

# TECHFIN STRUCTURAL REPAIR MORTAR

Fibre Reinforced Polymer Modified Cementitious Repair Mortar

Techfin Structural Repair Mortar is a fibre reinforced, thixotropic, polymer modified cementitious repair mortar suitable for heavy duty repairs to concrete, aerated concrete and all types of concrete structures. Provides high strength repairs to load bearing structures. The product exhibits excellent bond characteristics to structural steel reinforcement and concrete.

Techfin Structural Repair Mortar ensures that repairs to new and old structures are waterproof and protected from further deterioration by preventing penetration of chlorides, nitrates and sulphates. The cured system protects embedded structural steel by creating a passive alkaline environment as well as ensuring thermal compatibility with the base concrete.

## BENEFITS:



*Factory controlled performance.*



*Ready-to-use just add water.*



*Can be finished to a feather edge. Mass mortar renovations up to 50 mm in one application.*



*Non-shrink. Thermal movement is similar to that of base concrete.*



*Extremely versatile - for repairs both vertically and horizontally.*



*Highly resistant to abrasion and mechanical impact. Excellent bond to base concrete or asphalt.*

## TECHNICAL DETAILS

Appearance	Cementitious powder
Mix Ratio	3.5 - 4.5 L Water / 25 kg
Consistency	Thixotropic paste
Yield	12 L
Pot Life	40 - 60 minutes
Finish	Trowelled
Coverage	1.2 m <sup>2</sup> @ 10 mm
Initial Set	20 - 40 minutes
Cure Time	8 hours
Compressive Strength	35 - 40 MPa (28 day)
S.G.	2.3
Water Penetration	< 5 mm
Shelf Life	12 months
Storage	Cool, dry, indoors

## PACKAGING

Techfin Structural Repair Mortar is supplied in 25 kg bags



*Vapour permeable / breathable. Waterproof.*

## APPLICATIONS

- High build, thick layer repairs
- Overhead & Vertical Repairs
- Concrete pipes / precast concrete units
- Structural columns
- Honey-combing on off-shutter concrete
- Water-tight plaster / caulking mortar
- Truing up beams / columns
- Offshore structures and sewerage works
- Marine environments exposed to constant contact with sea water
- Repairs to aerated concretes and mortars

- Wherever a highly durable repair topping or render is required to ensure maximum resistance to penetration of water, salt, sulphates and chlorides.

### STRUCTURAL CONCRETE REPAIR

Concrete substrates to be min 20 MPa. It is generally accepted that concrete is best repaired with concrete or cement mortar (only when other over-riding factors such as epoxy based repair materials substituted). To meet these requirements for a cementitious repair method use **Techfin Structural Repair Mortar** in conjunction with **Solidkote 110** Wet to Dry Epoxy Adhesive primer.

#### SURFACE PREPARATION

Where necessary cut back to expose sound concrete and reinforcing bars. Mechanically clean reinforcing steel to remove corrosion. Wash reinforcing steel with clean water (to remove soluble salt contamination) and allow to dry. Use hot water and powder detergent to remove grease and oil. Prime reinforcing with **Solidkote Metal Primer** and allow to dry for 3 - 4 hours.

#### PRIMING

Prime all clean and prepared surfaces with **Solidkote 110** Wet to Dry Epoxy Adhesive. If inserting new reinforcing bars, coat same with **Solidkote 110** Wet to Dry Epoxy Adhesive prior to proceeding with the repair.

#### MIXING

Use 3.5 - 4.5 L of water per 25 kg bag. Utilizing a suitable mixer, simply add the powder to the water and mix to desired consistency. Hand mixing is not advised. For larger applications a pan mixer or concrete mixer should be used.

#### APPLICATION

Whilst primer is still wet - carefully hand apply and compact the **Techfin Structural Repair Mortar** which can be applied from 5 mm to 50 mm dependent on repair size geometry. On larger flat areas, layers should not exceed 10 mm in thickness, though several layers can be applied in quick succession, each layer being allowed to obtain initial set before the next is applied (usually between 20 - 40 minutes dependent on ambient temperature conditions).

Finish off the final surface by trowel. Alternatively scratch the first layer after application, allow to dry overnight and then apply a second layer. Cure with water, wet hessian cloth or **Techfin Acrylic Cure** in very hot climates.

### NON-STRUCTURAL REPAIRS

Remove existing plaster to brick or concrete face and scarify where necessary to obtain a rough and sound surface. Wash down with water. Pre-saturate prepared surface and apply bonding slurry or equal parts cement, water and **Techfin Hi-Density Bonding Liquid** to surface. Immediately apply **Techfin Structural Repair Mortar** to the required thickness (5 mm to 50 mm) then strike off to desired profile and wood float. As soon as the **Techfin Structural Repair Mortar** has firmed, steel trowel to final finish. Allow a maximum working time of 25 minutes when applying product to the bonding slurry.

### CURING

Cure with **Techfin Acrylic Cure** curing compound using brush or roller.

### WATCH POINTS

- Do not mix more mortar than can be used within 20 minutes.
- Do not provide less than 25 mm absolute minimum cover of repair mortar over reinforcement.
- Do not re-temper or add water once the material has started to set.
- For areas where the repairs are larger than 400 mm thick, steel ties with thin mesh should be inserted to support its weight.
- Moisture cure for 24 hours and then apply **Techfin Acrylic Cure** curing compound for best results.

### WARRANTY

Technical Finishes products are manufactured under high quality standards and are warranted against defective materials and are sold subject to standard Terms and Conditions of Sale, copies of which can be obtained upon request. Technical Finishes deals with approved applicators and carry a back to back

warranty with these clients. Technical Finishes cannot be held responsible for the workmanship in surface preparation and application of our products, it is understood that the approved contractor will guarantee such workmanship and application. It is vital that the application is done in accordance to our specification.