



# PasteCool® Coolcoat Organic Radiative Cooling Topcoat

## Product Overview

This product is an innovative 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, providing an energy-efficient and environmentally friendly temperature control solution for buildings, industrial facilities, and cold chain transportation.

## Product Features

1. Efficient Cooling: Significantly reduces surface temperature, with surface temperatures 3~8 °C below ambient in summer.
2. Energy Saving: No electricity consumption, reduces greenhouse gas emissions, aligns with global low-carbon development.
3. Excellent Weather Resistance: UV-resistant, excellent anti-yellowing properties, maintains cooling effect for over 10 years outdoors.
4. Easy Application: Can be applied by brushing, spraying, or rolling.

## Scope of Application

When used in combination with PasteCool® Coolcoat radiative cooling topcoat and PasteCool® Protector cooling topcoat varnish or water-based fluorosilicone waterproofing agent, it is widely applicable in energy-saving applications such as building energy efficiency, communication data centers,

grain storage, petrochemical storage tanks, power equipment, cold chain logistics, and new energy sectors where cooling and energy efficiency are required.

### **Technical Parameters**

| <b>Parameter</b>              | <b>Standard Requirement</b>             | <b>Product Performance</b> |
|-------------------------------|-----------------------------------------|----------------------------|
| Solar Reflectance             | T/CECS 10378-2024<br>≥0.92              | ~0.95                      |
| Atmospheric Window Emissivity | T/CECS 10378-2024<br>≥0.92              | ~0.95                      |
| Net Radiative Cooling Power   | QB/T 5970-2023<br>≥ 20 W/m <sup>2</sup> | 97 W/m <sup>2</sup>        |

### **Application Guidelines**

1. Substrate Preparation: Remove surface dust, oil, and loose materials. Rinse with water and allow to dry naturally. Repair cracks and holes with cement mortar, then sand the surface to achieve a rough texture.
2. Application Methods: Application Methods: Rolling, brushing, or airless spraying. Stir thoroughly before application.
3. Coating System and Number of Coats

| <b>Coating Step</b> | <b>Coating Name</b>                                                   | <b>Number of Coats</b> | <b>Paint Consumption (m<sup>2</sup>/KG per coat)</b> |
|---------------------|-----------------------------------------------------------------------|------------------------|------------------------------------------------------|
| Primer              | PasteCool® Coolguard Radiative Cooling Primer                         | 2                      | 6-8                                                  |
| Topcoat             | PasteCool® Coolcoat Radiative Cooling Topcoat                         | 1                      | 6-8                                                  |
| Topcoat Varnish     | PasteCool® Protector Radiative Cooling Topcoat Varnish (Film-forming) | 1                      | 10~12                                                |

|  |                                                                          |   |       |
|--|--------------------------------------------------------------------------|---|-------|
|  | FSK900 Water-based Fluorosilicone Waterproofing Agent (Non-film-forming) | 1 | 16~20 |
|--|--------------------------------------------------------------------------|---|-------|

Note: The topcoat varnish can be chosen as either film-forming or non-film-forming. The film-forming type offers better anti-fouling properties, while the non-film-forming type provides better anti-yellowing performance.

4. Cleaning: Clean all tools with water immediately after pauses or completion of coating.
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.