Replacement Coils for Every Industry | Replacemenet Engineering Made Easy



COLL COATING OVERVIEW

FinKote2 FinKoteZx FinKoteRx Spears Mechanical Systems, Inc.



COIL COATING

FinKote2 is the premium coating system for the HVAC industry. Years of ineffectual coatings in the HVAC market prompted the development of FinKote as a way to address those shortcomings. Finkote is a high edge build e-coating system that effectively coats both microchannel and tube and fin coils in AC units. Aluminum, copper, and steel coils can now be protected from corrosion, particularly in cases of high UV exposure, coastal installations, and offshore projects — anywhere with a highly abrasive environment that will cause premature wear on coils. FinKote2 is the most advanced currently available e-coat system in the HVAC industry.

FinKote2 now includes a standard 6 Year Warranty!



PRETREATMENT

Parts are cleaned and pretreated with a conversion coating to prepare the part for electrocoating. This process guarentees a perfect final coat that is able to withstand corrosive environments where conventional coils would break down and fail.



ELECTRO-COAT

Direct current is applied between the parts and an electrode. Paint is attracted by the electric field to the part where the current is deposited. This process allows for a durable and longer lasting bond that is optimal for areas that are unable to be painted conventionally.



RECOVERY

Every coil and all its parts are rinsed to reclaim deposited paint solids, ensuring a perfect coating with no leftover residue or product waist. Any debris or foreign material could effect performance and result in possible system failure. Perfection and complete customer satisfaction is our number one priority.



CURE

Paint is thermally cross-linked and cured to the surface. Our curing process allows for a total dry and hardened exterior in a short period of time. With the heat application and curing process you can rest assured that your coating will provide adequate protection and increase longevity.

For sizing, selection and pricing please contact us today at 937.540.9093 | We are here to help!

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COIL COATING



FinKOTE2 PERFORMANCE TESTING

TEST	SPECIFICATION	RESULTS	
SWAAT run to fail	ASTM G85 A3	289 Days (6936 hrs)	
30 Day SWAAT + Adhesion	ASTM G85 A3, ASTM D3359	Pass, 4B	
2400 hr Cyclic corrosion + Burst	ASTM G85 A2	Pass, 2100 psi	
Water resistance	ASTM D870-09	Pass, 260 hrs, no flaking or chipping	
Chipping resistance	ASTM D3170	Pass, 7A	
Steam resistance	ASTM D714	Pass, 48 hr, #6 or better	
Humidity resistance	ASTM D2247	Pass, 600 hrs, no blistering or gloss loss	
UV & QUV resistance	ASTM G53-88, D4587, D523	1000 hrs, no loss	
Chemical resistance		48 hr immersion resistant to over 200+ chemicals	
Heat transfer		<3%	
Thickenss	ASTM 376	.8 - 1.2 mil (E-COAT) 1.8 - 4 mil (total)	
Flexibility	ATSM D4145, ATSM 522	2T, 5/8″ mandrel	
Impact resistance	ASTM D2794-93	120 in. lbs, no cracking or chipping	
Adhesion	ASTM 3359	5B	

COIL COATING Anti-Microbial



Dramatically Reduces the Growth of Germs On Surface • 99% Effective Against Mold, Mildew, E Coli, H1N1 and MRSA • Permanently Bonded To The Surface • Destroys Microorganisms by Attacking the Cell Membrane

Spectrum Microbial Control:

Fungi, Mold, Mildew, Germs, Gram (+) and Gram (-) Bacteria, Yeast, and Algae.



INFINITE LIFE

The film cannot be removed by moving air, water/detergents, or physical touch. The longer polymer chains will kill microbes on contact as long as the microbes can come in contact with the treated surface.



DURABILITY

As an organic functional silane, this chemistry has the ability to react with surfaces and with itself in ways that allow for durability consistent with the durability of the substrate that is being treated. The bound monomers react with each other to form a cross-linked polymer of extremely high molecular weight, thereby producing an essentially permanent antimicrobial surface.



BROAD APPLICATIONS

The product provides the chemical stability needed for compatibility with all kinds of substrates and typical manufacturing processes while being able to survive the use and abuse of commercial and consumer applications.

HOW IT BONDS



- 1. Ion Exchange Very rapid cationic coating is developed one molecule deep. This is an ion exchange process by which the cation of the silane compound replaces protons from water on the surface.
- 2. Polymer Cross-Linking 2 ways The silane compounds have silicon functionality enabling them to polymerize, after they have coated the surface, to become almost irremovable even on surfaces with which they cannot react, covalent bonding to that surface will also occur and it is also possible to have intermolecular polymerization.



STANDARD 1 YEAR WARRANTY

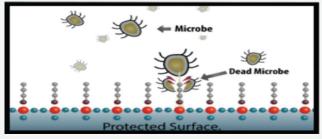
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COIL COATING Advanced Anti-Microbial



PARTIAL LIST OF PATHOGENS DESTROYED OR INACTIVATED



Gram Positive Bacteria

Bacillus sp. (vegative cell) Bacillus subtilis Clostridium difficule Corynebacterium diptheriae Enterococcus sp. (incl. VRE) Listeria Micrococcus sp. Mycobacterium tuberculosis Mycobacterium smegmatis Propionibacterium acnes Staphylococcus aureus Staphylococcus aureus (MRSA) Staphylococcus epidermis Streptococcus faecalis Streptococcus mutans Streptococcus pneumonia Streptococcus pyogenes

Viruses

Adenovirus Type II & IV Bovine Adenovirus Type I & IV Feline pneumonitis Herpes simplex Type I Herpes simplex Type II HIV-1 Influenza A2 (Aichi) Influenza A2 (Asian) Influenza B Mumps Norovirus Parainfluenza (Sendai) Rous sarcoma Reovirus Type I Simian Virus 40 Vaccinia MS2 PRD1

Fungi, Algae, Mold, Yeast, Spores

Alterania alternate Aphanizonmenon sp. Aspergillus flares Aspergillus niger Aspergillus sydowi Aspergillus terreus Aspergillus versicolor Aspergillus verrucari Anabaena cylindrica Aureobasidium pullans Candida albicans Candida pseudotropocalis Cephaldascus fragans Chaetomium globsum Chlorophyta protococcus Chlorophyta selenastrum Chlorophyta sp. Chrysophta sp.

Chrysophta sp. Chlorella vulgaris Cladopsorium cladosporioides Cyanophyta anabaena Cyanophyta oscillatoria Cyanophyta (blue-green) sp. Dreschslera australiensis Epidermophytan sp. Gliomastix cerealis Escherichia Gloephyllum trabeum Gonium sp. Microsporium sp. Microsporium audouinii Monilia grisea Oscillatoria sp. Penicillium chrysogenum Penicillium commune Penicillium funiculosum

Gram Negative Bacteria

Actinetobacter aerogenes Actinetobacter calcoaceticus Aerobacter aerogenes Aeromonas hydrophilia Citrobacter deversus Citrobacter freundi Enterobacte aerogenes Enterbacter aglomerans Enterobacter cloacae Enterococcus sp. coli Klebsiella oxytoca Klebsiella pheumoniae Klebsiella pneumophila Legionella morganii Mycobacterium tuberculosis Proteus Mirabilis Vulgaris Proteus Pseudomonas aeruginosa Pseudomonas fluorscens Psuedomonas pulida Salmonella cholera suis Salmonella typhimunium Salmonella typhosa Serratia liquifaciens Serratia marcescens Treponema hyodysenteriae Xanthomonas campestris

Penicillium pinophillium Penicillium variable Phoma fimeti Pithomyces chartarum Poria placenta Pullularia pullans Scenedesmus Saccharonyces cerevisiac Scolecobasidium humicola Selenastrum gracile Selenastrum sp. Trichoderma viride Trichophyton interdigital Trichophyton maidson Trichophyton mentagrophytes Trichophyton sp.



COIL COATING Extreme Environment Coating

FinkoteZx, a multi-layered coating process designed to withstand the worlds most challenging applications. Food processing plants, waste water treatment facilities, airports and refineries are locations where extreme chemical attack occurs. FinkoteZx custom formulates a coating package designed to meet the chemical resistance requirements of the location. NSF-51 Certified and FDA compliant top coats available.



OUR COATING

Advanced Zirconium Oxide Pretreatment • Electro-deposit Epoxy Base Primer - NSF51 Certified • Cross-linked Top Coat - FDA Compliant • Extreme chemical resistance • Acid Resistant, Chlorides, Sanitzers, H2S



PERFORMANCE TESTING

- Corrosion: ASTM G85-A3 6900+
- Adhesion: ASTM D3359 5B
- NSF 51 Certified



PROPERTIES

- EC-6100 Cathodic base primer
- Proprietary Chemical Resistant Top coats
- DFT 1.5 2.8 ml
- Max temp 550 F Continuous



APPLICATIONS

Food Processing Plants, Waste Water Treatment Facilities, Airports, Refineries/ Chemical Processing, Offshore Platforms, Mining



STANDARD 1 YEAR WARRANTY

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COIL COATING Extreme Environment Systems



Extreme Environment Coating Systems

Finkote Zx Extreme Environment Coating Systems			
FinKoteZx IS RESISTANT TO THE FOLLOWING CHEMICALS			
Acetone	Fluorides	Ozone	
Acetic Acid	Formic Acid	Peracetic Acid 0.08%	
Acetates	Fructose	Perchloric Acid	
Amines	Gasoline	Phosphoric Acid	
Ammonia	Glucose	Potassium Chloride	
Ammonium Hydroxide	Glycol	Potassium Hydroxide	
Amino Acids	Glycol Ether	Propyl Alcohol	
Bleach	Hydrochloric Acid	Salicylic Acid	
Butyl Alcohol	Hydrogen Peroxide	Salt Water	
Calcium Chloride	Hydrogen Sulfide	Sodium Chloride	
Carbonic Acid	lodine	Sodium Hypochlorite 5%	
Chlorides	Isobutyl Alcohol	Sodium Hydroxide <10%	
Chlorine Gas	Isopropyl Alcohol	Sodium Sulfate	
Chromic Acid	Kerosene	Sucrose	
Citric Acid	Lactic Acid	Sulfuric Acid 25-28%	
Creosol	Methol	Sulfates	
Diesel Fuel	Methanol	Starch	
Ethyl Acetate	Methylene Chloride	Tolulene	
Ethyl Alcohol	МЕК	Xylene	
Ethyl Ether	Methyl Isobutyl Ketone	Additional Testing Available	

COIL COATING Finkote 2 Cleaning

This document provides guidelines for general and routine maintenance in accordance with FinKote2 warranty requirements. All manufacturers' directions for maintaining your system should be followed. This guideline provides the required cleaning intervals and steps to validate the FinKote2 warranty.



FREQUENCY

All coils must receive quarterly maintenance procedures outlined below to maintain your FinKote2 warranty as stated in the Terms and Conditions.



SAFETY

Safety procedures should be followed at all times. This includes, but not limited to, electrical power, protective clothing and proper tools to complete the task.



SHUT OFF POWER

Follow lock out / tag out procedures to ensure the unit is powered down prior to any cleaning procedures.



CLEANING STEPS

- 1. All cleaning must be done in the direction of the fin stock to reduce fin damage.
- 2. Chlor*Rid DTS must be properly flushed from the coil.
- 3. Be Gentle
- 4. Any pressurized cleaning systems can cause damage to the fins if you are too aggressive. Keep pressure nozzle at a 8"-16" distance from the coil with a 40° angular tip to prevent folding the fins over. Recommended maximum pressure should be 900 psi. Test a small section along the edge to establish distance and direction.
- 5. Bleach, household cleaners and contaminated water are not approved for cleaning and will reduce service life and void warranties.

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COIL COATING Finkote 2 Cleaning



CHEMICALS TO USE

Use Chlor*Rid DTS for the removal of chlorides, sulfates, nitrates and soluble salts.



SURFACE PREP

Coils may exhibit a build-up of dirt, grass, ragweed and many other airborne contaminants. Avoid pushing or driving materials deeper into the coil while cleaning. Use a soft bristle brush and/or a shop vac to remove as much debris as possible from the surface of the coil. If necessary, wash the face of the coil using a pressure washer with a maximum pressure of 900 psi at the spray tip. This should be done at a distance of 8"–16" and in the direction of the fin stock.

SOLUBLE SALT REMOVAL

Chlor*Rid DTS may be applied using a low pressure pump-up sprayer and does not require dilution before being applied to a FinKote2 coil. It is necessary to wet the entire surface of the coil starting at the bottom and working to the top. After the surface has been thoroughly wetted and 5 minutes has elapsed, the salts

will have been solubilized and rinsing will be required. Thoroughly rinse the coil from the front and back side using a pressure washer at less then 900 psi. Depending on the severity of the contamination, it may be required to repeat the salt removal process



DOCUMENTATION

- 1. Record date of installation
- 2. Record quarterly cleaning methods and service provider
- 3. Contact your FinKote2 representative if you have any questions or if you need assistance.

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OUR STORY

USA Coil & Air is one of the largest and oldest replacement coil companies in our industry. Over the years, we have developed other great lines of HVAC equipment to include direct drive and belt drive fan coil units, central station units with emphasis on the replacement market as well as fluid coolers, remote air-cooled condensers and tube bundles. Every one of our lines is specific to the quick shipment and requirements of the replacement market. You will find that we make this process simple and easy. We have expedited schedules for all our equipment and know how to deal with existing facilities and the problems related to shipment and delivery. We also pride ourselves with great application engineering so that you don't replace equipment without having a true understanding of why the original might have failed and what can be provided in the replacement to increase longevity.



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