



CRETORE REPAIR MORTAR

(Cementitious Repair Mortar)

Description

CRETORE REPAIR MORTAR is a cementitious repair mortar for concrete restoration acc. to EN 1504-9.

Application fields

- Repair of surface defects on concrete
- Overlays and repairs on concrete structures like dams, bridges, beams, balconies, facades
- Application on horizontal and vertical
- Filling of blow holes, honeycombs and surface roughness
- Application thickness from feather-edge to 25 mm (1")

Properties

CRETORE REPAIR MORTAR is a shrinkage compensated cementitious repair mortar with quick strength development. CRETORE REPAIR MORTAR binds the mixing water fast reducing or completely eliminating the need for water curing and protection.

CRETORE REPAIR MORTAR creates an extremely well bonded, rigid abrasion resistant layer on the substrate.

CRETORE REPAIR MORTAR surpasses the requirements often 1504-3 class R3 for concrete repair (CR) and can be used according to the principles 3, 4 and 7 acc. to EN 1504-9.

CRETORE REPAIR MORTAR can be applied by trowel or suitable spray equipment.

- Minimal shrinkage/expansion under dry resp. wet curing conditions minimizing the risk of micro-cracking
- Excellent workability
- 45 min. working time and 12 MPa (1740 psi) compressive strength after 4 hours
- Final strength of more than 40 MPa (5800 psi) after 28 days
- Open to foot traffic after 3 – 4 hours
- Excellent adhesion to properly prepared concrete
- Water curing only under hot and dry conditions required for max. 4 hours
- Good resistance against CO₂ and Chloride penetration due to a very tight pore structure
- Good resistance against aggressive media with a pH range of 3-12 and against so\ water with low ion content
- Good weathering resistance
- Good sulfate resistance
- Light gray color close to concrete color

Application

1.) Substrate preparation

CRETORE REPAIR MORTAR is designed for concrete substrates. Steel may be coated with a CRETORE BOND SUPER, bonding agent.

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CRETSTONE PRIVATE LIMITED



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a.) Steel must be prepared to a purity of SA 2.5 acc. SIS 055900. Apply a corrosion protection coat on rebar. Steel may expand and contract differently under temperature changes than a cementitious mortar. Thus steel application is only recommended if steel is embedded in larger concrete bodies or the temperature is not subject to major changes.

b.) Concrete substrates must be prepared with sand blasting, shot blasting or ideally high-pressure water blasting (> 100 bar/1450 psi) to remove all bond breaking substances. Remove all carbonated concrete. Test with Phenolphthalein or other suitable indicator until concrete with sufficient alkalinity for rebar protection is reached. If rebar is exposed remove concrete at least 6 mm (1/4") behind rebar to fully embed the steel into CRETRE REPAIR MORTAR. Substrate must be rough, open porous and load bearing. The minimum requirement for adhesive strength is 1.5 MPa (218 psi) and for the compressive strength 25 MPa (3625 psi). Lower strength values can be accepted if lower adhesive strength is acceptable. Active water leaks must be treated and fully stopped with CRETRE QUICK PLUG-L. Leaking cracks need to be sealed with a PU injection material. Before the application of CRETRE REPAIR MORTAR, dampen the substrate with clean water to a saturated surface dry (SSD) condition.

2.) Processing

Mixing

Mix CRETRE REPAIR MORTAR with 17 – 20 % potable water, i.e. 4.3 – 5.0 l (1.1 – 1.3 gal.) water per 25 kg (55 lb.) bag. Fill 17 % mixing water (4.3 l per bag) into a suitable bucket and mix the powder with a slow speed drill (300 – 600 rpm) into the water until a lump-free mix is achieved. Add up to 3 % water under stirring to adjust desired consistency. Clean mixing paddle immediately after mixing. The product is workable for 45 min. at 23 °C.

Trowel application

Apply a slurry coat of CRETRE REPAIR MORTAR by scrubbing material with a wet sponge into the concrete surface. Trowel CRETRE REPAIR MORTAR fresh in fresh into the slurry coat. The product can be applied up to 25 mm (1") on vertical areas. Make sure to work in sections that can be finished within 30 min. Rebars and other penetrations must be fully embedded into the mortar.

3.) Curing

CRETRE REPAIR MORTAR does not require long term curing as it reacts relatively fast with water. Only under hot weather or very dry conditions water curing for 3–4 hours is required.

Estimating

Repair of surface defects

25 kg (55 lbs.) CRETRE REPAIR MORTAR result in approx. 15.2 liter (0.53 \3) cured mortar.

Surface Coating

10 kg (22 lbs.)* CRETRE REPAIR MORTAR per m² (10.7 \2) for 6 mm (1/4") dry mortar thickness on smooth substrates. Depending on surface roughness application rates can be significantly higher.*10 kg CRETRE REPAIR MORTAR powder + 1.8kg water, i.e. 11.8kg mixed material per 6 mm and m²

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Cleaning

CRETORE REPAIR MORTAR can be removed in the fresh state with water. Once it has cured acidic cleaners like muriatic acid and mechanical cleaning are required.

Technical Data

Color:	gray
Mixing ratio by weight	100 : 18
Mixing ratio by volume	100 : 28
Density	1.6 kg/l
Substrate temperature	5 – 35 °C (40 – 95 °F)
Initial set	75 min.
Final set.	120 min.
Compressive / flexural strength:	
4 hours	12 / 3 MPa (1740/335 psi)
24 hours	22 / 4 MPa (3190/580 psi)
7 days	28 / 6 MPa (4060/870 psi)
28 days	40 / 8 MPa (5800/1160 psi)
Chloride ions	< 0.05 %
Carbonation resistance	Passed
Capillary water absorption	0.1 kg/m ² x h ^{0.5}
Adhesive strength*	2.0 MPa (290 psi)
Restrained shrinkage*	2.0 MPa (290 psi)
Fire rating EN13501-1	Class A1

Packing

CRETORE REPAIR MORTAR is available in 25 kg water tight plastic bags.

Storage

CRETORE REPAIR MORTAR can be stored in unopened original packs for 12 months at 5 – 35 °C (40 – 95 °F) in a dry storage place protected against sunlight.

Safety

Please observe the actual valid material safety data sheet and follow the described safety measures for handling of the product.

Recommendations

CRETORE REPAIR MORTAR is only available for professional applicators. Never add water to CRETORE REPAIR MORTAR when it has started to set. Stiffened material must be disposed. All described product features are determined under controlled laboratory conditions.

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