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Two-Component General Modified Epoxy Grey Anti-Corrosion Paint (HY-CB7003) Technical Data Sheet（TDS）

Two-Component General Modified Epoxy Grey Anti-Corrosion Paint

Product Number：HY-CB7003

Product Type：Two-Component General Modified Epoxy Anti-Corrosion Paint

1. Product Description

This product is a high-performance, two-component, general-purpose modified epoxy anti-corrosion paint. It is formulated with modified epoxy resin as the base, combined with gray anti-corrosion pigments and special additives. After curing, the coating exhibits excellent rust resistance, salt spray resistance, water resistance, and adhesion. It is highly versatile and suitable for long-term anti-corrosion priming and refurbishment of ships and marine facilities.

2. Main Applications

· Anti-corrosion primer coating for newly built and refurbished ships, including hulls, ballast tanks, decks, and outfitting components.
· Primer protection in heavy-duty anti-corrosion applications such as offshore platforms, docks, and port facilities.
· Anti-corrosion primer for steel surfaces of structures, storage tanks, bridges, and pipelines.

3. Key Performance Features

· Excellent Anti-Corrosion Performance: Gray anti-rust pigments provide good physical shielding and chemical corrosion resistance.
· Good Salt Spray Resistance: The cured coating offers strong resistance against corrosive agents such as chloride ions, making it suitable for marine environments.
· Strong Adhesion: Exhibits excellent adhesion to steel and properly prepared old coatings, especially suitable for renovation projects.
· Good Water Resistance: Once cured, the coating is dense and resistant to both freshwater and seawater immersion.
· High Versatility: Compatible with epoxy intermediate coatings and polyurethane topcoats, making application convenient.
· Environmentally Compliant: Low VOC content, meeting national environmental protection standards.

Technical Parameters：

Item	Specification	Test Standard/Method
Color	Gray	Visual Comparison
Gloss (60°)	Semi-gloss (≤40 GU)	ASTM D523
Volume Solids	65% ± 2%	ISO 3233
Density (mixed)	Approx. 1.50 kg/L	ASTM D1475
Mixing Ratio (by weight)	Base : Curing Agent = 8:1	Internal Method
Typical Dry Film Thickness	80–120 μm	—
Theoretical Coverage (calculated at 100 μm DFT)	Approx. 5.5 m²/kg	—
VOC Content	≤300 g/L	EPA Method 24
Flash Point	≥25°C	ISO 3679 / ASTM D93
Drying Time (25°C, 50% RH)	Touch dry: ≤2 h; Hard dry: ≤24 h; Full cure: 7 days	ASTM D1640
Recoat Interval (25°C)	Minimum: 4 h; Maximum: 7 days	ASTM D1640

4. Recommended Coating System

- **Primer:** This product, HY-CB7003, is a universal modified epoxy gray anti-rust primer.
- **Intermediate Coat:** Epoxy micaceous iron oxide intermediate coating (e.g., HY-01G).
- **Topcoat:** Acrylic polyurethane, polyurethane, or fluorocarbon topcoat.
- Typical Film Thickness System (New-Build Ships):
- **Primer:** 80–120 μm
- **Intermediate coat:** 100–150 μm
- **Topcoat:** 60–80 μm
- **Refurbishment/Refit Applications:**
- Prepare the existing coating by roughening or sanding.
- Apply the primer at 80–100 μm, followed by the appropriate intermediate coat and topcoat.

5.Surface Preparation

Item	Requirements
Degreasing	Thoroughly remove oils, grease, and dust from the substrate using a dedicated cleaning agent or solvent, then rinse with clean water.
Rust Removal (New Steel)	Perform abrasive blasting to Sa2.5 (ISO 8501-1), achieving a surface roughness of 30–75 μm.
Refurbishment of Existing Coatings	For firmly adhering old coatings, perform high-pressure freshwater washing and sanding/roughening. Remove any loose coating and contaminants. The surface must be dry and free of oil.
Surface Condition	Clean, dry, free of oil, loose rust, dust, and salts.
Note	Substrate temperature should be at least 3°C above the dew point, and not lower than 5°C.

6.Application Guidelines

Item	Requirements
Mixing	Use a mechanical stirrer to thoroughly mix the Base (Part A). Add the Curing Agent (Part B) according to the specified ratio, and stir thoroughly until homogeneous. Allow the mixture to mature for 5–10 minutes before use.
Pot Life (25°C)	4 hours
Thinner	Epoxy-specific thinner (recommended: HY-301X)
Thinning Ratio (by volume of mixed paint)	Airless spray: 5–15% Air spray: 10–20% Brush/Roller: 0–10%
Airless Spray	Nozzle size: 0.43–0.53 mm; Pressure: 15–17 MPa
Air Spray	Nozzle size: 1.0–1.5 mm; Pressure: 0.3–0.5 MPa
Brush/Roller	Suitable for small-area touch-ups and edges. Ensure even application to avoid missed spots.

7.Safety and Precautions

· This product contains organic solvents. Ensure good ventilation during application and wear appropriate personal protective equipment such as safety goggles, respirators, and protective gloves.
· If the coating surface becomes contaminated with oil, water, or dust, remove the contamination using a stiff brush or light abrasion, then clean thoroughly.
· When refurbishing old coatings, adhesion testing should be carried out first to confirm compatibility between the primer and the existing coating before large-scale application.
· Application conditions: temperature above 5°C, relative humidity below 85%, and substrate temperature at least 3°C above the dew point.
· Avoid application under high temperatures, direct sunlight, or strong wind conditions, as rapid solvent evaporation may affect leveling and adhesion.
· Before the maximum recoating interval is exceeded, the coating surface should be roughened to ensure proper intercoat adhesion.
· Clean tools and equipment immediately after use with the recommended thinner.

8.Packaging, Storage and Shelf Life

· **Packaging:**
Base (Part A): 24 kg per drum (approx. 16.0 L)
Curing Agent (Part B): 3 kg per drum (approx. 2.1 L)
(Calculated based on density 1.45, corresponding to the 8:1 mixing ratio)
· **Storage Conditions:** Store in a cool, dry, and well-ventilated place. Keep away from fire and heat sources. 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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