



MAXRITE® -HT



FIBER-REINFORCED, POLIMER-MODIFIED MORTAR WITH CORROSION INHIBITORS FOR STRUCTURAL CONCRETE REPAIR IN LAYERS UP TO 10 CM THICKNESS



DESCRIPTION

MAXRITE® - HT is a single component, cement-based, silica fume 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 long open time and excellent thixotropy allows the structural repair of concrete in vertical surfaces, with thick layers up to 10 cm thickness without form work. It can be applied manually or by spray.

APPLICATION 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 de-icing salts, freeze/thaw cycles, mechanical impacts, etc.
- Concrete repair affected by repeated loads.
- Repair of pre-fabricated concrete elements.

ADVANTAGES

- 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 silica fumes content.
- Low water absorption. 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 from 5 to 100 mm.
- 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, clean cut the edges perpendicularly to a minimum depth of 5 mm. Expose all corroded reinforcement, removing all 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® - HT**.

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® - HT**, dampen the exposed surface until saturated but do not leave free-standing water.

Mixing

MAXRITE® - HT 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® - HT** requires about 4,25 - 4,75 litres of clean water to achieve proper consistency of repair mortar (18% ± 1%). For applications using pump or spray machines the mixing water can be increased up to 5,25 litres per bag. In any case these quantities are only indicative and should be checked depending on the desired consistency and the existing ambient conditions.

Application

For an optimum bonding prepare a slurry, mixing 5 parts of **MAXRITE® - HT** 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, apply **MAXRITE® - HT** with the consistency of repair mortar and apply layers between 5 and 100 mm thickness. Place special attention in pressing with the trowel to prevent any air from being trapped. Finish the last layer as desired before the final setting-time.

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 if rain or substrate temperature is below 5 °C is expected within 24 hours.

Curing

Provide a moist curing at least during the first 24 hours by spraying water or protecting with wet burlaps or rags covered with plastic sheets. A quality curing compound such as **MAXCURE®** (Technical Bulletin n.º 49) can also be used. Curing procedures should be observed mainly with high temperature and wind or low humidity conditions.

Cleaning

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

CONSUMPTION

Estimated consumption of **MAXRITE® - HT** are approximately 1,85 kg/ m² per mm thickness. One 25 kg sack of **MAXRITE® - HT** fills approximately 13,75 litres (0,54 l/ kg of product).

IMPORTANT INDICATIONS

If slurry primer dries up, or the previous layer is completely set, apply a new slurry coat to continue the job.

Do not use any **MAXRITE® - HT** leftovers to prepare a new batch.

Do not use mixing methods which cause violent mix and do not over mix.

Do not exceed the thickness per layer during the application.

Do not exceed the amount of mixing water recommended.

The setting time is measured at 20 °C, higher temperatures reduce setting time and lower temperatures delay setting time. For any other application not specified in this Technical Bulletin consult our Technical Department.

PACKAGING

MAXRITE® - HT is supplied in 25 kg bags.



STORAGE

Twelve months in bags in its original unopened packaging, in a dry and covered place, protected from frost and humidity, with temperature above 5 °C.

SAFETY AND HEALTH

MAXRITE® - HT 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® - HT** is available by request.

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

TECHNICAL DATA

MAXRITE® - HT is a structural repair mortar **class R3**, according to **EN 1504-3**, meeting principle 3.1 *Applying mortar by hand* and principle 3.3 *Spraying concrete or mortar* of CE mark for *Structural Concrete Repair in Buildings and Civil Works*.

Characteristics of powder in product

Appearance and colour	Grey powder
Apparent density powder (g/cm ³)	1,28 ± 0,1
Mixing water (% weight w/ prod.)	18 ± 1
Density fresh mortar (g/cm ³)	2,14 ± 0,1
Density dry mortar (g/cm ³)	2,00 ± 0,1
Setting time at 20 °C	
Initial (h)	5
Final (h)	8

Characteristics of hardened product

Compressive strength at 28 days, EN 12190 (MPa)	33,5 (R3)
Adhesion on concrete, EN 1542 (MPa)	2,1
Thermal compatibility, adhesion after freezing cycles EN 13687-1 (MPa)	2,1
Thermal compatibility, adhesion after wet cycles EN 13687-2 (MPa)	2,6
Thermal compatibility, adhesion after dry cycles EN 13687-4 (MPa)	2,1
Elasticity modulus, EN 13142 (MPa)	21,4
Water absorption, EN 13057 (C) (kg/(m ² h ^{0,5}))	0,01
Carbonation resistance, EN 13295 (mm) (deepness on concrete reference 4 mm)	1,8
Chloride content, EN 1015-17 (%)	0,012
Consumption estimated*/ Thickness	
Approximate consumption per layer (kg/m ² per mm thickness)	1,85
Minimum/ maximum thickness per layer (mm)	5 / 100

GUARANTEE

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