Shieldprotect ENT

Non-toxic, Solvent-free, Epoxy Protective Coating

TECHNICAL DATA SHEET

Description

Shieldprotect ENT is a non-toxic, two-component, solvent-free epoxy protective coating, formulated to provide a chemical- and abrasion-resistant surface. **Shieldprotect ENT** is supplied as two components and applied at 400 microns total thickness at two coats application.

Uses

- Food and beverage industry, silos, and diaries.
- Where durability and excellent chemical resistance are required.
- Commercial and residential areas and facilities.
- Healthcare and medical facilities.
- Potable water tanks, reservoirs, pipes, and wastewater (sewage) treatment plants.

Characteristics / Advantages

- Solvent-free.
- Easy to apply and maintain.
- Durable and chemical resistant.
- Environmentally friendly.
- Provides a glossy seamless surface that prevents the growth of mold and mildew.
- Can be used in contact with potable water.
- Resistant to scratches, stains, and moisture.
- Versatile, can be used on various substrates, concrete, and metal.

Standard Compliance

Complies with **BS 6920** for use in contact with potable water.

Packaging

Shieldprotect ENT is supplied in 13-L drums.

Shelf Life and Storage

Shieldprotect ENT has a shelf life of 12 months when stored in its original unopened packaging in cool and dry conditions, protected from direct sunlight, heat, and moisture. Shelf life may be reduced if the recommended storage conditions are not followed.

Typical Properties

Mixed Density (23 °C)	1.60 ± 0.1 g/ml
Pot Life	60 – 80 minutes (23 °C) 20 – 30 minutes (40 °C)
Wet Film Thickness	200 microns per coat
Touch Dry	6 – 8 hours (23 °C) 3 – 4 hours (40 °C)
Overcoating Time (23°C)	16 – 24 hours
Full Cure (23°C)	7 days
Compressive Strength (ASTM C579)	≥ 75 MPa @ 7 days
Flexural Strength (ASTM C580)	≥ 35 MPa @ 7 days
Taber Abrasion (ASTM D4060) CS17, 1000 g, 1000 cycles	≤ 90 mg @ 7 days
Bond Strength (ASTM D4541)	≥ 2.0 MPa @ 7 days Concrete Failure
Application Temperature	5 – 35 °C

Application Instructions

1. Surface Preparation

Concrete substrates must be free from dust, grease, loose materials, surface contamination, and any materials that may reduce bond between the coating and the substrate, the substrate should be 28 days old, with a relative humidity of less than 80%. Surface defects such as cracks, blowholes, and voids must be repaired with **Shieldrep ER60**.

Steel substrates should be clean and free from rust, and grit blasted to achieve SA 2.5.

2. Priming

Priming is not normally necessary for sound, non-porous substrates. For porous substrates, it is recommended to consult the Technical Support Department.

3. Mixing

Components A and **B** should be stirred separately before being mixed to eliminate any case of settlement.

Component B (hardener pack) should be added to **Component A** (base pack) and mixed using a low-speed mixing drill for 3 minutes while reaching the walls and bottom of the container until a homogeneous and consistent material is obtained.

Avoid mixing too vigorously to eliminate introducing air bubbles. Once mixed, the material should be used within its specific pot life.

4. Application

Shieldprotect ENT is applied immediately onto the prepared substrate. Apply the first coat at 200 microns WFT evenly using a brush, roller, or airless sprayer and allow to dry before overcoating.

A second coat can be applied once the first coat has achieved a tack-free condition (within the overcoating time), to ensure full coverage and even depth of color.

For spray application, please consult the Technical Support Department for guidance.

5. Cleaning

Clean the tools and any uncured material using a suitable solvent. Hardened material should be removed mechanically.

6. Curing

Allow the final topcoat to cure completely before subjecting the surface to heavy use or traffic.

Coverage

5 m^2 per L @ 200 microns (one coat)

The coverage rate is given for guidance only. The actual rate depends on substrate porosity and roughness.

Safety Instructions

The application should be done in a well-ventilated area with adequate air circulation, away from any heat source, and ensure having gloves, eye protection, masks, and protective clothing.

Avoid contact with the eyes and skin. In case of direct contact with the skin, wash the affected area immediately with water for several minutes. If it comes into contact with the eyes, rinse immediately with lukewarm water for at least 15 minutes and get medical advice or treatment if any emergency warning signs appear. Dispose of any leftover epoxy and waste materials according to local regulations. For further information, refer to the Material Safety Data Sheet.

Chemical Resistance

Citric Acid (25%)	Resistant
Acetic Acid (5%)	Slight softening
Sulfuric Acid (25%)	Resistant with color change
Sulfuric Acid (50%)	Resistant with color change + slight softening
Sodium Hydroxide (50%)	Resistant
Ammonia Solution (10%)	Resistant
Potassium Hydroxide (50%)	Resistant
Hydrochloric Acid (10, 30%)	Resistant with color change + slight softening
Nitric Acid (10%)	Resistant
Nitric Acid (25%)	Resistant with color change + slight softening
Phosphoric Acid (20, 50%)	Resistant with color change + slight softening
Xylene	Resistant
White Spirit	Resistant
Diesel	Resistant
Gasoline	Resistant
Engine Oils	Resistant
Detergents	Resistant

ASTM D1308 / 7 days curing (Spot test @ 1 hour)

Limitations

- Do not apply the product if the ambient temperature is less than 5°C.
- Do not apply **Shieldprotect ENT** on substrates with rising damp.
- Hot weather practices should be adopted during application and curing if the temperature is above 35°C. In hot conditions, store the material in a cool environment 24 hours prior to mixing and application.
- Proper ventilation is essential to ensure a safe working environment.
- Do not change the mixing ratio and ensure fully timed mixing is carried out as detailed to obtain proper performance and curing.
- To ensure uniform color and shade, use material with the same batch number. If using different batch numbers, mix their contents before use.
- Once **Shieldprotect ENT** is mixed, it must be applied within its specific timeframe before it starts to set.
- Avoid disturbing the coated surface during the curing process, to prevent imperfections.
- **Shieldprotect ENT** is designed to be used internally and should not be exposed to direct sunlight or intense UV to avoid discoloration.

Technical Support

Refer to technical information, method statement, or technical support team for any inquiry.

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