

ELPLUS 853

Marine Anti-Corrosive Primer

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1. Product Overview

ELPLUS 853 is a two-component, high-performance marine-grade anti-corrosive primer, specially designed for underwater hulls exposed to long-term seawater immersion and severe marine environments. Utilizing advanced anti-osmosis barrier technology, it forms a tough, highly dense film with outstanding water and chemical resistance. It provides excellent adhesion to hull steel, blasted steel, and various alloy substrates, effectively preventing galvanic corrosion and creating the most solid first line of defense for marine protection and subsequent antifouling coatings.

2. Core Features

- **Outstanding Seawater Resistance:** Proven by long-term seawater immersion tests, the coating film remains intact without blistering, rusting, peeling, or chalking, providing long-lasting protection.
- **High Volume Solids:** With up to 70% solid content, it features excellent film-forming properties. High film thickness can be achieved in a single coat, effectively reducing the number of coats and labor costs.
- **Strong Anti-Osmosis Barrier:** The dense resin network structure strongly blocks the penetration of chloride ions (Cl^-), moisture, and oxygen from seawater, eradicating the source of steel corrosion.
- **Excellent Adhesion & Recoatability:** Provides superior anchorage to steel, abraded aluminum alloys, and other substrates. It is highly compatible with the ELPLUS series of antifouling coatings.

3. Applications

Vessel Application Areas

- **Underwater Hull:** Specially formulated for long-term immersion zones.
- **Waterline Zone:** Designed to handle the high-stress alternating wet and dry conditions.
- **Exterior Hull:** Provides robust protection for all topside and exterior ship surfaces.

Compatible Vessel Types

- Ocean-going vessels
- Offshore support vessels
- Commercial ships
- Yachts

Marine Engineering Facilities

Suitable for structures in long-term contact with seawater or exposed to high salt-spray environments, including:

- Port Steel Structures: Wharves, piers, and harbor facilities.
- Offshore Drilling Platforms: Oil and gas rigs, and offshore wind foundations.

4. Typical Technical Properties

Properties	Technical Data	Test Method
Appearance	Grey, Red Oxide / Matte	Visual
Solid Content	$\geq 70\%$	ASTM D2697
Mixing Ratio	Base : Hardener = 1 : 1 (by volume)	-
Specific Gravity	1.45 ± 0.05 kg/L (Mixed)	ASTM D1475
VOC Content	≤ 280 g/L	ISO 11890-1
Recommended Film Thickness	Dry Film Thickness (DFT): 100 - 150 μm Wet Film Thickness (WFT): 143 - 214 μm	ISO 2808
Flash Point	$> 25^{\circ}\text{C}$	ASTM D3278

5. Application & Drying Data

- **Mixing & Thinning:** Before application, thoroughly stir the Base component. Slowly add the Hardener according to the specified ratio and mix uniformly using a mechanical power agitator. Thinning is generally not required; however, if necessary to adjust application viscosity, add no more than 5% of ELPLUS Thinner.
- **Pot Life:** Approximately 4 hours at 23°C (Pot life decreases as temperature rises. Use the mixed paint as soon as possible).

Drying & Recoating Times:

Substrate Temperature	10°C	23°C	35°C
Touch Dry	4 Hours	2 Hours	1 Hour
Hard Dry	24 Hours	12 Hours	8 Hours
Minimum Recoat Interval	24 Hours	12 Hours	8 Hours
Maximum Recoat Interval	21 Days	14 Days	7 Days
Full Cure	14 Days	7 Days	5 Days

6. Surface Preparation

- **New Steel / Hull Steel Replacement:** Must be abrasive blasted to ISO 8501-1 Sa 2.5 (or SSPC-SP10). The surface profile should be between 40 - 75 μm . Prior to application, the surface must be clean, dry, and free of salt, oil, and grease.
- **Maintenance & Spot Repair:** For rusted areas, use power tools to clean to ISO 8501-1 St 3. If the existing coating is structurally sound, the surface must be high-pressure freshwater washed, degreased, and thoroughly abraded to ensure proper adhesion.

7. Application Instructions

- **Airless Spray:** Recommended method. Tip size recommendation: 0.019" - 0.023". Output pressure should be no less than 15 MPa (150 bar).
- **Conventional Spray:** Can be used, but thinning ratio may need to be adjusted to achieve atomization.
- **Brush / Roller:** Recommended only for small area repairs, stripe coating, or edge application. It may be difficult to achieve the specified film thickness in a single coat.

8. Packaging, Storage & Shelf Life

- **Packaging:** 40 Liters set (Base: 20 Liters + Hardener: 20 Liters).
- **Storage Conditions:** Store in a cool, dry, and well-ventilated warehouse. Keep away from heat, sparks, open flames, and direct sunlight.
- **Shelf Life:** 24 months for both Base and Hardener from the date of manufacture when stored in original, unopened containers under standard storage conditions.

Disclaimer:

The information, data, and recommendations contained in this Technical Data Sheet (TDS) are based on laboratory testing and practical experience accumulated by ELPLUS Enterprise Inc. under standard conditions. However, since the actual application conditions (such as temperature, humidity, wind speed), surface preparation, application skills, and mixing uniformity are beyond our control, this information is provided for reference only and does not constitute a legal guarantee of final coating performance. Users should conduct preliminary adaptability tests for specific application conditions. We reserve the right to alter the given data without notice.

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