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TECHNICAL DATA SHEET (TDS)

EPOXY COATED REBAR

High-Performance Corrosion-Resistant Reinforcing Steel for Concrete Structures

1. PRODUCT DESCRIPTION

Epoxy Coated Rebar is a high-strength steel reinforcing bar coated with a factory-applied fusion-bonded epoxy (FBE) coating designed to provide superior corrosion protection in reinforced concrete structures. The epoxy coating acts as a protective barrier that isolates the steel reinforcement from chloride ions, moisture, oxygen, and other corrosive elements that can penetrate concrete over time.

The product combines the mechanical strength of carbon steel reinforcement with the long-term corrosion resistance of a high-performance epoxy coating, making it particularly suitable for aggressive environments such as marine structures, bridge decks, parking garages, tunnels, wastewater facilities, and coastal infrastructure.

The coating is uniformly applied and cured under controlled manufacturing conditions to ensure excellent adhesion, durability, flexibility, and resistance to impact and abrasion during transportation and installation.

2. PRODUCT FEATURES

Superior Corrosion Protection

Provides an effective barrier against chlorides, moisture, salts, chemicals, and atmospheric contaminants that contribute to reinforcement corrosion.

Extended Service Life

Significantly increases the service life of reinforced concrete structures by reducing corrosion-related deterioration and maintenance costs.

Excellent Adhesion

The fusion-bonded epoxy coating forms a strong bond with the steel substrate, minimizing coating delamination and under-film corrosion.

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Mechanical Durability

Resists handling damage, impact, abrasion, and bending during fabrication and installation when handled according to recommended practices.

Cost-Effective Solution

Offers a practical and economical alternative to stainless steel reinforcement in many corrosion-prone applications.

Enhanced Structural Reliability

Maintains structural integrity by protecting reinforcing steel from corrosion-induced expansion and concrete cracking.

3. TYPICAL APPLICATIONS

Epoxy Coated Rebar is recommended for:

- Bridge decks and bridge substructures
- Highway pavements
- Marine and coastal structures
- Ports and harbors
- Offshore platforms
- Parking structures
- Airport runways
- Tunnels and underground structures
- Water treatment facilities
- Wastewater treatment plants
- Foundations exposed to groundwater
- Industrial concrete structures
- Retaining walls
- Precast concrete elements
- Residential and commercial buildings in corrosive environments

4. TECHNICAL SPECIFICATIONS

Property	Specification
Product Type	Fusion Bonded Epoxy Coated Reinforcing Steel
Base Material	Carbon Steel Rebar
Coating Type	Thermosetting Fusion Bonded Epoxy (FBE)
Coating Color	Green
Coating Thickness	175 – 300 µm (7 – 12 mils)
Surface Finish	Smooth, Uniform, Continuous
Adhesion	Excellent
Corrosion Resistance	High
Moisture Resistance	Excellent
Chemical Resistance	Excellent
UV Resistance	Good
Impact Resistance	High
Abrasion Resistance	High
Service Temperature	According to project requirements

5. AVAILABLE SIZES

Nominal Diameter (mm)
8 mm
10 mm
12 mm
14 mm
16 mm
18 mm
20 mm
25 mm

Additional diameters may be supplied upon request.

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6. PERFORMANCE REQUIREMENTS

Coating Thickness

Average coating thickness shall be maintained between 175 and 300 microns.

Holiday Detection

Maximum allowable coating discontinuity (holiday): not more than one holiday per linear meter.

Bend Performance

The coating shall not crack, peel, or disbond after bending to 120° under controlled testing conditions.

Adhesion

The coating shall remain firmly bonded to the steel substrate during handling and installation.

7. APPLICABLE STANDARDS

Reinforcing Steel

- ASTM A615
- ASTM A706

Epoxy Coating

- ASTM A775
- ASTM A934

Manufacturing and testing procedures comply with applicable international standards and project specifications.

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8. INSTALLATION GUIDELINES

Handling

- Use nylon slings or padded lifting equipment.
- Avoid dragging bars across rough surfaces.
- Prevent impact damage during loading and unloading.
- Protect coating from excessive abrasion.

Storage

- Store above ground on timber supports.
- Keep away from standing water.
- Protect from prolonged direct sunlight exposure.
- Cover with breathable weather-resistant sheeting when stored outdoors.

Placement

- Use epoxy-coated tie wire and accessories where specified.
- Maintain specified concrete cover requirements.
- Inspect coating before concrete placement.

Repairs

Any coating damage shall be repaired using approved epoxy repair materials in accordance with project specifications.

9. PACKAGING

Supplied in bundles securely strapped for transportation and storage. Packaging may vary according to customer requirements and shipping conditions.

10. SHELF LIFE

The product has no specific shelf life when stored properly under recommended conditions. Periodic inspection of coating integrity is recommended for long-term storage.

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11. HEALTH & SAFETY

Refer to the Safety Data Sheet (SDS) for detailed information regarding handling, safety precautions, and personal protective equipment.