

# MasterStrength<sup>™</sup> PRI 3500

Epoxy Based Primer for MasterStrength<sup>™</sup> FRP System

# **Material Description**

MasterStrength<sup>™</sup> PRI 3500 is epoxy based, solvent free, low viscosity primer developed for MasterStrength<sup>™</sup> FRP System.

## **Areas of Application**

Priming the concrete surfaces under FRP (carbon, glass and aramide) sheets and laminates.

## **Characteristics and Benefits**

- Easy to apply
- Low viscosity.
- High strength
- Excellent bonding to concrete substrates
- Solvent free

## **Processing Method**

#### (A) Preparation of Substrate

The mineral based substrates (concrete, stone, brick, tile etc.) must be sound, clean and dry. It shouldn't be weakened by over-troweling and lack of curing. The concrete should be free of frost, curing membranes, waterproofing treatments, oil stains, laitance, friable material and dust. If there is a water leakage it must be drained or properly plugged. The surfaces must be dry (moisture content of the concrete should be < 4%). In case of low strength concrete ( $O_{tc} < 1.5 \text{ N/mm}^2$ ), the loosen parts of concrete must be broken and the surfaces should be reprofilled with structural repair mortars in **MasterCrete<sup>TM</sup> S** range. Before the primer application let the repair mortars cure at least 7 days at 20°C.

Technical Properties		
Structure of the Material MasterStrength <sup>™</sup> PRI 3500 Part A MasterStrength <sup>™</sup> PRI 3500 Part B	Epoxy Resin Epoxy Hardener	
Color	Clear	
Mixed Density	1,08 ± 0,024 kg/liter	
Solid Content	%100	
Flexural Strength TS EN 196 (7 days)	> 20 N/mm <sup>2</sup>	
Measurements of Bond Strength by Pull-Out	> 2,0 N/mm <sup>2</sup> (1,5 min.) (Rigid Systems with trafficking)	
Application Temperature	+5°C - +30°C	
Pot Life		
-1°C	8 hours	
7°C	2 hours	
21°C	45 minutes	
32°C	25 minutes	
Application Thickness	0,1 – 0,2 mm	
Recoatable After	12-24 hours	
Coating with MasterStrength <sup>™</sup> FRP		
-1°C	9 hours	
+7°C	5 hours	
+21°C	3 hours	
+32°C	Max. 48 hours	
Fully Cured at 20°C	7 days	

Typical values are obtained from the test results of 4x4x16 mortar prism in 23°C and 50% relative humidity conditions. High temperatures shortens the curing and working time, lower temperatures extends the durations





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#### (B) Mixing

MasterStrength<sup>™</sup> PRI 3500 has two parts in pails, produced according to right mixing ratio. Material temperature should be between 15 - 25°C before mixing. Part B should be added into the Part A without any remaining material in the pail. It should be mixed with using a proper mixer (~300rpm) for polymer mixing. Mix the parts at least 3 minutes to have a homogenous mixture.

#### **Mixing Ratio**

MasterStrength <sup>™</sup> PRI 3500	Part A	Part B
Quantity	2,76 kg	1,24 kg
Mixed Density	1,08 kg/liter	

### (C) Processing

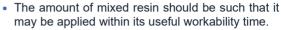
MasterStrength<sup>™</sup> PRI 3500 should be applied to the concrete surfaces by using a soft roller. Application thickness should be between 0.1-0.2 mm.

# Consumption

Approx. 0.2 kg/m<sup>2</sup>

### **Point to Consider**

- MasterStrength<sup>™</sup> FRP application should be done by approved experts.
- During the application the substrate and ambient temperature should be between 5 30°C.
- Resinous materials' pot life and curing times vary depending on the relative humidity, substrate and ambient temperature. Reaction gets slow in low temperatures and it causes to extension on pot life and working time. On the other hand high temperatures speed up the reaction, which results to short pot life and working time. For full curing of material, both the substrate and ambient temperature shouldn't be under allowed application temperature.
- MasterStrength<sup>™</sup> PRI 3500 is provided in ready to mix pails. Do not add any solvent etc. Into the mixture during the application.



 Mixing should be made with proper mixers and do not allow mixing by hand.

## **Cleaning of Tools**

After the application all tools should be cleaned with solvent. **MasterStrength<sup>™</sup> PRI 3500** can be cleaned with only mechanical abrasion after hardening.

## Packaging

4 kg set MasterStrength<sup>™</sup> PRI 3500 Part A: 2,76 kg pail MasterStrength<sup>™</sup> PRI 3500 Part B: 1,24 kg pail

#### Shelf Life

18 months after the production date under appropriate storing conditions.Opened packages have to be stored by tightly sealing the bag/cover and must be used in one week.

#### Storage

It should be stored in its unopened original package, in a cool ( $+5^{\circ}$ C -  $+25^{\circ}$ C) and dry environment, protected from frost. In short-term storage, maximum 3 pallets should be placed on top of each other and shipment should be made with a first-in, first-out system. In long-term storage, pallets should not be placed on top of each other.

### **Health and Safety**

It is dangerous to approach the application sites. During the application, a protective apparel, protective gloves, goggles and masks which comply with the Occupational Health and Safety Rules should be used. Due to the irritation effect of the uncured materials, the mixture should not come into contact with skin and eyes; in case of a contact, the affected area should be washed with plenty of water and soap; in case of swallowing, a physician should be consulted immediately. No food or beverages should be brought to the application area. The





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product should be stored and kept out of reach of children. For detailed information please consult the Material Safety Data Sheet.

# **Disclaimer**

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