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Detailed e-Coating (electrophoretic-Coating) Process for Heat Exchangers and Radiators

Electrochemical Deposition Coating (EDC) is typically divided into several distinct work stations:

TANK 1 - The CoreKote Process starts with the removal of a weak Oxide layer that has formed in the bare surface. Heated Alkaline cleaning is used to remove the oxide film and any process lubricant residues.

TANKS 2 & 3 - A neutral PH rinse is used to remove the oxide film and process lubricant residues.

TANK 4 - A full immersion process then deposits the Zirconium* Oxide layer on the surface of the material. A conversion layer forms on the surface enhancing improved fin edge build and adhesion.

** Zirconium corrosion resistance has been tested as a stand-alone material, showing improved protection*

- Organic Zirconium Pretreatment Designed For High Performance On All Substrates.
- Extremely Uniform Coatings Promote Uniform E-coat Applications
- Technology Proven In HVAC, Appliance, Construction, And Agriculture Industries.
- Zirconium Oxide Material is a High Strength Particulate Matter
- Formation of a Barrier Layer - Restricting Ion, Water and Oxygen Access to the Substrate
- Chemical and Mechanical Stabilization of the Native Oxide Film
- Environmentally Friendly, No Heavy Metals, Ambient Application

TANK 5 – Rinse.

TANKS 6 & 7 - After pretreatment, coils pass thru multiple rinse tanks to ensure a neutral ph surface.

TANK 8 - E-COATING Full Immersion With our patented technology, film build is controlled to +/- .0002. Anode control ensures no bridging and 100% coated to the center.

TANKS 9 & 10 - Post rinse before curing ensures no loose material is left on the surface, contributing to an even film build.

OVEN CURE - The next stage is oven cure. Axalta E-coat material is a lower temperature cure (355F) then other E-coats on the market.

TOP COAT - Final stage is the Spray Top Coat. This provides an additional protective layer and attractive finish.