



# MAXRITE® 500

## QUICK-SETTING, POLYMER-MODIFIED, FIBER-REINFORCED, STRUCTURAL REPAIR MORTAR WITH CORROSION INHIBITORS

### Description

**MAXRITE 500** is a single component, cement-based, microsilica and polymer-modified, fiber-reinforced restoration mortar with corrosion inhibitors. It is specially designed for high performance structural concrete repair exposed to an aggressive environmental ambient and provides an additional protection of the steel reinforcements. Its quick-setting and thixotropy allow the repair of new and old concrete in a simple way, without the need for using any form work.

### Applications Fields

- Maintenance of industrial areas damaged by aggressive environment, acid rain, atmospheric pollution, etc.
- Structural concrete repair affected by corrosion of reinforcements in marine environment, bridges, harbours, dams, etc.
- Repair of concrete structures with carbonation process.
- Repair of damaged concrete by deicing-salts, freeze/thaw cycles, mechanical impacts, etc.
- Concrete repair affected by repeated loads.
- Repair of pre-fabricated concrete elements.

### Advantages

- Quick-setting. The repair can be accomplished in a single phase.
- Corrosion inhibitors prevent corrosion against chlorides and aggressive corroding agents, extending considerably the service life of the structure.
- Good chemical resistance in aggressive environmental ambient due to its microsilica content.
- Waterproof. Withstands freeze/thaw cycles.
- Offers high resistance to carbonation penetration.
- High adhesion to concrete and reinforcements. Does not require special primers. Loads are transmitted onto the repaired structure.
- High impact and mechanical strength. Long lasting repairs.
- Good thixotropy. Application in successive layers without slump or the need to use form work. Allows high thickness per layer
- Easy workability and application.
- Single component mortar. Only requires water for mixing and it is odourless, making it suitable for poor ventilated areas.

### Application Instructions

#### Preparation of the surface

Remove all damaged and loose concrete in the repair area, clean cut the edges perpendicularly to a minimum depth of 5 mm. Expose all corroded reinforcement, removing all the concrete until the edges of the bars are not affected by rust. Remove concrete all around the reinforcement for an efficient cleaning and to surround it with a minimum thickness of at least 1 cm. of **MAXRITE 500**.

Eliminate rust by wire brush, needle gun, sand or shot blasting, etc. For additional protection, an application of the oxide converter and protector **MAXREST PASSIVE** (Technical Bulletin N°. 12) can be used.

Prior to application of **MAXRITE 500**, dampen the exposed surface until saturated but do not leave free-standing water.

### Mixing

**MAXRITE 500** is mixed exclusively with clean water, free from contaminants, either manually or mechanically by low speed drill (400 – 600 rpm). One 25 kg. bag or drum of **MAXRITE 500** requires about 3,5 to 4,0 litres of water to achieve proper consistency of a repair mortar (15% ± 1%). These quantities are indicative and should be checked depending on the desired consistency and the existing ambient conditions. Mix only the amount of **MAXRITE 500** the applicator can place in about 10 minutes, because after this time, the mortar will have started its setting and will no longer be workable.

In hot weather (above 25 °C) it might be necessary to delay the setting time. Mix with cold water for this purpose, but do not add more water than above the recommended limit. Consequently, below 10°C it is advisable to use warm water, to speed up the setting of the product.

### Application

For an optimum bonding, prepare a slurry mixing 5 parts of **MAXRITE 500** with 1 part of water, mixing well until achieving a homogeneous consistency without any lumps. Apply the slurry using a **MAXBRUSH** type brush on the surface to be repaired and on the reinforcement bars, filling all voids and pores.

While the slurry is still fresh, start placing **MAXRITE 500** with the consistency of a repair mortar and apply layers between 5 and 50 mm. thick. Place special attention in pressing with the trowel to prevent any air from being trapped. Mark the surface of each layer with the trowel to improve the adhesion of the following one, which can be placed after about 30 minutes approximately. Shape the last layer as desired before the final hardening occurs.

Once the repair is finished it can be coated with cement-based coating **MAXSEAL** (Technical Bulletin N°.: 01) or **MAXSEAL FLEX** (Technical Bulletin N°.: 29), or acrylic-based coating **MAXSHEEN** (Technical Bulletin N°.: 17) available in a wide range of colours.

### Application Conditions

Do not apply below 5 °C or if lower substrate or ambient temperatures are expected during the 24 hours following the repair.

### Curing

Under extreme conditions of wind or heat, lightly spray water over the repaired areas for at least an hour. It is also convenient to cover them during the first 24 hours if the temperature is above 30 °C and the relative humidity is below 50%.

### Cleaning

Tools and equipments should be cleaned immediately with water after use. Once it sets can only be removed by mechanical methods.

### Consumption

Estimated consumption of **MAXRITE 500** are approximately 1,83 kg/m<sup>2</sup> per mm thickness. One 25 kg sack of **MAXRITE 500** fills approximately 13,5 litres (0,55 l/ kg of product).

### Packaging

**MAXRITE 500** is supplied in 25 kg bags and drums.

### Storage

Nine months in bags and twelve months in drums and cans, in their original unopened packaging, in a dry and covered place, protected from frost and humidity with temperature above 5 °C. Nine months in bags and twelve months in drums and cans, in their original unopened container, in a dry covered place, protected from frost and humidity.

### Safety & Health

**MAXRITE 500** is non-toxic, but is an abrasive compound by its composition. Avoid eye and skin contact. Rubber gloves and safety goggles must be used during the application. In case of skin contact, wash affected areas with soap and water. In case of eye contact, rinse with clean water but do not rub. If irritation continues, seek medical attention. Safety Data Sheet of **MAXRITE 500** is available by request.

Disposal of the product and its empty packaging must be done according to national regulations by the final user.

**Technical Data**

Appearance and Colour	Grey powder
Apparent density powder (g/cm <sup>3</sup> )	1,13 ± 0,05
Mixing water (% weight w/ prod.)	15 ± 1
Apparent dry density (g/cm <sup>3</sup> )	2,15 ± 0,05
Pot life (minutes, 20 °C)	10
Setting time (minutes, a 20 °C)	
Beginning	10
End	25
Flexural strength (MPa)	
7 days	5,2
28 days	8,5
Compression resistance (MPa)	
7 days	34,0
28 days	49,0
Capillarity (C) (g / dm <sup>2</sup> min <sup>½</sup> ) NF B 10-502	0,76
Dynamic modulus of elasticity (MPa) ASTM C215	27,000
Adhesion on concrete (Mpa)	2.42
Resistance to 56 freeze/thaw cycles, scaling	0,1 (very good qualification)

Tests, generally after 28 days  
 Mixing water: 14%

**Guarantee**

The information contained in this leaflet is based on our experience and technical knowledge, obtained through laboratory testing and from bibliographic material. **DRIZORO** reserves the right to introduce changes without prior price. Any use of this data beyond the purposes expressly specified in the leaflet will not be the Company’s responsibility unless authorised by us. The data shown on consumptions, measurement and yields are for guidance only and based on our experience. These data are subject to variation due to the specific atmospheric and jobsite conditions so reasonable variations from the data may be experienced. In order to know the real data, a test on the jobsite must be done, and it will be carried out under the client responsibility. We shall not accept responsibility exceeding the value of the purchased product. For any other doubt, consult our Technical Department. This version of bulletin replaces the previous one.

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