

# 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 reinforced concrete and metallic pipes, manholes and waste and sewage tanks. The material is particularly suitable in wastewater treatment plants, desalination plants, food processing plants, pump and paper mills, electric power plants, chemical manufacturing plants, fertilizer and insecticide plants and petroleum refineries.

EPOSHIELD SF100 adheres perfectly to a variety of supports like: concrete, metal, wood, stoneware and EPS Boards. It may also be used in conjunction with glass fiber cloth 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 at:

- Sewerage systems.
- Water pipes concrete and metallic.
- Manholes.
- Architectural designs

### Advantages:

- Various moulds.
- Solvent free coating 100% solid content.
- Excellent mechanical and abrasion resistant.
- Coal tar free, non-toxic.
- Exhibits excellent chemical resistance in pH ranging from 1-14 at 25°C
- 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, consults 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 thoroughly the materials 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.

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## Application:

After mixing, allow the product to rest for 3-5 minutes to release entrapped air, EPOSHIELD SF100 can be applied by brush, roller or spray machine. Apply the first coat with minimum thickness of 100 microns WFT (wet Apply subsequent coats of EPOSHIELD SF100 within a time 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:

EPOSHIELD SF100 conforms to:

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

## TECHNICAL PROPERTIES

|                       |   |   |
|-----------------------|---|---|
| Color                 | : | Dark grey, grey (other colors upon request) |
| Shore Hardness A      | : | >80   |
| Abrasion resistance   | : | <0.10 mg/cycle                              |
| VOC                   | : | <10 g/Lt.                                   |
| Overcoating           | : | <15 hours @ 25°C                            |
| Fuel cure             | : | 7 days @ 25°C                               |
| Service Temperature   | : | 75°C  |
| Volume Solid          | : | 100%  |
| Density               | : | 1.38 Kg. / Lt.                              |
| Tensile strength      | : | >6 N / mm <sup>2</sup>                      |
| Compressive Strength  | : | >75 N / mm <sup>2</sup>                     |
| Flexural Strength     | : | 21 N / mm <sup>2</sup>                      |
| Bond strength         | : | >2.5 N / mm <sup>2</sup>                    |
| Viscosity at 25°C     | : | 1500 MPa.S                                  |
| Pot-life time at 25°C | : | 40 minutes                                  |
| Heat resistance       | : | +5°C to +90°C                               |

## Packaging:

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

## Coverage:

EPOSHIELD SF100 achieves coverage of 5.0 square meters per liter @ 200 micron DFT per coat.

## CHEMICAL RESISTANCE

*The fully cured coating is resistant to the splash/spillage of the following chemicals:*

| 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    |               |
| Hydroaine                    | 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.

## Shelf Life:

EPOSHIELD SF100 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.

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## Recommendations:

- Do not directly over existing coating. EPOSHIELD SF100 is formulated to be applied direct on clear sand concrete or steel.
- EPOSHIELD SF100 applied coat may be applied when exposed to direct sunlight, however, this does not affect the coating performance.
- 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 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:

- Use goggles and gloves during application. Do not breathe vapor of products. Use only in well ventilated areas.
- Avoid contact with eyes or skin.
- Avoid direct contact with flames and fire.
- Ensure adequate ventilation and avoid inhalation of vapour.
- If working in confined areas, then suitable respiratory equipment must be worn.
- Should accidental skin contact occur, remove immediately with a resin-removing cream, followed by soap and water.
- In case of contact with eyes, rinse immediately with plenty of clean water and seek medical advice.
- If swallowed, seek medical attention immediately – do not induce vomiting.

MATEX Rev.06-0121

This technical data sheet is not considered as local building codes. It shall be used as general reference for the product, based on our current knowledge and experience. However, the company does not accept any liability arising from the use of its products as it has no direct control on how and where the product is applied.

