection. Where skin contact occurs, either directly or through saturated clothing wash immediately with soap and water. For eye contact, immediately wash out eye thoroughly with clean water. If swallowed wash out mouth and drink plenty of water and seek medical attention.

For further information refer to Tarmac Safety Data Sheet.

#### General Site Preparation

The building should be weather tight before the screed is applied. Where appropriate, for example in ground floor

applications, a damp proof membrane should be placed below the screed base. The floor area must be swept or vacuum cleaned and free from any projections.

For all applications a foam border strip must be fixed all around the perimeter of the area to be screeded. The border must also be fixed around any upstands. If adjoining areas through doorways or other openings are not being screeded at the same time, a border strip should be fitted and supported across these openings. In general the border strip should be at least 5 mm thick. For under floor heating applications a 10 mm thick border strip should be used.

Any structural joints must be extended through the screed.

The product flows rapidly around pipes and conduits providing maximum contact without air pockets. The cover over conduits and heating pipes must be at least 25 mm.

For areas of sufficient size to require two or more truck mixer deliveries, care should be taken to fully mix all deliveries at their interface.

#### Preparation of Unbonded Floors

##### APPLICATION OVER THERMAL OR SOUND INSULATION

Tarmac Truflo Self Levelling Screed can be laid over thermal or sound insulation without the need for reinforcement. The lower thickness of screed required compared to traditional cement: sand screed provides important weight and floor to ceiling height benefits. The thermal or sound insulation sheets should be butted tightly against each other and fitted right up to the perimeter of the floor. Overlapped and taped polythene sheets of 150 micron minimum thickness (500 gauge) should be laid on top of the insulation. The polythene sheeting is intended as a debonding membrane and not a damp proof membrane. The polythene sheeting should be fixed carefully to the perimeter of the floor and all upstands. Great care must be taken to avoid dirt or debris from contaminating the polythene sheeting after fitting.

NOTE: where aluminium faced insulation is used, a separating membrane, e.g. polythene, should be used to form a barrier between the insulation and the screed.

##### APPLICATION WITH UNDER FLOOR HEATING SYSTEMS

Expert advice should be sought regarding the installation of the under floor heating system. The excellent flow characteristics of Tarmac Truflo Self Levelling Screed make it ideal for use with such heating systems since it flows readily around pipe work allowing maximum contact with the pipe work and is self compacting. It is suitable for use with most electrical and water pipe under floor heating systems. Border strips minimum 10 mm thickness must be fixed around the perimeter and all upstands. The heating system should not be turned on for at least seven days after application of the screed.

##### PREPARATION OF BONDED FLOORS

Tarmac Truflo Self Levelling Screed can be used in all

bonded systems but it is usually preferable to apply the product as an un-bonded or floating floor system. Prior to application of a bonded floor, the surface must be shot blasted or scabbled. Careful attention must be paid to ensuring that the surface is free from dust, vacuum cleaning usually being essential. Great care must be taken not to reintroduce dirt or dust onto the floor after cleaning. The floor must be sealed with a suitable bonding agent prior to application of the screed. Contact your local Tarmac Area Office for further advice.

#### SCREED PREPARATION AND PLACING

Tarmac Truflo Self Levelling Screed is a factory produced product that is manufactured under strict quality control conditions. All materials are factory produced and then delivered to site by truck mixer ready for immediate use. Further quality control testing is carried out on arrival at site Tarmac Truflo Self Levelling Screed is then applied to the floor by Tarmac approved contractors using conventional pump equipment.

### Post Application

#### CURING

There are no specific curing requirements. However, protection from drafts and strong sunlight is necessary although some air movement through the building may be beneficial. The floor should not be covered by polythene sheeting and should not be subject to heating for the first seven days after application of the Tarmac Truflo Self Levelling Screed

#### SURFACE FINISHING

The dried screed is suitable to take all types of final floor finishes, but is not itself designed as a wearing surface. If required, it should be lightly sanded once the surface is hard enough, to remove any fine laitance before bonded final finishes are applied.

The achieved flatness and surface texture may not be adequate for some thin floor coverings and coatings, therefore provision should be made to finish the screed by applying a smoothing compound to the hardened screed as part of the floor covering system just prior to laying the final floor covering.

A calcium sulfate screed will almost certainly require a suitable primer before application of a smoothing compound.

Cement based compounds should never be used in direct contact with calcium sulfate screeds. Always use an epoxy or polyurethane type product for priming the surface.

### Drying Time

#### NORMAL DRYING

The drying time determined according to the requirements of BS 8203 code of practice for installation of resilient floor coverings and BS 5325 code of practice for installation of textile floor coverings. BS 8204: Part 7 indicates that 1 days drying should be allowed for each mm of thickness for the first 40 mm, followed by an increasing time for each mm above this thickness.

Exact drying times are dependent on temperature, humidity and air movement through the building. Approximately 48 hours after laying the screed, it would be advisable to open windows and doors to allow the evaporating moisture to escape from the screeded areas. Keeping the building sealed is likely to extend the drying time of the screed. Any moisture in the floor below the screed will impair the drying rate of the screed unless a damp proof membrane has been installed between the two. The level of moisture in the screed should always be checked in accordance with BS 8203 or BS 5325 prior to application of the final floor covering.

#### FORCED DRYING

Forced drying should not be applied to the final screed within seven days of application. Further advice can be provided upon request from your nearest Tarmac Office.

**PRECAUTION:** if the ambient temperature is likely to exceed 25°C on the day of a screed being laid, it may be advisable to delay the pour until the temperature is reduced. A high risk of cracking exists in high temperatures due to the unavoidable rapid loss of moisture from the surface of the screed.

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#### REFERENCES

##### BRITISH STANDARDS INSTITUTION

BS 8203: 2001	Code of practice for installation of sheet and tile flooring
BS 8204	Screeds, bases and in-situ floorings
Part 1: 2003	Concrete bases and screeds to receive in-situ floorings - Code of practice
Part 7: 2003	Pumpable self-smoothing screed - Code of practice
BS 5325: 2001	Code of practice for the installation of textile floor coverings
BS EN 13813: 2002	Screed material and floor screeds- Screed material-Properties and requirements.
BS EN 13892 Part 2:2002	Methods of test for screed materials (A multipart standard) Determination of flexural and compressive strength.

##### BRITISH CEMENT ASSOCIATION

Publication 48.046 Construction Guide: Laying floor screed.

##### TARMAC

Tarmac General Mortar and Mix Design Manual

## Safety Data Sheet

Tarmac Truflow Self Levelling Screed Safety Data Sheet 108 available on request

### TARMAC TRUFLOW SELF LEVELLING SCREED SPECIFICATION

To be read with preliminaries/General conditions.

Manufacturer	Tarmac Ltd
Mix Proportions	Specified by Tarmac Ltd
Base	<input type="checkbox"/> Concrete Slab <input type="checkbox"/> Precast Concrete Beams <input type="checkbox"/> Beam and Block <input type="checkbox"/> Timber Floors <input type="checkbox"/> Other
Construction	<input type="checkbox"/> Unbonded <input type="checkbox"/> Floating Floor
Depth of Insulation	<input type="checkbox"/> mm
Underfloor Heating Systmes	Yes/No
Minimum Total Thickness at any point (screed and insulation)	<input type="checkbox"/> mm
Minimum Average Total Thickness	<input type="checkbox"/> mm
Screed Material to be described as	Truflow Self Levelling Screed
Finish	Smooth, suitable for all floor coverings
Soundness	Test to BS 8204: Part 1
Minimum Depth of Indentation	<input type="checkbox"/> A (3 mm) <input type="checkbox"/> B (4 mm) <input type="checkbox"/> C (5 mm)
Method of Production	Factory mixed ready to use
Method of Application	To be laid only by Tarmac approved contractors
Floor Preparation Material	To be supplied by Tarmac approved contractors

## Further Information:

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For further technical information please call: **08701 116 116.**

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