



9th-Generation Tin-Free Electrocoat



The next generation of cationic epoxy e-coat

Powercron AdvantEdge, PPG's 9th-generation electrocoat, offers several performance advantages over competing products because it is formulated with proprietary, patented catalyst technology that does not use tin or other heavy-metal-based compounds.

As a result, the *Powercron AdvantEdge* electrocoat formulation can make it compatible with emerging global regulatory trends. Cure temperatures as low as 320° F can help manufacturers reduce energy costs and related carbon emissions. The next-generation coating also provides improved throwpower, which enables more uniform film builds on complex parts.

The PPG Benefit

- Patented, metal-free catalyst contains no tin or other heavy metal compounds
- Lower cure temperatures can provide energy savings and reduced carbon emissions
- Improved throwpower for more uniform coating on complex parts
- Excellent corrosion resistance
- Smooth film appearance
- Excellent workability with outstanding bath stability, electrical efficiency and throwpower

Segments

Automotive Parts and Accessories

Heavy-Duty Equipment

Agricultural and Mining Equipment

General Finishes





Performance properties

All testing was performed over cold-rolled steel prepared with PPG zinc-phosphate pretreatment products. Average coating thickness was 0.8 mils with a cure time of 20 minutes at 320° F (160° C) metal temperature. Film properties vary with substrate, pretreatment and film thickness.

Property	Test Standard	Result
Coating Thickness	ASTM D7091	0.4-1.5 mils (10-38 microns)
Gloss – 60 Degree	ASTM D523	50-70 gloss units
Throwpower	GM9535P	11-13 inches (279-330 mm)
Impact Resistance – Direct/Reverse	ASTM 2794	100/60 inch pounds
Pencil Hardness	ASTM D3363	3H-5H rating
Adhesion	ASTM D3359 Method B	5B rating
Gravelometer – Ambient	SAE J400 Method C	6 rating, moderate frequency
Gravelometer – Frozen	SAE J400 Method B	6 rating, moderate frequency
Humidity Resistance	ASTM D1735	1,000 hours, 5B rating
Water Immersion	ASTM D870	500 hours, 5B rating
Salt Spray Resistance – 500 hours	ASTM B117	0.5-1.0 mm scribe creep
Salt Spray Resistance – 1,000 hours	ASTM B117	1.0-3.0 mm scribe creep
Cyclic Corrosion – 28 cycles	GMW14872	3.0-4.0 mm scribe creep
Knife Edge Corrosion (see below)	GM9632P	<5 rust spots

Application data

Feed Package	One component
Standard Bake	20 minutes at 320° F (160° C) metal temperature
VOCs	0.8 lbs./gal. minus water (as supplied)
HAPs	None
Heavy Metals	None

Knife edge corrosion test

This test measures the ability of an electrocoat to cover sharp metal edges. Coated knife blades are placed in a 5% salt spray cabinet for 168 hours and rust spots are counted along the sharp edge using a 30x power magnifying lens.



Conventional Electrocoat: >100 Rust Spots



Powercron AdvantEdge Electrocoat: <5 Rust Spots

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