



STERLING TechnoSeal® CrystalMortar

TECHNOTRADE High Strength Cementitious Crystalline Waterproofing Repair Mortar

The Specialist Construction Chemical Company

Description:

TechnoSeal® CrystalMortar is a single component rapid setting cementitious crystalline repair mortar designed for waterproofing, repairing and sealing concrete and masonry block structures. TechnoSeal® CrystalMortar consists a variety of Portland cement, specially treated quartz sand and a compound of active chemicals and is designed for making watertight permanent repairs after the flow of water has been stopped.

TechnoSeal® CrystalMortar active chemicals react with moisture and the by-products of cement hydration to cause a catalytic reaction, which generates an insoluble Integral crystalline complex. These crystalline complexes grow in the presence of water and block the capillaries of the concrete and minor shrinkage cracks, thus waterproofing the concrete.

Application:

- Concrete and masonry block structures
- Repairing spalled and honeycombed areas
- Filling voids in walls
- Patching and filling of routed out cracks
- Installation of seal strips and coves at joints to assure water tightness
- Patching of tie holes and faulty construction joints

Features:

- Fast setting
- Withstands positive and negative hydrostatic pressure
- Can be used on damp concrete
- Easy to use – needs only to be mixed with water prior to application
- Allows the concrete to "breathe"
- Can be skim coated or feather edged
- Can be applied to moist concrete
- Resists abrasion and mechanical wear
- Freeze/thaw resistant
- Non-flammable
- Resists abrasion and mechanical wear
- Freeze/thaw resistant
- No odor - No Fumes - Environmentally friendly

Special Considerations:

- Do not apply TechnoSeal® CrystalMortar at temperatures below 4°C, to a frozen substrate or if temperatures will drop below freezing during the curing period (approximately 24 hours). This product is not recommended for use in expansion or other joints designed for movement.
- Do not extend with additional aggregate.
- Do not add accelerators, retarders, or any additional admixture.
- Do not use solvent based curing compounds.

Typical Properties at 25°C:

Appearance	Cement grey powder
Bulk density	1.8 kg/L (1800 kg/m ³)
Compressive strength (ASTM C)	> 48 MPa at 28 days
Flexural strength	> 5 MPa at 28 days
Shrinkage: ASTM C-596	28 Days: 0.01%
Tensile Strength (ASTM C-190)	> 6 MPa 28 days
Pot Life	20 -30 minutes, of mixed material 30°C.
Coverage	Depends on surface condition and size
All data are average values obtained under laboratory conditions. Impractical use, temperature, humidity and Absorption of the substrate may influence the above given values.	

Direction of use:

Surface Preparation:

All surfaces to be patched, repaired or sealed with TechnoSeal® CrystalMortar must be clean and sound. Cracks should be routed out to a U-shaped configuration, approximately 20mm (3/4") wide and a minimum of 20mm (3/4") deep or to a reversed П-shaped configuration 25x25x30 mm (1"x1"x1.2") in size.

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 standing water wet sheen on the surface prior to TechnoSeal® CrystalMortar application.

Mixing:

Add the appropriate amount of potable water into a clean mixing bucket. Gradually add TechnoSeal® CrystalMortar powder 1/3 at a time while mixing continuously using either a forced action mixer; or a heavy duty, slow-speed drill fitted with an electric drill in slow circular motions. Adjust water using small quantities until proper consistency is achieved to assure complete mixing until a medium stiff, trowelable consistency is reached for repairing and filling routed cracks, coves and non-moving joints.

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 is 4 ½ parts TechnoSeal® CrystalMortar powder to 1 part water (by volume).

Mix only as much material that can be used within 20 minutes. For tie rod holes and pointing applications, add only a small amount of water to obtain "semi dry earth" mixed consistency that can enable holding a shape when squeezed in hand but easily crumbled when pressed between fingers.

Note: Do not overwater! If too much water is added, the mixture tends to segregate resulting in uneven surface strengths. Surfaces with reduced strength must be removed mechanically.

For Cracks & Strip Seal:

After proper surface preparation and routing to appropriate configuration, prime the areas to be patched or repaired with a slurry coat of TechnoSeal® CrystalCoat IC and 10mm (2/5") around the area while primer slurry in tacky or green stage, fill cavity flush to surface with TechnoSeal® CrystalMortar in mortar consistency.

For Spalled & Honeycombed Areas:

Prepare the surface and chisel back up to sound concrete. Apply a coat of TechnoSeal®CrystalCoat IC slurry as a primer coat in the prepared sound concrete surface need to be repaired while still in green "tacky" stage apply TechnoSeal® CrystalMortar in layers of 13mm (1/2") thick until required thickness is obtained. Each layer should be allowed to set long enough that it will leave only a slight indent approximately 1.6mm (1/16") when pressed with a finger. Where possible, the surface of the repair should be packed and hold tightly using a block of wood.

For Tie Holes & Pointing Applications:

Prepare the surface and chisel back up to sound concrete. Apply a coat of TechnoSeal®CrystalCoat IC slurry as a primer coat in the prepared sound concrete surface need to be repaired while still in green "tacky" stage apply TechnoSeal® CrystalMortar in "dry earth" consistency. TechnoSeal® CrystalMortar should be tightly rodded into tie holes or packed and hold tightly using a block of wood.

Curing and Protection:

Curing TechnoSeal® CrystalMortar system application must be kept moist for a minimum of 48 hours. After initial set, moist curing, using continuous water spray is recommended. Treated surfaces shall be fog sprayed 3 to 4 times daily for the 48 hour period. For warmer climates, more frequent spraying may be required. It is important to keep the TechnoSeal® CrystalMortar system moist to allow the crystal formation to occur. The surfaces shall be protected from foot traffic for 48 hours or heavy traffic for 7 days. Freshly applied TechnoSeal® CrystalMortar system must be protected from extreme weather conditions such as rain, strong winds, high temperatures and freezing for a period of not less than 48 hours after application.

A minimum of 7 days of air curing shall be allowed prior to immersing the surface in water. Back filling can be carried out 36 hrs, after completion of the TechnoSeal® CrystalMortar treatment. Protection boards are generally not required. Backfill material shall be moist and not contain rocks or larger aggregate.

Consumption:

Cracks, U-shaped or reversed Π-shaped	Size 1"x1" (25 mm x 25 mm)	Consumption 5 kg/m ²
Reglets	Size 1"x1" (25 mm x 25 mm)	Consumption 5 kg/m ²
Coves, triangular shaped	Size 1.5"x1.5" (38 mm x 38 mm)	Consumption 5 kg/m ²
All values are approximate depending on surface conditions.		

Storage:

TechnoSeal® CrystalMortar must be stored dry at a temperature of 10°C - 32°C Shelf life is one year from the date of manufacturing when stored under proper conditions.

Packaging:

TechnoSeal® CrystalMortar is supplied in 30 Kg HDPE bag packing.

Health & Safety Instructions:

TechnoSeal® CrystalMortar is non-toxic. Gloves and goggles should be worn. Any splashes to the skin or eyes should be washed off with clean water. In the event of prolonged irritation, medical advice should be sought. Should use a dust mask while handling the powder. Protect yourself and others on the jobsite. Consider property in proximity of the application area to prevent loss or damage. Protect your jobsite from unauthorized persons. Store all materials and equipment safely and out of reach of children and animals. Observe container labels, SDS, applicable laws and regulations and all instructions before using the product and equipment. In case one of the components comes in contact with the skin, wash thoroughly with soap and water. Provide adequate ventilation in volume and pattern in working area.

Additional Information:

Techno Builders Solutions® By Sterling Technotrade India Pvt. Ltd offers high performance concrete admixtures, adhesives, protective coatings, concrete repairs, industrial flooring, grouts, anchors, joint sealants, surface treatments, curing compounds, repair mortars, release agents, grinding aids, and waterproofing as part of its product range.

*Separate datasheet are available on these products.

DISCLAIMER: The product information & application details given by the company & its agents has been provided in good faith & meant to serve only as a general guideline during usage. Users are advised to carry out tests & take trials to ensure on the suitability of products meeting their requirement prior to full scale usage of our products. Since the correct identification of the problems, quality of other materials used and the on-site workmanship are factors beyond our control, there are no expressed or implied guarantee / warranty as to the results obtained. The company does not assume any liability or consequential damage for unsatisfactory results, arising from the use of our products.

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