LONGYAN HUISINS CHEMICAL INTERNATIONAL LIMITED

TDS (Technical Data Sheet)

P/N: Solvent-free hand-scraped thick-film modified polyurea coating

Customer： N/A
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Customer Desc： N/A

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Version History

Rev.	Status	Revision Description	Author/Approved	Date
A	Approved	Initial Release	Sha LIU	2024-01-18

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Product Name： Solvent-free hand-scraped thick-film modified polyurea coating

Model No: ST800D

1. Description

ST800D is a hand-applied, modified polyurea anti-corrosion and wear-resistant material. It is solvent-free and environmentally friendly. The material features a long pot-life, good workability, and excellent anti-corrosion and wear-resistant performance.

2. Features

- Seamless, tough and dense coating film
- Strong adhesion, water and alkali resistant, firmly bonded to the substrate
- Excellent impact, collision and abrasion resistance
- Excellent corrosion resistance and chemical resistance to media such as acids, alkalis and salts
- High levelling efficiency, which shortens the construction period

Application Scope

Floors of workshops and warehouses in petrochemical plants, cotton textile mills, pharmaceutical factories, breweries, food processing plants, dairy plants, steel manufacturing enterprises, power plants, mechanical processing factories, pesticide production and other industries.

3. Product Physical Properties

Item	Result
Appearance	Smooth, bubble-free
Solid content (%)	≥ 98
Pot-life (h) (25℃, RH 50%)	0.5
Surface dry time (h) (25℃, RH 50%)	≤ 8
Mixing ratio	A : B = 1 : 4 (by weight)
Hard dry time (h)	≤ 12
Theoretical spreading rate	0.7 kg/m² (at 500 μm film thickness)

Typical Physical Test Performance

Item	Test Standard	Result
Hardness (after adding sand)	GB/T 6739-2006	Shore D 50
Adhesion on metal substrate (MPa)	HG/T 3831-2006	9.3
Adhesion on concrete substrate (MPa)	HG/T 3831-2006	2.8
Bending test (cylindrical mandrel)	GB/T 6742-2006	≤ 1 mm
Abrasion resistance (750 g / 500 r) (mg)	HG/T 3831-2007	5
Impact strength (kg·cm)	GB/T 1732	50

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Product Corrosion Resistance Performance

Test Item	Result
Acid resistance: 30% H_2SO_4 or 10% HCl, 240 h	No corrosion, no discoloration, no delamination
Alkali resistance: 30% NaOH, 240 h	No corrosion, no discoloration, no delamination
Salt resistance: 30 g/L, 240 h	No corrosion, no discoloration, no delamination
Salt spray resistance: 1500 h	No corrosion, no discoloration, no delamination
Oil resistance: 0# diesel, crude oil	No corrosion, no discoloration, no delamination
Water resistance: 48 h	No blistering, no wrinkling, no discoloration, no delamination

Note: The above chemical media resistance data were obtained in accordance with the GB/T 9274-1988 test method and are provided for reference only. Test results may vary slightly depending on volatilization, concentration and spill conditions. Therefore, for critical applications, it is recommended that the customer conduct independent testing of specific properties as necessary.

4. Application Tools & Guidance

- Apply by trowel (spatula/trowel tool).
- Recommended dry film thickness: 500–1000 μm.
- Overcoating interval: minimum 1 h, maximum 48 h. If the maximum overcoating time is exceeded, or the surface is contaminated with dust, abrade with sandpaper and clean before re-coating.
- Mix Components A and B strictly in the specified ratio and stir thoroughly and evenly. Then add quartz sand or quartz powder, and stir thoroughly and evenly again before use.

5. Construction Environment Conditions

- Ambient temperature: 5–35℃
- Relative humidity: 35–85%
- Concrete surface shall be cured to pH < 10, and the substrate moisture content shall be below 10%.
- The dew-point temperature should preferably be above 3℃ (i.e., substrate temperature at least 3℃ above the dew-point).

6. Substrate Preparation

- Metal surface: blast-cleaning for rust removal is recommended, reaching Grade Sa 2.5 in accordance with ISO 8501-1 or GB 8923.
- Concrete surface: shall be sound, dense, flat, clean and dry, free of dusting, delamination, cracks, honeycombing and other defects. Patching with putty is generally required.
- Wood surface: clean and dry, free of burrs, fragments and loose particles.
- For application treatment on other substrate materials, please consult the Huisins technical personnel.

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7. Application Precautions

- Stir Component B thoroughly and evenly before use.
- Prepare strictly in accordance with the specified ratio and only mix the required quantity within the pot-life, to prevent viscosity increase and gelling/over-curing beyond the pot-life.
- It is recommended to use in a well-ventilated area. If accidental contact with skin or eyes occurs, rinse immediately with plenty of clean water.
- Keep the surface dry and clean during construction; strictly avoid contact with water, alcohols, acids and alkalis.

8. Curing Schedule vs. Substrate Temperature

Substrate Temperature	Surface Dry	Walk-on Strength	Full Cure
+10℃	10 h	24 h	21 d
+20℃	8 h	12 h	14 d
+30℃	3 h	6 h	7 d

8. Packaging & Shelf Life

Packaging:

- Component A: 2 kg/can; Component B: 8 kg/can
- Component A: 1 kg/can; Component B: 4 kg/can

Shelf life: 10 months from the date of production, provided the original packaging remains unopened.
Storage: Store at 5–35℃ in a cool and well-ventilated place, and avoid direct sunlight.

9.Health and Safety

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet containing physical, ecological, toxicological and other safety related data.

10. Disclaimer

All technical data provided in this datasheet are derived from controlled laboratory testing. Actual performance may vary depending on application-specific conditions. Users are advised to conduct their own tests to verify suitability for intended use. HUISINS guarantees product quality as specified but shall not be held liable for application-specific performance. We reserve the right to modify product information without prior notice.

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