

高铁用道砟胶粘合剂

Railway Ballast Adhesive

>> PU-50D

产品简介 Product Description

PU-50D 型双组份聚氨酯道砟胶粘合剂,专为高铁道砟粘接使用,可有效固化道床、避免碎石道砟移位、减少铁轨磨损、延长铁路使用寿命,并消除列车行进噪音。对道砟附着力好、粘结强度高,耐水耐寒、常温固化;固化物为不溶不融的硬质弹性体,可耐受强大冲击力而不致道砟整体破裂;胶层不影响透湿透气,既稳固路基又利于雨水排放。

PU-50D is a two-component polyurethane ballast adhesive for high-speed and conventional rail. Sprayed into the ballast it stabilizes the bed, prevents stone displacement, reduces rail wear, extends track life and damps noise. It bonds ballast strongly, cures at room temperature to an insoluble, non-melting hard elastomer that withstands heavy impact without shattering the ballast — and the glue line stays moisture- and air-permeable, so the bed remains stable yet still drains.

技术参数 Technical Data

项目 Item	参数 Value
类型 Type	双组份聚氨酯 / Two-component polyurethane
产品外观 Appearance	A 组份:淡黄色液体 / Component A: light-yellow liquid
产品粘度 Viscosity	A 组份:3500 ± 100 mPa · s
混合比 Mixing ratio	A : B = 3 : 2 (无催化剂,固化速度不可调 / no catalyst, cure not adjustable)
固体含量 Solid content	85%
产品比重 Density	A 组份:1.00 ± 0.10 g/cm ³
产品硬度 Hardness	70 ± 3 Shore D

抗拉强度 Tensile strength	≥ 15 MPa
撕裂强度 Tear strength	≥ 50 N/mm
适用时间 Pot life	≥ 15 min (100 g);桶内混合 10~15 min / 10–15 min mixed in bucket
固化时间 Cure	初固化 3 h; 基本固化 24 h / initial 3 h, full 24 h
用胶量 Coverage	约 23 L / m ³ 道砟 (渗入约 30 cm / penetrates ~30 cm)

施工方法 Application

1. 尽量冲洗干净道砟表面泥土,平整后在阳光下干燥至表面无水份。Rinse mud off the ballast, level it and dry the surface in the sun until water-free.
2. 用配有计量泵的双组份机械按 A : B = 3 : 2 混合喷涂或灌注;每组份计量泵不可混用。Meter-mix-spray with a 2K rig (one pump per component) at A : B = 3 : 2; do not cross-use the pumps.
3. 均匀反复喷射至胶渗入道砟约 30 cm 深;每立方米道砟用胶约 23 升。较厚道砟层分批涂胶,人工找平。Spray evenly until the binder penetrates ~30 cm; ~23 L per m³ of ballast. Coat thick layers in batches and hand-level.
4. 小面积或查漏补缺:A、B 桶内混合后投入道砟、用网状勺捞出铺平。For small areas / patching: mix A + B in a bucket, fold in ballast and scoop / spread.

注意事项:① 雨天不能施工,施工温度 5~35°C,无雾无大风无扬尘; ② 最好用带计量泵和混合头的喷胶机,桶内混合适用期仅 10~15 min,需立即用完(气温高更短);③ 不要添加稀释剂; ④ 工具用醋酸乙酯或二甲苯清洗。

Notes: ① no rain; build at 5–35°C, free of fog / strong wind / dust; ② best applied with a metering-pump spray rig – bucket pot life is only 10–15 min, use immediately; ③ do not add thinner; ④ clean tools with ethyl acetate or xylene.

包装与储存 Packaging & Storage

包装 Packaging: A 组份 200 kg、B 组份 250 kg 铁桶包装 / Component A 200 kg, component B 250 kg iron drums.

储存 Storage: 常温仓库存放,避免曝晒,储存期一年。Store at ambient temperature, away from sunlight; shelf life one year.

安全防护 Health & Safety

遵循一般化学品防护措施:保持施工现场通风,佩戴橡胶手套和防护眼镜。B 组份(异氰酸酯)避免吸入与皮肤接触。如溅入眼睛,立即用大量清水冲洗并就医。

Follow general chemical protective procedures: keep the worksite ventilated, wear rubber gloves and safety goggles. Avoid inhalation and skin contact with component B (isocyanate). If splashed in the eyes, flush with plenty of water and seek medical attention.

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