

# ShaliFix<sup>®</sup> FRM CI

Polymer Modified Fiber Reinforced Corrosion Inhibiting Mortar



STP Limited

## Description

**ShaliFix<sup>®</sup> FRM CI** is a single component, ready to use, mix of dry powders and select fibers, requiring just addition of clean water to produce a highly consistent thixotropic fiber reinforced mortar for structural and load bearing repairs with additional corrosion inhibiting property.

**ShaliFix<sup>®</sup> FRM CI** is applied by hand / spray.

## Characteristics - Physical

Appearance	Grey Powder	Application temperature, °C	
Density, gm / cc	2.25 ± 0.05	• Substrate	5 to 40
Water / Powder ratio	0.16	• Material	5 to 30
Mixing water, 25 kg bag, L	4.5 – 5.0	Recommended thickness range, mm	12 - 50

## Characteristics – Technical

Property	Method	Result
Compressive strength, MPa	ASTM C109	
• 1 day		15
• 3 days		30
• 7 days		40
• 28 days		50
Tensile Strength @ 28 days MPa	ASTM C1583	> 4
Drying Shrinkage, 28 days, %	ASTM C157	< 0.15
Rapid Chloride Permeability, 28 days, Coulombs	ASTM C1202	< 1000
Slant Shear Bond strength, 28 days MPa	ASTM C 882	> 14
Flexural Strength, 28 days, MPa	ASTM C 348	> 8

## Application

**ShaliFix<sup>®</sup> FRM CI** is suitable for single layer hi-build for both hand as well as spray application for variety of repair applications including overhead repairs like.

- Mass infill to large areas.
- Repairs of irregular profiles.
- Repair of fire-damaged concrete.
- Rapid repair application.
- Spalls and Holes in concrete
- Repair of edges

## Advantages

- Easy to use, single layer hi-build application.
- Ideal for vertical / horizontal structural repairs
- Cost effective : Very low rebound.
- Shrinkage control : enables repairs to be completed properly in the very first application.
- Enhanced durability : suitable for extremely low permeability condition to prolong effective working life.
- No primer is required.
- Good adhesion to host concrete.

## Application Methodology

### ➤ Surface Preparation

- Remove all loose traces of concrete or mortar, dust grease oil, etc.
- Remove damaged or contaminated concrete to obtain a keyed aggregate exposed surface.
- Non-impact vibrating cleaning method, e.g grit or high-pressure water blasting are recommended. Cut the edges of the repair vertically.
- Clean all exposed reinforcement.
- Ensure back of rebar is also clean.
- Where reinforcing bars are corroded, cut back the concrete to at least 20 mm behind the reinforcing bars. Grit blast to remove corrosion products from around reinforcing bars.
- Replace the affected part of rebar if the diameter after grit blasting is found reduced by more than 20% of the original diameter

### ➤ Material Preparation

- Mix **ShaliFix® FRM CI** in a forced action pan mixer, or with a helical paddle attached to a low speed mixer for 3 minutes until a lump free, thixotropic consistency is achieved.
- Only use clean water @ 3.75 – 4.25 L per bag of **ShaliFix® FRM CI**
- Allow the mortar to rest for 2 – 3 minutes and then remix briefly before applying.
- If the ambient temperature is more than 40 °C, use cold water for mixing.

### ➤ Application of Material

- Preferably apply prepared **ShaliFix® FRM CI** when the ambient temperature in the range of 10 to 40 °C
- Ensure that-
  - Prepared substrate is pre-soaked before applying **ShaliFix® FRM CI**.
  - Surface is saturated surface dry, but without standing water.
- Apply **ShaliFix® FRM CI** by spray or trowel. Apply mix product directly to the prepared damp substrate, or wet on wet onto the primed surface.
- 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 50 mm and level using a screeding bar, trowel or wooden board.
- Apply **ShaliFix® FRM CI** 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 begun to stiffen.
- Do not apply **ShaliFix® FRM CI** in standing water.

## Cleaning & Maintenance

- Clean all tools immediately after use with water.
- Do not allow the material to harden

## Health & Safety

- Avoid contact with skin / eyes and avoid swallowing.
- Ensure adequate ventilation and avoid inhalation of vapour.
- Wear suitable protective clothing, gloves and eye protection.
- In case of skin contact, rinse with plenty of clean water, then cleanse with soap and water. Do not use solvent to clean the contacted area.
- In case of eye contact, wash with plenty of clean water and seek medical advice.
- If swallowed, seek medical attention immediately. Do not induce vomiting.

## Packing

Available in 30 kg pack.

## Storage

Store in a cool dry place, under shed, away from heat.

## Shelf Life

6 months in original unopened sealed condition.





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