Reveal Insulate TC

PRODUCT DESCRIPTION

Reveal Insulate TC is a series of insulating powder coatings with excellent thermal conductivity properties specially designed to meet stringent requirements of EV battery and energy storage industry. It also provides safe and reliable solution with electrical insulation resistance, voltage resistance, heat resistance and moisture resistance properties.

The product is also tested in accordance with UL 94 requirements for flame retardant properties.

Application areas

Typical application areas:
EV batteries cooling system including:
Cooling plate
Cooling tube
Other equipments/parts with requirements on insulation properties

POWDER PROPERTIES

Property	Standard	Result
Specific gravity	Calculated	Typically 1.6 ± 0.3 g/cm3

Storage

Keep in a dry cool area. Maximum temperature 25 °C. Maximum relative humidity 60 %. If stored longer than 6 months a quality test must be performed.

APPLICATION

Pretreatment

The overall performance of the coating system is largely dependent on the nature of the substrate and the type and quality of the pretreatment. For optimal results, it is recommended to follow the pretreatment supplier's instructions and recommendations.

Powder application

Curing schedule	Object temperature	Time
Reveal Insulate TC	200 °C	10 minutes

Other curing schedules can be created upon technical approval.

Recommended film thickness (µm): ≥200

Equipment

Suitable for Corona or Tribo charging equipment.

This Technical Data Sheet supersedes those previously issued.
The Technical Data Sheet (TDS) is recommended to be read in conjunction with the Safety Data Sheet (SDS) and the Application Guide (AG) for this product. For your nearest local Jotun office, please visit our website at www.jotun.com

APPEARANCE

Colour	Black
Gloss	Visual check against master panels
Finish	Smooth

If the significant surface is too small or unsuitable for the gloss to be measured with the glossmeter, the gloss should be compared visually with the reference sample (from the same viewing angle).

PERFORMANCE

The technical data provided below are typical for this product when applied as follows:

Substrate	Silane-treated aluminium panels 3003
Substrate thickness (mm)	1.0
Film thickness (µm)	200-300

Typical values when tested.

Property	Standard	Result
Adhesion	ISO 2409 GB/T 9286 ASTM D3359 (Test Method A)	Adhesion Rating Gt0 X-cut rating 5A
Film hardness	ASTM D3363 Gouge test (modified) GB/T 6739 Modified	≥ HB (No damage of film)
Thermal conductivity	ASTM D5470	≥ 0.6 W/(m·K)
Impact resistance	GB/T 1732	≥5J direct impact No cracking
Flexibility	GB/T 6742	32mm 90° No cracking
Shear strength	ISO 4587 GB/T 7124	≥7MPa
Tensile strength	ISO 6922 GB/T 6329	≥7MPa
Insulation resistance	Internal Method (DC 1000V, 60s)	>500 MΩ
Voltage resistance	Internal Method (DC 3800V, 60s)	Leakage current <0.1 mA
Resistance to neutral salt spray	ISO 9227 GB/T 10125	No blistering, no loss of adhesion, no wrinkling after 168 hours
High temperature resistance	GB/T 11026.1 IEC 60216 (130 °C, 720Hrs)	No blistering, no cracking, no peeling off and no loss of adhesion.
Cyclic temperature test	ISO 6469-1 Modified GB 38031 Modified (-40°C~85°C, 1000 cycles)	No blistering, no cracking, no peeling off, no loss of adhesion
Acid and alkali resistance	ISO 2812-1 GB/T 9274 (5% HCl-2Hrs & 5% NaOH-2 Hrs)	No blistering, no wrinkling, no cracking, no peeling off and no loss of adhesion
Water resistance	ISO 2812-2 GB/T 1733 (25°C, 168Hrs)	No blistering, no cracking, no peeling off and no loss of adhesion.
Flame retardancy	UL 94	Rating V-0

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Hydrothermal ageing	IEC 60068-2-67 GB/T 2423.50 (85°C and 85% RH for 1000 Hrs)	No blistering, no cracking, no peeling off and no loss of adhesion.
Surface energy	Internal Method (Dyne Pen Test)	≥28 mN/m

Sustainability

Powder coating is applied in air-and-powder mix in a strictly controlled factory process using electrostatic gun and a high temperature curing oven to create film. Virtually no VOCs are released in the process compared to traditional liquid paints. Unused or oversprayed powder can be recycled with minimal wastage. In addition, all Jotun Powder Coatings' products do not contain intentionally added lead.

Disclaimer

The information in this document is given to the best of Jotun's knowledge, based on laboratory testing and practical experience. Jotun's products are considered as semi-finished goods and as such, products are often used under conditions beyond Jotun's control. Jotun cannot guarantee anything but the quality of the product itself. Minor product variations may be implemented in order to comply with local requirements. Jotun reserves the right to change the given data without further notice.

Users should always consult Jotun for specific guidance on the general suitability of this product for their needs and specific application practices.

If there is any inconsistency between different language issues of this document, the English (United Kingdom) version will prevail.

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