YORK®
Heating and Air Conditioning

Epoxy Polymer E-Coat Coil Coatings

Factory Applied Corrosion-Resistant Coil Coating

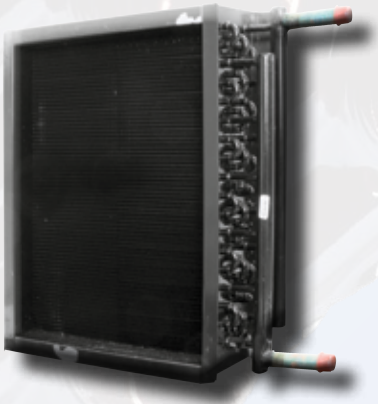
York's E-coating is a flexible epoxy polymer coating process engineered specifically for HVAC heat transfer coils. E-Coat formulation is specifically designed to provide excellent edge coverage of fins with a unique polymer that controls the flow characteristics of the coating, a process that can provide 100% coil coverage without bridging. E-coating is available on many of York's coil designs including aluminum microchannel coils, conventional copper tube coils with standard and enhanced aluminum fin designs.

York's heating and air conditioning products are designed with reliability and durability in mind; however in the harshest conditions such as the sea coast, process paper mills, chemical factories and other corrosive environments added protection such as York's E-Coat coil coating is a must.

Benefits of York's E-Coating Process:

- Exceptional flexibility and durability- E-Coat adhesion properties and flexibility of the coating material provides excellent coil coverage and corrosion resistance.
- Not only does the E-Coat coating provide excellent seacoast, salt environment protection it provides outstanding protection in acidic and alkaline environments ranging from 3.0-12.0 pH levels.
- E-Coat coating is designed to protect the coil with less than 1% thermal performance degradation so unlike many other types of coil coatings, E-Coat protects the products heat transfer coils without an adverse effect on cooling or heat pump performance.
- E-Coat coated coils have been tested and passed ASTM B-117 Salt Spray tests exceeding 6000 hours.
- Excellent corrosion and UV resistance.
- York UPG's HVAC products are not only assembled in the U.S.A., but E-Coat is also a domestically applied product.
- E-Coat coated commercial coils include a 3-year warranty.
- A 5 year unit replacement guarantee including labor is available on select residential products if the coil fails due to corrosion.*

Without E-Coat Coating



With E-Coat Coating

After 1000 Hour Salt Spray Test

The proof is in the extensive salt spray testing. The photographs shown to the left are real world applications that show a heat transfer coil untreated and treated with E-Coat protective coating after many thousands of hours in an salty environment.

*Residential unit must be registered online within 90 days of installation otherwise the parts warranty reverts back to a 5-year limited parts warranty.

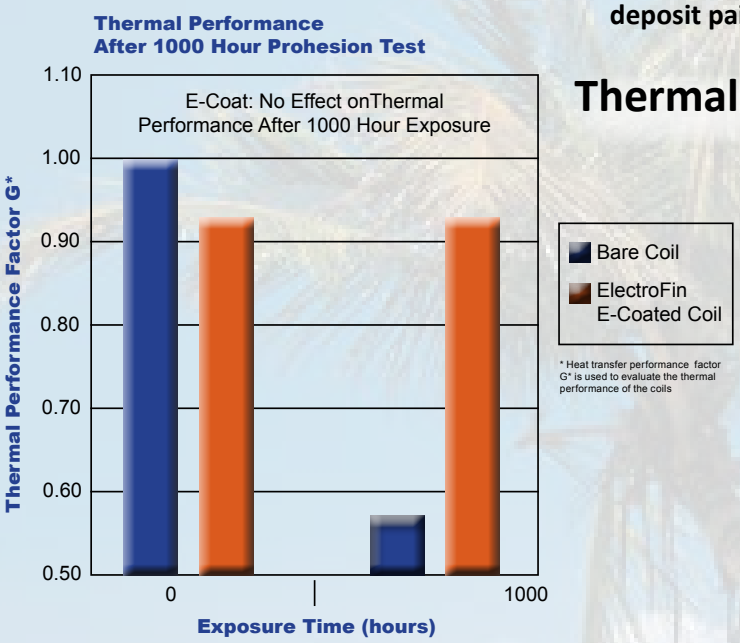
Technical Performance

Corrosion Resistance

In the electrocoating process, the coil acts in the same way as a magnet. The coating molecules are electrically attracted to the metallic coil surfaces, meaning the entire coil is completely and uniformly coated. The result is a finish which provides excellent resistance to coastal marine (salt-air), industrial and urban environments. When properly maintained, you can expect York's E-Coat coated coils to provide protection for years.

York's E-Coat Process

Electrocoating is the process by which a metallic work piece (coil) is submerged in a paint / water bath where electricity is used to deposit paint onto it.



* Heat transfer performance factor G* is used to evaluate the thermal performance of the coils

Thermal Performance After 1000 Hour Test

The chart at left shows less than a 1% thermal performance impact between an uncoated and E-Coat coated coil when first applied. After 1000 hours of salt spray testing the E-Coat coil still performs at 90+% whereas the uncoated coils performance has dropped below 60%. A clear indication of how York's E-Coat helps retain the products performance in harsh conditions.

With York's E-Coat coil coatings customers can realize extended products coil life and continued performance from the product: whereas other manufacturer's products with uncoated coils begin deteriorating in both coil surface area and performance within a short period of time.

York's E-Coat meets these test standards

Test	Standard	Qualification
Dry Film Thickness	ASTM D7091-05	0.6-1.2 mils
Gloss - 60°	ASTM D523-89	65 - 90%
Pencil Hardness	ASTM D3363-00	2 H Minimum
Water Immersion	ASTM D870-02	>1000 hours @ 100°F
Cross Hatch Adhesion	ASTM D3359-97	4B - 5B
Impact Resistance	ASTM D2794-93	160 in./lbs. Direct
Salt Spray	ASTM B117-97	6,048+ Hours
Humidity	ASTM D2247-99	1,000 Hours Minimum
Durability	-	Very Flexible, Consistent Film
Heat Transfer Reduction	ARI 410	Less Than 1%
Bridging	-	No Bridging Guaranteed
Coating Of Enhanced Fins	-	Up to 30 fins per inch
pH Range	-	3 - 12
Temperature Limits		-40° F to 325° F

Specifications

Coil will have a flexible epoxy polymer e-coat uniformly applied to all coil surface areas with no material bridging between fins. The coating process will ensure complete coil encapsulation and a uniform dry film thickness from 0.6 – 1.2 mils on all surface areas including fin edges and meet 5B rating cross-hatch adhesion per ASTM B3359-93. Corrosion durability will be confirmed through testing to no less than 5,000 hours salt spray resistance per ASTM B117-90 using scribed aluminum test coupons.

York's E-Coat coil coatings are chemically resistant to the following chemicals at AMBIENT temperatures.

Acetone	Chlorine Gas	Hydrofluoric Acid (NR)	Methyl Isobutyl Ketone	Sodium Bisulfite
Acetic Acid	Chromic Acid (NR)	Hydrogen Peroxide 5%	Mustard Gas	Sodium Chloride
Acetates (ALL)	Citric Acid	Hydrogen Sulfide	Naphthol	Sodium Hypochlorite 5%
Amines (ALL)	Creosol	Hydrazine	Nitric Acid (NR)	Sodium Hydroxide <10%
Ammonia	Diesel Fuel	Hydroxylamine	Oleic Acid	Sodium Hydroxide >10% (NR)
Ammonium Hydroxide	Diethanolamine	Iodine	Oxalic Acid	Sodium Sulfate
Amino Acids	Ethyl Acetate	Isobutyl Alcohol	Ozone	Stearic Acid
Benzene	Ethyl Alcohol	Isopropyl Alcohol	Perchloric Acid	Sucrose
Borax	Ethyl Ether	Kerosene	Phenol 85%	Sulfuric Acid 25-28%
Boric Acid	Fatty Acid	Lactic Acid	Phosgene	Sulfates (ALL)
Butyl Alcohol	Fluorine Gas	Lactose	Phenolphthalein	Sulfides (ALL)
Butyl Cellosolve	Formaldehyde 27%	Lauryl Acid	Phosphoric Acid	Sulfites (ALL)
Butyric Acid	Fructose	Magnesium	Potassium Chloride	Starch
Calcium Chloride	Gasoline	Maleic Acid	Potassium Hydroxide	Toluene
Calcium Hypochlorite	Glucose	Menthol	Propyl Alcohol	Triethanolamine
Carbon Tetrachloride	Glycol	Methanol	Propylene Glycol	Urea
Cetyl Alcohol	Glycol Ether	Methylene Chloride	Salicylic Acid	Vinegar
Chlorides (ALL)	Hydrochloric Acid <10%	Methyl Ethyl Ketone	Salt Water	Xylene

NR = Not Recommended

E-Coat is not intended for liquid to liquid (immersion) applications. Elevated temperatures can have an adverse effect on the corrosion durability of E-Coat, depending on the specific environment. This table is to be used as a GUIDE for general reference. For specific corrosion resistance durability, please contact your York representative to discuss your individual application.

YORK®

It's time to get comfortable.®