

EPOSHIELD SF100

High Build Chemical Resistant Protective Epoxy Coating

Description:

EPOSHIELD SF100 is a high build solvent free highly cross linked, epoxy coating, introduced in dual pack system. It is formulated to provide high mechanical and chemical protection for industrial units and for internal lining of product reinforced concrete and metallic pipes, manholes and waste and sewage tanks.

EPOSHIELD SF100 adheres perfectly to a variety of supports like: concrete, metal, wood and stoneware. It may also be used in conjunction with glass fiber mesh to increase the thickness of the system or to reinforce structures subjected to aggressive chemicals. It is formulated to be applied in one or two coats to achieve a minimum total-dry-film thickness of 500 microns.

Uses:

EPOSHIELD SF100 used as a high build coating in:

- Waste water treatment plants
- Desalination plants
- Food processing plants
- Pumps and paper mills
- Electric power plants
- Chemical manufacturing plant
- Fertilizer/insecticide plants
- Petroleum refineries
- Sewerage system
- Waterpipes – concrete and metallic
- Manholes

Advantages:

- Solvent free coating 100% solid content.
- Excellent mechanical and abrasion resistant.
- Coal tar free, non-toxic.
- Stable color.
- Durable and low maintenance cost.
- Excellent resistance to a range of chemicals.
- Excellent adhesion to substrate.
- Ease of application.

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. In case of application on concrete, ensure that concrete is fully cured. Prepare concrete surface utilizing mechanical preparation method: grinding, captive blasting and sand blasting. If the substrate is restricted to access, utilize preparation by handy mechanical tools.

Perform repairs to cracks, levelling of uneven areas; fill voids by means of epoxy-based repair products. Consult MATEX Technical Department for further advice.

For applications on metal surfaces, surface should be thoroughly cleaned by sand blasting or mechanical wire brush to remove rust, corrosion or any other contamination. After cleaning, epoxy coating must be applied directly to metallic surfaces to prevent further oxidization of surface.

Priming:

EPOSHIELD SF100 is designed to use without primer. However, if the condition of the concrete substrate requires priming, ARMOPRIME EP100 can be used.

Mixing:

Mix the contents of both components separately with a low speed mixer for two minutes to homogenize the contents of the containers. Then slowly add the contents of part B (Hardener) to Part A container and mix the materials thoroughly with low speed mixer (200-300 RPM) for an interval of 3-4 minutes confirming a homogenous, color consistent, lump free mixture is reached.

Note that the mixing process is exothermic (heat generating), if excess heat is noticed, avoid excessive mixing or control the speed of mixing machine.

Application:

After mixing, allow the product to rest for 1-2 minutes to release entrapped air. EPOSHIELD SF100 can be applied by brush, roller or spray machine. Apply the first coat with minimum thickness of 250 microns DFT. Apply subsequent coats of EPOSHIELD SF100 within a time

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frame of 24 hours. The recommended total thickness above 500 micron for full system is required to achieve the desired properties. Allow 7 days curing before usage to ensure proper curing of the materials.

Standards:

- ASTM C579, ASTM C580, ASTM D4060
- BS 6319 Part 3 & Part 7

TECHNICAL PROPERTIES	
Appearance	Liquid coating
Color	Dark grey, grey (other colors upon request)
Density	1.50 ± 0.03 kg/lit
Viscosity at 25°C	2000-2400 cps
Volume Solid	100%
Pot-life time at 25°C	25 minutes
Application Temperature	+5°C to 35°C
Full cure @ 25°C	7 days
Overcoating @ 25°C	<15 hours
Bond strength (ASTM D4541)	>2.5 N / mm ²
Compressive Strength (ASTM C579)	>75 N / mm ²
Flexural Strength (ASTM D580)	>21 N / mm ²
Tensile strength	>6 N / mm ²
Shore A Hardness (ASTM D2240)	>80
Abrasion resistance	<0.10 mg/cycle
VOC	<10 g/Lt.
Service Temperature	+5°C to 80°C

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

Coverage:

EPOSHIELD SF100 achieves coverage of 4.0 square meters per liter @ 250 micron DFT per coat.

*Coverage rate is an approximate value, and subject to actual site conditions.

Packaging:

EPOSHIELD SF100 is available in 4 and 15 liter set of two parts metal containers.

Storage:

Store in original packing in dry conditions away from direct sunlight and in a temperature-controlled warehouse, 10-30°C, in the original, unopened containers.

Shelf Life:

EPOSHIELD SF100 can be utilized within 12 months of production date if stored in proper conditions in an unopened original packing.

CHEMICAL RESISTANCE			
<i>The fully cured coating is resistant to the splash/spillage of the following chemicals:</i>			
Material	Concentration	Material	Concentration
Acetic Acid	25%	Hydrofluoric acid	25%
Ammonia	10%	Jet Fuel	
Ammonium Hydroxide*		Kerosene	
Benzene		Lactic Acid	20%
Bleach (Sodium Hypochlorite)		Mineral Oil	10%
Boric Acid*		Mineral Spirit	
Brine	10%	Nicotinic Acid*	
Butanol		Nitric Acid	30%
Car Oil		Phenol	50% in IPA
Crude Oil		Phosphoric Acid	80%
Castor Oil		Sodium Hydroxide	40%
Citric Acid	50%	Sewage	
Diesel Fuel		Sea Water/Jet Fuel	
Fatty Acids		Sodium Hydroxide*	
Formaldehyde	37%	Sulphuric Acid*	40%
Gasoline		Tartaric acid	50%
Hydrochloric Acid	25%	Toulene	
Hexamine	25%	Vegetables oils	
Hydraoine	35%	Xylene	
*Any concentration in water. The local Matex office should be consulted for resistance to specific chemicals and conditions or when long term exposure is required.			

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Cleaning:

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

Recommendations:

- Do not directly apply over existing coating. EPOSHIELD SF100 is formulated to be applied direct on clear sound concrete or steel.
- Application should not be carried out when humidity exceeds 80% or when the surface temperature to be coated is less than 5°C or more than 40°C.
- EPOSHIELD SF100 should not be applied on to surfaces likely to suffer from rising dampness, potential osmosis problems or have a relative humidity greater than 75%.
- May not be colour stable when in contact with some chemicals or direct sunlight. The colour change will not affect the performance of the protective system either on concrete or steel.

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 SF100 Material Safety Data Sheet.

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