

MAXRITE®700

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



DESCRIPTION

MAXRITE 700 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 environment and provides additional protection of the steel reinforcements. Its long open time and thixotropy make the repair of new and old concrete in a simple, without the need to use form work, apply manually or by mechanical means.

APPLICATION FIELDS

- Maintenance of areas damaged by aggressive environment, acid rain, atmospheric pollution, etc.
- Structural concrete repair affected by corrosion of reinforcement in marine environment, bridges, harbours, dams, etc.
- Repair of concrete structures with carbonation damage.
- 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

- Corrosion inhibitors prevent corrosion against chlorides and aggressive corroding agents, extending the service life of the structure considerably.
- Its longer setting time allows the quick completion of the repair of large surfaces.
- Good chemical resistance in an aggressive environment due to its microsilica content.
- Waterproof. Withstands freeze/thaw cycles.
- Offers high resistance to carbonation penetration.
- High adhesion to concrete and reinforcement. 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. It can also be sprayed by wet method.
- Single component mortar. Only requires water for mixing, odourless, making it suitable for poor ventilated areas.

APPLICATION INSTRUCTIONS

Preparation of the surface:

Remove all damaged and loose concrete in the area to be repaired. 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 700.

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

Mixing:

MAXRITE 700 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 700 requires about 3,75 to 4,25 litres of water to achieve proper consistency of a repair mortar ($16\% \pm 1\%$). For applications using pump or spray machines the mixing water can be increased up to 4,5 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 700 with 1 part of water, mixing thoroughly until a homogeneous consistency without any lumps is achieved. 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 700 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. 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),

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 one 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 means.

CONSUMPTION:

Estimated consumption of MAXRITE 700 are approximately 1.85 kg/m² per mm. thickness. One 25 kg. sack of MAXRITE 700 fills approximately 13.75 litres (0,54 l/ kg of product).

IMPORTANT CAUTIONS

- If the 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 700 leftovers to prepare a new batch.
- Do not use mixing methods which cause violent mix and do not mix for prolonged periods.



Spraying



Texture



Finished

- Do not use curing compounds on the repair.
- Do not exceed the thickness per layer in 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 700 is supplied in 25 kg. bags and drums.

STORAGE

12 months in bags and 18 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.



TECHNICAL DATA

Appearance and colour	Grey powder
Apparent density powder (kg/m ³)	1,130 ± 50
Mixing water (% weight w/ prod.)	16 ± 1
Pot life (minutes, 20 °C)	60
Apparent dry density (kg/m ³)	2,140 ± 50
Setting time (minutes, at 20 °C)	
Beginning	75
End	120
Flexural strength (MPa)	
7 days	6,8
28 days	10,3
Compressive strength (MPa)	
7 days	43,3
28 days	56,4
Capillarity (C) (g / dm ² min ½)	0,40
Dynamic modulus of elasticity (MPa)	30.000
Adhesion on concrete (MPa)	2,34

Tests, generally after 28 days
Mixing water: 15%



SAFETY AND HEALTH

MAXRITE 700 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 700 is available by request.

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

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