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Acrylic Silane Ultra-Smooth Self-Polishing Antifouling Paint (M)(Single-Component) (Deep Red)

ZPG-FW06

Technical Data Sheet（TDS）

Anti-Corrosion Light Grey Primer

Product Number： ZPG-FWO6

Product Type：Acrylic Silane Ultra-Smooth Self-Polishing Antifouling Paint (M)(Single-Component) (Deep Red)

1.Product Description

This product is a high-performance acrylic silane self-polishing antifouling coating, formulated with advanced hydrolyzable silane-acrylic resin and efficient eco-friendly antifouling agents. The coating is ultra-smooth and can continuously self-polish in seawater, effectively preventing marine organism attachment, reducing hull resistance, and lowering fuel consumption. It is suitable for antifouling protection of the bottoms of various types of vessels.

2. Main Applications

- Long-term antifouling protection for ship hull bottoms (flat bottom, bow, stern, etc.)
- Suitable for antifouling systems of newbuild vessels and dry-docking refurbishment of in-service ships
- Antifouling coatings for yachts, workboats, commercial vessels, and naval ships

3.Key Performance Features

- Ultra-smooth surface: the coating is highly smooth, reducing hull frictional resistance and improving energy efficiency and fuel savings
- Self-polishing property: continuously hydrolyzes and renews in seawater, maintaining long-term antifouling activity
- Long-lasting antifouling performance: effective and eco-friendly biocides provide excellent resistance against barnacles, algae, and shell organisms
- Wide application window: single-component system, easy application, fast drying, and flexible recoating intervals
- Environmentally compliant: complies with IMO (International Maritime Organization) Antifouling Convention and contains no traditional organotin compounds

Technical Parameters：

Item	Specification	Test Standard/Method
Color	Deep red	Visual comparison
Gloss (60°)	Matte (≤30 GU)	ASTM D523
Volume solids	60% ± 2%	ISO 3233
Density	Approx. 1.35 kg/L	ASTM D1475
Mixing ratio	Single-component, ready to use after thorough stirring	—
Typical dry film thickness	100–150 μm (per coat)	—
Theoretical coverage (at 125 μm DFT)	Approx. 4.5 m²/kg	—
VOC content	≤400 g/L	EPA Method 24
Flash point	≥28°C	ISO 3679 / ASTM D93
Drying time (25°C, 50% RH)	Touch dry: ≤2 h; Hard dry: ≤24 h; Fully cured: 7 days	ASTM D1640
Minimum recoating interval (25°C)	5 hours	ASTM D1640
Maximum recoating interval (25°C)	Unlimited (after surface cleaning)	—

4.Recommended Coating System

• Primer: Epoxy zinc-rich primer / epoxy aluminum-pigment iron oxide anti-corrosive paint / general modified epoxy grey anti-rust paint (e.g., HY-CB7002/7003)
• Intermediate coat: Epoxy micaceous iron oxide (MIO) intermediate coat / epoxy tie coat (e.g., HY-CB04)
• Antifouling coat: This product ZPG-FW06 Acrylic Silane Ultra-Smooth Self-Polishing Antifouling Paint (M) (Deep Red)
● Typical dry film thickness system (newbuild vessels):
Anti-corrosive primer: 80–120 μm + tie coat: 50–70 μm + antifouling coating: 150–200 μm (2 coats)

5.Surface Preparation

. **Steel Substrate:**
Abrasive blasting to Sa 2 grade or manual cleaning to St 2 grade. The surface must be clean, dry, and free from oil and rust.

. **Previous Coating:**
Ensure the primer is completely dry and the surface is clean and dry.

6.Application Guidelines

Item	Requirement
Mixing	Use a power mixer to stir the paint thoroughly. No curing agent is required. If thinning is needed, use the dedicated thinner.
Pot life	Not applicable
Thinner	Acrylic silane dedicated thinner (recommended: ZPG-T01)
Thinning ratio (by volume of paint)	Airless spray: 20–30%; Air spray: 40–50%; Brush/roller: 0–10%
Airless spray	Nozzle size 0.48–0.58 mm, pressure 15–20 MPa; continuous agitation recommended
Air spray	Nozzle size 1.5–2.0 mm, pressure 0.4–0.6 MPa
Brush/roller	Only for small-area repair; ensure required dry film thickness is achieved

7.Safety and Precautions

This product contains organic solvents. Ensure good ventilation during application and wear protective gloves, safety goggles, and a respirator.
Avoid direct skin contact and inhalation of vapors. In case of accidental contact, rinse immediately with plenty of water; seek medical attention if necessary.
Keep away from open flames, heat sources, and sparks during storage and use.
Do not contaminate with water or oily impurities. Keep the container tightly sealed after use.
Do not apply when the ambient temperature is below 5°C or relative humidity is above 85%.
Ensure the antifouling coating is fully dry before immersion (typically more than 24 hours).
Dispose of empty containers and residues in accordance with local environmental regulations.

8.Packaging, Storage and Shelf Life

• Packaging specification: 20 kg per drum (approx. 14.8 L, calculated based on density 1.35)
• Storage conditions: Store in a cool, dry, and well-ventilated place. Keep away from ignition sources and oxidizing agents. Avoid direct sunlight. Storage temperature: 5–35°C
● Shelf life: 12 months (unopened)

Disclaimer:
All information provided in this Technical Data Sheet is based on our typical test data and experience. Actual performance may vary depending on application conditions, substrate preparation, and application methods. It is recommended to conduct a small-scale trial or consult our technical personnel before use. We reserve the right to modify the technical data without prior notice.

Technical Data Sheet
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