REP.0310

REPAR TIX HG SB

Structural, thixotropic, fibre-reinforced cement mortar, for spritz beton

Customs Code

3824 5090

Packaging

- Bag 25 kg
- Pallet: 50 x (Bag 25 kg)

Application

- Brick trowel
- Finishing trowel
- Spatula
- Sprayer

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Updated: **09/11/2021**
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Family	Type
Repar	**One-component structural thixotropic cement mortars**
Product Lines	Functional Cathegories
• **Building** • **Infratech**	• **Repair and restoration of concrete structures with thixotropic mortars** • **Construction and maintenance interventions on airport runaways and quays** • **Structural maintenance of dams, reservoirs, ducts and water ducts** • **Structural maintenance of bridges and viaducts** • **Structural maintenance of tunnels** • **Construction of spritz-beton**
Components	Appearance
Single-component	**Powder**

Certifications and legislations

CE EN 1504/3 R4

EN 1504-3
Products and systems for the protection and repair of concrete structures - Structural and non-structural repair (R4)

General **description**

Thixotropic, structural, fibre reinforced cement mortar, with compensated shrinkage, with high intrinsic water tightness, and extraordinary physical and mechanical characteristics: adhesion, compression resistance, flexural strength, abrasion resistance, etc. Perfect for remediation of structural works and articles in degraded concrete and very high-performance coatings. REPAR TIX HG SB, in addition to normal manual application techniques, it is a structural mortar specially formulated for applications with pumping/spray machines (wet spritz-beton technique). Particularly optimized parameters are: rheology, thixotropy and workability of the product, which allow spraying operations with reduced wear of the mechanical parts and little waste on the ground.

General **features**

Rheoplastic, thixotropic, structural, composite cement mortar, based on special cements and selected siliceous aggregates, reinforced with a balanced mixture of READYMESH polypropylene fibres and calcium metasilicate microfibres, added with specific agents and a high content of silica fume. After hardening, it provides very high performance in terms of intrinsic water tightness, resistance to washing and hydrolysing, mechanical strength, abrasion and cavitation, anti-carbonation, chemical-physical stability, resistance to harsh atmospheric agents and to leaching water. It has three-dimensional fibre-reinforcement, provides high hold; it is dimensionally stable (compensated shrinkage). The product can be supplied in mono-component or two-component version. The product, in the monocomponent version, is mixed with water (approx. 16% of the weight of the bag). In the two-component version, the product is mixed by adding the 4.5 kg of component B. The two-component version increases adhesion to the support and reduces free shrinkage to air, especially in the initial hardening phases and in particularly hot climates, without modifying the physical-mechanical characteristics of the end product.

Dosage

Approximately 18,5 kg/m² of REPAR TIX HG SB for every centimetre of thickness to be implemented (approximately 1850 kg per cubic metre).

Fields of **application**

Repairs and protective coatings of hydraulic works (pipelines, dams, tunnels etc.), marine structures and artefacts in critical situations: aggressive chemical-physical agents, leaching water, marine atmosphere, etc. Specific for shotcrete interventions in galleries, tunnels, rock walls, irrigation and hydraulic channels, piles and micropiles, diaphragms, etc.

Basic **features**

- Highlighted product
- Max. recommended thickness: *40 mm*
- Maximum diameter of aggregate: *1.5 mm*
- Min. recommended thickness: *7 mm*
- Mix with water: *16 %*
- Nonflammable
- Pot-life: *30 min*
- Shelf-life: *12 months*
- Temperature of use: *+5 / +35 °C*
- Use wearing protective gloves
- Available **colours** Gray

Technical specifications

Bonding force (UNI EN 1015-12)	≥ 2 N/mm²
Capillary absorption (UNI EN 13057)	0.30 kg•h^0.5/m²
Chloride content (UNI EN 1015-17)	< 0.01 %
Compressive strength after 07 days (UNI EN 12190)	> 40 N/mm²
Compressive strength after 28 days (UNI EN 12190)	≥ 55 N/mm²
Compressive strength after 90 days (UNI EN 12190)	> 60 N/mm²
Contrasted expansion with air curing for 1 day (UNI 8147)	> 0.01 %
Density (UNI EN 1015-6)	2115 kg/m³
Determination of thermal compatibility (UNI EN 13687-1)	≥ 2 N/mm²
Flexural strength after 07 days (UNI EN 196/1)	> 7 N/mm²
Flexural strength after 28 days (UNI EN 196/1)	≥ 8.5 N/mm²
pH	> 12 _
Reaction to fire (EN 13501-1)	A1 _
Resistance to carbonatation (UNI EN 13295)	0.5 mm
Skid resistance (UNI EN 13036-4)	61.0 mm
Static elastic modulus (EN 13142)	26000 N/mm²
Water/binder ratio	< 0.37 _

Tools **cleansing**

- Water

Applicable on

- Concrete
- Prefabricated concrete
- Bricks
- Mixed walls (bricks and stones)
- Stone walls
- Rock walls

Substrate **preparation**

Application surfaces should be clean, free of soiling, crumbling and non-adhering parts, dust, etc., conveniently saturated with water until they reach the condition "saturated with dry surface". An adequate roughening of the surfaces by scarifying, sandblasting etc. is always necessary in order to obtain the maximum adhesion values to the substrate. The optimal values are obtained with high pressure hydro-scarification. Bare the irons undergoing disruptive oxidation or deeply oxidized, removing the rust of the exposed irons (by sandblasting or abrasive brushes).

Instructions for use

The use of pumping/spraying machines specifically designed to be used with fibre-reinforced structural mortars is recommended. For the spraying of structural mortars such as REPAR TIX HG SB, an effective and sometimes prolonged mixing of the product, which must take place upstream of the pumping circuit, is always recommended. For this reason, the use of “plaster sprayers” with volumetric water dosage is not recommended.
Pour about 2/3 of the mixing water into the mixer, add REPAR TIX HG SB and the remaining water; continue to mix until a homogeneous lump-free mixture is obtained. The mixing water should be about 16% of the weight of the bag. Addition of BOND HG to the mixing water, (approx. 0.5 litres per 25kg bag of product) in the single component version, allows further improvement in terms of adhesion, hold, impermeability, workability, modelling and deformation capacity. In the case of use of the product in the two-component version, pour component B (liquid) into the mixer, gradually adding component A (powder) and mixing until the lumps are completely eliminated. For high coating thicknesses, static requirements, monolithic requirements, etc., performed with REPAR TIX HG SB, it is advisable to use suitable metal reinforcements (electro-welded mesh, cages, etc.), anchored to the support with SYNTECH PROFIX, GROUT MICROJ, REPAR TIX G2.

Storage and preservation

Store the product in its original packing, in a fresh and dry environment, avoiding frost and direct sunlight. Inadequate storage of the product may result in a loss of rheological performance. Protect from humidity.

Warnings, Precautions and **Ecology**

The general information, along with any instructions and recommendations for use of this product, including in this data sheet and eventually provided verbally or in writing, correspond to the present state of our scientific and practical knowledge.
Any technical and performance data reported is the result of laboratory tests conducted in a controlled environment and thus may be subject to modification in relation to the actual conditions of implementation.

Azichem Srl does not assume any liability arising from inadequate characteristics related to improper use of the product or connected to defects arising from factors or elements unrelated to the quality of the product, including improper storage.
Those wishing to utilise the product are required to determine prior to use whether or not the same is suitable for the intended use, assuming all consequent responsibility.

The technical and characteristic details contained in this data sheet shall be updated periodically. For consultation in real time, please visit the website: www.azichem.com. The date of revision is indicated in the space to the side. The current edition cancels out and replaces any previous version.

Please note that the user is required to read the latest Safety Data Sheet for this product, containing chemical-physical and toxicological data, risk phrases and other information regarding the safe transport, use and disposal of the product and its packaging. For consultation, please visit: www.azichem.com.
It is forbidden to dispose of the product and/or packaging in the environment.

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