

Shieldprotect PU100

Two-component, Aliphatic Acrylic Polyurethane Topcoat



MICSHIELD®

Description

Shieldprotect PU100 is an aliphatic polyurethane topcoat where chemical and UV resistance, toughness, and durability are required. It has excellent resistance to corrosion, chemicals, and abrasion, and is available in a wide range of colors.

Uses

- Suitable for various substrates such as concrete, steel, and Aluminum.
- Aircraft, aerospace, and automotive applications.
- Bridges and highway structures.
- Industrial applications, heavy machinery, pipes, tanks and storage tanks.
- Marine applications.
- Manufacturing plants and facilities.

Characteristics / Advantages

- Easy to use.
- Chemical resistant.
- Flexible and durable.
- Resistant to UV and weathering conditions.
- High gloss finish and color stability.
- Withstands moisture, temperature changes, and harsh weather conditions.

Consumption

Approximately 0.18 – 0.20 kg/m² at 100 microns DFT, but this may vary due to site wastage, substrate condition/profile, and application thickness

Packaging

Shieldprotect PU100 is supplied in 3.6 and 19 kg buckets.

Shelf Life and Storage

Shieldprotect PU100 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

Color	Wide Range
Mixed Density	1.25 – 1.30 g/ml
Solid Content (by vol.)	54 ± 2%
Flash Point	30 °C
Dry Film Thickness	75 – 125 microns
Drying Time (ASTM D5895)	2 – 3 hours
Overcoating Time (ASTM D5895)	6 – 7 hours
Full Cure (25C, 50% RH)	7 days
Tensile Strength (ASTM D412)	≥ 3.5 MPa
Elongation at break (ASTM D412)	≥ 35%
Taber Abrasion (ASTM D4060) 1000 cycles, (CS-10)	≤60 mg
Pencil Hardness (ASTM D 3363)	> 6H
Impact Resistance (ISO 6272-1) (1kg, 1m)	Pass
Scrub Resistance (ASTM D2486) (method A)	> 400 cycles
Adhesion by Pull-off (ASTM D4541)	> 2 MPa
Service Temperature	-30°C to +90°C
Temperature Resistance	Up to 95 °C

Safety Instructions

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. **Shieldprotect PU100** is flammable. Keep away from heat, sparks, open flames, and other ignition sources. Do not smoke during use. Use only in well-ventilated areas. In case of fire, use carbon dioxide, foam, or dry chemical extinguishing media. Do not use a direct water jet. For further information, refer to the Material Safety Data Sheet.



Application Instructions

1. Surface Preparation and Priming

The substrate must be sound and free from dust, loose materials, surface contamination, and materials that may reduce bond or prevent adhesion. Laitance must be removed by grit blasting. Surface defects must be repaired using **Shieldrep ER60**.

Steel surfaces must be prepared to achieve a surface profile SA 2.5. Apply any suitable polyurethane primer to prime and seal the substrate before the application of **Shieldprotect PU100**. Application temperature is 5 – 43 °C, and a maximum humidity of 90%.

2. 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.

3. Application

Shieldprotect PU100 is applied onto the prepared substrate by brush, roller, or airless spray equipment. Use a medium bristle brush or short-nap synthetic roller cover with phenolic core.

If the second coat is required, apply another coat within the overcoating period to enhance adhesion.

4. Cleaning

All mixing and application equipment should be cleaned with a suitable solvent. Hardened material should be mechanically removed.

Limitations

- Do not apply the product if the ambient temperature is less than 5°C.
- Do not apply **Shieldprotect PU100** 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.
- 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 PU100** 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.

Technical Support

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

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