

MasterStrength™ PRI 3500

Epoxy Based Primer for MasterStrength™ FRP System

Material Description

MasterStrength™ PRI 3500 is epoxy based, solvent free, low viscosity primer developed for **MasterStrength™ 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 ($\sigma_{tc} < 1.5 \text{ N/mm}^2$), the loosen parts of concrete must be broken and the surfaces should be reprofiled with structural repair mortars in **MasterCrete™ 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™ PRI 3500 Part A	Epoxy Resin
MasterStrength™ PRI 3500 Part B	Epoxy Hardener
Color	Clear
Mixed Density	$1,08 \pm 0,024 \text{ kg/liter}$
Solid Content	%100
Flexural Strength TS EN 196 (7 days)	> 20 N/mm ²
Measurements of Bond Strength by Pull-Out	> 2,0 N/mm ² (1,5 min.) (Rigid Systems with trafficking)
Application Temperature	+5°C - +30°C
Pot Life	
	-1°C
	7°C
	21°C
	32°C
	8 hours
	2 hours
	45 minutes
	25 minutes
Application Thickness	0,1 – 0,2 mm
Recoatable After	12-24 hours
Coating with MasterStrength™ FRP	
	-1°C
	+7°C
	+21°C
	+32°C
	9 hours
	5 hours
	3 hours
	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™ 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™ PRI 3500	Part A	Part B
Quantity	2,76 kg	1,24 kg
Mixed Density	1,08 kg/liter	

(C) Processing

MasterStrength™ 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/m²

Point to Consider

- **MasterStrength™ 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™ PRI 3500** is provided in ready to mix pails. Do not add any solvent etc. into the mixture during the application.

- The amount of mixed resin should be such that it may be applied within its useful workability time.
- 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™ PRI 3500** can be cleaned with only mechanical abrasion after hardening.

Packaging

4 kg set
MasterStrength™ PRI 3500 Part A: 2,76 kg pail
MasterStrength™ 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°C - +25°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

The technical information given in this publication is based on the present state of our best scientific and practical knowledge. **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is only responsible for the quality of the product **MBT Teknik Yapı Kimyasalları Sanayi ve Ticaret A.Ş.** is not responsible for results that may occur because the product is used other than advised and/or out of instructions regarding the place and the method of use. This technical form is valid only till a new version is implemented and nullifies the old ones.

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