

TRUBUILD CRYSTASEAL ADMIX

HIGH-PERFORMANCE INTEGRAL CRYSTALLINE
WATERPROOFING



TECHNICAL DATA SHEET

VER NO. 1.1

Trubuild Crystaseal Admix is a high-performance, integral crystalline waterproofing and durability enhancing admixture which produces waterproof and durable concrete that improves corrosion resistance, reduces cracks and reduces water permeability under hydrostatic pressure. Trubuild Crystaseal Admix is the blend of various active chemicals which reacts with un-hydrated cement particles in presence of water to form insoluble needle shaped crystals. These needle shaped crystals fill the pores, capillary tracks and micro cracks within the concrete and permanently seal them against the penetration of water or liquids from both positive and negative side. The concrete is also protected from deterioration due to harsh environmental conditions. Standard compliances and specifications fulfill requirements of ACI-212-3R-2016 categorized as PRAH - Permeability Reducing Admixture for Hydrostatic Condition. Trubuild Crystaseal Admix confirms CE approval as per EN 934-2:2009.

ADVANTAGES



- Trubuild Crystaseal Admix contains zero VOC.
- Resists hydrostatic pressure up to 16 bar.
- Can self-heal cracks up to 0.5 mm in presence of moisture.
- Reduces co-efficient of water permeability by more than 90%.
- Enhances the compressive strength of concrete for long term.
- Significantly reduces chloride penetration and improves carbonation resistance.
- Eliminates the risk of alkali silica reaction with maximum alkali content (less than 9%).
- No negative corrosion effect on the reinforcement steel with limited chloride content.
- Protects against sulfate attack.



AREAS OF APPLICATION

APPLICATIONS

- Waterproofing water tanks, fountains and artificial lakes, etc.
- Substructure waterproofing
- Waterproofing and protection of concrete foundations, retaining walls and foundation slab
- Swimming pool, wet areas, lift pit, tunnel and balconies
- Protect concrete for durability
- Tunnels & subways
- Sewage & water treatment plants

AVAILABLE PACKING



20 kg stitch bag

HOW TO USE

- Trubuild Crystaseal Admix shall mix with freshly mixed concrete at 0.8-1% by weight of the cement as per approved mix design quantity. IS 10262-1982 and IS 456-2000 shall be adopted to establish concrete mix design to achieve desired performance parameters. Prior to mixing, design trials shall be conducted to ensure cement, plasticizer and Trubuild Crystaseal Admix compatibility.
- For addition of Trubuild Crystaseal Admix at centralized ready-mix concrete plant, all concrete constitutes e.g, cement, mineral admixtures, aggregates, and water shall batch and mix thoroughly as per RMC Code of Practice- IS 4926:2003. Prepare Trubuild Crystaseal Admix powder slurry by mixing 1 part of Trubuild Crystaseal Admix with 1.5 part of water by volume ratio.
- Dose the slurry into ready-mix concrete truck mixer. Ensure minimum 3 minutes mixing for uniform distribution of active ingredients of Trubuild Crystaseal Admix with entire concrete mass. Amount of water which was used for slurry shall deduct while batching the concrete at ready-mix plant.
- For addition of Trubuild Crystaseal Admix at site, follow same practice of preparing slurry at recommended ratio of 1 part (Trubuild Crystaseal Admix) and 1.5 part (Water) by volume and mix thoroughly with ready-mix concrete by rotating RMC truck drum mixer for minimum 3 minutes for uniform distribution. Amount of water which was used for slurry shall deduct while batching the concrete at ready-mix plant. Placing, compaction & curing of concrete as per IS 456:2000 standard engineering practice or as instructed by the engineer in charge is to be followed strictly.
- Please consult technical advisor for specific type of application and performance parameters.

PRECAUTIONS & LIMITATIONS

- Trubuild Crystaseal Admix is an effective system for rigid structures only and may not reliably seal movable cracks and joints. However, it can be used with other flexible waterproofing systems and designs for the desired waterproofing performance. Please consult technical department for clarification and design.
- Setting time of concrete is always affected by chemical ingredients. Mix design trial mixes are strongly recommended as per IS 10262 to establish data on workability, setting time and strength development. The temperature of the concrete mix should be above 5°C.
- For best waterproofing performance, always maintain water to cement/ cementitious ratio within limit mentioned by IS 456-2000. Concrete structures must be designed to resist all structural loads including all hydrostatic forces.
- Self-sealing is effective for static (non-moving) cracks. For dynamic (moving) cracks, use a flexible sealant. For moving joints, use an engineered expansion joint.

TECHNICAL DETAILS

PROPERTIES	STANDARD	RESULTS
Appearance	-	Grey powder
Bulk density	-	Approx.1.4 g/cm ³
Fresh concrete properties (over control)	Test method	Results
Hardened concrete mechanical properties over control	Test method	Results
Reduction in coefficient of water permeability at 0.8 % dosage	EN; 12390 (Part 8) :2019	Reduction by more than 90 % compared to reference concrete
Resists 16 bar hydrostatic pressure	EN 12390 (Part 8) :2019	Pass
Self-sealing cracks in presence of moisture	Customize test method	Heals cracks up to 0.5mm in width
Reduction in chloride diffusion co-efficient	ASTM C - 1556 - 2011	Reduction by more than 45 % compared to reference concrete
Reduction in shrinkage & cracks	IS 516 Part 6: 2020	Reduction by more than 20 %
Alkali content	IS 4032: 1985	<4%
Chloride content	IS 4032: 1985	NIL

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HANDLING PRECAUTIONS

Mandatory and recommended industrial hygiene procedures should be followed whenever our products are being handled and used. For additional information please read Material Safety Data Sheet.

STORAGE

Product should be stored in a cool & dry place in their original, properly closed containers/ bags at temperatures between 2 - 40°C on pellets. Packed material should be consumed once opened.

DOSAGE

0.8-1% by weight of cement.

SHELF LIFE

12 months from the date of manufacturing.

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