

Dr. Fixit Polyplus CP Admix



NEW GENERATION INTEGRAL CRYSTALLINE WATERPROOFING AND DURABILITY ENHANCER

Description

Dr. Fixit Polyplus CP Admix is the new generation single component integral crystalline waterproofing and durability enhancer which produces waterproof and durable concrete with hydrophilic crystals by improving corrosion resistance, reduction in cracks and drastically reducing water permeability under hydrostatic pressure.

Dr. Fixit Polyplus CP Admix is the blend of various active chemicals which reacts with Un-hydrated cement particles in presence of water to form in-soluble needle shape crystals. These needle shape crystals fill the pores and capillary tracks and micro cracks within the concrete and permanently sealed 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 Specification

- Fulfill requirements of ACI-212-3R-10 Chapter 15 and categorized as PRAH - Permeability Reducing Admixture for Hydrostatic Condition.
- Dr Fixit Polyplus CP Admix possess CE approval as per EN 934-2 and all manufacturing unit are also certified with CE approval.

Areas of Application

Waterproofing of reinforced concrete

- Concrete Slabs on grade & below grade
- Water reservoirs & swimming pools
- Tunnels & subways
- Marine structures
- Warehouses & commercial floors
- Cut and cover structures
- Basements & pits
- Sewage & water treatment plants
- Foundations & civil substructures
- Parking structures
- Pre-cast concrete, cast-in-situ and shotcrete applications
- Protect concrete for durability

Features & Benefits

- Dr. Fixit PolyPlus CP admix contents zero VOC and non toxic in nature.
- Dr. Fixit Polyplus CP Admix compliance with USFDA 170.300 for intended use for aqueous food and beverages.
- Resists extremely high hydrostatic pressure up to 16 Bar.
- Can self-heal crack 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 in long age.
- Reduces drying shrinkage by more than 20%.
- Significantly reduces chloride penetration and improve carbonation resistance.
- Eliminates the risk of alkali silica reaction (ASR) with maximum alkali content of 9%.
- No negative corrosion effect on the reinforcement steel with limited chloride content.



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Institute for testing and certification
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1023-CPR-1317F

EN 934-2:2009+A1:2002

Dr Fixit Polyplus CP Admix
Crystalline capillary admixture
Water Resisting Admixture

Chloride content : <0.1% by mass

Alkali content: <10.0 % mass

Compressive strength : ≥85% of control

Conventional dry material content : >99.5%

Air content in fresh concrete : ≤2% by volume

Capillary Absorption (after 90 days curing) : ≤60% by mass.



- Protects against sulfate attack.

Method of Application

- Dr. Fixit Polyplus CP 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 adopt to establish concrete mix design to achieve desire performance parameters. Prior mix design trials shall be conducted to ensure cement, plasticizer and Dr. Fixit Polyplus CP Admix compatibility.
- For addition of Dr. Fixit Polyplus CP 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 Dr. Fixit Polyplus CP Admix powder slurry by mixing 1 part of Dr. Fixit CP 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 ingredient of Dr. Fixit Polyplus CP 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 Dr. Fixit Polyplus CP Admix at site, follow same practice of preparing slurry at recommended ratio of 1 part (Dr. Fixit Polyplus CP 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 shall follow strictly.
- Please consult Pidilite Technical advisor for specific type of application and performance parameters.

Precautions & Limitations

- Dr. Fixit Polyplus CP Admix is an effective system for rigid structures only and may not reliably seal movable cracks and joints. However, it can use with other flexible waterproofing system and design for desire waterproofing performance. Please consult Pidilite technical department for clarification and design.
- Setting time of concrete is always affected by chemical ingredients. Set retardation may occur when usage of Dr. Fixit Polyplus CP Admix. The intensity of set retardation is depending upon mix design, curing temperature, cement chemical composition and dosage of Dr. Fixit Polyplus CP Admix in specific volume of concrete. Mix design trial mixes are strongly recommended as per IS 10262 to 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

Technical Information

| PHYSICAL PROPERTIES | SPECIFICATION/TEST METHOD | RESULTS |
|--|-------------------------------|-------------------------|
| Appearance | Grey powder | |
| Bulk density | Maximum 1.4 g/cm ³ | |
| FRESH CONCRETE PROPERTIES (OVER CONTROL) | TEST METHOD | RESULTS |
| Slump | IS:1199 (Part 2):-2018 | No significant change |
| Density | IS 1199 -(Part 3)-2018 | No significant change |
| setting time | IS:1199 (Part 7): -2018 | No significant change |
| HARDENED CONCRETE MECHANICAL PROPERTIES OVER CONTROL | TEST METHOD | RESULTS |
| Compressive strength after 28 days, MPa | IS:516: 1959-RA2018 | Increase by minimum 10% |
| Flexural strength after 28 days , MPa | IS:516: 1959-RA2018 | Increase by minimum 10% |



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|---|--|---|
| Reduction in Coefficient of Water Permeability at 0.8 % dosage. | BS EN; 12390 (Part 8) :2000 (erstwhile DIN IO48) | Reduction by more than 90 % compare to reference concrete |
| Resist 16 bar Hydrostatic Pressure | BS EN 12390 (Part 8) :2000 | Pass - Can resist 16 Bar Hydrostatic Pressure |
| Self-sealing Cracks in presences of moisture | Customize test method | Heal cracks up to 0.5mm in width |
| Reduction in Chloride diffusion co-efficient | ASTM C - 1556 - Part 4 | Reduction by more than 45 % compare to reference concrete |
| Reduction in Shrinkage & Cracks | IS 1199:1959 - RA 2018 | Reduction by more than 20 % |
| No detrimental Side effect due to Alkali Silica Reaction (ASR) | Compliance with DIN 18998 | Alkali content < 9% |
| No negative effect on corrosion of steel reinforcement due to chloride content in admixture | Compliance with DIN 18998 | Chloride content NIL |
| Food Grade certification | CFTRI as per USFDA-175.300 | Passes |

These test results are under lab-controlled atmosphere and actual site results may vary. Please contact technical team for finalization of dosage and properties. We always recommend trials on site before regular production.

Dosage

0.8% - 1% by weight of cement.

Packing

20 kg Bag

Shelf Life

12 months from the date of manufacturing when stored in a cool & dry place, away from direct sunlight.

Health & Safety

- Dr. Fixit Polyplus CP Admix is a dry powder that becomes reactive when mixed with water or human perspiration.
- Avoid contact with skin or eyes.
- Avoid breathing dust. Wear long sleeves, safety goggles and impervious gloves.
- Refer the Material Safety Data Sheet for this product.

Other Products Categories available

Dr. Fixit brings you the widest range of Construction Chemicals



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