Dr. Fixit Superseal 4500 PUH

SPRAYABLE TWO-COMPONENT INSTANT SETTING LIQUID PO LYMER HYBRID POLY-UREA POLYURETHANE BASED ELASTOMERIC WATERPROOFING MEMBRANE

Dr. Fixit Superseal 4500 PUH is a two-component, sprayable, 100% solids (VOC free), thixotropic, instant setting hybrid polyurea waterproofing membrane suitable for waterproofing, protection and sealing in general. Though instant setting, it is designed for extended gelation time than conventional Polyurea, therefore offers strong adhesive bonding with substrates. It's made up of two high reactive liquid components, isocyanates and aminated polyols, which are mixed together using specific spray equipment, to form an aromatic, continuous, seamless, high density, solid and elastic polyurea membrane, with high mechanical and chemical resistance qualities.

Typical Applications

For waterproofing and protection of:

- Retaining walls and foundations
- Cut and cover tunnels
- Cut and cover underground metro station boxes
- Concrete decks
- Over polyurethane foams
- Sloped roofs, flat roofs, terraces, balconies and overhangs
- Podium slabs, planters and green roofs
- Water bodies and swimming pools

Features

- Hybrid.
- Extended gelation time – sufficient time for stronger bond development with substrate
- Develops stronger bond with substrates
- Fast setting within seconds.
- Excellent toughness and flexibility.
- Can be applied in extreme humidity.
- Can be used as water proof lining along with geo textile backings as a pre applied system.
- Available in grey, black and tan shades

Packaging

- Metal drums of 200 litre each component (400 litre Set)

Method of Application

- In general, the following aspects should be dealt with prior to spraying:
- Repair the defects if any in the surface (fill in depressions, eliminate unevenness, voids, honeycombs, etc.) with suitable epoxy putty or high strength polymer modified mortars.
- Clean the surface or substrate, removing any dust, dirt, grease or efflorescence or old layers.
- In case of construction joints, or large cracks as well as junction/corners, use a sealant bead of approx. 10 mm x 5 mm size with Dr. Fixit PU sealant or treat construction joints and cracks etc. suitably with solvent free epoxy mortar. The surface should have enough compressive strength of atleast 25 MPa to facilitate the required adhesion of the membrane to be developed of min 2 MPa.
- Dr. Fixit Superseal 4500 PUH waterproofing membrane can be applied to many different surfaces and the detailed procedure will vary to some extent, depending on its nature or state of the substrate. Please contact our technical product team for project specific guidance if required.

Concrete substrate

- The concrete should be completely cured (concrete curing takes typically 28 days) or, in any case, the maximum level of moisture content allowed for the substrate should be verified, depending on the primer used and shall not exceed 8% moisture content.

- Any concrete laitance or release agents should be eliminated and an open pore surface achieved by vacuum assisted shot blasting, mechanical grinding/scarifier/milling or sanding or compressed air cleaning.
- Next, clean and eliminate all contaminants from the elements, such as dust or particles from the previous processes by compressed air blowers or other suitable arrangements.
- Any depressions or voids should be repaired using Dr. Fixit make solvent free epoxy mortar.
- Apply prime coat of Dr. Fixit Cipoxy 16D by roller/ airless spray @ coverage of 250 -400 gram/m^2depends on porosity of concrete.. Allow to cure for max 5-6 hours. If the time is lapsed for more than 24 hours abrade the primed surface to have mechanical key or apply another thin coat of primer Dr. Fixit Cipoxy 16D.
- Recommended to broadcast anti slip grains of 200-300 micron(dried sand) on wet primer at coverage of 1.5-2.5 kg/m^2 and allow to come to touch dry condition. Remove unstuck or loose grains and continue to spray Dr. Fixit Superseal 4500 PUH for optimum adhesion property.
- Application of Dr. Fixit Superseal 4500 PUH waterproofing membrane to be done using a plural component airless spray equipment, to form a minimum system thickness of 1.5mm in two alternative coats. Greater thickness up to 3 mm can be achieved in multiple passes.
- Coverage is 1.5 litres per sq. m. at per 1.5 mm membrane dry film thickness.

Application method by spray equipment

- Dr. Fixit Superseal 4500 PUH must be applied utilizing a high pressure plural component pump such as Graco Reactor equipped with a gun. The application equipment must be capable to have the capacity to continuously maintain high temperature and high pressure. Low pressures or temperatures can result in poor mixing of product and subsequent failure of the coating films. During spray application, the spray pressures between resin and hardener components should be balanced. The difference must not be greater than 10-15%. If this difference is greater, an off ratio situation may occur, resulting in blisters, pinholes and soft or brittle films Processing parameters Material temperature : +70 degree C to +80 degree C Hose temperature : +70 degree C to +80 degree C Volume ratio : 1 : 1 Pressure : 120 - 150 bars. In case of any defects observed in the applied membrane surface abrade to remove or cut out the defective portion, clean & prepare the surface, apply primer coat of Dr. Fixit Cipoxy 16D & reapply the Dr. Fixit Superseal 4500 PUH membrance as explained above to repair the affected area with overlap of 75mm on the surrounding surfaces
- Application of aliphatic polyurethane topcoat for exposed surfaces is to be done for long term UV exposure conditions. (Not required in case the membrane is covered with screed, plaster, tiles or other protection layers).

Note: For application to surfaces other than concrete surface or PU Foam, please consult our technical team.

Technical Information

Properties	Units	Results	Method
Solid Content (Zero VOC)	%	100	ASTM D 2369
Density at 23°C	kg/m^3	1.01	ASTM D 4669 / ISO 1675
Tack free time at 23°C	secs	50 - 60	
Cured time at 23°C	hours	12	
Tensile Strength at 23°C	MPa	15	ASTM D 412 / ISO 527-3
Elongation at break at 23°C	%	400	ASTM D 412 / ISO 527-3
Tear Strength	kn/m	60	ASTM D 1004
Adhesion (on concrete)	MPa	2	ASTM D 4541
Static crack bridging	mm	2	ASTM C 836
Abrasion Strength	mg	60 loss	ASTM D 4060
Minimum thickness	mm	1.5	
Resistance to hydrostatic water pressure	Bar	7	ASTM D 5385/ DIN 16726

Puncture Resistance	N	1000	ASTM E 154
Water vapour permiability	mg/m²/day	25	ASTM E 96
Impact resistance	N.m	17	ASTM D 2794
Service Range temperature	°C	- 20 to 90	

The values in the above table are obtained in controlled lab conditions when tested properly by competent personnel.

Note: Tolerance up to 10% on the lower side from the above values are allowable.

Precautions

- This product is for professional use only.
- Avoid moisture contamination in containers.
- Do not attempt to use contaminated material.
- Dr. Fixit Superseal 4500 PUH waterproofing membrane is not a permanently UV stable system, thus requires protection with a UV resistant suitable topcoat when the system is exposed to direct traffic movement, or long term UV exposure unless it is to be covered with protective screed or other suitable protection layer.

Note: The material is supplied in two components (Component "A"/Component "B") used to formulate Dr. Fixit Superseal 4500 PUH waterproofing membrane. The quality and characteristics of the finished polymer is determined by the mixture and application of the two components. The cured & finished membrane does not contain free isocyanates.

Shelf Life

- The shelf life is 12 months if stored as per the recommendations. In a covered and secured storage space. Excessive exposure to sunlight, UV rays and other source of heat will result in considerable deterioration of the product and reduce its shelf life.

Health and Safety

These safety recommendations for handling, are necessary for the implementation process as well as in the pre and post, on exposure to the loading machinery. During application wear protective clothing, gloves and eye goggles during application. Avoid product to contact eyes and skin.

- Respiratory Protection: When handling or spraying use an air-purifying respirator.
- Skin contact: Wash immediately with plenty of clean water.
- Eye contact: In the event of eye contact splash plenty of clean water immediately and seek medical advice.
- Waste: Waste generation should be avoided or minimized. Incinerate under controlled conditions in accordance with local laws and national regulations.
- Vapor and atomized liquids are harmful. Use only in ventilated areas, wear approved respirators when necessary.
- Keep out of reach of children.
- Do not use near high heat or open flame.

Other Products Categories available

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