

LONGYAN HUISINS CHEMICAL INTERNATIONAL LIMITED

TDS (Technical Data Sheet)

P/N: Special Pure Polyurea For Drinking Water

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	2016-01-18

Product Name: Special Pure Polyurea For Drinking Water

Model No: PS500C

Description

PS500C is a safe and environmentally friendly potable water anticorrosion coating, formed by the reaction of isocyanate and amino compounds. It complies with strict national potable water standards (Health Permit License No. 3200-0005) and is verified by SGS to meet FDA 21 CFR 175.300 for food-contact coatings.

PS500C offers high reactivity and rapid curing, allowing for seamless application on complex surfaces without sagging. It forms a dense, impermeable barrier that effectively resists corrosion, water penetration, abrasion, impact, and aging. With adjustable hardness, it can be tailored to provide either high elasticity or high strength, making it suitable for a wide range of industrial and protective applications.

Product features

- * Compliant with FDA 21 CFR 175.300 for food-contact coatings, verified by SGS.
- * Solvent free, 100% solids, safe, environmentally friendly, odor free.
- * Rapid cure, can be sprayed forming on any bent, slope and vertical surfaces without sagging.
- * Dense coating seamless, good flexibility.
- * High adhesive strength, fast bonding well on steel, concrete, wood, glass fibers and other substrates
- * Excellent impact resistance, abrasion resistance
- * Excellent corrosion resistance and chemical resistance properties, such as acids, alkalis, salts, etc.
- * Excellent waterproof performance
- * Good shock absorption performance

Product Applications

Water pipes, water purification pipelines, water tanks, water pools, water storage tanks and other areas of drinking water sanitation standards of anti-corrosion waterproof projects

Products information

Item	Part A	Part B
Appearance	Pale yellow liquid	Adjustable color
Specific gravity	1.08	1.02
Viscosity (cps) @25℃	820	670
Solid content (%)	100	100
Mixing ratio (volume ratio)	1	1
Gel time(second) @25℃	4-6	
Tack-Free Time (second)	10-20	
Theoretical Coverage (dft)	1.08kg/m ² film thickness:1mm	

Physical properties

Item	Test standard	Result
Elongation at Break (%)	ASTM D-412	472
Tensile strength (Mpa)	ASTM D-412	17.8
Tear strength (kN/m)	ASTM D-624	80.6
Impermeability (0.3Mpa/30min)	HG/T 3831-2006	Impermeable

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Wear resistance (750g/500r) /mg	HG/T 3831-2006	5
Adhesive strength (Mpa) concrete base	HG/T 3831-2006	3.2
Adhesive strength (Mpa) steel base	HG/T 3831-2006	11.5
Density (g/cm ³)	GB/T 6750-2007	1.01
Cathodic disbondment [1.5v,(65±5)°C, 48h]	HG/T 3831-2006	≤15mm

Physical properties

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, 1000h	No rust, no bubbles, no peel off
Oil resistance 0# diesel, crude, 30d	No rust, no bubbles, no peel off
Hygienic performance	conforms to the regulation for the evaluation of protective materials for drinking water, issued by Sanitary license approval [2001]161

(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)

Chemical resistance

Environment temperature	0°C-45°C
Product spray heating temperature	65°C-70°C
Pipe heating temperature	55°C-65°C
Relative humidity	≤80%
Dew point	≥3°C

Application environment

Recommend spray machine	GRACO H-XP3 Polyurea spray equipment
Spray gun	Air or machine self-cleaning coatings for spray gun
Static pressure	2300-2500psi
Dynamic pressure	2000-2200psi
Recommend film thickness	1000-3000μm
Recoating interval	≤6h

4. Construction method

- 1) Spray equipment: Spray polyurea materials must be constructed using a dedicated (1:1) two-component spray equipment. Such as Graco's H-XP3 and so on.
- 2) Construction environment requirements: In order to achieve the best coating effect, the site requires ventilation, the ambient temperature should not be lower than 10 °C, the substrate temperature is higher than the dew point of 5 °C, and the air humidity is less than 80%.
- 3) Surface treatment of the substrate:
 - a. Leveling the cement surface: leveling the substrate with cement mortar.
 - b. Grinding of the substrate: the substrate requires fine pitting (to be flat), the surface of the substrate is polished, the scar and the floating slurry are removed, and the position of the negative angle of the yin angle is treated with emphasis, and the yin angle is straight and yang. The corner suggests eight-point

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angle processing.

c. Cleaning: The dirt on the surface of the substrate cleaned with oil-free, water-free compressed air will clean up the debris that affects the construction of polyurea.

4) Brush primer: brush the concrete special primer, evenly brushed, no leakage coating, no defects.

5) Scrape putty: Apply putty to seal the trachoma and micropores on the concrete surface.

6) Spray polyurea: Spray with special polyurea spraying equipment and polyurea spray gun. Use cross method to repair leak spray and reduce stress.

7) Spraying polyaspartic polyurea topcoat: Spraying with special polyurea spraying equipment and polyurea spray gun, spraying evenly without defects and leaking spray.

5.Package

Two-component, A component 220KG / 200L barrel, B component 210KG / 200L barrel.

6.Color

Spray polyurea material standard color is White, can also provide other colors according to user requirements

7.Storage/Shelf Life

Ideal storage condition is 5-35 °C in cool and dry place, avoid direct sunlight. / Nine months

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.