

# Dr. Fixit Krystalline



## CEMENTITIOUS CONCRETE WATERPROOFING

### Description

**Dr. Fixit Krystalline** is composed of high quality cement, properly selected & graded inert aggregates, proprietary waterproofing active chemicals & additives. It is used as a chemically active waterproofing treatment for concrete. Dr. Fixit Krystalline when mixed with water and applied as a brush coat to concrete, it penetrates deeply into the capillaries of the concrete & protects it against the permeability of water.

### How Dr. Fixit Krystalline works?

- The proprietary waterproofing active chemical plays very important role & it is a very simple reaction with the natural chemical by products of cement hydration, such as calcium hydroxide, various mineral oxides, hydrated & unhydrated cement particles of the concrete in wet condition. The result of chemical reaction is the formation of billions of needles like non-soluble crystals which block the pores of the capillaries, voids & micro-cracks in concrete. After blocking, the pores & capillary tracts of the concrete become discontinuous which stops the permeability from all directions of the treated concrete. Dr. Fixit Krystalline remains active whenever water is present.
- Pre-saturation & subsequent re-wetting of the surface will cause diffusion of the organic chemicals & formation of crystals by reaction at greater depth. It may take from seven days to one month to reach its maximum waterproofing capability, depending on the thickness of the concrete.
- Environmental factors such as ambient temperature, density of concrete, moisture presence & weather conditions can affect the timing of sealing process. Under dry conditions, Dr. Fixit Krystalline lies dormant. However it becomes reactive whenever it is re-exposed to moisture.
- It penetrates even against strong hydrostatic pressure, becoming an integral part of the concrete. The waterproofing chemicals remain active for the life of the structure, permanently sealing it for water seepage.

### Areas of Application

#### Water Retaining Structures

- Water tanks & reservoirs
- Swimming pools
- Water treatment works
- Dams & canals
- Concrete pipes
- Harbours

#### Water Excluding Structures

- Foundation & Basements
- Tunnels & subways
- Inspection pits & lifts shafts
- Retaining walls & sea defence walls
- Construction joints
- Bridge decks
- Jetties
- Parking structures



## Features & Benefits

- **Application advantage** - Does not require protective plaster, applicable over SSD & wet surface.
- **Waterproofing** - Stops water movement through concrete, becomes integral part of the structure.
- **Corrosion** - Protects reinforcing steel against corrosion.
- **Sealing** - Waterproofs minor cracking & seals shrinkage cracks up to 0.4 mm width.
- **Permeability** - Resists permeation of water from positive & negative side of the concrete.
- **Chemical activation** - It's 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** - Treated concrete withstands hydrostatic water pressure up to 15 metre head.
- **Ease of application** - Easy in application, only to be mixed with water at site.
- **Protection** - Protects concrete against contaminated water & corrosion.
- **Monolithic** - Forms monolithic layer with the concrete & becomes integral part of concrete.

## Method of Application

### 1 SURFACE PREPARATION FOR OLD AND EXISTING SUBSTRATES

- Remove dirt, laitance, loose particles, paints, etc., by means of mechanical grinding, sand blasting, pressure water cleaning or suitable mechanical means.
- Remove all protrusions, chisel out honeycombed & damaged areas, repair the cracks and work back to sound concrete.
- It is extremely important to ensure that the surface should be sound, thoroughly prepared and vacuum cleaned to a finish of a sand paper to allow Dr. Fixit Krystalline to penetrate effectively. This can be achieved by mechanical surface scarification, shot blasting, etc.
- Thoroughly rinse the surface with water several times to reach a "saturated surface dry" (SSD) condition, where the surface should be damp without any standing water.

### 2 MIXING

- Mix Dr. Fixit Krystalline powder to water in ratio 5 parts powder : 2 parts water for waterproofing purpose and 5 parts powder : 1 part water as a putty for repair purpose.
- Always mix powder to water & stir it well to obtain a lump free mixture. Only mix quantities to be used within 30 minutes. Mix Dr. Fixit Krystalline mechanically with clean water to a thick consistency. Separate containers of same volume should be used to measure powder & water.

### 3 APPLICATION

On existing or old substrates with dampness

- Ensure thorough surface preparation by mechanical means, to remove all laitance, etc., to expose the pores in concrete which will allow the penetration of the Dr. Fixit Krystalline.
- All crevices and holes in concrete shall be filled with Dr. Fixit Krystalline powder mixed with water in a ratio of 5 parts powder : 1 part water. Over a concrete substrate in a SSD condition, apply Dr. Fixit Krystalline mixed in a ratio 5 parts powder : 2 parts clean water, with a clean brush. Use an aggressive circular motion of the brush or wooden float with Dr. Fixit Krystalline slurry. Apply a second coat after 3 to 6 hours.
- Dr. Fixit Krystalline treated surface shall be left to cure for 2-3 days, as mentioned above and protect from direct sunlight for this initial period. For full cure, give 28 days along with concrete.

### Precautions & Limitations

- Application can be done under normal temperature conditions.
- Heavy traffic should be avoided until the surface is hardened for at least 5 days.
- Finishes containing portland cement may be applied over Dr. Fixit Krystalline after 3 to 4 hours.
- Any paint or coating should be applied after 28 days only, over Dr. Fixit Krystalline application, after thorough wire brushing, washing & removing any Dr. Fixit Krystalline residual on surface.
- Not recommended over moving joints and structures subjected to movements.
- Do not apply on dry substrate.
- Water tanks, etc., can be carefully filled with water after 3 to 7 days. Do not fill large tanks faster than 6.5 feet per hour (2 m/24 hrs).
- After complete curing of Dr. Fixit Krystalline, potable water tanks should be thoroughly rinsed with potable water prior to being placed in service.

### Technical Information

PROPERTIES	SPECIFICATION	RESULTS
Appearance		Grey powder
Bulk Density, g/cc		1.4 to 1.60
Water permeability	BS EN 12390 Part 8: 2000	Nil
Water pressure head, mtr		40 - 50
PH (mixed with water 1:1)		11 - 14
Particle size, micron		40 - 150
Penetration rate		2 mm / week

### Coverage

1.4 - 1.6 sq. m / Kg in single coat

### Packing

1, 5 & 25 kg

### Shelf Life & Storage

Shelf life is 12 months from the date of manufacturing in unopened conditions. Store in a cool & dry place.

### Health & Safety Precautions

- Dr. Fixit Krystalline has a high pH, when mixed with water. Use protective gloves and clothing & goggles for eye protection.
- Skin Contact: Wash skin with soap & water. Remove contaminated clothes.
- On eye contact: Immediately splash eyes with plenty of water. Consult Physician if irritation persists.
- Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a Physician.



## Other Products Categories available

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