



Graphene

Graphene modified heat dispersion coatings

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Graphene modified heat dispersion coatings

【Product Definition】

This product is a graphene modified titanium nano-polymer alloy coating developed specially for industrial heat exchangers and radiators. The thermal conductivity and corrosion resistance of coatings are greatly improved due to the presence of graphene materials. This advanced coating is a new type of high efficiency, energy saving and anti-corrosion coating material.

【Product Specifications】 TCC-GPT-C4445 (A/B)

【Applications】

Possible applications for this product include:

1. As a composite coating that can be used to protect the heat exchanger in the harsh corrosive environment
2. Protecting tanks and pipes in high temperature and acidity environments (<250°C) to prevent corrosion

【Specifications】

Variables	Characteristics
Color and Appearance	Black
Glossiness	Glossy
Solidity \geq	56
Viscosity \geq	105
Adhesion Class \leq	1
Hardness \geq	4
flexibility, mm	1
Abrasive Resistance*, g	There was no mass change before and after the experiment.
Thermal Conductivity, W/m K	25
Fouling Factor*, $m^2\text{C}/W$	0.008
Contact Angle, (°)	90
Oil Resistance, 30D	No Change
Heat Resistance, 200-250°C/24h	No Change
Acid Resistance, 30% H ₂ SO ₄ , 30D	No Change
Alkali Resistance, 30% NaOH, 30D	No Change

* Inspection report data from the Beijing Sinochem Inspection Center

【Coating thickness】

Dry coat (μm)	40
Wet coat (μm)	60
Estimated Coverage (m ² /kg)	4

【Surfacing】

All surfaces should be clean, dry, and free of dirt in accordance with ISO 8504 standards

On a Bare steel surface:

Cleanliness: Sandblast clean the area to Sa 2.5 grade (ISO 8501-1: 200)

Roughness: Maintain a surface roughness according to ISO 8503-2 standards with a surface roughness of around 30-70μm,Ry5.

【Application Instructions】

The temperature of the base material should not be lower than 5℃, and at least 3℃ higher than the local dew point temperature. Measurement of the humidity and temperature should be taken near the bottom of the operation point.

【Parameters】

Mixing ratios for primer and finish are as follows:

Note: the blending ratio may vary with the ratio of the labels of the factory packages.

Mixing: before using, completely mix 4 parts of component A (paint) and 1 part curing agent evenly

Curing time: 15 minutes.

Primer/Finish (4 to 1)

【Method】

When using the paint, add thinner according to the dilution ratio, stir evenly, then use a mesh cloth, brush, or painter apply paint.

Spray method: High pressure airless spraying is recommended for pre coating and small area coating, but the required dry film thickness (composite coating) must reach (180 + 20 μm).

Dilution: The diluent can be used to adjust viscosity according to your specifications.

Dilution Amount: 10:1 or 10:1.5 for both primer or finish

【Drying】

Factors such as ventilation condition, ambient temperature, film thickness and coating path will affect the coating drying time accordingly. The typical data listed in the following table are based on the following conditions:

- * Good ventilation (outdoor or air natural circulation)
- * Typical thickness
- * Single coating on inert substrate
- * Relative humidity of 70%
 - The substrate temperature: ≥25℃
 - Surface drying time: 25, 1H

- Curing drying: 25°C, 8h
- Drying time: 120 C, 20min

Note:

1. The degree of coating cure can be tested by butanone MEK detection (ASTMD 4752-87) method.
2. Before construction, zinc salt and other pollutants should be removed from the base surface.

【Storage and Transportation】

The storage environment of this product should be dry, cool and ventilated, and avoids sources of heat and fire. The packing container should be kept closed. The effective storage period is one year. If the storage period exceeds the storage period, the tank should be re-inspected to confirm whether it can continue to be used. Handling should be handled carefully. Stir well before use.



Before



After

