



Very
High
Durability
Repair &
Prevention
System



Certified Quality System since **FEBRUARY 1993**

from Project to Jobsite

BS 5

MONOCOMPONENT, RHEOPLASTIC MORTAR FOR STRUCTURAL REPAIRS 35÷45 N/mm²

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

R3

EN 1504-3

NORMA EUROPEA

Description BS-5 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, waterproof 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 dealt with 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.

Advantages and characteristics

- The thixotropic features of BS-5 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.
- Apply with spray machine
- Very strong adhesion to the substrate.
- Resistant to chemical attack and excellent impermeability to water penetration, even under pressure.
- High mechanical strength.

Fields of use

- Structural concrete repairs in general with resistance 35÷45 N/mm²

Method of use

- 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: 15 - 17 lt per 100 kg of dry mix.
- 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.
- In the case that additional reinforcement is applied, it is essential that the product is applied also in the shadow side of the rebars in order to avoid hollow areas. In case of spraying, spray always in an angle to the substrate to fill all the voids.
- 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.
- In the case of vertical layers, or applications at higher thickness, build up the complete thickness in different stages in order to create any stresses in the mortar in the plastic phase, and not yet hardened sufficiently.



Very
High
Durability
Repair &
Prevention
System



Certified Quality System since **FEBRUARY 1993**

from Project to Jobsite

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 Bags of 25 kg.

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

Mechanical resistance: (typical results for mortars prepared with different water concentrations): Prisms 4x4x16 cm.

	<u>Compressive N/mm²</u>	<u>Flexural N/mm²</u>
1 d.	15 ÷ 18	3,5 ÷ 4,5
3 d.	25 ÷ 30	5 ÷ 6,5
28 d.	35 ÷ 45	7,5 ÷ 8,5

- **Porosity of the product:** the mortar contains airbubbles which provide frost/thaw resistance. The porosity increases by increasing mixing time.
- **Pull-out resistance:** normally double values compared to other mortars prepared on the jobsite. Typical values of pull out strength are >40 kg./cm² for smooth steel, and > 100 kg./cm² for steel with improved adhesion.
- **Dimensional stability:** the product is formulated and calculated to compensate the hygrometric shrinkage by slight expansion.
- **Bleeding:** absent
- **Adhesion to concrete (average results):**
On concrete slabs of 7x7x28 cm. Having a compressive strength not less than 45 Mpa after 28 days, with the contact angle inclined 20 degrees, roughened, to which surface BS-5 is applied :
After 3 days: shear resistance 2,5 Mpa
After 28 days : shear resistance 3,5 Mpa
- **Elasticity modulus** (typical values)
Dynamic (ultrasonic method) : 26.500 Mpa
Static : 21.500 Mpa
- **Consumption:** approx 1,85 Kg/m²/mm

It is available the fiber-reinforced version : BS 5 F

Safety indications Read carefully the safety indications on the packaging, or consult the relevant safety datasheet 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

Date edition: 03/2006
Date revision : 12/2011

Nr. rev.: 5

BS 5
page 2/2