



Description:

TechnoSeal® CrystalShake-BC is a new generation hydrophilic crystalline waterproofing & permeability reducing dry-shake powder effective in enhancing concrete permeability & durability by effectively sealing concrete surface pores and capillaries and reducing the shrinkage cracks. TechnoSeal® CrystalShake-BC is applied as a dry-shake to the fresh concrete surface & trowelled into the concrete during the final finishing where it penetrates deeply into the concrete mass. The dry shake broadcast method produces a smooth finished floor suitable for typical traffic or application of common floor finishes.

TechnoSeal® CrystalShake-BC has been specially formulated for dry-shake applications on horizontal concrete surfaces where greater impact and abrasion resistance is required consists of Portland Cement, various active proprietary chemicals, and a synthetic aggregate hardener that has been crushed and graded to particle sizes suitable for concrete floors. This product replaces the need for conventional membrane waterproofing systems and is best suited for thick concrete slabs that will be power-troweled during finishing.

TechnoSeal® CrystalShake-BC is compatible with all commonly used workability admixtures (e.g. superplasticizers, retarders) and mix design formulations (trial mixes recommended prior to casting).

Application:

- Foundation & Basement Raft
- Parking Structure
- Non Tower Area
- Constructions Joint
- Warehouse Floor
- Traffic Bearing Structure

Features:

- Chemical Resistance- Highly resistant to aggressive chemicals, Allows concrete to breathe and provides a range of protection from freeze/ thaw cycles, aggressive subsoil waters, sea water, carbonates, chlorides, sulfates and nitrates.
- Waterproofing- Stops water movement through concrete, becomes integral part of the structure.
- Corrosion- Protects reinforcing steel against corrosion.
- Sealing- Waterproofs minor cracking & seal hairline cracks up to 0.5mm.
- Permeability- Resists permeation of water from positive & negative side of the concrete.
- Chemical activation- its waterproofing capability increases with time. I.e. it remains permanently active.
- Abrasion- Does not get affected by surface wear or abrasion, once the penetration is complete.
- Hydrostatic pressure- Resists extreme hydrostatic pressure from either positive or negative surface of the concrete slab becomes an integral part of the concrete.

- Protection- Protects concrete against contaminated water & corrosion.
- Zero VOC- TechnoSeal® CrystalShake -BC contain zero volatile organic compounds and are safe for use both outdoors and in confined indoor spaces.

Typical Properties at 25°C:

Appearance	Grey coloured free flowing powder
VOC	0%
Self-healing of static cracks	Max. 0.5 mm
Compliances	Confirms to- ASTM C494 Type S
Water permeability acc.	EN 12390-8:
- Positive side:	< 232 psi
- Negative side:	< 232 psi
Bulk Density, gm/cc	Approx. 1.4
pH of fresh mixed concrete	12.00
pH of Hardened Concrete	13.00

Direction of use:

Surface preparation

Rapid loss of moisture in plastic concrete may impair the ability for concrete to receive the dry-shake without subsequent delamination. Use sun/wind shades or fogging equipment to protect the concrete surface from drying out before and after applying TechnoSeal® CrystalShake-BC.

Place concrete as usual following good concreting practices according to ACI guidelines. TechnoSeal® CrystalShake-BC can be applied during finishing-after the concrete has reached its initial set and the bleed water has disappeared.

Spread broadcast

- TechnoSeal® CrystalShake-BC must be spread evenly, otherwise may result in the uneven color of the finished slab. This can be accomplished by hand spreading with a gloved hand or by using a mechanical drop spreader.
- Spread TechnoSeal® CrystalShake-BC evenly over the concrete surface at the recommended rate of coverage of 1 kg/m². The fugitive dye will enable the installer to ensure uniform distribution of the product.
- To attain the proper spread rate, start by laying out the bag of TechnoSeal® CrystalShake-BC on the slab in a grid pattern, each 5 paces apart from the next.
- After fresh concrete is placed, consolidated and levelled, wait until the concrete can be walked on leaving an indentation of 1/4-1/3" (6-8 mm).
- Concrete should be free of bleed water and be able to support the weight of a power trowel. Float open the surface.
- Immediately after floating open the surface and within one hour of finishing the concrete, apply one-half of the TechnoSeal® CrystalShake-BC by hand or mechanical spreader. The TechnoSeal® CrystalShake -BC must be spread evenly.
- As soon as the dry-shake material has absorbed moisture from the base slab, it should be power floated to the surface. Immediately after power floating, apply the remaining TechnoSeal® CrystalShake -BC at right angles to the first application.
- Allow remaining TechnoSeal® CrystalShake-BC to absorb moisture from the base slab and then power float the material into the surface. When the concrete has hardened sufficiently, power the trowel surface to the required finish.

Application Rate:

Under normal conditions, the coverage rate for TechnoSeal® CrystalShake-BC is (1-1.2)kg/m² in two pass.

Curing:

Curing is important and should begin as soon as final set has occurred but before surface starts to dry. Conventional moist curing procedures such as water spray, wet burlap or plastic covers may be used. Curing should continue for at least 48 hours. In hot, dry sunny conditions consult manufacturer for specific instructions. In lieu of moist curing, concrete sealers and curing compounds meeting ASTM C309 may be used. In all cases, follow ACI guidelines and recommendations for proper curing.

NOTE: It is common that edges of a slab wall will set up earlier than the main body of concrete. Such edge areas can be dry-shaked and finished with hand tools prior to proceeding with application of the main body of concrete.

Special Considerations:

For the best results when applying TechnoSeal® CrystalShake-BC, the air content of the concrete should not exceed 3% (a high air content can make it difficult to achieve a proper application). If a high entrained air content is specified (e.g. for concrete that will be exposed to freezing and thawing), contact the STERLING TECHNOTRADE's technical representative for further application information.

In hot, dry, or windy conditions, it is advisable to use an evaporation retardant on the fresh concrete surface to prevent premature drying of the slab. Chronic moving cracks or joints will require a suitable flexible sealant. For certain concrete mix designs, we recommend a test panel be produced and evaluated for finishing. For example, high performance concrete with a low water/cement ratio, air entrainment, super plasticizers, or silica fume may reduce bleed water and make the concrete more difficult to finish.

Storage:

TechnoSeal® CrystalShake-BC must be stored dry at a minimum temperature of 7°C & maximum 45°C. Shelf life is one year from the date of manufacturing when stored under proper conditions.

Packaging:

TechnoSeal® CrystalShake-BC is supplied in 30 Kg HDPE bag packing.

Precaution & Limitations:

Not for use on slabs that are subject to flexing or movement. Minimum Portland cement content shall not be less than 250 kg/m³ with w/c ratio no greater than 0.5 and air content no greater than 3%.

Health and Safety instructions:

TechnoSeal® CrystalShake-BC 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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