Hot-Melt Epoxy Resin Adhesive E400 - Product Manual (English)

Overview

Hot-Melt Epoxy Resin Adhesive E400 is an elastic bonding agent designed for waterproof adhesive layers in steel bridge deck systems. It provides interfacial connection, prevents water erosion on steel plates, and ensures durable bonding between STC (Super Tough Concrete) and asphalt layers. Unlike standard epoxies, it melts under heat for secondary curing, allowing aggregate embedding for enhanced elasticity and strength.

Applications

- Waterproof bonding in new, repaved, or renovated highway bridge decks on steel panels.
- Repair of active cracks in construction projects.
- Ideal for high-load, variable-temperature environments like bridges and roads.

Key Features

1. Hot-Melt and Secondary Curing: Initial room-temperature curing; melts during hot asphalt paving for secondary reaction, forming a highly elastic waterproof layer.
2. Superior Ductility: High elongation (>400% at 20řC) for flexibility under stress and temperature changes.
3. Temperature Resistance: Effective from -10řC to 60řC, withstanding thermal impacts in bridge environments.
4. Strong Adhesion & Waterproofing: Bonds tightly to concrete and asphalt; impermeable to moisture, protecting steel from corrosion.
5. Ease of Application: Two-component system; applies via scraping, rolling, or spraying. Optional gravel broadcasting for traction.

Product Details

Type: Two-Component Epoxy Adhesive (Hot-Melt Modified). Main Raw Material: Epoxy Resin and Curing Agent. Mixing Ratio: 100:90 (Resin : Curing Agent by Mass).

Shelf Life: 12-24 Months. Certification: ASTM, JG/T, DB32/T Standards Compliant.

Performance Specifications

No.	Test Item	Performance Index
1	Surface Dry Time (20řC)	24h
2	Full Curing Time (20řC)	6-10 days
3	Bonding Strength (to STC) (MPa, 20řC)	>5
4	Bonding Strength (to STC) (MPa, 60řC)	>1.5
5	Tensile Strength (MPa, 20řC)	>3
6	Tensile Strength (MPa, -10řC)	>5
7	Elongation (%, 20řC)	>400
8	Elongation (%, -10řC)	>250
9	Composite Shear Strength (MPa, 20řC)	3.5
10	Composite Shear Strength (MPa, 60řC)	1.5
11	Composite Pull-Off Strength (MPa, 20řC)	3.0
12	Composite Pull-Off Strength (MPa, 60řC)	1.0
13	Adhesion Pull-Off Strength (MPa, 20řC)	2.5
14	Adhesion Pull-Off Strength (MPa, 60řC)	1.0

Packaging & Storage

- Packaging: Component A (Resin): 20 kg/drum; Component B (Curing Agent): 18 kg/drum. Standard export packaging with pallets. - Storage: Cool, dry place; shelf life 12-24 months.

Construction Guidelines

1. Clean surfaces to remove contaminants. 2. Mix Components A and B at 100:90 ratio; apply within pot life. 3. Use scraping, rolling, or spraying; apply in two layers for uniformity. 4. Optional: Broadcast gravel on uncured layer for better grip. 5. Allow 6-10 days for full curing before next steps. Recommended temperature: 5řC-35řC.

Contact Information

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