



TECHNICAL DATA SHEET

GENERAL DESCRIPTION
– SUBJECT TO CHANGES OR DEVIATIONS

ElectroFin[®] E-Coat Factory Applied Corrosion- Resistant Coil Coating

PRODUCT DESCRIPTION

ElectroFin[®] E-Coat is a water-based, flexible cationic epoxy polymer using an electro-coat process specifically engineered for HVAC&R heat transfer coils. PPG POWERCRON[®] HE (high edge) technology improves coverage of fin edges through a unique polymer that controls the coating flow characteristics.

COIL COATING SPECIFICATION

Heat exchanger (HX) coils shall have a flexible cationic epoxy polymer E-coat uniformly applied to all metallic surfaces with no material bridging between fins. The electro-coat process shall ensure complete HX encapsulation of all conductive surfaces with uniform dry film thickness from 0.5-1.2 mils. ElectroFin E-coat shall meet 5B rating for cross-hatch adhesion per ASTM D3359. Corrosion durability will be confirmed through testing to no less than 15,000 hours salt spray resistance per ASTM B117 using scribed aluminum test coupons. After E-coat cure, Heat Exchangers subjected to UV exposure shall receive a spray-applied, UV resistant topcoat to prevent UV degradation of epoxy e-coat film. Topcoat shall have 60 degree gloss (<75) and dry film thickness of 15-30µm.

ELECTROFIN[®] E-COAT MEETS THESE TEST STANDARDS

- ASTM B117 Salt Spray - 15,000+ hours
- ASTM G85 Annex A3 SWAAT Modified Salt Spray - >3,000 hrs
- ISO 12944-9 CX Extreme Durability Rating
- CID AA-52474A (GSA)

ELECTROFIN[®] E-COAT MEETS THE FOLLOWING EU REGULATIONS

- ElectroFin[®] E-Coat is REACH and RoHS compliant

TECHNICAL PROPERTIES

PROPERTY	TEST METHOD	PERFORMANCE
Salt Spray Corrosion	ASTM B117	15,000+ hours
SWAAT Corrosion	ASTM G85-A3	>3,000 hours
CX Certification	ISO 12944-9	Pass 4200 hours cyclic
Cross Hatch Adhesion	ASTM D3359	5B
Pencil Hardness	ASTM D3363	2H
Dry Film Thickness	ASTM D7091	0.5 - 1.2 mils
Direct Impact	ASTM D2794	Pass 160#
Humidity	ASTM D2247	1,000 hours minimum
Water Immersion	ASTM D870	1,000 hours minimum
Mandrel Bend	ASTM D522M	Pass 1/4"
C5-I Saturated Condensation	ISO 6270	Pass C5-M

ELECTROFIN[®] E-COAT VS. OTHER HX COATINGS

	ELECTROFIN [®] E-COAT	DIP PHENOLICS	ELASTOMERICS	OTHER E-COATS
Application Method	Complete Immersion Cathodic Deposition	Manual Dip or Flow	Manual Dip or Flow	Anodic or Cathodic Deposition
Flexibility	Excellent	Poor-Good	Excellent	Good
Coating Uniformity	Computer-controlled Consistent (0.6-1.2 mils)	Manual Inconsistent (2-6 mils)	Manual Inconsistent (2-6 mils)	Inconsistent (0.4-1.5 mils)
Coating Penetration	Computer-controlled Consistent	Uncontrolled/Potentially Inconsistent	Uncontrolled/Potentially Inconsistent	Inconsistent to Bare Metal
Bridging	None – up to 30 fpi & 16 rows	Limited to 16 fpi with some bridging	Limited to 14 fpi with some bridging	Limited to 14 fpi with some bridging
Thermal Loss	< 1%	2% – 6%	2% – 6%	1% – 4%