SHUNDA POLYURETHANE LTD

UREATECH 450
TECHNICAL DATA SHEET

DESCRIPTION

UREATECH 450 is a spray-applied, pure polyurea elastomer system. Its advanced formulation, consisting of a semi-prepolymer, modified delayed amine, polyetheramine, and chain extender, is engineered to provide exceptional performance. This material delivers outstanding mechanical and physical properties, along with long-term resistance to both aging and corrosion. Its durable and seamless protective qualities make it the ideal waterproofing solution for a wide range of demanding applications, including large-scale building structures, roofs, basements, pools, and dams.

FEATURES

- **98%+ Solid & Low-VOC:** An advanced, environmentally conscious formula with low Volatile Organic Compounds.
- **Rapid Cure:** Allows for a fast return-to-service, minimizing project downtime.
- **Seamless & Monolithic:** Creates a single, continuous waterproofing membrane with no joints, seams, or weak points.
- **Spray-Applied Versatility:** Can be installed on vertical and overhead surfaces without sagging.
- **Tenacious Adhesion:** Forms a powerful, durable bond to a wide variety of properly prepared substrates.
- **Superior Flexibility:** High elongation provides excellent crack-bridging capabilities and withstands extreme thermal cycling without cracking.
- **Durability:** Offers exceptional thermal stability and ensuring long-term performance in harsh weather conditions.

TYPICAL PHYSICAL PROPERTIES

Physical Properties	Value	Test Method
Solid content	98%	ASTM D2369
Tensile strength	≥18MPa	ASTM D638
Elongation	≥450%	ASTM D412
Tear strength	≥70N/mm	ASTM D624
Low temperature flexibility (-40°C)	No cracking	ASTM D522
Impact resistance	≥1 Kg*m	ASTM D2240
Adhesion strength	≥3MPa	ASTM D4541
Water impermeability (0.4MPa, 2h)	Impermeable	ASTM E96
Hardness	≥70 Shore A	ASTM D2240

TWO COMPONENTS PRODUCT SPECIFICATIONS

Property	Ureatech 450 Component A	Ureatech 450 Component B
Appearance	Transparent liquid	Customize color liquid
Density (25°C)	1.10±0.10 g/cm³	1.10±0.10 g/cm³
Viscosity (25°C)	1000±100 cps	1000±100 cps
Shelf Life	6 months	6 months

INSTALLATION GUIDELINE

1. Substrate Preparation:

Proper surface preparation is critical for ensuring a strong, permanent bond.

- Concrete Surfaces:
- Repair all holes and cracks. Make sure any patch material is fully cured.
- New concrete must cure for a minimum of 28 days.
- Clean the surface of all dust, loose debris, and contaminants.
- Apply one to two coats of a recommended concrete primer and allow it to cure fully before spraying.

- Metal substrates:
- Sandblast the metal to a Sa2.5 standard to create a clean, profiled surface.
- For any joints or areas where sandblasting isn't possible, grind the surface to remove all rust.
- Apply a recommended anti-rust primer designed for polyurea systems.
- Before spraying, ensure the primed surface is completely clean and free of oil or dust.

- After preparing the concrete and metal substrates, apply a matching primer to enhance adhesion.

2. Material Preparation

- Check Batch Numbers: Before you begin, ensure the batch numbers on the Component A and Component B drums match.
- Mix Component B: Thoroughly mix the Component B (resin) drum for at least one hour using a pneumatic agitator. The material must be completely uniform in color and consistency from top to bottom.
- Mix Ratio: This product is a 1:1 ratio system by volume.

3. Application Conditions:

- Dew Point: The surface temperature must be at least 3°C (5°F) above the dew point to prevent moisture from affecting the application.
- Environment: For best results, the air and surface temperature should be above 10°C (50°F) and the relative humidity should be below 60%.
- Ventilation: Ensure proper ventilation at all times, especially in confined spaces.
- Spray Thickness: Apply at a thickness of 1-2 mm per coat.
- Recoat Time: There is no minimum wait time between coats, but do not wait longer than 2 hours.
- Prohibited Additives: Do not add any thinners or other substances to the product. This is a 100% solids system.

4. Spray Equipment Parameters:

- Machine Pressure: 2200 psi or higher
- Hose Heat: 60-65°C (140-150°F)
- Primary Heaters (A and B): 60-65°C (140-150°F)

PACKAGING SPECIFIATION

- Component A: 220 kg / drum
- Component B: 210 kg / drum
- Empty Drum Weight: 18-23 kg

Custom packaging options are available upon request.

STORAGE RECOMMENDATIONS

- Storage Conditions: This product must be stored in a cool, dry, and well-ventilated warehouse. Protect drums from direct sunlight, rain, and all sources of heat or ignition. The ideal storage temperature is between 15°C and 40°C.
- Shelf Life: Unopened, this product has a shelf life of six months from the date of production. After this period, the material should be re-tested to ensure it meets all technical requirements before being used.
- Transportation: This product contains no organic solvents and can be transported as non-hazardous goods. During transport, protect the material from sunlight and moisture and adhere to all relevant transportation regulations.

SAFETY PRECAUTIONS

All personnel in the application area must adhere to the following safety protocols:

- Ignition Sources: All sources of ignition are strictly prohibited near mixing and application areas.
- Ventilation: The work area must be well-ventilated at all times.
- Personal Protective Equipment (PPE): Applicators must wear appropriate PPE and avoid direct skin contact with the material.

IMPORTANT NOTICE

The information provided in this document is accurate to the best of our knowledge and applies only to the material specified. Its validity may not extend to uses with other materials or under conditions not specified.

It is the user's sole responsibility to verify the product's suitability for their intended application and to conduct all necessary tests prior to use. Proper surface preparation and application procedures are essential for product performance. Adhesion and durability can be negatively affected by substrate moisture, chemical contamination, or improper curing conditions.

Shunda Polyurethane Ltd. makes no warranties, expressed or implied, regarding the product's performance. Liability is strictly limited to the replacement of the product or a refund of the purchase price. The company shall not be liable for any other damages or losses resulting from improper use.

TECHNICAL ASSISTANCE

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