

LONGYAN HUISINS CHEMICAL INTERNATIONAL LIMITED

TDS (Technical Data Sheet)

P/N: cold spray polyurea elastomer

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

Product Name: cold spray polyurea elastomer

Model No: PS1000

1. Description

Spray polyurea is a solvent-free, pollution-free green product that has been widely used in many major anticorrosion and waterproofing projects due to its excellent physical and corrosion resistance properties. However, under normal conditions, spray polyurea requires special equipment for application and demands highly skilled operators, which has limited its convenience and broader use.

To address this, HUISINS developed a new easy-to-apply cold polyurea. The application can be carried out with a simple spray gun, which is easy to operate and can be handled by a single person. This innovative product represents a revolutionary advancement in the polyurea industry, reshaping people's understanding of polyurea technology and creating new opportunities for its wider application.

2. Characteristics

Cold polyurea is applied with a simple spray gun, easy to apply, one person can operate it. It can be directly sprayed in the temperature above 25℃, use a microwave to heat the liquid material to 35℃ if the environment temperature below 25℃. The curing time is adjustable from 2-10 min, can be sprayed forming on any curve, vertical or slope surface, without sagging. The coating is flexible, compact and seamless, with excellent comprehensive physical properties, no powdery, no peel off or crack after long term outdoor use, it is resistant to any cold & hot impact and weather changing corrosion.

3. Application Scopes

Pickup truck, various car's chassis armor, vibrating disk, lining of mixers, anticorrosion abrasion resistance of impeller and pump casings, surface protection of EPS sculptures, film props, repair of sprayed polyurea.

4. Products information

Item	Part A	Part B
Appearance	Pale yellow liquid	Adjustable color
Specific gravity	1.12	1.05
Viscosity (cps) @25℃	800	500
Solid content (%)	100	100
Mix ratio (by volume)	1	1
Gel time (second) @25℃	3-5	
Tack-Free Time (second)	60-1200	
Theoretical coverage (dft)	1.08kg/m ² film thickness:1mm	

Physical properties

Item	Test standard	Result
Hardness (Shore A)	ASTM D-2240	92
Elongation at Break (%)	ASTM D-412	410
Tensile strength (Mpa)	ASTM D-412	16

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Tear strength (kN/m)	ASTM D-624	70
Impermeability (0.3Mpa/30min)	HG/T 3831-2006	Impermeable
Wear resistance (750g/500r) /mg	HG/T 3831-2006	4.2
Adhesive strength (Mpa) concrete base	HG/T 3831-2006	3.2
Adhesive strength (Mpa) steel base	HG/T 3831-2006	11.3
Cathodic disbondment [1.5v,(65±5)℃, 48h]	HG/T 3831-2006	≤15mm

Chemical resistance

Acid resistance 10%H ₂ SO ₄ or 10%HCl,30d	No rust, no bubbles, no peel off
Alkali resistance 10% NaOH, 30d	No rust, no bubbles, no peel off
Salt resistance 30g/L,30d	No rust, no bubbles, no peel off
Salt spray resistance, 2000h	No rust, no bubbles, no peel off
Oil resistance 0# diesel, crude, 30d	No rust, no bubbles, no peel off

(For reference: the above data is acquired based on GB/T9274-1988 test standard. Pay attention to the influence of ventilation, splash and spillage. Independent immersion testing is recommended if requires other specific data)

Application environment

Environment temperature	0℃-45℃
Relative humidity	≤90%
Dew point	≥3℃

Application guide

Recommend spray machine	Portable cold-spray polyurea equipment
Recommend film thickness	1000-3000μm
Recoating interval	≤6h

Recommend procedures

No.	Name of products	Layers	Dry film thickness (μm)
1	polyurea special primer	1	35
2	cold polyurea elastomer	1	2000
Total		2	2050

5. Construction

- The product should be used at a temperature of 25-40℃.If the temperature is too low, it is recommended to heat it in a microwave oven to around 35℃ before use.
- If the construction substrate is coated with a primer, please spray polyurea within an appropriate time range. For specific application methods and coating intervals of HUISINS Company's polyurea primer, please refer to the product manuals of other HUISINS companies.
- HUISINS Company requires customers to test spray a certain area at the spraying site before the formal spraying to ensure that the product's mixing ratio, color and spraying effect are correct and ideal. For specific operation and usage information on PS1000, please refer to our company's "Product Construction and Usage Manual".

6.Package

1.6kg/set (part A: 0.82kg, part B: 0.77kg)

7.Shelf Life

10 months (Indoor with dry and cool conditions)

8.Safety

Spraying polyurea materials should be equipped with basic labor protection measures during it was be used.It is recommended that operators be equipped with protective clothing, goggles, plastic gloves, masks and other protective equipment.

9. 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.