YOUEARTH ENGINEERED PROTECTION

TECHNICAL DATA SHEET

SHIELD PRO 2305

LOW-VOC HIGH-PERFORMANCE EPOXY COATING

85 ± 3% VOLUME SOLIDS | VOC ≤90 g/L | MULTI-FUNCTIONAL PROTECTION

PRODUCT DESCRIPTION

SHIELD PRO 2305 is a two-component, high-solids, low-VOC epoxy protective coating engineered to provide outstanding corrosion protection, waterproofing and long-term durability for steel and concrete structures. With 85 ± 3% volume solids and a declared maximum mixed VOC of 90 g/L, it offers excellent chemical resistance and electrical insulating characteristics for demanding industrial environments. It can be applied directly to suitably prepared steel and concrete without a separate primer, subject to adhesion and service-condition verification.

CHARACTERISTICS / ADVANTAGES

- **High-build protection and chemical resistance:** Forms a protective epoxy film with chemical resistance for demanding industrial applications on prepared steel and concrete.
- **Outstanding corrosion protection:** Provides robust, long-lasting protection against corrosion in demanding industrial environments.
- **High-solids, low-VOC formulation:** 85 ± 3% volume solids and mixed VOC ≤90 g/L for effective protective film build.
- **Direct-to-substrate application:** Can be applied directly to properly prepared steel and concrete without a separate primer, subject to verification.
- **Multi-functional protection:** Combines waterproofing, chemical resistance and electrical insulating characteristics for industrial applications.

RECOMMENDED USES & SUBSTRATES

Indoor industrial facilities, steel structures, concrete structures, power and utility assets, bridges, tanks, marine and water/wastewater infrastructure.

For outdoor exposure where long-term color and gloss retention are required, SHIELD PRO 2306 is recommended as a UV-resistant finish over SHIELD PRO 2305.

Verify substrate preparation, service suitability and indoor ventilation.

PRODUCT INFORMATION

Product type	Two-component, high-solids epoxy protective coating
Finish / color	Gloss / selected colors
Volume solids	85 ± 3% (by volume)
Mixing ratio (A : B)	5 : 1 by weight
Mixed VOC	≤90 g/L (0.75 lb/U.S. gal) (as mixed; declared maximum)
Specific gravity	Part A: 1.3–1.5 | Part B: 1.0–1.2
Viscosity at 25°C (77°F)	Part A: 1,500–2,500 cP | Part B: 50–100 cP
Standard kit	24 kg (52.9 lb): 20 kg (44.1 lb) Part A + 4 kg (8.8 lb) Part B. Total volume: 16 L (4.23 U.S. gal).

FILM THICKNESS & COVERAGE

Recommended system	2 coats; 250 µm (9.84 mils) total dry film thickness (DFT)
Theoretical spreading rate	3.40 m²/L (138.5 sq ft/U.S. gal) at 250 µm (9.84 mils) total DFT (85% volume solids; theoretical, no losses)
Calculated total wet film thickness	Approx. 294 µm (11.57 mils) at 85% volume solids

250 µm (9.84 mils) is the combined DFT of two coats, not the thickness per coat. The theoretical spreading rate excludes application losses. Actual coverage and material consumption depend on substrate condition, application method and jobsite conditions. U.S. equivalents are rounded.

SHIELD PRO 2305 / APPLICATION DATA

SURFACE PREPARATION

Ensure steel or concrete surfaces are sound, dry and free from grease, salts, loose rust, dust and other contaminants. Prepare welds, edges and damaged areas as necessary.

Mechanical surface preparation, such as abrasive blasting or grinding where appropriate, can further enhance adhesion by creating a suitable surface profile.

SHIELD PRO 2305 can be applied directly to properly prepared steel and concrete without a separate primer, subject to adhesion and service-condition verification. Test compatibility before coating existing finishes.

APPLICATION CONDITIONS

Ambient temperature	At least 4°C (39.2°F); 10°C (50°F) or higher preferred
Relative humidity	85% or less
Substrate temperature	At least 3°C (5.4°F) above dew point
Surface temperature	Below 40°C (104°F)
Do not apply	During rain, condensation or adverse moisture conditions

MIXING & APPLICATION

Methods	Brush, roller or spray
Mixing	Premix Part A; add Part B at 5:1 by weight; power-mix approx. 3–4 minutes until uniform.
Coating application	Apply 2 coats to reach 250 µm (9.84 mils) total DFT; verify film build and recoat interval.

DRYING, CURING & RECOATING

Condition	10°C (50°F)	20°C (68°F)	30°C (86°F)
Touch dry	1 day	4 h	2 h
Hard dry	72 h	24 h	12 h
Full cure	5 days	2 days	1 day
Pot life	6 h	3 h	1 h
Minimum recoating interval	1 day	4 h	2 h

Typical guidance only. Times depend on film thickness, ventilation and jobsite conditions. Before recoating, ensure the existing coating surface is clean and suitable for adhesion. Abrade if necessary.

The minimum recoating intervals listed apply to overcoating with SHIELD PRO 2305 or SHIELD PRO 2306.

STORAGE, HANDLING & SAFETY

Shelf life: 12 months in unopened containers stored dry and ventilated at 5–35°C (41–95°F), protected from sunlight and ignition sources. Consult the current SDS for both components for safe handling, protective equipment, transport and disposal.

TECHNICAL NOTICE

Low VOC content alone does not establish indoor air quality or occupational safety. For indoor applications, ensure suitable ventilation, exposure controls and compliance with local requirements. Chemical resistance and electrical insulation suitability should be assessed against the intended service conditions and applicable project requirements.

DEVELOPED & ENGINEERED BY

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