

# Product Technical Manual

Revision Date: 2025-03-01

TDS Number:

Product Name: Two-component solvent-free polyurethane adhesive (non-yellowing)

Version: V 3.1

## Product Introduction

Two-component solvent-free polyurethane adhesive (non-yellowing) consists of Component A (primarily resin and additives) and Component B (mainly isocyanate). When mixed uniformly at a mass ratio of A:B = 100:45, the compound is poured into crushed stone and mixed thoroughly. This mixture is then evenly spread on the road surface, compacted, leveled, and cured to form the sponge city polyurethane permeable pavement.

## Product Usage

Two-component solvent-free polyurethane adhesive (non-yellowing) is primarily applied in the construction of sponge city polyurethane permeable pavements

## Technical Specification

Experimental Item	Technical Requirement	
Non-flow time	20-80	
Tensile strength	$\geq 20$	
Elongation at break	$\geq 15$	
Solid content	$\geq 96$	
Viscosity (25°C)	Component A	300-800
	Component B	900-1500

## Usage Method

Combine Component A (resin and additives) and Component B (isocyanate) at a precise mass ratio of 100:45. Pour the mixed adhesive into crushed stone and stir thoroughly to ensure complete coating. Spread the coated stone evenly on the road

surface. The final pavement structure is formed by compacting, leveling and curing.

## Construction Method

Prior to the construction of the polyurethane permeable pavement surface layer for sponge city applications, the base layer and drainage system must undergo inspection and acceptance. Construction of the surface layer can only commence after passing these checks. The base layer surface should undergo cleaning treatment to ensure it is dust-free, dry, and free of contaminants before paving.

Mix Component A and B uniformly at the mass ratio 100:45 and slowly pour into the mixer containing crushed stone. Ensure even coating of the adhesive on the stone by mechanical stirring. Transport the mixture to the construction site using appropriate transport equipment selected based on project schedule, transport volume, distance, and road conditions. At the site, spread the mixture evenly by use of specialized equipment or manual methods. Control leveling and drainage slope, ensure no material deficiency at edges or corners during paving, Adjust paving thickness considering a loose paving coefficient of 1.1. Use the grinding machine for mechanical compaction and surface finishing, supplement with manual tamping and smoothing where necessary to ensure surface cleanliness and joint flatness

Begin curing immediately after the polyurethane permeable pavement for sponge city applications is laid, compacted, and inspected. The curing period should typically be no less than 24 hours. During this time, fully close the construction area to vehicles and pedestrians, and prevent contamination from soil or oil-based substances. Ensure the pavement remains undamaged before reaching the design strength.

## Usage Precautions

1. The material must be stored sealed and protected from light. Discard immediately if the packaging is compromised or damaged
2. The material should be used promptly after opening to avoid performance degradation caused by ambient moisture.
3. The recommended adhesive dosage for construction is 3%-5% of the aggregate mass. For high-porosity aggregates, increase the adhesive amount to ensure bonding

strength.

4. Prohibit construction during rainy conditions. If materials must be left overnight at the construction site during the rainy season, they should be covered with waterproof tarpaulins or stored under rain shelters

5. During summer high-temperature conditions, arrange construction schedules rationally to avoid peak heat periods. Minimize the time allocated for transportation, paving, and compaction processes. Suspend all outdoor operations if temperatures reach or exceed 40° C.

6. Prohibit construction if outdoor daily average temperature remains below 5° C for 5 consecutive days or daily temperature falls below 0° C.

### Packaging, Transportation, and Storage

1. Sealed package in iron drums
2. Specifications: Component A: 15 kg/drum, Component B: 20 kg/drum
3. Store in the dry, sealed, and light-protected environment
4. Protect from direct sunlight, rain, and physical impact during transit
5. Shelf life is 6 months under the specified storage conditions.

### Safety Precautions

Before use, carefully read the construction instructions and warning labels on the packaging container.

During construction, it is recommended to wear necessary protective equipment (gloves, protective goggles, workwear, etc.).

If the adhesive splashes onto skin or into eyes, immediately rinse with clean water for at least 15 minutes and seek medical attention if necessary

### Fire and Explosion Hazards

This product is not classified as flammable liquids, explosives, oxidizers, corrosives, toxic substances, or radioactive hazardous materials during storage and transportation. It is not categorized as a hazardous product.

Carbon dioxide, foam, or chemical dry-powder fire extinguishers can be used. If no other fire-extinguishing agents are available, a large amount of water mist can be

sprayed. Once the fire is extinguished, the spilled materials must be thoroughly cleaned (refer to the "Spill and Leakage Handling" section).

Fire-Fighting Procedure: Standard protective measures.

## Spill and Leakage Handling

Small amounts of leaked or spilled materials can be rinsed away with water. In case of large-scale leakage, contain and recover the materials, and wash the contaminated ground with water or detergent. The disposal of waste composite materials must comply with the local government's environmental protection regulations.

**For more information, please refer to the Safety Data Sheet (SDS) of our products or contact our Customer Service Center.**

---

The indicators and data provided in this document are based on our current level of technical knowledge and practical experience, and are for reference only. Specific guaranteed indicators are subject to the quality assurance certificate or supply contract. The user is responsible for testing the products purchased from our company to verify their suitability for their intended processes and applications, and to achieve the desired objectives. Further application and processing of our products are beyond our control. Therefore, our liability for the products provided is limited to the portion delivered by us and used by you. We do not assume responsibility for indirect losses incurred during the production process using our products as raw materials. Our technical support and customer service center are available to provide consultation and technical services related to our products. We welcome your inquiries and communication via mail or phone.

联系地址: 山东省烟台市太原路 56 号, 万华节能科技(烟台)有限公司

电话: 400-059-1116

传真: (86)-0535-6809777

邮编: 264006