Product Technical Manual

Revision Date：2025-03-01 TDS Number：

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

Version：V 3.1

Product Introduction

Component A is mainly composed of polyols and additives, while Component B is based on modified polymethylene polyphenyl polyisocyanate (PAPI). After uniformly mixing the two components at a mass ratio of A:B = 100:65, the mixture is poured into crushed stone, stirred thoroughly, evenly spread on the road surface, then compacted, leveled, and cured to form the sponge city polyurethane permeable pavement.

Product Usage

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

Technical Specification

Experimental Item	Unit	Technical Requirement	
Non-flow time	min	20-80	
Tensile strength	MPa	≥25	
Elongation at break	%	≥15	
Solid content	%	≥96	
Viscosity（25℃）	mPa.s	Component A	300-800
		Component B	100-400
Hydroxyl value content	mgKOH/g	Component A	200-300
NCO content	%	Component B	29-32

Usage Method

Combine Component A and Component B at a precise mass ratio of 100:65. 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.

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.

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

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communication via mail or phone.

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