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.

Typical 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.

Packing

1, 5 & 25 kg

Features

- **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		1.35 to 1.55
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

Theoretical Coverage

1.4 - 1.6 sq. m / Kg in single coat

Shelf Life

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

Health & Safety

- 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

Dr. Fixit brings you the widest range of Construction Chemicals

Pidilite Industries Limited
Construction Chemicals Division
Ramkrishna Mandir Road, Post Box No. 17411
Andheri (E) Mumbai 400059 INDIA
Tel +91-22-2835 7000 • Fax +91-22-2835 7008
www.drfixit.co.in • info@drfixit.co.in
Dr. Fixit Advice Centre (Toll Free No.) 1800 209 5504