

# 005-601

## 005 Electricity-Free Cooling Coating

### Product Introduction

005 Electricity-free Cooling Coating is a high-tech functional coating based on thermodynamic and optical principles. It achieves zero-energy consumption cooling by reflecting solar radiation and emitting heat through the atmospheric window band. It can be applied to building exteriors, oil storage tanks, grain storage tanks, power equipment, industrial plants, and other scenarios.

### Product Parameters

- **Appearance:** White viscous liquid, visual inspection
- **Viscosity:** 90~110 KU, GB/T 9269-2009
- **pH Value:** 7~10, GB/T 1717-2022
- **Relative Density:** 1.4~1.7, GB/T 6750-2019
- **VOC Content:** <80g/L, GB 30981.1-2025

### Key Features

- **High-Efficiency Insulation:** Achieves passive cooling through high solar reflectance and atmospheric window emissivity, reducing surface temperature by over 30°C and lowering energy consumption by over 30%.
- **Weather Resistance & Durability:** Excellent resistance to UV aging, water, and alkali.
- **Easy Application:** Can be applied by spraying, roller coating, etc., convenient construction.
- **Environmental Safety:** Water-based system, low VOC content, free of heavy metals.

### Construction Guide

- **Surface Preparation:** Treat substrate to remove dust, rust, oil, and other contaminants.
- **Viscosity Adjustment:** Add 0-5% tap water to achieve workable viscosity. Stir thoroughly and let rest for 10-15 mins before use.
- **Primer Application:** Apply 1-2 coats. Theoretical Spreading Rate: ~3m<sup>2</sup>/kg (Dry Film: 90±10µm).
- **Recoating Interval:** Same paint: ≥2h. Primer/Topcoat: ≥12h (at 25°C, 50%RH; extend under low-temp/high-humidity).
- **Topcoat Application:** Apply 1-2 coats. Theoretical Spreading Rate: ~3m<sup>2</sup>/kg (Dry Film: 110±10µm).
- **Note:** This section is a summary. For detailed steps, please refer to the "005 Electricity-free Cooling Coating Construction Guide."

### Dry Film Performance

- **Solar Reflectance:** ≥95%, T/CECS 10378-2024
- **Atmospheric Window Emissivity:** ≥95%, T/CECS 10378-2024
- **Adhesion:** Grade 0, GB/T 9286-2021
- **Water Resistance:** ≥168h, GB/T 1733-1993
- **Alkali Resistance:** ≥48h, GB/T 9265-2009
- **Artificial Weathering Resistance:** ≥1000h, GB/T 1865-2023

### Health, Safety and Environment (HSE)

- **Construction Protection:** Wear protective glasses, gloves, and masks during construction. Ensure good ventilation on site.
- **Fire Safety:** This product is a water-based coating, non-flammable.
- **Waste Disposal:** Collect waste generated during construction (e.g., paint residue, empty drums) and entrust it to a qualified disposal unit for treatment in accordance with local environmental regulations.

### Packaging & Storage

- **Packaging:** 5kg, 20kg, 25kg, or 30kg.
- **Storage:** Store in a cool, dry place at 5°C - 35°C.
- **Shelf Life:** 24 months (in original sealed container).

### Attention

- This technical data is based on our current knowledge and experience and is reliable. However, due to complex and variable application conditions, the user is responsible for testing and confirming the product's suitability before use.
- We assume no legal liability arising from this information.
- Product specifications are subject to change without notice.
- In the event of any inconsistency or discrepancy between the English and Chinese versions, the Chinese version shall prevail.

