



Very  
High  
Durability  
Repair &  
Prevention  
System



Certified Quality System since **FEBRUARY 1993**

*from Project to Jobsite*

## BS 37

### FIBRE REINFORCED, ONE COMPONENT, RHEOPLASTIC, SHRINKAGE COMPENSATED MORTAR FOR STRUCTURAL REPAIRS

**R4**

**NORMA EUROPEA**

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

**Description** BS 37 is a rheoplastic mortar for structural repairs with compensated shrinkage and with normal setting time (60-90 minutes).

It is a ready to use cement mixture that, after mixing with water, is applicable by spray machines and fully workable by trowel and with normal tools for the application of render. Applied coats of the product when hardened will have very good adhesion, durability, impermeability and exceptional mechanical strength. This product does not contain expansive metallic elements.

It requires structural cooperation with existing exposed steel bars or the pre-application of a suitable steel net fixed to the base when the surfaces are large and thick and not just very small repairs. Finish by float or sponge-float. The base must be soaked with water before application and the surface kept damp for at least 24 hours after application.

**On request, the product is also available in the following versions:**

- **Containing migrating and contact corrosion inhibitors: BS 37 MuCis®.**
- **With addition of shrinkage reducing agents: BS 37 sra bic.**

**Advantages and characteristics**

- The thixotropic features of BS 37 result in excellent adhesion, making it easy to spread on vertical surfaces, beneath beams and shelves and on ceilings.
- All manual and mechanical equipment that is normally used for applying renders can be used.
- No "bleeding".
- Very strong adhesion to the substrate.
- Resistant to chemical attack and excellent impermeability to water penetration, even under pressure.
- High mechanical strengths.

**Fields of use**

- Structural renders in general
- Also usable as waterproofing coating in conditions of negative thrust :
  - Waterproofing wainscot at the foot of the renders
  - for regularization of diaphragms with interposition of steel net
  - on mixed and concrete masonries

**Method of use**

Please note : the adhesion to substrate is a very important characteristics for the durability and the structural cooperation of the repair and restoration mortars.

We recommend to consult the sheet : "Appraisal and preparation of substrates to obtain better adhesion of repair and restructuration mortars - recommendations for the correct finishing"



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- A proper substrate preparation by scabbling, sandblasting, etc. is essential to achieve maximum adhesion to the substrate. High pressure watercleaning is the most suitable method for optimal preparation. Eliminate spalling and carbonated concrete, expose the rusted steel bars, remove rust by sandblasting and then apply MuCis® PROTEZIONE FERRO (see technical data sheet) before applying any other product.
- Wet the contact surfaces until thoroughly soaked, starting some hours before application to eliminate the substrate absorption.
- Excess water, either on the surface or in cavities, must be removed by compressed air or sponges immediately prior to application.
- Mix for 3 - 5 minutes (or, depending on the mixing efficiency, for the time necessary to achieve a smooth, lump-free mix), in the cement mixer which will already contain slightly less than the right amount of water.
- Add some more water to get the right consistency. The actual amount of water needed will vary according to environmental temperature and humidity.
- Once applied and as soon as the layer has set, keep the surface of the mortar damp or, at least, prevent evaporation of the water content for at least 24 hours. This is especially important in hot, dry and windy areas. Best results are achieved by keeping the surface damp for 3 to 4 days.
- Very thick vertical applications and ceilings must be done in several applications to avoid that its own weight causes it to break away while it is still in a plastic state.

**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 unopened packaging, between +5° C and + 35° C.

Do not use the content of opened bags in case of powder agglomeration.

**Packaging** BS 37: 25 Kg bag

BS 37 MuCis®: 25 Kg bag

BS 37 sra: 25 Kg bag (comp A) + 0,25 Kg bottle (comp B sra)

**Technical characteristics** Initial setting time: approx. 1 hour at 25°C.

<b>(typical values)</b>	• Compressive strength	N/mm <sup>2</sup>	60÷78 (28 days)
	• Flexural strength	N/mm <sup>2</sup>	8,5÷9,5 (28 days)
	• ELASTICITY MODULUS	N/mm <sup>2</sup>	24.000-30.000 (28 days)
	• Adhesion to concrete (direct tensile)	N/mm <sup>2</sup>	> 2 (28 days)
	• Adhesion to concrete (prism, angle 20°, highway method)	N/mm <sup>2</sup>	> 5 (28 days)
	<hr/>		
	• Pull-out	N/mm <sup>2</sup>	20÷28 (28 days)
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	• Carbonation in time	8 years mm	1,5
		18 years mm	5,5
		25 years mm	9,5
	• Resistance to CO <sub>2</sub> penetration	μ	1.500
	• Resistance to water vapour diffusion	μ	50
	• ① Resistance to FROST/THAW	gr/m <sup>2</sup>	330
• ② Permeability to CHLORIDES	Coulomb	480	
• Water permeability in positive thrust	kPa	> 120	
• Water permeability in negative thrust	kPa	> 55	

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• Type of conglomerate		Thixo mortar
• Number of components		Mono
• Advised thickness	mm	10÷50 (steel net)
• Application		Hand/spritz
• Curing : wet		YES
• Curing : protected		SE
• Typical application		Structural repair
• Setting time		Normal
• Hardening		Normal
• Shrinkage compensation		YES
• Dosage	Kg/m <sup>2</sup> /mm	1,9

1 N/mm<sup>2</sup> = 1 MPa = 10,19 Kg/cm<sup>2</sup>

<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<sup>2</sup> (&lt; 600 gr/m<sup>2</sup> = 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 &amp; Prevention Systems</p> <p> Very High Durability Reinforced Concretes</p>	<p> Multiple Corrosion Inhibiting Synergies</p> <p><b>AED</b> Very High Deformation Energy</p>
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### INDICATIVE COMPARISON TABLE OF THE AVERAGE VALUES OF MECHANICAL COMPRESSIVE STRENGTH AT 28 DAYS DEPENDING ON WATER PERCENTAGE AND SPECIMENS FORMING AND DIMENSIONS

Method of forming and dimension of specimens. Curing in climatic chamber R.H. > 90% and 20 °C.	Added water			
	14%	15%	16%	17%
Prisms 4 x 4 x 16 cm	78,1 MPa	68,0 MPa	59,6 MPa	54,1 MPa
Cubes of 10 cm, tamped by pestle and with vibrating table.	62,0 MPa	54,7 MPa	50,4 MPa	44,3 MPa

#### Compression MPa (4x4x16)      Flexion MPa (4x4x16)

1 day	22-36	4,5-5,1
3 days	30-35	5,3-6,0
7 days	41-46	6,5-7,2
28 days	54-78	7,2-10,0

**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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