Betonfix TX

ST9-0319

Thixotropic, fast-setting cement mortar with a low modulus of elasticity. Suitable for structural renovation and consolidation.

R3 EN 1504-3 CE

DESCRIPTION

Betonfix TX is a fast-setting, thixotropic, ready-to-use mortar, enriched with corrosion inhibitors and synthetic fibres. It provides excellent adhesion to the substrate, resistance to sulphates and durability even in hard conditions. The formulation and fast setting allow a rapid finishing.
It is CE marked as an R3 structural mortar according to EN 1504-3.

ADVANTAGES

- **Performing**: final mechanical development required for R3 mortar within the first 7 days. With corrosion inhibitors, free from metal particles and chlorides. No cracking risk.
- **Versatile**: available in several variants with different granulometry, fibers and grip times; Mixed with additives or latex is used for applications with specific needs.
- **Long-lasting**: durability and resistance to environmental aggression proven by works from the early 1980s.
- **Easy to apply**: Excellent workability and easy application (manual or mechanized).

USES

Betonfix TX should be used (for thicknesses lower than 3 cm) to restore structures in reinforced concrete: balconies, cornices, pillars, beams, road and railway works. It is also used for quick restoration of degraded concrete parts such as flooring, piping edges, and so on.

WORKS

- Cortical restoration and protection of degraded reinforced concrete structures with exposed metal reinforcement (**SA65**)

APPLICATION

	Manual application		Fast setting time: 30 ± 10 mins
	Mechanical device application		Mixing water: 4-5 lt/ 25Kg
	Max thickness per coat: 10-30 mm for horizontal application 10-30 mm for vertical application 10-20 mm for overhead application		

Carefully remove degraded and inconsistent concrete by hammering until you find a compact support.
The "Pull off" concrete surface traction strength must not be less than 1.5 MPa, as indicated by the quality control procedures of the substrate according to EN 1504-10. If the substrate has lower mechanical characteristics, the designer will evaluate the measures to be taken (contact the Technical Department).
If steel reinforcement rebars are exposed, remove the concrete in contact with them by using a needle gun; hydrosand the entire surface and protect steel reinforcement rebars with **Betonfix KIMIFER** applied to brush.
The product is ready-to-use with just the addition of potable water per pack according to the amount indicated in the table above.
Prepare the amount of **Betonfix TX** that you plan to use within next 15 minutes starting from mixing phase.
The substrate must be wet until SSD conditions are achieved, eliminating any exceeding water stagnation.
Saturate the substrate with a **Betonfix KIMIFER** coat by brush and, on fresh, apply mortar with trowel.
Once finished the work keep the surface with an adequate level of humidity.
It is important not to mix the product once it has begun to set: it would lose all the chemical-physical properties.
Do not use **Betonfix TX** to create continuous coatings such as plasters or skim coatings.

CONSUMPTION
18 Kg/m²/cm.

PACKAGING
25 kg multilayer polythene bag.
Pallet 60x25 – 1500 Kg.

STORAGE
Protect from humidity. Store the product in a sheltered and dry place; in these conditions and in unopened containers it remains stable for 12 months.

Characteristic	Value
Appereance	Powder
Colour	grey
Apparent specific weight UNI 9446	1,28 ± 0,1 g/cm³
Hazard classification 1999/45/CE e 67/548/CEE	Irritant
Maximum inert material size EN 1015-1	1,2 mm
Apparent volumetric mass of wet mortar EN 1015-6	2100 ± 50 Kg/m³
Consistency UNI 7044/72	10-30 %
Pot life EN 1015-9	15 ± 5 mins
Minimum application temperature	+5 °C
pH of mixture	12 ± 0,5
Setting time EN 196-3 (start)	30 ± 10 mins
Setting time EN 196-3 (end)	50 ± 10 mins
Exudation UNI 8988	None
Hazardous substances	Compliant with DM 10/05/2004

Characteristic	EN 1504-3 limits for R3 mortars	Value
Compression strength 28 days EN 12190 [MPa]	≥ 25	At 1 day > 6,9 At 7 days > 25 At 28 days > 41
Flexural tensile strength at 28 days EN 196/1 [GPa]	No request	At 1 day > 2,2 At 7 days > 3,6 At 28 days > 7,3
Secant elastic modulus on compression EN 13412 [GPa]	≥15	20,2
Chloride content EN 1015-17 [%]	≤ 0,05	< 0,05
Concrete adhesion (EN 1542) [MPa]	≥ 1,5	2
Concrete adhesion (EN 1542) after dry-thermal ageing EN 13687-4 [MPa]	≥ 1,5	> 1,5
Concrete adhesion (EN 1542) after thunder-shower cycles EN 13687-2 [MPa]	≥ 1,5	> 1,5
Concrete adhesion (EN 1542) after frost-thaw cycles EN 13687-1 [MPa]	≥ 1,5	1,9
Resistance to accelerated carbonation, EN 13295	Depth of carbonation, dk < Concrete MC 0,45 a/c	OK

Characteristic	EN 1504-3 limits for R3 mortars	Value
Waterproofing (capillary absorption coefficient, EN 13057) [Kg/m²·h$^{1/2}$]	≤ 0,5	< 0,5
Fire reaction class EN 13501-1	Euroclass	A1

AVAILABLE VERSIONS
Betonfix TX is available in non-standard versions produced on request, characterized by: faster setting time (**Betonfix TX/RPD**); higher maximum grain size (**Betonfix TX/GG**); longer reinforcing fibers (**Betonfix TX/FL**), metallic fibers (**Betonfix TX/FM**).
Betonfix TX can also be mixed with expansion additives (**Betonfix TX/AD**) or with latex in complete substitution of mixing water (**Betonfix TX/BC**). For further details, ask our Technical Department.

WARNING
Product intended for professional use. Do not remix by adding water to the product when it has already started to set.
Possible sligth differencex in terms of colour can occur form one production batch to another. These chromatic differences don't affect the mechanical and chemical propertis of the product in any way.
Do not add concrete, additives or other Betonfix mortars. Before using, check bags have not been damaged, and do not use the product if there are any lumps. Use the entire contents once the bag has been opened. Take all necessary precautions to ensure correct curing of the casting. Do not use at temperatures of under +5 °C. Wet with water for the fi rst 48 hours, or cover with plastic sheets or damp jute bags. Do not use anti-evaporation agents in case other coatings are to be performed.
The technical specifications and application methods recommended herein are based on our current knowledge and experience and do not represent any form of guarantee of the final results obtainable with the product. It is the customer's responsibility to check that this data sheet is still effective and has not been replaced with a more recent version, and that the product is suitable for the intended use.

TECHNICAL SPECIFICATIONS

SK65 - Cortical restoration and protection of degraded reinforced concrete structures with exposed metal reinforcement

(**SK 65**) Accurate removal of degraded and inconsistent concrete by hammering until a you see a compact substrate.
Remove concrete from metal reinforcements by means of a needle gun.
Positioning of new collaborative metal reinforcement in case of noticeable oxidation of existing irons with a strong reduction of the section and grout with special epoxy resins.
Hydro-sandblasting or sandblasting of concrete and metal reinforcement. Wet the area to be treated and remove any stagnant water at the time of casting.
For the treatment of the rods, use Betonfix KIMIFER mortar by Kimia S.p.A. or similar product. The product will be applied by brush in a double coat with a total consumption of about 0.5 Kg/m². The first coat will be spread on the metal reinforcement to be protected, the second coat will be applied, as an adhesive bridge, also on the concrete to be restored.

For the cortical restoration, use Betonfix TX mortar by Kimia S.p.A. or similar product. Apply with a trowel or spray with suitable plastering machines. Consumption: 18 kg/m² every cm of thickness.

The ready-to-use anti-shrinkage hydraulic mortar with a thixotropic effect containing synthetic fibers and corrosion inhibitors will be prepared and applied scrupulously following the indications given on the technical sheets supplied by the manufacturer and must have the following characteristics:

• Compressive strength EN 12190 at 1 days: ≥ 6,9 MPa; at 7 days:> 25 MPa; at 28 days:> 41 MPa.
• Tensile flexural strength EN 196/1 at 1 days> 2,2 MPa; at 7 days:> 3,6 MPa; at 28 days:> 7,6 MPa.
• Elastic secant modulus on compression EN 13412 [Gpa]> 20,2;
• Concrete adhesion (EN 1542) : 2 Mpa

The mortar will be CE marked as R3 according to EN 1504-3. The manufacturer will be able to provide specific reports relating to the initial type tests performed at notified laboratories for the most relevant data (adhesion, carbonation resistance, elastic modulus and chloride content).

Kimicover BLINDO by Kimia S.p.A. will be used for any anti-carbonation protective coating. or similar product diluted with 10-15% of drinking water applied in a double coat by brush, roller or spray respecting a total consumption not lower than 0.5 kg / m².