TARMAC
A CRH COMPANY

TECHNICAL INFORMATION

TRUTILE

Product Data Sheet No. 110/13

INTRODUCTION

Tarmac Trutile is a prescribed ready-to-use cement:sand tile screed which is a correctly proportioned factory produced bedding screed for floor tiling applications, ideally suited to the wet lay method or vibration method of tile installation when used in conjunction with a cement slurry. Trutile is offered as either a 1:4 or 1:3 cement:sand mix, precisely proportioned to produce a consistent bedding material with a controlled minimum water content. Available from factories situated throughout mainland United Kingdom, Tarmac Trutile bedding contain a retarding admixture in order to remain workable for 8 – 12 hours.

PRODUCT CONFORMITY

Tarmac Trutile ready-to-use cement:sand factory produced bedding materials conform to in house quality and operating standards. Produced bedding materials conform to the requirements of BS 5385:Part 1 and BS 4551.
Trutile bedding screed should be used in accordance with the recommendations of Workmanship on Building Sites BS 8000:Part 11 Code of Practise.

COMPOSITION AND MANUFACTURE

Tarmac Trutile ready-to-use cement:sand bedding screeds are thoroughly mixed accurately controlled volumetric blends of the following materials:

- Well-graded fine aggregate (sand) conforming to BS EN 12620/ BS EN 13139.
- Portland cement conforming to BS EN 197-1.
- Retarding conforming to BS EN 934-2/3 giving the optimum working time, normally usable for 8 – 12 hours from the time of mixing.
- Water conforming to BS EN 1008, to give the optimum semi-dry consistency for easy laying and thorough compaction.

DENSITY

Typical Test Results	Density kg/m^3
Fresh wet un-compacted	1,850 – 2,000
Compacted set and air dried	2,000 – 2,200

PERFORMANCE

Tarmac Trutile bedding screed is specified in cement:sand proportions by volume.
Typical results based on cubes, made, cured and tested in accordance with in-house standard operating procedures.

Strength

Prescribes proportions by volume	Minimum Compressive strength at 28 days N/mm^2 tested in accordance with BS EN 13813	Flexural strength N/mm^2 tested in accordance with BS EN 13813
1:3	30	3
1:4	20	2

Table 1 – typical Trutile bedding material strength. These results are indicative and may be subject to change.

For more details contact:
03701 116 116 mortar@tarmacbp.co.uk

Typical Hardening Times

Light foot traffic 4 days. Site traffic 7 days*.

*Where site trafficking is anticipated from following trades, then protection must be provided in order to protect the installed surface and maintain its integrity.
*This product alone is not a wearing surface, therefore if circumstances mean the bedding surface is exposed, then the surface should be given adequate protection against damage or wear during subsequent building operations and until the flooring is laid, this protection would be in the form of plywood boards.

Typical Drying Times

In typical Wet-bed or Wet-lay applications, then drying times will not be relevant.

However, for info and guidance, allow approximately one month per 25mm of thickness. Where the screed is above 50mm, any thickness above 50mm should be allowed to dry for two months per 25mm of thickness. Where the concrete base has excessive moisture content these times should be increased.

High humidity or low temperature will also delay the drying out process. As the drying times indicated apply from the completion of any curing operations, the flooring contractor must check the moisture content of the screed prior to laying the final floor finish**.

****NOTE: Do not use hot air blowers, underfloor heating, or any other means of accelerating the drying of the bedding screed. In all cases the room should be heated and not the screed.**

Fire Protection

Tarmac Trutile ready-to-use cement:sand bedding screed contains less than 1.0% organic material and is non- combustible.

Effect of Freeze Thaw

In cold conditions adequate precautions must be taken against freeze thaw. No antifreeze chemicals or accelerating admixtures should be added to the bedding material.

Compatibility

Tarmac Trutile ready-to-use cement:sand bedding screed is compatible with all normal building materials, but wet cementitious materials may attack certain metals e.g. aluminium.

Durability

No problems should occur if the correct bedding material has been specified, but Tarmac Trutile ready-to-use cement:sand bedding screed is not designed as a wearing surface and should always be covered with a suitable tiling material which has been appropriately bonded.

HEALTH & SAFETY

There is a real danger of contact dermatitis or serious burns. To prevent skin coming into contact with wet cement mixes such as fresh concrete, mortar or screed ensure that suitable protective clothing and eye protection us worn. Where skin contact occurs either directly or through saturated clothing wash immediately with soap and water. For eye contact, immediately wash out eyes thoroughly with clean water. If swallowed wash out mouth and drink plenty of water.

For further information please refer to Tarmac Material Safety Data Sheet – Screeds.

USES

For the installation of tiles, suitable for use on bases:

1. Solid concrete ground floor slabs:
2. Precast concrete units or beams with reinforcement.
3. In situ suspended floors.
4. As a topping to lightweight screeds based on perlite or other lightweight aggregates.
5. Certain other situations – refer to technical helpdesk.

Economics

One tonne of bedding material will have an appropriate volume of 0.43 – 0.48$m^{3.}$ Table 2 shows the approximate coverage area per tonne for a range of installation thicknesses.

Thickness mm	Coverage Area m^2/tonne (approx.)	Thickness mm	Coverage Area m^2/tonne (approx.)
10	45.0	45	10.0
15	30.0	50	9.0
20	22.5	55	8.2
25	18.0	60	7.5
30	15.0	65	7.0
35	13.0	70	6.5
40	11.0	75	6.0

Table 2: Approximate coverage area of bedding material
Note: Slight variations in sub-base levels will affect the coverage

CONSTRUCTION/SITE WORK

Site storage

Tarmac Trutile ready-to-use cement:sand bedding screed should be tipped on to a clean banker board with a sealed base and sheeted to protect it from the elements. Do not tip new deliveries onto the remains of the previous load.

Preparation

The base concrete must be clean and in particular free from lime, gypsum, plaster, dust, soil, clay, oil or grease. The base concrete should be swept to remove all loose material and wetted with clean water, where the bedding screed is to be placed in direct contact with the base. Just before laying the bedding screed, an appropriate bonding material should be applied into the surface, care being taken that this neither forms deep pools or dries before the bedding screed is placed. The wet bedding of tiles must be conducted with a similar bonding material to achieve an effective bond with the tile and bedding.

APPLICATION

Ceramic tiles* may be installed immediately using the Wet-bed or Wet-lay Method.

If tiles are to be installed using an adhesive, then it maybe more appropriate to use an alternative Tarmac Screed product.

*Many types of tiles and flags may also be compatible for use with Tarmac Trutile cement:sand bedding screed, seek advice from the specific manufacturer of the flooring.

Laying

Reference should be made to BS 5385-1 and Workmanship on Building Site BS 8000-11.
The material should be spread on the prepared base with adequate surcharge, it is important to compact the bedding screed thoroughly and evenly over the whole area, either by tamping or by mechanical means and then level with a screed board. For tiled floor finishes the bedding screed can be finished in a way to ensure its flat to prevent tiles from rocking. The surface could be finished with a float a to give it a smooth dense surface. Excessive trowelling should be avoided as this brings a layer of cement laitance to the surface where it may craze and dust.

To aid compaction of thicker cement:sand bedding screeds, i.e. over 50mm thickness, the bedding may be laid in two layers. Both layers should be of approximately equal thickness and the identical mix and water content.

The first layer should be thoroughly compacted using heavy tamping or a weighted roller. The second layer should be laid as soon as possible, i.e. within 2 hours after compaction of the lower layer to ensure a good bond is achieved (monolithically).

The most common cause of failure is poor compaction.

Curing

Bedding screed and flooring should be protected from damage after laying. To achieve the full performance of Tarmac Trutile ready-to-use cement: sand bedding screeds adequate curing time is essential, if the bedding is left exposed then it must be covered with plastic sheeting or other suitable material to retain moisture for at least seven days. Whilst damping down of the surface before covering is acceptable, saturation of the screed, e.g. by prolonged hosing is not recommended.

TECHNICAL SUPPORT

Tarmac provides a comprehensive sales and technical advisory service to specifiers and customers.

A quality system has been implemented throughout the company since 1975 and quality procedures are in conformity with BS EN ISO 9001:2015.

All Tarmac factories hold third party certification from the British Standards Institution. Details of the certification status of individual factories may be obtained from the Technical Helpdesk.

PRICES AND CONDITIONS OF SALE

Prices vary according to mix design, quantity and delivery point. For specific quotations contact your local Tarmac representative or call our National Sales Helpline on 03701 116 116.

All quotations given, orders placed and materials supplied are subject to the Conditions of Sale available via download from the Tarmac website www.tarmac.com or upon request from your nearest Tarmac Regional Office.

SUPPLY

Tarmac Trutile ready-to-use cement:sand bedding screed is available direct from Tarmac factories located strategically throughout mainland United Kingdom: contact your nearest Tarmac Building Product Regional Office for further details

ORDERING

When ordering state product designation, quantity, date and time of delivery, 24 hours should normally be allowed for deliver.

DELIVERY

Bulk loads in tipper road trucks generally up to 10-20 tonnes, however for added convenience this is also available in bulk bags. To discuss your specific requirements then please contact your nearest Tarmac Building Product Regional Office.

DISCLAIMER

This product can be affected by inclement weather conditions. Tarmac therefore reserves the right to cancel deliveries and may seek customer approval prior to fulfilling orders.

REFERENCES* British Standards Institute	
BS EN 197-1:2011	Cement Part 1: Composition, specifications, and conformity criteria for common cements
BS EN 1008:2002	Mixing water for concrete – specification for sampling, testing and assessing the suitability of water, including water recovered from processes in the concrete industry, as mixing water for concrete
BS EN 12620:2002+A1 2008	Aggregates for concrete
BS EN 13139:2002	Aggregates for mortar
BS EN 934	Part 1: 2008 Admixtures for concrete, mortar and grout: Part 2: 2009+A1:2012 Concrete admixtures – definitions, requirements, conformity, marking and labelling
BS 4551-1 2005+A2 2013	Mortar – Methods of test for mortar – Chemical analysis and physical testing
BS 5385-1 2018	Wall and Floor tiling – Design and installation of ceramic, natural stone and mosaic wall tiling in normal internal conditions – Code of practice
BS 8000-0: 2014	Workmanship on construction site. Introduction and general principles
BS 8000-11: 2011	Workmanship on building sites – Internal and external wall and floor tiling – Ceramic and agglomerated stone tiles, natural stone and terrazzo tiles and slabs, and mosaics – Code of practice
BS EN 13501	Fire classification of construction products and building elements Part 1: 2007+A1:2009 Classification using test data from fire reaction tests
BS EN 13813:2002	Screed material and floor screeds – screed material – properties and requirements
BS EN 13892	Method of test for screed materials (A multipart standard) Part 2: 2002 Determination of flexural and compressive strength
British Cement Association*	
Publication 48.46	Construction Guide: Laying floor screeds
Tarmac*	
Product Data Sheet no. 110/05	Tarmac Truscreed and Truscreed HD
Product Data Sheet no. 110/06	Tarmac Tufscreed
Product Data Sheet no. 110/03	Tarmac Truscreed 5
Product Data Sheet no. 110/01	Tarmac Screeds
Site Guide No. 4	Tarmac SB Admixture for Masonry. Screed and Rendering Applications
Site Guide No. 2	Tarmac Screeds, Truscreed and Truscreed HD
Site Guide No. 8	Tarmac Point Loading Guidelines
Tarmac Safety Data Sheet	Screeds
Withdrawn British Standards Institute References	
BS 4721 : 1981 (1986)	Specification for ready-mixed building mortars.

*Current version applicable to all references