Dr. Fixit PU Foam Injection

TWO-COMPONENT PU FOAM INJECTION GROUT

Description

Dr. Fixit PU Foam Injection is a two component hydrophobic polyurethane pre- polymer & accelerator composition. The system only reacts when it comes in contact with moisture /water, producing a relatively stiff & inert polyurathane foam. It is a quick and temporary expanding grout for sealing of water bearing cracks, cavities and leaks even under high hydrostatic pressure. Dr. Fixit PU Foam expands to 30-40 times its unrestrained volume in the presence of water & can be an effective means of arresting minor to heavy water/waste water leakages.

Typical Application

- Defective concrete – (crack & honeycomb).
- Deep basements, rafts, lift pits.
- Construction joints.
- Drinking water tanks & reservoirs.
- Waste water/ Effluent tanks.
- Sewers, manholes, utility boxes, etc.
- Dams & canals.
- Tunnels.
- Brick / stone masonry.
- Pipe intrusions.
- Soil stabilization.

Features

- **Viscosity** – Very low viscosity benefits penetration into hairline cracks.
- **Solids** – 100% solid & solvent free composition helps in shrinkage free grout.
- **Foaming** – On reaction with water foams around 30 times which benefits filling of wider cracks & honey combing of concrete structures.
- **Bonding** – Bonds strongly to dry & wet concrete, bricks & stones.
- **Hygiene** – It is safe & suitable for drinking water contact.
- **Non-toxic** – It is CFC & solvent free hence non-toxic.
- **Directional Application** – Both negative and positive.

Packaging

5.5 kg and 22 kg

Method of Application

1 SURFACE PREPARATION

- Dr. Fixit PU foam Injection resin is a high quality, low viscous PU injection foam resin which on contact with water expands its volume & cures to very dense, rigid & flexible foam with a very fine cellulose structure.
- Due to its high capillary penetration and activity in damp & water bearing structure, it seals the cracks of more than 0.2 mm, hence the material is ideal for filling gaps & cavities at constant mixing stability.
  On contact with water, the foam formation begins after approximately 15-20 seconds at ambient temperature. The reaction speed depends on temperature of the mixed material, building structure & contact water. Temperature more than 20^{0}C accelerates the foam formation & curing.
- Prior to injection procedure check the nature of building structure, type of cracks and hydrostatic conditions & water quality. Clean the cracks & crack edges so that the source of water leakage can be detected.
- Remove all spalled layers of plasters from the area of the injection level and patch all joints and defective

brickwork with quick drying cement mortar. Drill holes taking into consideration the actual size (thickness) of the wall/concrete member and the size & length of injection packers to be used. The packers must be fixed tightly in the drill holes.

- In the case of crack injections into brickwork and horizontal water stops, drill the holes into the bricks to ensure that the mechanical NRV packers are fastened tightly. When tightening the packers, make sure that the injection hose rests comfortably on the zerk or button head fittings.

2 MIXING

Empty components A and B which are provided according to the required mixing ratio of 10:1 (parts by volume) or measured out in separate containers by the user - completely into a mixing vessel and mix homogeneously.

3 APPLICATION-INJECTION PROCEDURE

- Dr. Fixit PU Foam Injection resin is a low viscous material, to be injected by means of a single component injection pump.
- Mixed material must be used immediately because high air humidity may cause a skin formation over the material surface. In case skin is formed, remove the skin prior to use of the material otherwise the pump will get chocked.
- The workability of the mix is approximately 2 hours. Start injecting at a pressure depending upon the nature of the building structure, hydrodynamic & hydrostatic condition and the desired depth of penetration.
- Carry out the injection at intervals so that it can be concluded from the reaction of the material with moisture inside and decided whether to continue or stop the injection process.
- The material can be injected at temperature of more than 5^0C. The best results can be achieved between 15 to 25^0C. Higher initial temperatures accelerate the reaction. For durable & complete crack sealing, a secondary injection using Dr. Fixit PU Plain injection is necessary depending on the object. The secondary crack injection usually is carried out through the same holes. In case the secondary injection is carried out much later then it may be necessary to install new packers in different position.
- *Incase the container is opened for partial use, immediate sealing is advised as the product reacts in presence of moisture.

4 FINAL WORK

After the curing process of the injection resin (approximately 24 hours after the injection), remove the packers and close the drill holes with suitable mineral building materials (quick-binding cement, swelling mortar)

5 FINISHING

Clean the equipments & tools thoroughly with solvent (toluene or xylene) at any time when work is interrupted for a longer period of time & immediately after use. The cured material can be soften by the solvent & removed by mechanical scrapping and pressure.

Precautions & Limitations

To achieve desired performance kindly mix the entire quantity in one go as it will ensure the consistency of the mix.

Technical Information

PROPERTIES	SPECIFICATION	RESULTS
Appearance		Comp A: Dark Brown liquid Comp B: Pale yellow Clear liquid
Density, (gm/cc) @25°C	ASTM D 3800: 79	Comp A – 1.13 ± 0.03 Comp B – 1.93 ± 0.03
Pot Life Mixed, Minutes (10:1 by volume)		Minimum 45
Mixed Viscosity Ford Cup, B4 type	ASTM D 1200	20 to 80 Seconds

Theoretical Coverage

Coverage varies depending on porosity of the substrate.

Shelf Life

Shelf life is 24 months from the date of manufacturing. Store in a cool & dry place in unopened condition.

Health & Safety

- Wear protective clothings, safety shoes and gloves during the application of the material and when cleaning the equipments. Safety Goggles are a must for all personnel in area of application.
- The use of a suitable skin care cream is recommended. In case of contact with skin wash with soap and water.
- In case of contact with eyes rinse immediately with good volume of running fresh water and seek medical advice immediately. (**use of safety goggles is must).

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