

# SurfSil R-10

## Product Specification

Revision Date:  
May 1, 2011

### Ultra-High Performance HVAC/R Coating:

#### Purpose:

- To protect all HVAC/R equipment components from environmental agents that degrades the equipment efficiency, capacity, and life expectancy.
- In addition, it provides a hydrophobic surface reducing the accumulation of pollutants and debris on the equipment surfaces and does not support the growth of mold, fungus, or algae; thus reducing maintenance costs.

#### Applicability:

- All HVAC/R equipment components can be applied with SurfSil R-10, including Condenser Coils, Evaporator Coils, Drain Pans, Compressor Casings, Fans, Cabinets, Piping, and Structural Components.
- In addition, the coating is compatible with different materials like Copper, Aluminum, Stainless Steel, Galvanized Metal, Cast Iron, Pre-painted Surfaces, and different types of Plastics.

#### Characteristics:

- SurfSil R-10 protects by sealing all components surfaces from Direct Attack Corrosion\* and Galvanic Corrosion \*\*. The coating is UV resistant and it is also resistant against different environmental pollutants like acid rain.
- SurfSil R-10 is a clear coating with an average dry thickness of 15 microns.
- Because the coating is clear it does not affect the OEM look, as a matter of fact, the clear coating is highly gloss enhancing the cosmetic look of pre-painted panels and other components.
- By customer request a blue dye can be added to the formula allowing a translucent blue look to the final film.
- The coating thickness is one of the most important features, due to its low viscosity of 0.97 and a final mean dry thickness of 15 microns the coating is guaranteed to penetrate all micro-cavities of heat transfer surfaces like Evaporator and Condenser Coils.
- The high conductivity of the coating composition and its thickness are designed not to alter the Coils heat transfer properties so equipment efficiency and capacity are not affected. Furthermore, because the coating properties inhibit the accumulation of debris on the heat transfer surfaces the unit efficiency is better maintained between periodical services.

#### Tests Performed (third party laboratories):

1. The coating has exceeded 10,008 hours (417 cycles/day) in a Salt-Test Chamber based on ASTM B-117, rated based on ASTM B537-70 (practice of rating).
2. The coating has passed the impact test ASTM D2794-04 with 39.68 inch x lbs, without cracking.
3. The coating has passed the abrasion test ASTM D3359-02, without peeling.
4. The coating has passed the Hardness test ASTM D3363-05 with a superior resistance to 5H.
5. The coating has passed the Conical Mandric test ASTM D522 without signs of cracking.
6. The coating has been exposed and passed for colorfastness and accelerated life to long term UV exposure under ASTM standard G155.
7. The coating has passed ASTM G21 Mold Growth test.

**\*Direct Surface Attack Corrosion:** The surface effect produced by reaction of the metal surface to oxygen in the air is a uniform etching of the metal. The rusting of steel, tarnishing of copper alloys, and the general dulling of aluminum surfaces are common examples of direct surface attacks. If such corrosion is allowed to continue unabated, the surface becomes rough and in the case of aluminum, frosty in appearance. Direct surface attack is sometimes referred to as uniform etch corrosion

**\*\*Galvanic Corrosion:** This is the term applied to the accelerated corrosion of metal caused by dissimilar metals being in contact in a corrosive medium. Dissimilar metal corrosion is usually a result of faulty design or improper maintenance practices which result in dissimilar metals coming in contact with each other. This is usually seen as a buildup of corrosion at the joint between the metals.