Roofseal PF

Polyurethane Hybrid Waterproofing Membrane

Description

Roofseal PF is a polyurethane hybrid waterproofing membrane used for waterproofing on roof tops.

Roofseal PF is durable against seasonal water ponding in wet tropical climate.

Once fully cured, it forms a highly durable film without the need for reinforcing mesh. It has low water absorption and can withstand prolonged water ponding.

Roofseal PF not only protects roofs from leaks but also offers excellent UV reflectivity, which helps reduce heat transfer into the building and enhances overall energy efficiency."

Product Features:

- Contains nano molecular fiber to increase strength.
- Contains a high proportion of polymer for strong protection and durability.
- Low water absorption.
- Reflects up to 89.8% of solar energy, helping to reduce heat transfer into the building.
- Extra additives to increase resistance against fungus and weathering.

Areas of Applications:

- Flat concrete roof deck, terrace, and balcony with low pitch/slope to drain off water.
- Protect high density polyurethane foam roof from sunlight.
- Thickly applied to seal and hide hair line cracks on walls.

Rate of uses

*** Theoretical consumption without allowance for loss.**

Rate of uses for 500 microns thick membrane				
	kg /m^2			**M^2/20kg (standard)**
	Standard	**At Least**	**At Most**	
1st Coat	0.5	0.4	0.6	40
2nd Coat	0.5	0.4	0.6	40
Total 2 Coats	**1.0**	**0.8**	**1.2**	**20**

Thickness

Dry Film Thickness (micron)			
	Standard	**At Least**	**At Most**
1st Coat	250	200	300
2nd Coat	250	200	300
Total 2 Coats	**500**	**400**	**600**

Method of Application

1. Surface Preparation

1.1 Old & Fresh Concrete Surface

- Concrete texture should be smooth with troweled finish. Light broom finished is acceptable. Heavy texture will result in uneven thickness and high material consumption.
- Allow fresh concrete to cure for at least 14 days.
- Always concrete surface must be clean, strong, free of all loose dirt, dust free, grease, oil stain, wax, liquid coating/paint, concrete curing agent, grease or other stains that would affect waterproof coating adhesion.
- Remove visible laitance, algae, mound by grinding and clean surface afterwards.
- Open air voids, pock marks, cavities, honeycomb, weak concrete, delaminating layers.

Surface Levelling

- Always surface must be smooth, for laitance remove laitance surface by saw concrete or scrubbing down with wire brush.
- Adjust slope 1:100 on roof terrace application to allow water to drain.
- All surface area must be smooth and any defects concrete surface can be apply by use structure repair cementitious mortar **Dr.Fixit UniRepair FC** to fill in damage area, afterwards allow repair area to cure for 7 days prior to other work.

Repair Cracks & Plug Holes

- For concrete surface with, weak concrete, peel off surface, hollow sound check from knock at concrete condition remove by grinding machine or chipping machine till reaching strong concrete.
- For concrete surface with pinhole or honeycomb can be apply by using structural repair cementitious mortar **Dr.Fixit UniRepair FC** to fill in defects area, afterwards allow repair area to cure for 7 days prior to other work.
- For concrete surface with >3mm crack, groove U shape on crack area to big enough for apply **Dr.Fixit MS25 Sealant**. to seal crack and allow to cure a day prior to working on area.
- For concrete surface with 0.5 – 1 mm. (hairline crack) apply Roofseal PF over hairline crack.

Fillet on joints wall and floor

- For concrete wall and floor should be made fillet/chamfer with **Dr.Fixit MS25 Sealant**. Allow sealant to cure for a day prior to other work.
- Any corners or angles should be cut.
- Floor drain area or drainage cell should be seal joints in between drain and surface with **Dr.Fixit MS25 Sealant**.

2. Priming

- For highly porous concrete, prime with one coat of **Denzi Block,** leave coat to dry 1-2 hours to ensure surface integrity and optimize consumption of water proofing.

3. Mixing

- **Roofseal PF** has only one component. It is best to always stir content to ensure homogenous liquid before application.
- Let **Roofseal PF** set for a couple minutes to reduce air bubbles.

4. Application

- Before applying membrane, use brush to paint one or two thick coats of **Roofseal PF** on weak areas. The areas include joint lines, cracks, and openings around holes, base of protrusions. Allow these areas to dry approx. 1-2 hours before applying the main flat areas.
- It is recommended to work area of 24 square meter (4 m X 6 m). Then apply **Roofseal PF** onto the primed surface evenly with roller until all surface is covered at 0.85 kg/sqm./2 coat (dry film thickness 500 micron).
- Leave the 1st coat to dry 1-2 hours prior to applying 2nd coat perpendicularly, do not add more water in mixture when applying.
- Recommended to apply at least 2 coats.
- Allow to fully dry for 6-7 days, prior to work on area.

5. Cleaning

- Clean all tools and equipment with water immediately after use.

Limitations & Precautions

- Roofseal PF working temperature 10 to 35^{O}C. The temperature and humidity affect curing time.

Technical Information

Properties	Standard/Test Method	Results
1.Solid Content % by weight	W-TP-021	60-65
2.Viscosity KU @ 25 ° C	W-TP-011	105 - 125 KU
3.Density	W-TP-022	1.25 - 1.30
4.pH	W-TP-009	7.5 – 9.0
5.Tensile strength	ASTM D412	Min 2.5N/mm2

6.Elongation at break	ASTM D412	Min 400%
7.Adhesion to concrete (Pull-off test)	ASTM D4541	3.61MPa
8. QUV Test 1000 hrs.	ASTM G154-06	Paint film is normal, not chalking
9.Solar Reflectance	JIS R3106	89.8 %
10.Thermal Emittance	ASTM C1371	0.87
11.Solar Reflectance Index (SRI) hc=12 (Wm-2K-1)	ASTM E-1980-01	102.9
12.Water vapor transmission rate	ASTM E96/E96M-22	25.6 g/m2.day
13. Water Absorption	ASTM D570	7.28%

Packaging

- 4 kg and 20 kg (White, grey and green)

Storage

- Stored in dry and cool rooms for up to 12 months. Protect the material against moisture and direct sunlight.
- Recommended storage temperature: 5 ºC – 30 ºC.
- Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Health & Safety Precautions

- During application wear protective clothing, gloves and eye goggles during application. Avoid product to contact eyes and skin.
- 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.

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