

TECHNICAL DATA SHEET - INFINIGUARD®

Product Description: HVAC Coating – All metals, including galvanized steel

INFINIGUARD® is a two-part hybrid silicon-based ceramic coating designed to bond at the molecular level with all metal substrates. The resulting surface of the INFINIGUARD® coated substrate exhibits extreme protection against oxidation, microbial intrusion, chemical corrosion and ultraviolet degradation. Furthermore, it demonstrates an increased flowrate of both liquid and gaseous substances across its surface versus a non-coated metal surface, and can be applied to electrical equipment and control panels.

Suggested Uses:

Mild steel, medium carbon steel, stainless steel, aluminum, galvanized steel and electrical equipment.

Surface Preparation:

INFINIGUARD® must be applied over a sound, clean surface free from oil residue, residual grease, silicone residue, coil cleaner residue, and dirt/dust build-up. A mild chemical cleaner is suggested, such as our INFINIGUARD® PREP commercial cleaner/degreaser, that rinses away easily without leaving a chemical residue. The electronic control panels will be sprayed with isopropyl or denatured alcohol and gently wiped with a microfiber cloth to remove any residue (under no circumstances should INFINIGUARD® PREP or water be applied directly to the electronic control panels). After the equipment to be treated with INFINIGUARD® has been thoroughly rinsed with clean water, it should be dried with an electric air blower to remove excess standing water between the fins and from the coils, as well as the flat interior horizontal surfaces and trays of the unit.

INFINIGUARD® Mixing Process:

INFINIGUARD® is a two-part coating that comes in pre-measured containers in exact quantities and packaged under argon gas. Once opened and exposed to the outside atmosphere, the two components of the coating must be completely mixed and catalyzed at the same time. The components are packaged in two bottles labeled (A) and (B). To activate, carefully remove the caps and seals from both bottles and pour Part (B) completely into the bottle labeled Part (A), taking care not to spill any material. Since the contents are prepared in exact quantities for proper catalyzing to occur, it is vital to empty the entire contents of (B) into (A) and not spill any contents of (B) during the process. Replace the cap of Part (A) bottle, shake well and set the bottle down. The mixture must stand for a minimum of **48 hours** to complete induction and ensure maximum performance; once inducted, the product is ready for use. Pot life of mixed material is 10 days since the day it was mixed when kept closed while not in use.

Application of INFINIGUARD®:

INFINIGUARD® is to be applied by using a commercial HVLP spray gun. The gun must be set for the application of a fine mist in order to properly penetrate the HVAC coil and fin assemblies. On thicker and denser coil and fin assemblies, an electric fan facing away from the coil on the opposite side of the spray application can be used to help draw the flow of air and coating through the entire coil assembly..

Security Requirements:

Protective eyewear, air-purifying respirator, and gloves are required when using INFINIGUARD®.

Post-Application Cleaning:

Clean tools and equipment used for applying immediately after use with 100% pure isopropyl alcohol, 100% pure denatured alcohol, or acetone.

Handling, Mixing and Application:

Packaging life after mixing: 10 days in closed container at room temperature

Film Thickness: 0.0508mm (2 mils) wet thickness, 0.0127mm (0.5 mils) dry thickness

Ideal Conditions for Curing: 70°F (21°C) and 70% Relative Humidity

Curing Time: Between 2 to 4 hours if the temperature is 70°F (21°C) or greater and relative humidity is between 70% - 90%. Cure time is contingent on temperature and relative humidity. The higher the temperature and relative humidity, the faster the cure time. IT IS NOT RECOMMENDED TO APPLY INFINIGUARD WHEN TEMPERATURE IS BELOW 50°F (10°C) AND HUMIDITY IS BELOW 30% OR ABOVE 95%.

Product Characteristics (Typical Data):

Salt spray test: 12,000 hours (ASTM B117)

Pencil Hardness: 9H (ASTM D3363)

Cross Adhesion: 5B (ASTM D3359)

Taber Abrasion Resistance Test: 39 mg Loss @ 1000 cycles with CS-10 wheel (ASTM D4060-19)

Mandrel Bending/Bend Test: Passed 1/8" (3.18mm) (ASTM D522)

Food Contact Certification: Passed (US FDA 21 CFR 175.300)

Humidity Resistance: 2,000+ hours without degradation (ASTM D2247)

Water Immersion: 2,000+ hours without degradation (ASTM D870)

Ultraviolet Resistance: 2,000+ hours without degradation (ASTM G154)

Resistance to Cyclic Corrosion: 120 cycles of humidity, salt and drying (SAE J2334) resulted in: **NO COATING DAMAGE, BUBBLES, RIPPING, DELAMINATION OR LOSS OF COATING THICKNESS**

Pressure Rating: No change in underlying substrate pressure. Protects the substrate against corrosion.

Chemical resistance: INFINIGUARD® has excellent resistance to a variety of chemicals, including but not limited to industrial cleaners, acids and bases. For more information on these chemicals, see the INFINIGUARD® Chemical Resistance Guide located at www.infiniguard.com.

Thermal conductivity: At 2 mils (0.0508mm) thickness (four times dry film thickness) thermal conductivity is greater than 5.0 W/mK (ASTM 5470)

Temperature Rating: Cross hatch adhesion 5B after 5 cycles 4 hours each at 350°F (176.7°C)

Estimated product yield on flat surfaces: 1,000 - 1,200 ft²/gal (93 - 112 m²/gal)

Shelf Life without mixing: 1 year.