Polyflex

Acrylic modified cementitious waterproofing coating

Two component, acrylic cementitious coating which cures to form a tough and flexible coating having excellent waterproofing properties.

CHARACTERISTICS

- Good flexibility. Thermal co-efficient of expansion similar to that of concrete
- Good adhesion to both, porous and non porous surfaces
- Good mechanical properties
- Suitable for light pedestrian traffic
- Excellent durability to long term weathering effect and UV exposure
- Non toxic, therefore suitable for use in potable water applications
- Suitable for use in contact with TSE water
- Does not Contain Asbestos, Chromated Copper Arsenate and Lead
- Resistant to carbon dioxide and chloride ion diffusion. (Forms a film that provides an anti carbonation coating over concrete. A 1mm coating provides anti carbonation cover which is equivalent to over 75 cm of concrete)

DESCRIPTION

Polyflex is a two part acrylic modified cementitious coating for protecting concrete structures against water, vapor, ingress of chloride ions, attacks of acidic gases and alkalis. It cures to form a tough flexible coating having excellent waterproofing properties. Polyflex is a blend of cement, selected fillers, polymers and graded silica sand which is in the powder form. The liquid contains acrylic co-polymers and wetting agents.

FIELDS OF APPLICATION

Used as a waterproofing and protective coating for the following structures:

- pile heads
- internal lining for potable water reservoirs and other water retaining structures
- protection of exposed concrete structures like bridge decks against carbonation and chloride attack
- inverted roofs, lift and inspection pits, swimming pools, spillways
- backing on marbles and granites to prevent the ingress of moisture
- general construction waterproofing

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- wetarea (bathroom, kitchen, balcony, swimming pool and other features.
- moisture vapor barrier on facade damp proofing

ENVIRONMENTAL INFORMATION

Contributes toward satisfying LEED® v4 requirements of the EQ Credit- Low-emitting Materials (for the VOC content and emissions).

APPLICATION INSTRUCTIONS

The application temperature should be between 5°C to 45°C. Application procedures may vary slightly depending upon site conditions. The general recommended guidelines for the application of the coating system is as follows:

Surface preparation

The surface must be structurally sound and free of oil, grease, dust and other contaminants which will affect the bonding. Any structural cracks and potholes shall be repaired with a suitable repair mortar from the Polycrete* range of repair mortars. The surface to be treated should be presaturated with water prior to application. However, any standing water shall be removed prior to application.

Mixing

Polyflex is supplied in two pre-measured parts which just requires on site mixing. Do not mix more material than that can be used within the pot life. Part mixing can be carried out by mixing 3 parts of powder with 1 part of liquid (by weight). Pour the liquid into a suitable container and slowly

add the powder to the liquid. Mix the contents using a slow speed drill (300-400rpm) fitted to a proprietary paddle mixer till a homogenous, lump free and creamy consistency is achieved. DO NOT ADD WATER TO DILUTE THE MATERIAL.

Application

It is recommended to apply Polyflex in two coats to provide a minimum thickness of 2mm. Each coat shall be applied @1.8 kg/m^2 which will give a dry film thickness of 1mm. The coating can be applied with a stiff brush or by an airless spray of nozzle size of 3-4mm and a pressure of 6-7 bar. After the application of the first coat and whilst the coating is still wet, embed a glass fibre mesh (CL 252 or similar materials) at all corners and other joints for added reinforcement. The second coat shall be applied after the first coat dries off completely (6-8 hours @25°C, 50% rh). For general protection against carbonation and alkali attacks, the coating can be applied in minimum 1mm thickness.

PROTECTION

Adequate protection needs to be provided for the coating in the following conditions:

- areas subjected to mechanical abrasion
- flowing water areas

Curing

The coating shall be cured immediately after it dries by wet hessian cloth or mist spraying for a minimum period of 72 hours. The coating will achieve its full mechanical properties within 7 days at 25°C and 50% rh.

CLEANING

Clean all tools immediately with water after use. Hardened materials can be removed mechanically only.

COVERAGE

1.8kg per m^2 per coat for 1mm dry film thickness.

STORAGE & SHELF LIFE

Store under cover, out of direct sunlight and protect from extreme temperatures. It is recommended to keep the powder bags on pallets and not stacked on the floor. The shelf life is up to 12 months when stored as per recommendations and in unopened conditions. Failure to comply with the recommendations will result in premature deterioration of the product and reduce its shelf life.

SUPPLY

Polyflex	20kg kit (Part A 15kg bag) (Part B 5L pail, wt 5.0kg#)
Polycrete range	25kg bag
CL 252	100mm x 50m

#Approximate weight

HEALTH & SAFETY

As with all construction chemical products caution should always be exercised. Protective clothing such as gloves and goggles should be worn. Treat any splashes to the skin or eyes with fresh water immediately. Should any of the products be accidentally swallowed, do not induce vomiting, but call for medical assistance immediately.

TECHNICAL SPECIFICATION

PROPERTIES	VALUES	TEST STANDARDS
color	Grey/ off white	-
Mixed density, [g/cc]	1.8±0.02	ASTM D 1475
Pot life, [minutes]	45	-
Tensile strength,# [N/mm^2]	> 8	ASTM D 412
Elongation, [%]	> 50	ASTM D 412
Adhesion strength, [N/mm^2]	> 0.5	ASTM D 4541
Crack bridging, [mm]	> 0.5	ASTM C 836
Hydrostatic pressure @5 bar, [50m]	No leakage	BS EN 12390 (part 8)
Hydrostatic negative pressure@3 bar, [30m]	No leakage	BS EN 12390 [part 8]
Toxicity	Non toxic	BS 6920 [WRAS]
Reaction to fire	Class A	ASTM E 84
Abrasion resistance,# [mg]	< 75	ASTM D 4060
VOC, [g/l]	< 50	ASTM D 3960/ D 2369
Drying time, [hours]	6-8	-
Full cure, [days]	7	-
Service temp, [°C]	-5 to 70	-

All values given are subject to 5-10% tolerance

#Values achieved with fibre mesh reinforcment

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