STERLING® TECHNOTRADE
The Specialist Construction Chemical Company

CemPro HB 40+

Single Component, Fiber Reinforced Cementitious High Performance Repair Mortar.

Description:

TechFin® CemPro HB40+ is a pre-bagged, factory quality controlled, easy to apply single component trowelable fiber-reinforced, shrinkage-compensated, high-early-strength, fast-setting, polymer-modified, high-build cementitious repair mortar designed for vertical and horizontal applications for civil engineering applications. **TechFin® CemPro HB40+** is suitable for placing in thicknesses of 12mm to 50 mm both vertically and overhead.

TechFin® CemPro HB40+ incorporates of a blend of Portland cements, fibers, supplementary cementing materials & advanced polymer additives which requires the addition of recommended potable water on site to produce an ultra-high durability, dual shrinkage compensating and easily workable mortar with thixotropic effect.

Application Includes:

TechFin® CemPro HB40+ is the ideal material for vertical or horizontal structural repairs where the thickness of repair is more than 12 mm and use of hand or machine applied structural repair systems is required. Typical applications are:

- Extensive repairs to beams, columns and other structural elements
- Repair of structural members subjected to repetitive loading

Features & Benefits:

Cost effective- shrinkage control enables repairs to be completed "right first time". Very low rebound is an additional cost benefit **Enhanced durability-** works in tandem with extremely low permeability to prolong effective working life.

Compatibility- aligns performance closer than ever before, to that of host concrete
User friendly- specifically developed to provide an easy to-apply product, suitable for local conditions.

Definable performance- positive benefits are easily demonstrated via a single, simple measurement.

One component, factory made only addition of water-uniform predictable performance even in remote situations.

Application Instructions:

Surface Preparation

Steel -Any corroded steel in the repair area must be fully exposed. All exposed reinforcement shall be cleaned of corrosion products by wet grit blasting or other approved means to achieve a clean and bright finish. In case that reinforcing bars section is reduced due to oxidization, integrate them with additional bar reinforcement.

Concrete-The surface of the concrete to be repaired should be sound, clean and uncontaminated. The decayed or damaged area to be repaired should be marked. Cut the marked area to a depth of at least 10mm using a hand held concrete saw or disc grinder to avoid feather edging and to provide a square edge. Break out or chip the complete repair area down to sound base using sharp tools or chipping hammer. Oil and grease deposits should be removed by stiff brushing, detergent scrubbing with a heavy duty cleaner/degreaser or steam cleaning.

Priming:

Steel-The cleaned steel should be coated within 3 hours. Apply one coat of **TechnoCoat® ZR Special-** two component Epoxy Zinc rich Primer, continuously with brush onto the cleaned bar reinforcement ensuring that the whole steel surface area is completely covered. Allow to dry before proceeding with the repair.

Concrete- If the concrete deterioration is due to Chloride attack, it is recommended to use **TechnoCoat® Bond EP**- epoxy bonding agent for old to new concrete. It will cure to form a barrier against Chloride ions. However if the cause is Carbonation, dampen the surface with clean water (avoiding free standing water) and apply thin coat of **TechnoCrete® AcrylBond**-Acrylic bonding agent.

TechFin® CemPro HB40+ must be applied before the bonding agent dries while it's still tacky to achieve a better bond between the fresh and cured section.

Mixing:

To ensure proper mixing, a mechanically powered mixer or drill fitted with suitable paddle should be used. Place 4.5-4.8 liters of cold clean water in the mixing bucket. With the drill in operation, add the entire content of the 30 kg bag of **TechFin® CemPro HB40+** while mixing continuously till a uniform lump free consistency mix is achieved. Powder must always be added to water. Allow the obtained mix to stand for about 3 minutes and then remix before application. Under no circumstances should partial mixing be considered.

Mortar Application & Finishing:

The minimum temperatures must be maintained during application and for at least 24 hours thereafter for optimum curing of the product. The prepared substrate should be pre-soaked, preferably for 24 hours, but at least 2 hours before applying **TechFin® CemPro HB40+**. The surface must be saturated surface dry, but without standing water. **TechFin® CemPro HB40+** can be spray- or hand-applied.

Apply mixed product directly to the prepared damp substrate, or wet on wet onto the primed surface. Spraying the material with the necessary pressure will ensure good adhesion of the material.

A thin scrape coat or contact layer before building up to the required thickness, wet on wet, will improve adhesion especially in case of hand application. Apply to the desired layer thickness of 12 to max 50 mm and level using a screeding bar, trowel or wooden board. Can be applied in thicker layers in smaller patches or where additional reinforcement is present. Smoothing with a trowel or finishing by float or sponge can be done as soon as the mortar has begun to stiffen.

Packaging:

TechFin® CemPro HB40+ is supplied in 30 Kg HDPE Bag.

Storage & Shelf Life:

12 months from the date of manufacturing when stored in unopened, original sealed and dry condition at a temperature range from +5^{0}C to 35^{0}C.

Coverage:

One unit of mixed **TechFin® CemPro HB40+** will typically yield 15.36L of mortar with 4.8 liters water addition.

Health & Safety Instructions:

As a powder containing Portland cement **TechFin® CemPro HB40+** may cause irritation to skin or eyes. Protect your health while working with this material, always use safety goggles, gloves and safety clothing. When handling hazardous materials or pressurized materials, or during any application that may result in spills, splashes or airborne particles, a full face shield is strongly recommended. Protect yourself and others on the jobsite.

Consider property in proximity of the application area to prevent loss or damage. Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals.

Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

Disclaimer: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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Protective Coatings:

Subsequent coatings of **TechnoFinish® ACP 200-** Anti carbonation barriers or silane impregnations should be applied as recommend on the individual datasheets.

Curing:

Good curing practice is essential, as **TechFin® CemPro HB40+** is a cementitious based material, it should be cured in a similar method to concrete. Curing can be conducted by using **TechnoFinish®ConKure101/102 range**, which is compatible with most subsequent protective coatings or by wet hessian sheets covered with polyethylene sheets.

Typical Properties at 25°C

Appearance	Cement Grey powder
Pot Life @ 20°C	30 - 40 minutes
Initial Set @ 20°C	1 hour
Mixed density	2.25 g/cm3
Compressive strength (ASTM C109 7cm cube)	≥ 15 MPa @ 1 day > 25 MPa @ 3 days ≥ 35 MPa @ 7 day > 45 MPa @ 28 days
* Water powder ratio	0.15 – 0.16
Mixing water per 30kg bag	4.5-4.8 liters
Recommended application temperature	10 to 35°C

Note: All technical data stated herein is based on tests carried out under laboratory conditions.

Cleaning:

TechFin® CemPro HB40+ should be removed from tools, equipment and mixers with clean water immediately after use. Cured material can only be removed by mechanical means.

Precautions/Limitations:

- Do not apply the product at temperature less than +5ºC
- Do not add water once the mix has begun to set.
- **TechFin® CemPro HB40+** should not be exposed to running water either during application or prior to final set.
- Do not mix the bags partially.
- In warm weather, store the material in cool place.
- Make sure to use cool water to keep the mixed mortar temperature below 30 ºC

Additional Information: Techno Builders Solutions® By Sterling Technotrade India Pvt.Ltd -The Specialist Construction Chemicals Company® range of associated products includes high performance concrete Admixtures, Adhesives, Protective Coatings, Concrete Repairs, Industrial Flooring, Grouts & Anchors, Joint Sealants, Surface Treatments, curing compounds, repair mortars, release agents, Grinding Aids & Waterproofing.

*Separate datasheet are available on these products.

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