BS 38 MuCis®
BS 38 HSM MuCis®

EN 1504-3 R3 NORMA EUROPEA

CAPITOLATO AUTOSTRADE PER L'ITALIA MR2 SPEA

FIBRE REINFORCED TWO-COMPONENT RHEOPLASTIC ANTI-SHRINKAGE ANTICORROSION SUPER-ADHESIVE TWO COMPONENT FIBRE REINFORCED MORTAR WITH LOW ELASTICITY MODULUS AND WITH FAST SETTING TIME

CE approved – Certificate n. 1305 - CPD - 0808
EN 1504-3 Class R3

CE approved EN 998-2

type MR2 : *"cementitious, polimer modified, premixed tixotropic bicomponent mortar for big smoothening (4-8 mm) containing synthetic polyacrilonitrile fibers"* according to
CAPITOLATO AUTOSTRADE PER L'ITALIA "thixotropic mortar type MR2"

Description

BS 38 MuCis® is a cement-based formulation consisting on a pre-mixed powder and an RMB liquid resin (water dispersion of special polymers).
Mixed the two components, the resulting mortar is easily workable for applications both by trowel and by normal rendering tools. Once applied and hardened, this product provides high levels of adhesion, very high durability, high water-vapour permeability and high phisycal and mechanical strength. The product also has a particularly low elasticity modulus and it contains MuCis® - Contact and Migrating Corrosion Inhibitors. BS 38 MuCis® is also available in version BS 38 HSM MuCis®, modified product with very low or zero absorption of capillary water.

Advantages and characteristics

- The high thixotropicity and the fast setting allow a quick application of second coats and a quick finishing of repaired surfaces in all weather conditions. The less the percentage of used liquid, the faster the substratum setting time; the higher the suction of the contact support (there is no need to wet or dampen before application), the higher the external temperature).
- The thixotropic qualities of the product guarantee an excellent adhesion and an easy application on vertical surfaces, on the lower parts of beams, shelves or slabs. It can often be used on structures indirectly subjected to slight vibration or dynamic stresses due to / by traffic.
- It is suitable for difficult repairs or restorations, even on smooth substratum where grip is difficult, and for any thickness variation: from a minimum of 1-2 mm (to apply by trowel and finish by float) to a maximum of 200 mm and more over (naturally in fast consequential coats of 20-30 mm each).
- For application on large surfaces with high thickness, we recommend to use a contrasting steel net supported on steel stubs prefixed on the support.
- No need for wetting or anti-evaporation protection after application, not even for very thin thickness or in hot and dry conditions.
- High strong adhesion on the substratum and maximum durability against carbonation and against acid rain attack.
- High degree of water impermeability and good water vapour permeability.
- BS 38 MuCis® allows the maximum protection of the steel reinforcement, also to those at a distance of the actual repair.

Fields of application

- For all types of repair or restoration of damaged concretes.
- General structural repairs, both for concrete and masonry.
- BS 38 MuCis® is a system VHDRS®– Very High Durability Repair & Prevention Systems. Please consult the specific literature.

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Method of use Remarks: The adhesion on the support is a basic characteristic for durability and structural collaboration of the repair and restoration mortars.

Please consult the Data Sheet "*Appraisal and preparation of substrates to obtain better adhesion of repair and restoration mortars – recommendations for the correct finishing*"

- It is always necessary a proper preparation of the substrate by scarifying or sandblasting to obtain an excellent adhesion on the support. Best results are obtained by water-blasting at high pressure. Reveal all rusted steel bars; remove rust of them (if necessary, by sandblasting). Treat them by MuCis® PROTEZIONE FERRO (see the Technical Data Sheet) before any further application.
- Mix the powder to the liquid up to obtain the required consistence.
  The packaging proportions (25 kg bag of powder and 5,25 kg can of liquid) give the mortar a medium consistence and workability. Where application needs particularly consistent and adhesive mix, reduce slightly the amount of liquid. Otherwise, if you need a particularly fluid mix, add a small amount of water after using all the RMB liquid supplied. With hot, dry climate, particularly with packs exposed in the sun, the amount of liquid may be insufficient due to the evaporation of water the resulting mortar is too dry and with an accelerated setting. In this case a minor addition of water (approx 0.5 liters per 25 kg bag) is allowed, in order to obtain normal consistency and setting.
- Prepare the amount of mix required and use within about 15 minutes. Do not re-use nor add more water on the product already hardened.
- Apply the mortar directly on compact and consistent substrates. For applications on masonries or supports with weak consistence, or whenever structural reinforcement is necessary or mechanical or thermal stresses are expected, before mix applying, fix steel stubs (using the same mortar for repairs) in holes properly drilled on the support; then fix a suitable steel net on these stubs.
- For particularly incoherent surfaces or where is a difficult grip, before applying the product, we recommend "brushing" the surface with a fluid version of the product using an hard brush. This will improve adhesion.
- Once applied, the product quickly hardens even in cold conditions and so it must be quickly finished by float.
- This product should not be used in case of too cold temperatures, particularly lower than 0 °C.
- No need for any anti-evaporating protection or consequential wetting, even in hot conditions and/or very high application thickness.

Remarks Information according to 2003/53/CE :
Storage : The product can be kept for at least 12 months if stored in dry and protected conditions, in the original packaging, between +5 °C and + 35 °C.
Do not use the content of opened bags if the powder is lumpy. Keep the liquid Component away from frost.

Packaging

Powder component :	bags of 25 Kg of BS 38 MuCis® (or BS 38 HSM MuCis®)
Liquid component :	can of Kg. 5,25 of RMB

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Technical characteristic (typical values)

Initial setting time : about 20 min. at 25°C

Initial resistance (typical 1 day curing at 20°C): compressive strength ≥ 8 N/mm^2
flexural strength ≥ 2 N/mm^2

		BS 38 MuCis®	BS 38 HSM MuCis®
• Compressive strength	N/mm^2	32 (28 days)	30 (28 days)
• Flexural strength	N/mm^2	8,5 (28 days)	7,5 (28 days)
• ELASTICITY MODULUS	N/mm^2	15.000 (28 days)	15.000 (28 days)
• Adhesion to concrete	N/mm^2	2,6 (28 days)	2,3 (28 days)
• Pull-out	N/mm^2	> 15 (28 days)	> 15 (28 days)
• Carbonation in time	8 years mm	2,5	2,8
	18 years mm	12	12,5
	25 years mm	14,5	15,5
• Resist. to CO_2 penetration	μ	1.006	1.100
• Water VAPOUR permeability	μ	25	25
• ① Resist. to FROST/THAW	gr/m^2	≅ 0	≅ 0
• ② Permeab. to CHLORIDES	Coulomb	280	300
• Type of mortar		Thixo mortar	Thixo mortar
• N. of components		bic	bic
• Advised thickness	mm	3÷15	3÷15
• Application		Hand/spritz	Hand /spritz
• Wet curing		NO	NO
• Protected curing		SE	SE
• Typical application		VHDRS/AED/MuCis	VHDRS/AED/MuCis
• Setting time		accelerated	accelerated
• Hardening		accelerated	accelerated
• Shrinkage compensation		YES+	YES+
• Consumption	Kg/m^2/mm	1,9	1,9

1 N/mm² = 1 MPa = 10,19 Kg/cm²

✱ The formulation for this type of products can be also made with the addition of corrosion inhibitors MuCis®

① Freeze and thaw resistance in the presence of salt. SIA 162/1/91 gr/m² (< 600 gr/m² = very high freeze and thaw resistance)

② Chlorides permeability. FHWA/RD/81 (100÷1000 COULOMB = very low chlorides permeability)

SE Depending on the applicative conditions (rain, sun, hot temperatures, humidity)

VHDRS Very High Durability Repair & Prevention Systems

VHDRC Very High Durability Reinforced Concretes

MuCIS® Multiple Corrosion Inhibiting Synergies

AED Very High Deformation Energy

Safety indications Read carefully the safety indications on the packaging, or consult the relevant safety data sheet of this product.

The above information is based on our best experiences and lab results and on results of the application of the product in various fields. Tecnochem Italiana is not responsible for negative performances due to not proper use of the product or for defects due to elements not connected with the quality of the product included wrong storage. Technical characteristic in this technical data sheet are up-to-dated periodically .Revision date of this technical data sheet is indicated below

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