



Very
High
Durability
Repair &
Prevention
System



Certified Quality System since **FEBRUARY 1993**

from Project to Jobsite

BS 37 RS

**FIBRE REINFORCED, ONE COMPONENT, RHEOPLASTIC,
SHRINKAGE COMPENSATED, SULPHATE RESISTANT
MORTAR FOR STRUCTURAL REPAIRS**

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

R4

**EN 1504-3
NORMA EUROPEA**

Description BS 37 RS is a rheoplastic sulphate resistant 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 strengths. 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 substrate must be soaked with water before application and the surface kept damp for at least 24 hours after application. The powder is based on C₃A free Portland Cement (tricalcium aluminate) less than 3%.

On request, the product is also available in the version **BS 37 RS MuCis®**, modified with migrating and contact corrosion inhibitors without any difference in the physico-mechanical characteristics of the product as described in this technical data sheet.

On request, or for particular projects, it is available the product **BS 37/RS/POZ with addition of Microbeton® POZ and Microbeton® POZ/H containing all the advantages of ferric-pozzolanic formulates.**

Advantages and characteristics

- The special cements and additives make BS 37 RS particularly resistant to chemical sulphate attack.
- The thixotropic features of BS 37 RS 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

- General structural repair mortar and render.
- Structural repairs of surfaces.
- On vertical surfaces and ceilings, and wherever the following is required:
 - Easy to spread and apply.
 - Strong and instant adhesion to the sub-layer.
 - Eliminates the problem of pieces dropping and rebound.
 - Dimensional stability.
 - Very high physical and mechanical strength.
 - Durability.

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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"

- 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 in order to provide additional protection to the reinforcement steel .
- Apply steel reinforcement nets fixed into the wall with metal stubs, or attached to the steel rebars.
- 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.
- Average amount of water needed for plastic mixes: 13 - 15 lt per 100 kg of BS 37 RS.
- 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.
- Add some more water to get the right consistency. The actual amount of water needed will vary according to environmental temperature and humidity.
- Apply by hand or by conventional spray equipment, the thickness adapted to the particular conditions . Pay attention that the areas behind the rebars are completely filled in order not to create cavities (the 'shadow zone ' of the metal bars can limit the penetration of the mortar. Spray always in an angle and not perpendicular onto the steel net). To avoid this, the net can be applied to the stumps, after spraying the first layer of product.
- 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 packaging, between +5°C and + 35 C.

Do not use the contents of opened sacks if the powder has gone into lumps.

Packaging 25 kg bag

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Technical characteristics (typical values)

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

• Compressive strength	N/mm ²	65 (28 d.)
• Flexural strength	N/mm ²	8,5 (28 d.)
• ELASTICITY MODULUS	N/mm ²	26.000 (28 d.)
• Adhesion to concrete	N/mm ²	2 (28 d.)
• Pull-out	N/mm ²	> 20 (28 d.)
• Carbonation in time	8 years mm	2
	18 years mm	6,5
	25 years mm	10
• Resistance to CO ₂ penetration	μ	1.300
• Resistance to water vapour diffusion	μ	46
• ① Resistance to FROST/ THAW	gr/m ²	370
• ② Permeability to CHLORIDES	Coulomb	550
• 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 repairs
• Setting time		normal
• Hardening		normal
• Shrinkage compensation		YES
• Dosage	Kg/m ² /mm	1,9

1N/mm² = 1MPa = 10,19 Kg/cm²

* the formulation for this type of products can be also made with the addition of corrosion inhibitors and MuCis®.

① Freeze and thaw resistance in the presence of salt: 3/4 162 11/91 (= 600 gr/cm³ = very high freeze and thaw resistance)

② Chlorides permeability: FH WA RD/81 (100 = 1000 COULOMB = very low chlorides permeability)



MuCis Multiple Corrosion Inhibiting Synergies

AED Very High Deformation Energy

Mechanical strengths (typical values for mixtures with various water demands from 12,5 to 16 % ref. to the BS 37 RS weight) : prisma 4x4x16 cm

	Compression N/mm ²	Flexural N/mm ²
1 d.	18 - 28	3,0 – 5,4
7 d.	35 - 50	5,5 - 7,5
28 d.	45 - 72	8,0 – 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. Changes of this data sheet can be found in our web-site www.tecnochem.it where you can find the same technical data sheet updated in real time.

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