MwPU-103

Single Component Solvent-Free Polyurethane Waterproofing Coating

Environmentally responsible single-component solvent-free polyurethane coating with VOC ≤50 g/L and durable elastic waterproofing performance.

Product Introduction

MwPU-103 single component solvent-free polyurethane waterproofing coating is produced from special polyether polyols and isocyanate as main materials, with dedicated additives and fillers through polymerization on automated production equipment. After application, the coating absorbs moisture from the air and cures into a seamless, strongly bonded, integral, elastic and tough waterproof membrane with excellent environmental performance.

Product Features

- Long-lasting waterproofing with zero added organic solvent and zero solvent emission.
- No organic solvent added; VOC ≤50 g/L.
- Environmental upgrade with French A+ certification reference.
- Graphene technology improves impermeability and waterproofing reliability.
- Good coating elongation and high tensile strength, resisting substrate shrinkage, cracking and deformation.
- Automated metering and transfer production system improves batch stability.
- Negative-pressure high-temperature dehydration and vacuum defoaming improve product purity.
- Two in-process control stages support quality consistency.
- Automated unmanned packaging system supports clean production.

Product Specifications

Packaging	25 kg/pail
Component	Single-component
Color	White
VOC	≤50 g/L

Application Scope

- Especially suitable for waterproofing projects with very high environmental performance requirements, including basement concrete bottom slabs, retaining walls, tunnels and pit areas.
- Recommended for special occasions such as bathrooms in high-end hotels and villas.
- Not recommended for vertical or inclined surfaces unless an anti-sag grade is selected.

Reference Dosage

For a 1 mm coating thickness, reference dosage is 1.3–1.5 kg/m². This value is calculated under standard laboratory conditions and is for reference only. Actual consumption should be calculated according to the site substrate condition.

Technical Indicators

No.	Item	Limit	Technical Indicator
1	Solid content / %	≥	Single-component 85.0
2	Surface dry time / h	≤	12
3	Hard dry time / h	≤	24
4	Leveling property		No obvious trowel marks after 20 min
5	Tensile strength / MPa	≥	2.00
6	Elongation at break / %	≥	500
7	Tear strength / (N/mm)	≥	15
8	Low-temperature bending		-35°C, no cracks
9	Water impermeability		0.3 MPa, 120 min, impermeable; national standard value
10	Heating expansion/shrinkage / %		-4.0 to +1.0
11	Bond strength / MPa	≥	1.0
12	Water absorption / %	≤	5.0
13	Aging under fixed elongation: heat aging		No cracking or deformation
14	Heat treatment: 80°C, 168 h — tensile strength retention / %		80–150
14	Heat treatment: 80°C, 168 h — elongation at break / %	≥	450
14	Heat treatment: 80°C, 168 h — low-temperature bending		-30°C, no cracks
15	Alkali treatment: 0.1% NaOH + saturated Ca(OH)2 solution, 168 h — tensile strength retention / %		80–150
15	Alkali treatment — elongation at break / %	≥	450
15	Alkali treatment — low-temperature bending		-30°C, no cracks
16	Acid treatment: 2% H2SO4 solution, 168 h — tensile strength retention / %		80–150
16	Acid treatment — elongation at break / %	≥	450
16	Acid treatment — low-temperature bending		-30°C, no cracks

Execution standard: GB/T 19250-2013 Polyurethane Waterproof Coating.

Construction Technology

- Construction steps: preparation before application → substrate treatment → detail and node treatment → main-area scraping to design thickness → self-inspection → organized acceptance.
- Application method: scraping.
- The substrate surface shall be firm, clean, flat and free from oil stains, cracks, holes, hollowing, looseness, sanding, peeling and other defects.
- Internal and external corners shall be rounded or chamfered. Additional coating layers shall be applied at corners and pipe roots, with non-woven fabric reinforcement using one-fabric-three-coat practice. The width on both horizontal and vertical surfaces shall be not less than 250 mm.
- Apply multiple thin coats, generally two to three passes. Adjacent coats shall be applied in perpendicular directions. The first coat shall be thin to seal substrate pores. Apply the next coat after the previous coat is hard dry. If reinforcement material is required, lay it while applying the coating.
- Before the next process, avoid damage to the waterproof membrane by hard objects. If damage occurs, repair before continuing.

Transportation and Storage

- During storage and transportation, products of different classifications should be stacked separately.
- Keep away from flame, sunlight and rain. Prevent collision and maintain ventilation.
- Storage temperature: 5°C–40°C.
- Shelf life: at least 6 months from production date under normal storage and transportation conditions.

Points for Attention

- Maintain ventilation or necessary protective measures during application in enclosed spaces.