

EPOSHIELD EPU

Two Part Solvent Free Flexible Epoxy Polyurethane Coating

Description:

EPOSHIELD EPU is a two-component, solvent free, chemical resistant, flexible coating, based on epoxy modified with aliphatic Polyurethane resin. The combination of epoxy and polyurethane resins provide a superior coating system with chemical, abrasion, water proof and corrosion resistance to the surfaces. EPOSHIELD EPU has excellent adhesion to most substrates including concrete, plaster, masonry, and metal surfaces.

EPOSHIELD EPU is applied in two coating with a total of 400 to 500 mic. The applied coat once cured gives a smooth finish that does not support the growth of bacteria with some degree of flexibility and UV resistance. The high gloss finish makes it hygienic and easy to clean.

Uses:

- Water proofing, protective coating for water tanks, ducting, steel pipes, concrete or steel elements.
- Car parks and traffic deck protection system, especially in areas which exhibits some vibration.
- Hard wearing and chemically resistant floor coating in industrial areas.
- Heavy duty protective coating for concrete and steel in oil refineries, paper mills, garages, warehouses, hospitals, factories, hangers, man holes, sewage water tanks and most liquid containment areas with permanent submerged conditions.
- Protection in offshore or marine structure, Intake channels, culverts and canals.
- Sewage & sludge aeration & sedimentation tanks.

Advantages:

- Easy application with brush, roller or spray
- Fast drying chemically cured product.
- Environment friendly, nontoxic, with low odor.

- Solvent free with seamless abrasion resistant finish.
- Long term corrosion protection
- Excellent resistant to underground soil attack
- Acts as impermeable waterproof coating.
- Flexible to be applied where movement is expected.
- UV resistant
- Hygiene coating. Resistance to bacteria growth.
- Self-priming, requires no primer to adhere to substrate.
- Crack bridging ability, can serve as waterproofing membrane in car park systems.
- Chemical resistant to detergents, cleaning materials, brackish water, sewage water and salt water.

Instructions for Use:

Surface Preparation:

All surfaces should be sound, clean, dry and free from loose material, efflorescence, laitance, curing compounds; dirt, oil and grease. Ensure that concrete surfaces are cured for at least 28 days and have moisture content not exceeding 5%. Old or existing floor should be refurbished mechanically to ensure clear sound substrate. Mechanical methods like grinding or grit/captive blasting in order to provide a suitable profiled open textured surface is strongly recommended.

Surface irregularities, cracks and blow holes shall be repaired with LAVAPOXY range of products. Cracks, expansion joint and control joints should be properly addressed, prior to application. After all preparation is complete, ensure dust is removed from the surface using an industrial vacuum. Steel Surfaces should be grit blasted to surface quality SA 2 1/2. Coat the surface before it starts to re-oxidize.

Priming:

Priming is not usually required provided the substrate is sound, untreated, non-porous concrete. Porous surfaces should be primed with ARMOPRIME EP100. A second coat of primer may be required if the substrate is excessively porous.

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ARMOPRIME EP100 should be mixed in the proportions supplied. Add the entire contents of the hardener into the base. When thoroughly mixed, preferably using a slow speed drill and paddle, the primer should be applied in a thin continuous film, using rollers or stiff brushes. The primer should be left to achieve a tack-free condition before applying the top-coat.

Mixing:

EPOSHIELD EPU is supplied in two pre-weighed components kit. Thoroughly stir the contents of the base and hardener separately. Pour component B hardener into the pail of Component A base and mix well with a heavy-duty mixer fitted with a proper paddle operated at low speed till a homogenous mix is reached. Scrape the side of the pail to ensure the entire product has been properly mixed. Leave the mixed material for a period of 2 minutes to release entrapped air from the mix.

Application:

Apply EPOSHIELD EPU uniformly on the surfaces with a roller, trowel, brush or spray machine. It is recommended to apply two coats with a minimum total dry film thickness of 400 micron to achieve the best results of product. Apply a rich coat to the surface in a spread rate of 5 square meters/liter/coat. Second coats can be applied with same rate of application preferably in 90-degree direction.

EPOSHIELD EPU should not be applied on surfaces with a risk of rising dampness and should not be applied at temperature below 5°C. Water test should be executed after 14 days of material application to allow the membrane to be fully cured.

An additional strip of product to be applied around penetrations such as pipes and conduits to ensure proper sealing and waterproofing features.

For park decking system, EPOSHIELD EPU can be applied as a flexible crack bridging wear coat with an anti-slip finish. Broadcast quartz on the first coat while it is still wet and allowed to dry completely. After overnight drying, the excess quartz can be brushed away and the second coat can be applied.

For application on steel surfaces, all surfaces should be grit blasted to meet the requirements of SA 2½, First Quality or equivalent. The lining work should be

programmed so that newly cleaned steel is coated as soon as possible before the formation of rust or scale.

Where areas need to be overcoated it is important that the areas to be treated are well abraded using a wire brush or coarse sand paper to give an adequate key. Strip off any unsound coating and proceed with overcoating as normal.

Hot weather working practices:

Application under hot weather conditions can sometimes be difficult. It is therefore suggested that, for temperatures above 40°C, the following guidelines should be considered.

- Store unmixed materials in a cool, covered warehouse. Avoid exposure to direct sunlight.
- Keep mixing equipment in a cool covered area. It is important to keep cold those surfaces of the equipment which will come into direct contact with the material itself.
- Try to eliminate application in the middle of the day. Working area should be shaded.
- Ensure that sufficient labours are available to complete application within the pot life of the material.

Standards:

- ASTM D1475, ASTM D4541, and ASTM C570, ASTM C413, ASTM D638

Packaging:

EPOSHIELD EPU is available in a set of 4 and 15 liter supplied in metallic dual pack.

Storage:

Store in original packing in dry conditions away from direct sunlight and in a shaded warehouse.

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TECHNICAL PROPERTIES	
Color	Grey. Other colors on request.
Density	1.47 ± 0.03 kg/lit
Solid Contents	100%
Pot life at 25°C	60 minutes
Touch Dry	6 hours
Full Dry	24 hours
Adhesion to concrete	2.0 N/mm ² or concrete failure
Shore A hardness (after 7 days)	38
UV radiation	Good
Tensile strength (after 7 days)	22.0 N / mm ²
Elongation at Break	Approx. 23 %
Service Temperature	-5°C to +90°C
Adhesion to concrete	Concrete Failure
Application Temp.	+5°C to + 40°C
Water penetration	NIL
Chemical Properties	
Hydrochloric Acid (10%)	Resistant
Sulphuric Acid (30%)	Resistant
Nitric Acid (10%)	Resistant
Phosphoric Acid (15%)	Resistant
Sodium Hydroxide (50%)	Resistant
Lactic Acid (50%)	Resistant
Alkali solutions	Resistant
Sea, brackish water	Resistant
Ground Water	Resistant
Tap Water	Resistant
Sewage	Resistant
Oil and grease	Resistant
Detergents	Resistant
Thinners and solvents	Moderate resistance

*Values indicated may vary depending on the environment and conditions of the material. Figures given are tested according to standard laboratory conditions.

Coverage:

EPOSHIELD EPU achieves coverage of 2 square meter/liter @ 500 micron dry film thickness.
*Coverage rate is an approximate value, and subject to actual site conditions.

Shelf Life:

EPOSHIELD EPU can be utilized within 12 months of production date if stored in proper conditions in unopened original packing.

Cleaning:

All tools and equipment should be cleaned immediately after use with ARMOSOLVENT.

Health and Safety:

Avoid contact with eyes and skin. Wear suitable protective clothing such as coveralls, goggles, dust mask and gloves. Use barrier cream. Ensure that there is adequate ventilation. Do not breathe vapour or spray mist.

FIRST AID:

Eyes: In the event of accidental splashes, flush with warm water and seek medical advice.
Skin: Wash skin thoroughly with soap and water
Inhalation: Remove to fresh air, keep patient rested
Ingestion: Do not induce vomiting. Seek immediate medical attention.

For further safety information, please refer to EPOSHIELD EPU Material Safety Data Sheet.

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