

TECHNICAL INFORMATION

HYDROCURE & HYDROCURE+ DRY SILO MORTARS

Product Data Sheet No. 100/03

INTRODUCTION

Tarmac Hydrocure and Hydrocure+ Dry silo mortars are a performance range of factory produced mortars which combats the effects of high absorbency masonry units used in superstructure elevations. Specially formulated to improve cohesiveness and water retention properties of the mortar, manufactured to compliment the standard range under the same computer controlled conditions. Tarmac Hydrocure and Hydrocure+ dry silo mortar is delivered direct to site in state-of-the-art silos, each complete with an integral mixing unit. Once power and water have been connected, mortar can be produced at a touch of a button. Alternatively, this can be supplied in water resistant bulk bags, ready mixed – just add water and mix to the required consistency.

ADVANTAGES

Bricks and blocks used on site can be highly absorbent and can rapidly "suck" water out of the mortar, leading to issues with mortar losing workability. Tarmac Hydrocure and Hydrocure+ Dry silo mortars are a performance range of factory produced mortars specially formulated to improve cohesiveness and water retention properties of the mortar, by physically binding with the water, thereby preventing water being prematurely absorbed by the bricks and blocks. Furthermore it allows the bricks and blocks to be adjusted over a much longer period and averts any problems with pointing of the mortar, which can occur when mortar becomes too dry.

- Improves cohesion of mortar
- Reduces bleed
- Improves water retention to allow >90% retentivity.
- Allows greater workability stability

- Extends tooling times, improving build rate efficiencies.
- Reduces permeability of the finished joint face

PRODUCT CONFORMITY

Tarmac Hydrocure and Hydrocure+ Dry silo mortars are manufactured from constituent materials conforming to the following British/European Standard specifications:

Cementitious Materials	BS EN 197-1, BS 7979
Fine aggregates	BS EN 13139
Hydrated Lime	BS EN 459-1
Admixtures	BS EN 934
Pigments	BS EN 12878

PHYSICAL PROPERTIES

COMPOSITION AND STRENGTH

The mix proportions of Tarmac dry silo mortar conform with the values specified in the following table when tested by the methods prescribed in BS EN 1015 and BS 4551.

PERFORMANCE

Hydrocure and Hydrocure+ Dry silo mortar are based on performance and are typically available in two mortar strength classes. Results are based on prisms made from typical production material cured and tested in accordance with the requirements of BS EN 1015 part 11.

For more details contact:
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The information given in this technical data sheet is based on our current knowledge and is intended to provide general notes on our products and their uses. Tarmac endeavour to ensure that the information given is accurate, but accept no liability for its use or its suitability for particular application because of the product being used by the third party without our supervision. Any existing intellectual property right must be observed.

STRENGTH

BS EN 998-2 Mortar Class	(iii) M4	(ii) M6
Compressive Strength N/mm ²	4	6

Table 1 – BS EN 998-2 compressive strengths made using prisms.

FIRE PROTECTION

Tarmac dry silo mortar contains less than 1.0% organic material and is classified in accordance with BS EN 13501-1 as Class A1 without testing (Commission Directive 96/603/EC).

DURABILITY

Tarmac Hydrocure and Hydrocure+ dry silo mortar is also air entrained which makes it less susceptible to freeze thaw attack. All admixtures used are chloride-free and therefore not aggressive towards embedded metals.

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 is 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 – Mortars, Screeds and Renders.

APPLICATIONS

USES

Tarmac Hydrocure and Hydrocure+ dry silo mortar is suitable for most types of construction, providing that the mortar type and strength class chosen for a particular application for its prescribed purpose with consideration for the compatibility of masonry units, see table 2. Advice on the appropriate mortar for a given application is detailed in all parts of Eurocode 6, BS EN 1996, UK National Annex to Eurocode 6, NA to BS EN 1996 and PD 6697.

Type	Average absorbency of masonry units % w/w	Initial Rate of Water Absorption (kg/m ² min) (BS EN 772-11)
Hydrocure	10 – 19.9%	1.5 – 3.4
Hydrocure+	≥ 20%	≥ 3.5

Table 2 – Guidance to the masonry compatibility for Hydrocure and Hydrocure+.

ECONOMICS

Tarmac dry silo mortars are sold by dry weight. Yield - when mixed on site, 1 tonne of dry silo mortar will produce approximately 0.70 cubic metres of mortar.

One cubic metre of Tarmac dry silo mortar is sufficient to lay approximately 1700 bricks (the actual number may however vary between 1300 and 2100 this depends upon the size of brick, depth of frog, size of perforations, site practice and other factors etc.) and approximately 1200 blocks of nominal size 450 x 225 x 100mm.

DELIVERY

A silo on delivery holds approximately 14 tonnes of dry material. Once sited, the silo can then be refilled by tanker to hold up to 33 tonnes in total. It is good practise to maintain the stock held within the silo allowing regular deliveries of up to 29 tonnes to ensure a continuous mortar supply. As an alternative to the silo, this can be supplied to site in water resistant bulk bags.

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 location. 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 dry silo mortars are available direct from mortar factories located strategically throughout mainland United Kingdom: contact your nearest Tarmac Building Products Regional Office for further details

ORDERING

When ordering, please state mortar type and strength class, quantity, date and preferred time of delivery. 24 hours should normally be allowed for delivery.

References British Standards Institute	
BS EN 197-1: 2011	Cement Part 1: Composition, specifications and conformity criteria for common cements
BS 7979: 2016	Specification for limestone fines for use with Portland cement
BS EN 459: Part 1: 2015	Building lime. Definitions, specification and conformity criteria
BS EN 12878: 2014	Pigments for the colouring of building materials based on cement and/or lime specification and methods of test
BS EN 13139: 2002	Aggregates for mortar
PD 6682 – 3: 2003	Aggregates – Part 3: Aggregates for mortar – Guidance on the use of BS EN 13139
BS EN 13501 – 1: 2018	Fire classification of construction products and building elements Part 1: Classification using test data from fire reaction tests
BS 4551: 2005 +A2: 2013	Mortar – Methods of test for mortar – Chemical analysis and physical testing
BS EN 13914: Part 1: 2016	External rendering
BS EN 13914: Part 2: 2016	Design consideration and essential principles for internal plastering
BS EN 1996-1-1: 2005 +A1: 2012	Eurocode 6. Design of masonry structures. General rules for reinforced and unreinforced masonry structures
BS EN 1996-1-2: 2005	Eurocode 6. Design of masonry structures. General rules. Structural fire design
BS EN 1996-2: 2006	Eurocode 6. Design of masonry structures. Design considerations, selection of materials and execution of masonry
BS EN 1996-3: 2006	Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures
NA to BS EN 1996-1-1: 2005 +A1: 2012	UK National Annex to Eurocode 6. Designs in masonry structures. General rules for reinforced and unreinforced masonry structures
NA to BS EN 1996-1-2: 2005	UK National Annex to Eurocode 6. Design of masonry structures. General rules. Structural fire design
BS EN 998	Specification for mortar for masonry Part 1: 2016 Rendering and plastering mortar Part 2: 2016 Masonry mortar

NA to BS EN 1996-2-2006	UK National Annex to Eurocode 6 Design of masonry structures. Design considerations, selection of materials and execution of masonry
NA to BS EN 1996-3-2006	UK National Annex to Eurocode 6. Design of masonry structures. Simplified calculation methods for unreinforced masonry structures
PD 6697 : 2010	Recommendations for the design of masonry structures to BS EN 1996
PD 6678: 2005	Guide to the selection and specification of masonry mortar
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 934	Part 1: 2008 Admixtures for concrete, mortar and grout Admixtures for concrete, mortar and grout: Part 2: 2009 + A1: 2012 Concrete admixtures – definitions, requirements, conformity, marking and labelling Part 3: 2009 + A1: 2012 Admixtures for masonry mortar – definitions, requirements, conformity, marking and labelling
Building Research Establishment	
Digest 361	Why do buildings crack?
Digest 362	Building mortar
Tarmac	
Product Data Sheet No. 100/01	Tarmac Ready- to- Use mortar
Product Data Sheet No. 100/02	Tarmac Dry Silo mortar
Site Guide No. 3	Ready-to-use mortars
Site Guide No. 6	Winter working recommendations for mortars
Site Guide No. 7	Summer working recommendation for mortars
Site Guide No. 9	Bulk Bags
Site Guide No. 10	Masonry cleaning
Tarmac Safety Data Sheet	Mortars, Screeds and Renders