



KRYSTASEAL MORTAR

CRYSTALLINE WATERPROOFING REPAIR MORTAR

DESCRIPTION

KrystaSeal Mortar is a repair mortar designed for waterproofing purposes, comprising of Ordinary Portland cement, specifically treated quartz sand, and a combination of active chemicals. These active chemicals interact with moisture and the by-products of cement hydration, initiating a catalytic response that produces an insoluble crystalline complex. These complexes develop in the presence of water and effectively seal the capillaries of the concrete as well as minor shrinkage cracks, ultimately waterproofing the concrete structure. The chemical activation process commences upon mixing the powder with water and may require several days to completely block the capillaries, depending on factors such as ambient temperature and environmental conditions.

APPLICATION AREAS

Applied in combination with KrystaSeal Coat for:

- ▶ Installation of seal strips, reglets and coves at joints to assure water tightness
- ▶ Patching of tie holes and faulty construction joints
- ▶ Patching and filling of routed out cracks
- ▶ Repairing of honeycomb and segregation areas

ADVANTAGES

- ▶ KRYSTASEAL MORTAR is applied to the positive or negative water pressure sides of a structure
- ▶ Resists strong hydrostatic pressure
- ▶ Requires only the addition of water
- ▶ Shrinkage compensated and crack resistant
- ▶ Excellent adhesion to concrete
- ▶ Low permeability, resistant to the attacks of chlorides and other chemicals
- ▶ Allows the concrete to "breathe"
- ▶ Can be skim coated or feather edged
- ▶ Can be applied to moist concrete
- ▶ Fast setting
- ▶ Inorganic and waterproof
- ▶ Non-flammable
- ▶ Resists abrasion and mechanical wear
- ▶ Freeze/thaw resistant

APPLICATION

Surface preparation:

All surfaces to be patched, repaired or sealed with KrystaSeal Mortar must be clean and sound. Cracks should be routed out to a v shaped configuration, approximately 20 mm wide and a minimum of 20 mm deep. Tie holes should be roughened prior to filling. Spalled and honeycombed areas must be thoroughly cleaned and chiseled back to sound concrete prior to repair. Remove all dirt, cement laitance, form release agents, curing compounds, paints, coatings, etc. by means of wet or dry sandblasting, high pressure water jet or other suitable mechanical means. Surfaces must be well moistened to a dull dampness at the time of application. The concrete should be damp with no wet sheen on the surface.

Mixing:

Routed cracks, coves and non-moving joints:

Add water to KRYSTASEAL MORTAR until a medium stiff, trowelable consistency is reached. The texture of the mix should be pliable enough to be trowelled into the cracks with some pressure, but not so pliable that it would run out or sag out of the crack.

Approximate mixing ratio (by volume):

4.5 parts powder of KrystaSeal Mortar to 1 part water.

For tie holes and pointing applications, it is important to add only a small amount of water when mixing the mortar. It is recommended to mix only the amount of material that can be used within 20 minutes.

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When applying the mortar, follow these guidelines for specific scenarios:

► Cracks/Seal Strips:

- Prepare the surface appropriately and create the necessary configuration.
- Apply a slurry coat of KRYSTASEAL COAT to the areas that need patching or repair.
- While the coat is still "green" or tacky, fill the cavity flush to the surface using KRYSTASEAL MORTAR with a mortar consistency.

► Honeycombed Areas:

- Prepare the surface by chiseling back to reach the sound concrete.
- Apply a slurry coat of KRYSTASEAL COAT to the area being repaired.
- While the coat is still "green", apply KRYSTASEAL MORTAR in layers of 20 mm, ensuring not to exceed 65 mm in total thickness.
- Each layer should be given enough time to set and leave a slight indent of approximately 1.6 mm when pressed with a finger.
- Whenever possible, pack the surface of the repair tightly using a hammer and a block of wood.

► Tie Holes and Pointing Applications:

- Prepare the surface by chiseling back to reach the sound concrete.
- Apply a slurry coat of KRYSTASEAL COAT to the area being repaired.
- While the coat is still "green," apply KRYSTASEAL MORTAR with a consistency similar to "dry earth."
- For tie holes, the mortar should be firmly rodded into the holes, while for pointing applications, it should be tightly packed using a hammer and a block of wood

Curing:

During the setting period, it is important to protect the repaired area from extreme weather conditions, such as heavy rain or freezing temperatures. Generally, curing is not necessary unless the weather is hot and has low humidity. In such conditions, it is advisable to lightly mist the repaired area with water approximately 24 hours after completion to facilitate a controlled curing process. In extremely dry and hot environments, more frequent water misting may be required.

Coverage: One bag of (25 kg) of KRYSTASEAL MORTAR will yield around 15 liters mixed materials.

Note: It is not recommended to use this product in expansion joints or other joints that are intended for movement.

PACKING AND STORAGE

KRYSTASEAL MORTAR is available in 15kg and 25kg bags. KRYSTASEAL MORTAR should be stored in cool, dry and shaded warehouses. Shelf life is 12 months when stored under cover, out of direct sunlight, protected from extreme temperatures and as per recommendations. In extreme tropical climate, the product must be stored in cooled ambience. Excessive humidity and over exposure to UV will result in the reduction of shelf life.

SAFETY

AIMCRETE FC is formulated without any hazardous substances. However, as with all construction chemical products, it is important to exercise caution. When handling AIMCRETE FC, it is recommended to wear protective clothing such as gloves and goggles. For maximum safety, wearing a long sleeve overall, safety shoes, and a face mask is also advised. After each use, reseal the containers and store the product according to the safety instructions on the label. In case of contact with the skin or eyes, immediately rinse with fresh water. If any of the product is accidentally swallowed, do not induce vomiting, but seek immediate medical assistance. For more detailed information, please consult the Material Safety Data Sheet (MSDS) provided.

TECHNICAL SPECIFICATIONS

Property	@ 20°C	@ 35°C
Working Life (Approx)	30 mins	20 mins
Setting Time (BS075)	60 mins	40 mins
Fresh Wet Density	1850 kg/m ³	
Compressive Strength (ASTMC 109)	@7days, 40N/mm ²	@28days, 50N/mm ²
Tensile Strength (ASTMC 109)	@7days, 5.5N/mm ²	@28days, 6.5N/mm ²

The information given in this datasheet is based on both current development work and many years of field experience. Whilst every effort is made to ensure that the information is reliable, we cannot accept responsibility for any work carried out with our materials as we have no control over methods of application, site, conditions, etc.



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