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High-Performance Weather-Resistant Acrylic Topcoat (BXS-RAL9003)
Technical Data Sheet（TDS）

Two-Component Epoxy Tie-Coat
Product Number：HY-CB04
Product Type：Single-Component Bitumen Coating

1. Product Description

This product is a two-component high-performance acrylic polyurethane topcoat, formulated with hydroxyl acrylic resin as the base, combined with an aliphatic isocyanate curing agent and carefully selected pigments with excellent weather resistance. It features outstanding weatherability, color and gloss retention, chemical resistance, and decorative appearance, making it suitable for protective and decorative coating of steel structures and equipment in highly corrosive environments.

2. Main Applications

Special-purpose containers, special cargo containers, logistics boxes, energy storage boxes, machinery exterior decoration, outdoor lightweight steel structures, precision machinery, and instrument/equipment enclosures.
Truck bodies, metal component protection, and general industrial coatings.
Can be used as a topcoat in heavy-duty anti-corrosion coating systems.

3. Key Performance Features

- **Excellent Weather Resistance:** Outstanding UV resistance; long-term outdoor exposure does not cause chalking or color fading.
- **Gloss and Color Retention:** Coating maintains long-lasting gloss and vibrant color, providing excellent decorative effect.
- **Chemical Resistance:** Resistant to oils, solvents, and acidic/alkaline media.
- **High Hardness and Wear Resistance:** Tough coating film with excellent scratch resistance.
- **Good Compatibility:** Can be used in combination with various epoxy primers and intermediate coats.

Technical Parameters：

Item	Specification	Test Standard/Method
Color	Light Gray (RAL7035)	Visual Comparison (RAL Color Card)
Gloss	High Gloss / Semi-Matte / Matte (customizable)	GB/T 9754
Volume Solids	60% ± 2%	ISO 3233 / GB/T 9272
Density	Approx. 1.20 kg/L	ASTM D1475 / GB/T 6750
Mixing Ratio (by weight)	Base : Curing Agent = 4.5:1	Internal Method
Typical Dry Film Thickness	40–60 μm	—
Theoretical Coverage	Approx. 10.4 m²/kg (calculated at 50 μm DFT)	—
VOC Content	≤380 g/L	EPA Method 24 / ISO 11890-2
Flash Point	>25°C	ISO 3679 Method A / ASTM D93
Drying Time (25°C, 50% RH)	Touch dry: ≤30 min; Hard dry: ≤12 h; Full cure: 7 days	ASTM D1640 / GB/T 1728
Recoat Interval (25°C)	Minimum: 30 min; Maximum: unlimited	ASTM D1640

4. Recommended Coating System

- **Primer:** Zinc-coated steel primer **HY-8003** / Light gray anti-rust primer **FS-6109Q** / Zinc-rich epoxy primer **60 YH-8002**
- **Intermediate Coat:** Epoxy micaceous iron oxide intermediate coat **HY-01G** (optional)
- **Topcoat:** Two-component polyurethane topcoat **JAZ-RAL7035**
- **Recommended Total Dry Film Thickness:**
    - Primer: 40–80 μm
    - Intermediate Coat: 80–120 μm
    - Topcoat: 50–70 μm

5.Surface Preparation

- **Previous Coating:** Ensure that the primer/intermediate coat is fully dry. The surface must be clean, dry, and free of oil, grease, and dust.
- **Direct Application on Steel:** Perform abrasive blasting to **Sa 2½ (ISO 8501-1)**, achieving a surface roughness of **40–75 μm**.

6.Application Guidelines

Item	Requirements
Mixing	Stir the Base Coat thoroughly before use. Add the Curing Agent according to the specified ratio (Base : Curing Agent = 4.5:1), and stir thoroughly until homogeneous. Allow the mixture to mature for 10–15 minutes before application.
Pot Life (25°C)	4 hours (do not use after gelling)
Thinner	Polyurethane-specific thinner (recommended: T-300)
Thinning Ratio	Airless spray: 20–30%
Brush/Roller: 0–10%	
Airless Spray	Nozzle size: 0.33–0.43 mm; Pressure: 12–18 MPa
Brush/Roller	Suitable for small-area touch-ups and edges. Ensure even application to avoid missed spots.

7.Safety and Precautions

· Ensure that the previous coating is fully dry and the surface is clean before application.
· Application environment: Temperature above 8°C, relative humidity below 75%, and substrate temperature at least 3°C above the dew point.
· Avoid outdoor application during rain, snow, heavy fog, or strong winds.
· Ventilation and personal protection: This product contains organic solvents; ensure adequate ventilation and wear appropriate protective equipment during application.
· Two-component products must be mixed immediately before use and applied within the specified pot life.
· Curing agent is moisture-sensitive; seal and store immediately after use.

8.Packaging, Storage and Shelf Life

- **Packaging:**
  - **Base (Part A):** 20 kg per drum (approx. 16.6 L)
  - **Curing Agent (Part B):** 4.5 kg per drum (approx. 3.9 L)
- **Storage Conditions:** Store in a cool, dry, and well-ventilated place. Keep away from fire sources.
- **Shelf Life:** 12 months (unopened, stored in original packaging at 5–35°C)
- **Note:** Volume conversion is based on a density of 1.15 kg/L:
  - Base: 20 kg ÷ 1.15 ≈ 17.4 L
  - Curing Agent: 4.5 kg ÷ 1.15 ≈ 3.9 L
    Actual volume may vary slightly due to temperature and other factors.

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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