

Technical Data Sheet

HR CRYSTAL 5000

Crystalline Waterproofing Powder



Product Description

HR Crystal 5000 is a high-performance crystalline waterproofing powder designed for integration into concrete and cementitious mixes. It reacts chemically with water and free lime in concrete to form insoluble crystals, blocking capillaries and micro-cracks, and providing permanent, integral waterproofing for both new and existing concrete structures

Applications

- Basements, foundations, and retaining walls
- Water tanks, reservoirs, and swimming pools
- Tunnels, subways, and underground structures
- Roof slabs, terraces, and balconies
- RCC structures exposed to positive or negative water pressure

Key Features & Benefits

- Provides permanent crystalline waterproofing inside concrete
- Resistant to positive and negative water pressure
- Reduces concrete permeability and enhances durability
- Compatible with fresh concrete and repair mortars
- Non-toxic and safe for potable water contact
- Works in both horizontal and vertical surfaces



Technical Properties

Property	Typical Value	Test Method
Appearance	Grey/White Powder	
Bulk Density	1.2 – 1.4 g/cm ³	
pH	> 11	
Solubility	Insoluble crystals formed in concrete pores	
Application Temperature	+5°C to +40°C	
Dosage	1 – 2% by weight of cement (depends on water exposure)	
Reaction Time	Begins within 24 hours	
Final Crystalline Formation	7 days after application	
Effect on Concrete	Improves impermeability and durability	



Method of Application

For New Concrete:

1. Add HR Crystal 5000 directly to the concrete mix during batching at the recommended dosage (1–2% by cement weight).
2. Mix thoroughly to ensure uniform dispersion.
3. Place, compact, and cure the concrete as per standard practice.

For Existing Concrete:

1. Prepare a slurry of HR Crystal 5000 with clean water (ratio 1:1 or as recommended).
2. Clean and remove dust, loose particles, and laitance from the surface.
3. Apply slurry onto the damp substrate using brush, roller, or spray.
4. Maintain damp curing for 24–48 hours to allow crystal growth.

Surface Preparation

- Remove dust, dirt, oil, grease, loose particles, and laitance
- Repair cracks and honeycombs before application
- Saturate concrete surface lightly before slurry application

Storage & Shelf Life

- Non-toxic and safe to handle
- Avoid prolonged skin contact; wash immediately if contact occurs
- Use gloves and goggles if needed
- Refer to MSDS for full safety instructions

Health & Safety

- Non-toxic and safe to handle
- Avoid prolonged skin contact; wash immediately if contact occurs
- Use gloves and goggles if needed
- Refer to MSDS for full safety instructions

Limitations

- Not suitable for continuously flowing water leaks without pre-treatment
- Avoid application on frozen or overheated surfaces
- Requires damp curing for optimal crystalline formation

Disclaimer

The information in this Technical Data Sheet is based on laboratory testing and field experience. Actual performance may vary depending on substrate conditions, concrete mix design, and application methods. The manufacturer assumes no responsibility for misuse.

