

KrystalMix C Mortar

CRYSTALLINE STRUCTURAL RESTORATION MORTAR

Description: KrystalMix C Mortar is a specialized construction product designed for crystalline structural restoration. This mortar is formulated with unique properties to repair and restore concrete structures, enhancing their strength and durability. It contains crystalline technology that enables it to actively react with the existing concrete, forming insoluble crystals within the structure to seal cracks, pores, and voids. This process not only restores the structural integrity of the concrete but also provides long-term waterproofing and protection against corrosion.

Key features & Uses:

KrystalMix FH is a versatile solution suitable for a wide range of applications where waterproofing is essential. Some of its key applications include:

Structural Repair: It is used to repair and restore damaged or deteriorating concrete structures, such as bridges, buildings, and infrastructure.

Crack Sealing: The mortar is effective in sealing cracks and preventing water infiltration, which can further damage the concrete.

Corrosion Protection: It offers corrosion resistance to reinforce the structure's longevity, making it ideal for marine environments or areas prone to chemical exposure.

Enhanced Durability: By forming crystalline structures within the concrete, it improves the concrete's resistance to wear and tear, enhancing its overall durability.

Easy Application: KrystalMix C Mortar is typically easy to apply and can be used for both vertical and horizontal repairs.

Overall, KrystalMix C Mortar is a reliable solution for structural restoration projects, helping to extend the life of concrete structures and ensure their long-term performance.

Application:

KrystalMix C Mortar is a versatile, ready-to-use repair mortar specifically designed for the restoration of load-bearing structures and precast concrete elements. It is an ideal solution for addressing various surface defects and minor damages in concrete structures. Here are some of its key features and applications:

- A ready-to-use repair mortar for repairing load-bearing structures, precast concrete elements etc.
- Repairs surface defects, honeycombs, tie rod holes, blowholes, and minor damages
- Applied on overhead, vertical, and floor patch repair situations with ease, as dry pack mortar of various consistencies by adjusting the water content of the mix.
- It is suitable for use in load-bearing structures, ensuring the structural integrity of the repaired area

Advantages:

KrystalMix C Mortar offers a range of advantages that make it a reliable choice for concrete repair and restoration projects:

Non-Toxic and Non-Corrosive: It is non-toxic and does not contain corrosive components, ensuring safety for both users and the environment during application.

Self-Healing Properties: This mortar exhibits self-healing properties, enabling it to automatically seal hairline cracks that may develop over time, enhancing the longevity of repairs.

Low Permeability and Excellent Workability: It possesses low permeability, reducing the risk of water and moisture penetration. Additionally, it has excellent workability, making it user-friendly and easy to apply.

Resistance to Environmental Elements: KrystalMix C Mortar demonstrates excellent resistance to aggressive environmental factors, such as chemicals and weathering, ensuring long-term durability.

Safe for Reinforced Concrete: It is safe for use in repairs of reinforced concrete surfaces, maintaining the structural integrity of the treated areas.

Adhesion and Mechanical Strength: The mortar exhibits excellent adhesion to existing concrete surfaces and offers impressive mechanical strength, contributing to the overall structural stability of the repaired areas.

Dense Surface: The dense surface it creates helps resist the penetration of carbon dioxide, which can contribute to concrete deterioration, especially in areas exposed to harsh conditions.

These advantages collectively make KrystalMix C Mortar a valuable choice for structural repair projects where safety, durability, and long-lasting performance are essential considerations.

Typical Properties @ 25°C

Properties	Standard	Values
Colour & Appearance	Visual	Grey Powder
Bulk Density	Visual	Approx. 1.7-1.8 g/cm ³
Compressive Strength	ASTM C 109 – 02	> 45 Mpa
Chloride Content	ASTM C 144 -09	< 0.05%

Note: Testing was performed under laboratory conditions.

Other compliance:

BSEN 1504 Part 3

Surface Preparation:

Surface preparation is a critical step in ensuring the effective application of KrystalMix C Mortar for concrete repair. Here are the recommended surface preparation steps:

Clean and Intact Surface: Start with a clean and intact concrete surface. Remove any contaminants such as dust, dirt, oil, grease, sealers, laitance, release agents, paints, and curing compounds. Mechanical means, such as scrubbing or shot blasting, may be necessary to achieve a clean surface.

Mark and Saw Cut: Clearly mark the area that requires repair. Saw cut the marked area to a depth of at least 0.6 inch (15 mm). This step is essential to avoid feather edges and create a well-defined boundary for the repair.

Concrete Moisture: Ensure that the concrete is waterlogged prior to applying KrystalMix C Mortar. Adequate moisture in the substrate can improve the bonding and performance of the repair mortar.

Priming: It's mentioned that there is no requirement for priming. This indicates that KrystalMix C Mortar can be directly applied to the prepared concrete surface without the need for a separate primer.

By following these surface preparation guidelines, you can create an ideal substrate for the application of KrystalMix C Mortar, maximizing its adhesion and effectiveness in concrete repair and restoration.

Mixing:

Water Quantity: For every 25 kilograms of KrystalMix C Mortar, add between 5.5 to 6 liters of clean water. This specific water-to-mix ratio is crucial for achieving the desired consistency and performance.

Mixing Container: Use a suitable mixing bucket or container. Ensure that it is clean and free from any contaminants that could affect the mortar's properties.

Stirring: Utilize a mechanical stirrer or mixing tool to combine the water and KrystalMix C Mortar thoroughly. Stir until you achieve a uniform and lump-free mixture.

Consistency: Monitor the consistency of the mortar during mixing. It should be well-mixed and have a workable consistency suitable for your repair application.

Work Quickly: Once the mixture is ready, work promptly to apply it to the prepared surface. The working time may vary, so it's important to follow the product's guidelines for application time.

Application Procedure:

Application Tool: Use a trowel or a suitable application tool to apply KrystalMix C Mortar. Ensure that the tool is clean and in good condition to achieve a smooth and even application.

Even Application: Begin by applying the mortar evenly across the surface that requires repair or restoration. Make sure to cover all areas that need attention. It's important to distribute the mortar uniformly to ensure consistent results.

Minimum Thickness: Apply the mortar at a minimum thickness of 0.6 inches (15mm). This thickness requirement is essential to achieve the desired structural and performance characteristics of the repair.

Smooth and Finish: While applying, work the mortar to create a smooth and level finish. This step is crucial for both aesthetics and functionality, especially if the repaired surface will be visible or subjected to specific use.

Finishing Details: Pay attention to any specific finishing details that may be necessary for your project. These details could include ensuring proper slope or alignment for water runoff, creating textured or non-slip surfaces, or addressing any specific design requirements.

Curing: Allow the mortar to cure for a minimum of 24 hours. During curing, protect the applied surface from direct sunlight, wind, and rain to ensure proper hydration and crystalline formation.

Additional Coating (optional): For additional protection, a waterproofing coating can be applied once the mortar is fully cured. Consult the manufacturer's guidelines for the recommended coating product and application instructions.

Cleaning: Clean all tools and equipment with water immediately after use. Do not allow the mortar to harden on the tools.

Packaging: KrystalMix C Mortar is available in 55-lb (25-kg) bags or pail.

Storage/Shelf Life: KrystalMix products must be stored dry at a minimum temperature of 45°F (7°C). Shelf life is one year when stored under proper conditions.

Technical Services: For more detailed instructions, alternative application methods, or information concerning the compatibility of the KrystalMix treatment with other products or technologies, contact the KrystalMix Technical Department or your local KrystalMix representative.

Safe Handling Information: KrystalMix C Mortar contains cement, that is alkaline, will irritate the eyes and skin and may cause skin sensitization. Wear appropriate eye, skin, and breathing protection when using this product. Avoid contact with skin and eyes. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. For further information, please refer to Safety Data Sheet. KEEP OUT OF REACH OF CHILDREN. Contact KrystalMix International, Ltd. or your local KrystalMix representative to obtain copies of Safety Data Sheets prior to product storage or use.