

MPU WP16S SPRAY POLYUREA ELASTOMER



DESCRIPTION:

WP16S is 100% solid contents polyurea elastomer, fast-setting, two-component, solvent-free formulation, eco-friendly. It is with pure polyaspartic acid ester resin as the main component (part A) and aliphatic isocyanate as the curing agent (part B). **WP16S** is specially designed to form a solid membrane once dry, completely adhered to the substrate, seamless, without joints or overlaps, watertight and waterproof membrane to be used on new buildings or refurbishments. It boasts exceptional waterproofing, anti-corrosion, and abrasion-resistant properties, making it widely utilized in both industrial and commercial. **WP16S** is formulated to effectively absorb and dissipate UV radiation, ensuring the superior performance in outdoor applications.

FEATURES:

High Flexibility: WP16S can maintain elasticity over a wide temperature range, accommodating substrate settlement or overment and preventing cracking.

Chemical Resistance: WP16S is resistant to a wide range of chemicals, including acids, alkalis, and solvents, making it suitable for industrial applications.

Adhesion Strength: WP16S bonds strongly to various substrates, including concrete, steel, and wood, ensuring reliable and durable application.

UV Stability: WP16S provides excellent resistance to UV degradation, ensuring long-term color and performance retention in outdoor environments.

CONSTRUCTION SITE:

It is primarily used as an exposed waterproof, protective, and anti-corrosive elastic coating, especially for high-deformation nodes and stress-concentrated detail areas in long-lasting waterproofing projects.

Applications include:

- Exposed elastic waterproofing for residential construction.
- Waterproofing of concrete detail nodes.
- Elastic coatings for anti-seepage at hydraulic joints and cracks.
- Exposed waterproof and wear-resistant coatings for bridges, flyovers, and air passages.
- Metal structure roofing with elastic waterproofing.
- Waterproofing for pools and tanks.
- Use with cement mortar and liquid cement.
- Elastic coatings for waterproof, anti-corrosion, wear-resistant floors, and protective applications.

DESIGN CRITERIA:

WP16S is designed for application in one time.

APPLICATION PREPARATION:

Previous preparation of the substrate according to its type. Existing holes or areas with a lack of material must be repaired. General cleaning of the substrate, removing existing dust, dirt, grease or efflorescence. The substrates must be resistant and cohesive. Check the maximum degree of moisture permittivity of the substrate.

Verify ambient conditions: temperature (10–35°C), humidity (below 85% RH), and substrate temperature (minimum 3°C above dew point). Preheat the polyurea components to 60–80°C in separate heated hoses to reduce viscosity. Calibrate the plural-component spray equipment (e.g., Graco Reactor) to maintain a 1:1 volume ratio and 2000–3000 psi pressure.

Conduct a test spray to validate mix ratio, spray pattern, and curing performance.

NOTE: For other types of substrates, weather conditions or final use, consult our technical department

TDS. TECHNICAL DATA SHEET



TECHNICAL DATA:

| NO. | ITEM | VALUE |
|-----|---|--|
| 1 | The weight of component A | 220 kg |
| 2 | The weight of component B | 220 kg |
| 3 | Density of mixed resin | 1.16kg/l @23 °C |
| 4 | Volume ratio of cured components | Appr. 100% |
| 5 | Weight ratio of cured components | Appr. 100% |
| 6 | Shore D | Appr. 60 (14 days / +23 °C) |
| 7 | Tensile strength | Appr. 25 N/mm ² (14 days / +23 °C) |
| 8 | Abrasion Resistance (750g/500r/mg) ≤ 0.03 | 0.02 |
| 9 | Elongation at brake | Appr. 40% (14 days / +23 °C) |
| 10 | Adhesive tensile strength | 1.5 N/mm ² (concrete failure) > 3.0 N/mm ² (aluminum) |
| 11 | Mixing ratio (in volume) | 1:1 (by volume) |
| 12 | Dosage | Appr. 1.16kg/m ² |
| 13 | Inter layer thickness | 2.2 kg/m ² - The inter layer thickness is approximately 2 mm |
| 14 | Ambient atmospheric temperature | Minimum +10 °C / Maximum +30 °C |
| 15 | Relative humidity of air | Maximum 80% relative humidity |
| 16 | dew point | The substrate should be at least 3° above the dew point to reduce the risk of condensation and floor cracking. |
| 17 | Substrate temperature | Minimum +10 °C / Maximum +30 °C |
| 18 | Water content of the substrate | < 4% pbw |
| 19 | Gel-time | 30 seconds |
| 20 | Tack-free time | 30 seconds |

CONSTRUCTION NOTES:

Mixing Ratio:

The weight ratio of Component A to Component B is 1:1 (A:B).

Application Method:

Using a high-pressure, heated spray system, simultaneously feed components A and B through insulated hoses to the spray gun. The materials are dynamically mixed at the gun's impingement chamber and atomized onto the substrate. Maintain a consistent spray distance (60 – 80 cm) and overlap passes by 50% to achieve uniform thickness. Apply multiple coats if required, allowing minimal intercoat time (≤30 minutes) to ensure chemical bonding. Monitor film thickness in real-time (e.g., 1.5 – 3.0 mm per pass) using a wet-film gauge. Adjust spray angle (90° to substrate) and traverse speed to avoid runs or voids.

Post-Application Equipment Handling:

After spraying, immediately purge the system with a compatible cleaning solvent (e.g., polyurea-grade flush oil) to remove residual material from hoses, gun, and pumps. Disassemble and clean the mix chamber, static mixer, and nozzle to prevent clogging. Inspect seals, filters, and check valves for wear or damage. Store equipment in a dry, temperature-controlled environment (15–30°C). For prolonged downtime, fill hoses with flush oil and cycle periodically to maintain component integrity. Document maintenance procedures and equipment performance for future reference.



TDS. TECHNICAL DATA SHEET

HEALTH AND SAFETY:

Respiratory Protection:

When handling or spraying, always use an air-purifying respirator to protect against inhalation of harmful substances.

Skin Protection:

Wear rubber gloves and remove them immediately if they become contaminated. Ensure your body is fully covered with clean, protective clothing. After completing work, and before eating, drinking, or smoking, wash thoroughly with soap and water.

Eye/Face Protection:

Wear safety goggles to prevent splashes or exposure to airborne particles.

Waste Management:

Minimize or avoid waste generation whenever possible. If waste is produced, incinerate it under controlled conditions in compliance with local and national regulations.

Re-occupancy Guidelines:

Do not re-enter the work area without respiratory protection for at least 24 hours after spraying, ensuring proper ventilation is maintained.

Compliance:

Contractors and applicators must adhere to all applicable storage, safety, and handling guidelines. These safety measures are critical during the implementation process, as well as before and after exposure to loading machinery.

Waste Disposal:

Dispose of all waste in accordance with state and/or local regulations.

These precautions are essential to ensure the health and safety of all individuals involved in the process

RECOMMEND TOOLS:

For spray polyurea application, a high-pressure proportioning unit, heated spray gun, and proper surface preparation tools are critical. Ensure all equipment is compatible with polyurea chemistry and maintain optimal environmental conditions.

RECOMMEND USAGE:

Normally, it is about 1.1 kg /m² , and the thickness of one-time construction is about 1mm.

PACKING:

Component A, 220kgs/pail,
Component B, 220kgs/pail.

STORAGE AND TRANSPORTATION:

The product should be sealed and stored in a dry, cool, and well-ventilated area, away from direct sunlight, rain, and any sources of fire.

When kept in its original packaging and under the prescribed storage conditions, the product has a shelf life of 6 months from the date of production.

After opening the drum, please use the product as soon as possible and reseal the container when not in use.

The materials should be stacked stationary and handled carefully during transportation to avoid any violent collisions.

DISCLAIMER:

The information provided in this Technical Data Sheet (TDS) is to assist customers in determining whether our products are suitable for their applications. Our products are only intended for sale to industrial and commercial customers. We warrant that our products will meet our written liquid component specifications. The customers are advised to conduct their own tests and evaluations to ensure suitability for their intended application. Always follow local regulations, safety guidelines, and manufacturer recommendations.