



Very
High
Durability
Repair &
Prevention
System



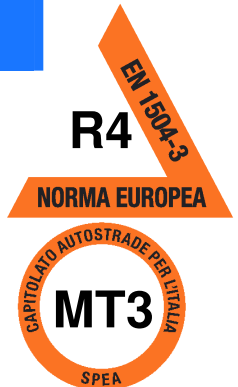
Certified Quality System since **FEBRUARY 1993**

From Project to Jobsite

BS 39 MuCis®

**ANTICORROSION FIBRE REINFORCED TWO COMPONENT
REPAIR MORTAR RHEOPLASTIC, ANTI-SHRINK
AND ANTICORROSION MORTAR, SUPER ADHESIVE,
WITH HIGH PROTECTION AND DURABILITY,
FOR STRUCTURAL REPAIRS OF DETERIORATED CONCRETE**

**CE approved – Certificate n. 1305 - CPD - 0808
EN 1504-3 Class R4**



type MT3 : “*cementitious, premixed, thixotropic, bicomponent, polymer modified mortar containing polyacrylonitrile fibers*”
according to CAPITOLATO AUTOSTRADE PER L'ITALIA “thixotropic mortars type MT3”

Description BS 39 MuCis® is a cement based formulation consisting in the powder component containing polyacrylonitrile fibers (quantity >0,08% with 16 micron diameter and 8 mm length) and the liquid RMB (water dispersion of special polymers). After mixing the two components the mortar can be fully workable using a trowel and other normal tools for rendering, including the spray rendering machine. Once applied and dry, this product will have excellent adhesion properties, will be durable, with high impermeability to water and to carbon dioxide, good water vapour permeability. The high physical-mechanical strengths are coupled with a low modulus of elasticity. It contains MuCis® - Contact and Migrating Corrosion Inhibitors.

Advantages and characteristics

- Being highly thixotropic means that the required number of layers can be applied in a short time, and that the repaired surface can be rapidly finished in all seasons. The setting time will be as fast as the percentage of used liquid is less and the suction by the contact support is more (it doesn't need wet or dampen before the application.)
- The thixotropic qualities of the product give excellent adhesion, make it easy to spread on vertical surfaces, the lower parts of beams, shelves or slab. Often it can be applied to structures which are subject to dynamic stress from traffic.
- Solves the problem of difficult reconstruction or repair work, at a wide range of thicknesses : from a minimum of 5 mm to a maximum of 20 mm or more.
- For very thick layers and large areas it is advisable to use a contrasting steel net supported on steel slump prefixed into the support.
- Does not require wetting or anti-evaporation protection after being applied, even when the layer is very thin and in dry, hot climates.
- Exceptionally strong adhesion to the support and maximum durability to carbonation and damaging acid rain.
- Has excellent waterproofing properties, but is permeable to watervapour
- The version BS 39 MuCis® guarantees optimal protection of the concrete reinforcement steel against corrosion.

Fields of use

- For any type of repair or restoring of spalled concrete
- General structural repairs, both of concrete and masonry
- Remark: BS 39 MuCis® is part of our systems VHDRS® - Very High Durability Repair & Prevention Systems. Consult the specific technical literature.
- Reinforced render for stone, brick or mixed masonry
- For structural reinforcement interventions by cooperating jacketing, for structures in stone, brick,
- For structural repair interventions on stone and brick masonry
- For the sealing of cracks and joints in stone or brick masonry

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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 4,5 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.
- Prepare the amount of mix required and use within about 30-45 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 or MuCis® PROTEZIONE FERRO) in holes properly drilled on the support; then fix a suitable steel net on these stubs.
- Before applying the product to particularly incoherent surfaces, we recommend "brushing" the surface with a fluid version of the product using a hard brush. This will improve adhesion. Apply the mortar by trowel, or spray equipment, to the desired thickness, taking care not to create any voids
- 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 : bag of 25 Kg of BS 39 MuCis® (or BS 39)

Liquid Component: can of Kg. 4,5 of RMB



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Technical characteristic (typical values)

Initial setting time : about 1h at 20°C

Early resistance : (typical 1 day at 20°C):
compression strength $\geq 20 \text{ N/mm}^2$
flexural strength $\geq 4 \text{ N/mm}^2$

• Compressive strength (UNI EN 196/1)	N/mm^2	55 (28 days)
• Flexural strength (UNI EN 196/1)	N/mm^2	11 (28 days)
• ELASTICITY MODULUS (UNI 6556)	N/mm^2	22.300 (28 days)
• Adhesion to concrete (Highway method)	N/mm^2	11,11 (28 days)
• Pull-out	N/mm^2	> 20 (28 days)
• Bleeding		Absent
• Carbonation in time (UNI 9944)	10 years mm	0,6
	18 years mm	0,8
	25 years mm	1,8
• Resist. to CO_2 penetration	μ	14.600
• Water vapour permeability	μ	46
• ① Res. FROST/THAW (EN 104-840-3)		> 50 cycles
• ② Permeab. to CHLORIDES	Coulomb	105
• Type of mortar		Tixo mortar
• N. components		bic
• Advised layer thickness	mm	10÷50
• Application		hand/spritz
• Curing : wet		NO
• Curing : protected		SE
• Typical application		VHDRS/AED/MuCis
• Setting time		normal
• Hardening		normal
• Shrinkage compensation		YES+
• Consumption	$\text{Kg/m}^2/\text{mm}$	2,1

1 $\text{N/mm}^2 = 1 \text{ MPa} = 10,19 \text{ Kg/cm}^2$

<p>★ The formulation for this type of products can be also made with the addition of corrosion inhibitors MuCis®</p> <p>① Freeze and thaw resistance in the presence of salt. SIA 162/1/91 gr/m^2 (< 600 gr/m^2 = very high freeze and thaw resistance)</p> <p>② Chlorides permeability. FHWARD/81 (100÷1000 COULOMB = very low chlorides permeability)</p>	<p>SE Depending on the applicative conditions (rain, sun, hot temperatures, humidity)</p> <p> Very High Durability Repair & Prevention Systems</p> <p> Very High Durability Reinforced Concretes</p>	<p> MuCIS Multiple Corrosion Inhibiting Synergies</p> <p>AED Very High Deformation Energy</p>
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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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