PRODUCT DATA SHEET

Sika MonoTop®-352 N

DESCRIPTION

Sika MonoTop®-352 N is a 1-component, fibre reinforced low shrinkage light weight repair mortar meeting the requirement of class R3 of EN 1504-3.

USES

- Suitable whenever a lightweight mortar is required, including:
- Restoration work (Principle 3, method 3.1 & 3.3 of EN 1504-9). Repair of spalling and damaged concrete in buildings, bridges, infrastructure and superstructure works
- Structural strengthening (principle 4, method 4.4 of EN 1504-9). Increasing the bearing capacity of the concrete structure by adding mortar
- Preserving or restoring passivity (principle 7, method 7.1 and 7.2 of EN 1504-9). Increasing cover with additional mortar and replacing contaminated or carbonated concrete.

CHARACTERISTICS / ADVANTAGES

- Easy to apply
- Suitable for hand and machine application
- Can be applied up to 75 mm thick per application layer
- Class R3 of EN 1504-3
- Low density but still suitable for structural repair
- Sulphate resistant
- Very low shrinkage behaviour
- Does not require a bonding primer even when manually applied
- Low permeability
- A1 fire rating

APPROVALS / CERTIFICATES

- EN 1504-3: Hartl Ges.m.b.h., Seyring (AT) – Prüfbericht Nr. 1-25'071/2 vom 03.03.2011
- Öbv-Richtlinie "Erhaltung und Instandsetzung von Bauten aus Beton und Stahlbeton", Ausgabe 2014, Materialprüfungsanstalt Hartl, Wolkersdorf
- Öbv-Gütezeichen "instandsetzungsprodukt"

PRODUCT INFORMATION

Composition	Sulphate resistant cement, selected light weight aggregates and additives
Packaging	25 kg bags
Appearance / Colour	Grey powder
Shelf life	12 months
Storage conditions	Store properly in undamaged original sealed packaging, in dry cool conditions.
Density	Fresh mortar density ~1.75 kg/l
Maximum grain size	D_{max}: 2.0 mm
Soluble chloride ion content	≤ 0.05% (EN 1015-17)

TECHNICAL INFORMATION

Compressive strength	Class R3			(EN 12190)
	1 day	**7 days**	**28 days**	
	~8 MPa	~20 MPa	~30 MPa	

Modulus of elasticity in compression	≥ 15 GPa			(EN 13412)

Tensile strength in flexure				(EN 12190)
	1 day	**7 days**	**28 days**	
	~2 MPa	~4 MPa	~5 MPa	

Tensile adhesion strength	≥ 1.5 MPa	(EN 1542)
Shrinkage	~700 μm/m at 20°C / 65% relative humidity at 28 days	(EN 12617-4)
Restrained shrinkage / expansion	≥ 1.5 MPa	(EN 12617-4)
Thermal compatibility	≥ 1.5 MPa (Part 1: Freeze- Thaw)	(EN 13687-1)
Coefficient of thermal expansion	~10.5×10^{-6} 1/K	(EN 1770)
Reaction to fire	Euro Class A1	Declared
Capillary absorption	≤ 0.5 kg/(m^2 $h^{0.5}$)	(EN 13057)
Chloride ion diffusion resistance	Very low, < 1000 coulombs	(ASTM C1202)
Carbonation resistance	d_k ≤ control concrete (MC(0.45))	(EN 13295)

SYSTEM INFORMATION

System structure	Sika MonoTop®-352 N is part of the range of Sika mortars complying with the relevant part of European Standard EN 1504 and comprising of:

Bonding Primer / Reinforcement Corrosion Protection

Sika MonoTop®-910 N	Normal use
SikaTop® Armatec® 110 EpoCem®	Demanding requirements

Repair Mortar

Sika MonoTop®-352 N	Class R3 concrete repair hand and & machine applied

Levelling Mortar

Sika MonoTop®-723 N	Normal use
Sikagard®-720 EpoCem®	Demanding requirements

APPLICATION INFORMATION

Mixing ratio	4.0 to 4.25 litres of water for 25 kg powder
Consumption	This depends on the substrate roughness and thickness of layer applied. As a guide, ~ 15.5 kg of powder per cm thick per m^2
Yield	25 kg of powder yields approximately 16.3 litres of mortar
Layer thickness	min. 4 mm / max. 75 mm
Ambient air temperature	+5 °C minimum; +30 °C maximum
Substrate temperature	+5 °C minimum; +30 °C maximum
Pot Life	~40 minutes at +20 °C

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BASIS OF PRODUCT DATA

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

IMPORTANT CONSIDERATIONS

▪ Refer to the Method Statement for Concrete Repair using Sika MonoTop® system for more information regarding substrate preparation or refer to the recommendations provided in EN 1504-10
▪ Avoid application in direct sun and/or strong wind.
▪ Do not add water over recommended dosage
▪ Apply only to sound, prepared substrate
▪ Do not add additional water during the surface finishing as this will cause discolouration and cracking
▪ Protect freshly applied material from freezing

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY / PRE-TREATMENT

Concrete:
The concrete shall be thoroughly clean, free from dust, loose material, surface contamination and materials which reduce bond or prevent suction or wetting by repair materials. De-laminated, weak, damaged and deteriorated concrete and where necessary sound concrete shall be removed by suitable means.
Steel Reinforcement:
Rust, scale, mortar, concrete, dust and other loose and deleterious material which reduces bond or contributes to corrosion shall be removed. Surfaces shall be prepared using abrasive blast cleaning techniques or high pressure water-blasting to Sa 2 (ISO 8501-1) Reference shall be made to EN1504-10 for specific requirements.

MIXING

Sika MonoTop®-352 N can be mixed with a low speed (< 500 rpm) hand drill mixer or for machine application, using a force action mixer 2 to 3 bags or more at once depending the type and size of mixer. In small quantity, Sika MonoTop®-352 N can also be manually mixed.
Pour the recommended water in a suitable mixing container. While stirring slowly, add the powder to the water and mix thoroughly at least for 3 minutes adding additional water if necessary to the maximum specified amount and adjust to the required consistency.

APPLICATION

Bonding Primer:
On a well prepared and roughened substrate a bonding primer is generally not required for this product. When a bonding primer is required, refer to the **System Information** above for compatible Sika products and refer to the relevant Product Data Sheet for instructions. All small amount of Sika MonoTop®-352 N can also be mixed slightly wetter than normal and used as a scratch coat to promote adhesion of the repair mortar to the substrate. Any bonding primer shall be applied on a pre-wet substrate and subsequent application of the repair mortar shall be applied wet on wet with the bonding primer.
Reinforcement Corrosion Protection:
Where a reinforcement coating is required the application of a repair mortar shall be applied wet on dry with the reinforcement corrosion protection. Refer to the **System Information** above for compatible Sika products and refer to the relevant Product Data Sheet for more detailed information about the reinforcement corrosion product.
Sika MonoTop®-352 N can be applied either manually using traditional techniques or mechanically using wet spray equipment. Thoroughly pre-wet the prepared substrate a recommended 2 hours before application. Keep the surface wet and do not allow to dry. Before application remove excess water e.g. with a clean sponge. The surface shall appear a dark matt appearance without glistening and surface pores and pits shall not contain water.
When manually applying first make a scratch coat by firmly scrapping the repair mortar over the substrate surface to form a thin layer and fill any pores or pits in the surface. Ensure the whole surface to be repaired is covered by the scratch coat. Build up layers from bottom to top by pressing mortar well into the repair area. The surface can be finished according to the requirements using a float while wet or with a relevant rough-cast tool as soon as the mortar has started to stiffen.

CURING TREATMENT

Protect the fresh mortar immediately from premature drying using an appropriate curing method e.g. curing compound, moist geotextile membrane, polythene sheet etc.

CLEANING OF EQUIPMENT

Clean all tools and application equipment with water immediately after use. Hardened material can only be mechanically removed.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data.

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LEGAL NOTES

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

PRODUCT DATA SHEET
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