



PasteCool® Coolcoat Pro Inorganic Radiative Cooling Topcoat

Product Overview

This product is an inorganic silicate functional coating developed based on advanced materials science and thermal radiation principles. It does not require additional electricity or refrigerants. By leveraging its unique material structure and optical properties, it efficiently reflects sunlight and dissipates surface heat as infrared radiation into outer space. The porous nanostructure of the inorganic radiative cooling topcoat enables more efficient cooling, providing an energy-efficient and environmentally friendly temperature control solution for buildings, industrial facilities, cold chain transportation, and other fields.

Product Features

1. **Efficient Cooling:** Significantly reduces surface temperature, with surface temperatures 3~10 °C below ambient in summer.
2. **Superior Weather Resistance:** UV-resistant, excellent anti-yellowing properties, maintains cooling effect for over 20 years outdoors.
3. **Eco-friendly:** Free of biocides, odorless, and free of heavy metals.
4. **Low Carbon Emissions:** No electricity consumption, reduces greenhouse gas emissions, aligns with global low-carbon development.
5. **Easy Application:** Can be applied by brushing, spraying, or rolling.

Scope of Application

Widely applicable in building energy efficiency, communication data centers, grain storage, petrochemical storage tanks, power equipment, cold chain

logistics, and new energy sectors where cooling and energy savings are required.

Technical Parameters

Parameter	Standard Requirement	Product Performance
Solar Reflectance	T/CECS 10378-2024 ≥0.92	~0.96
Atmospheric Window Emissivity	T/CECS 10378-2024 ≥0.92	~0.96
Net Radiative Cooling Power	QB/T 5970-2023 ≥ 20 W/m ²	108 W/m ²

Application Guidelines

1. Surface Preparation: Remove dust, oil, and loose particles from the surface. Rinse with water and allow to dry naturally. Repair cracks and holes with cement mortar and sand smooth.
2. Application Methods: Rolling, brushing, or airless spraying. Stir the paint thoroughly before application and apply immediately after mixing.
3. Coating System and Number of Coats:

Coating Step	Coating Name	Number of Coats	Paint Consumption (m²/KG per coat)
Primer	PasteCool® Coolguard Pro Inorganic Radiative Cooling Primer	2	6-8
Topcoat	PasteCool® Coolcoat Pro Inorganic Radiative Cooling Topcoat	1	5-7
Topcoat	FSK900 Water-based	1	10~12

Varnish	Fluorosilicone Waterproofing Agent		
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4. Cleaning: Clean all tools with water promptly during pauses or after application.
5. Application Conditions: Avoid application in humid or cold weather (temperature below 5 °C or above 35 °C, relative humidity above 85%), as it may affect the coating performance. Ensure proper drying time between coats. Applying the next coat too soon may cause slow drying, wrinkling, bubbling, and poor water resistance and adhesion.

Precautions

Wear protective gloves, masks, and goggles during application. Avoid skin and eye contact. In case of contact, rinse immediately with plenty of water and seek medical attention if necessary.

Packaging and Storage

Available in 10 L and 18 L containers. Store in a cool, dry, and well-ventilated place at 5~35 °C, away from direct sunlight and freezing temperatures. Seal tightly to prevent moisture loss. Shelf life: 12 months from the production date.