

# MICROGUARD<sup>®</sup>

HVAC

## TECHNICAL DATA SHEET TS-16

### MicroGuard<sup>®</sup> HVAC/R Coil Clear Protective Treatment AD35

TYPE	DRY FILM THICKNESS	APPLICATION METHOD	THINNERS	CLEAN UP	DRY TIME		
					TACK	CONDENSER	EVAPORATOR
Inorganic Siloxane	6 – 8 microns	Conventional Spray	Do Not Thin	MicroKleen™ AD1-919	1 hours (on average)	2 hours (re-power unit)	4 hours (re-power unit)

**DESCRIPTION:** MicroGuard<sup>®</sup> AD35 Clear is designed for application onto air handling equipment to resist the destructive effects of corrosive environments, such as salt laden coastal air, or industrial environments. Its low solids formula penetrates deeply into the coil fin-pack, thus, ensuring maximum protection. Extensive field and laboratory testing has demonstrated that MicroGuard<sup>®</sup> AD35 significantly inhibits mold growth, which promotes better indoor air quality and also reduces corrosive degradation of HVAC/R equipment. Plus, its micro-thin film does not act as an insulating barrier to heat exchange efficiencies, rather, air-flow efficiencies are maintained and energy costs may be reduced over the life of the HVAC/R Unit asset. Ideal for field or shop installations.

- **Condenser Coils**
- **Evaporator Coils**
- **Non-Ferrous Metals**
- **Weathered Cabinets**

**WHERE TO USE:** Aluminum or Copper Coils – Provides maximum corrosion protection over bare aluminum or copper HVAC/R coils, fins & fans. Suitable for weathered factory painted cabinets. Excellent on stainless steel. Do not use over galvanized steel.

**SURFACE PREPARATION:** Eliminate power to the HVAC/R Unit at the circuit box; implement lock out/tag out. Remove access doors and fan screens in accordance with professional industry standards. Mask or protect all non-hermetically sealed electronic parts, such as relays. Gently broom clean or vacuum the fin and tube areas free from dust, dirt, cobwebs, leaves and/or other debris. If necessary, carefully straighten bent or folded fins with a fin comb.

Using an Adsil Pump & Wand Soap System, flood the coils, fins, fans and cabinet with MicroKleen™ Industrial Cleaner & Degreaser PLC-1 reduced 1:1 with clean, hot water. Apply the diluted PLC-1 from all sides of the coils. Allow the cleaner to soak on the surface for 5 minutes. Do not allow the cleaner to dry. If spot drying occurs, lightly refresh with more PLC-1. After 5 minutes, rinse away the cleaner with clean tap water. Repeat the cleaning and rinsing process. Rinse well beyond the “suds” removal phase. Capture and reclaim all rinse material. Dispose of rinse effluent per any existing regulations.

After cleaning and rinsing has been accomplished, thoroughly remove all traces of cleaner residue from the Pump & Wand Soap System by flushing with liberal quantities of clean water. Next, using the now clean device, flush the surface with MicroKleen™ Final Rinse AD72-930. Methodically work from the top, proceeding down and thoroughly rinse from both sides of the coils. Allow the unit to dry completely. Use an electrically powered leaf blower to help drying.

**MIXING INSTRUCTIONS:** MicroGuard<sup>®</sup> AD35 is a three-component material and must be properly mixed before use. This product is packaged, in kit form, with separate containers for the A, B & C components. To mix:

- Pour the A component liquid into a clean, white or clear HDPE 5 gallon plastic bucket, only. Then, pour the B component liquid into the A component.
- Using an Adsil Product Mixer blend the two components for 15 minutes. Cover the bucket with a “V” cut notched lid to accommodate the mixing shaft. Take care to keep the mixing paddle from striking the side of the bucket while the paddle is rotating. You will notice an exothermic heat reaction as the components are blended together. This is a normal product reaction.
- Next, pour the C component into the admixture of the A & B components. Blend for 15 additional minutes.
- Once the blending is completed, cover the bucket with a full lid and set the mixed material aside for 30 minutes to chemically induct (“sweat in”). The usable pot life of mixed material is 4 to 6 hours.

When mixing a single, 1 quart batch, use a standard lab magnetic mixing device with magnetic peanut. Mix in the Component ‘A’ bottle. Follow mixing times precisely, as stated above. Do not deviate from these published instructions.

**PRODUCT YIELD ESTIMATE:**

Residential HVAC/R: (5 tons or less) - 1 quart of MicroGuard<sup>®</sup> AD35 will treat approx. 4 tons.  
Commercial HVAC/R: (6-100 tons) - 1 quart of MicroGuard<sup>®</sup> AD35 will treat approx. 5 to 6 tons.

- 1 gallon of MicroGuard<sup>®</sup> AD35 will treat approx. 20 to 24 tons.

The commercial yield estimates are based on 3 row coils and 16 fins per inch. Actual yield will be predicated on the number of fins per inch and the depth of the coil. Increase proportionally for additional fins per inch and coil rows.

**NOTE:** After calculating the amount of product to mix & induct, add a minimum of 10% additional product.



**APPLICATION:**

**Coil Fin-Pack** - MicroGuard®AD35 is best applied using an Adsil dual regulated pressure pot and spray wand assembly. Set the fluid pressure gauge at 10 psi and the air pressure gauge at 40 psi (working pressure). Position the spray wand tip about 4 inches from the surface and trigger the wand. Work from the top and proceed down the coil. Spray from both sides of the coil. If you can see spray mist passing through the coil to the other side, the pressure gauge settings are sufficient. Increase or decrease the pressure settings of the air gauge by 5 psi increments until total penetration of the AD35 is realized through the coil and fin area. Be sure to fully flood the coil fin-pack and blow excess product off the leading fin edges and into the coil. The surface must be completely dry before application begins. Read all applicable MSDS.

**Cabinet Enclosure** – Using the above mentioned spray equipment, set the fluid gauge at 10 psi and the air pressure gauge at 15-25 psi. Spray MicroGuard® AD35 onto the cleaned cabinet in a thin film deposit free from runs and sags. When coating new, gloss painted cabinets, wet sand the gloss paint with 220 grit sandpaper or a green 3M pad. If separation occurs, lightly mist AD35 onto the surface, then, rub the wet coating into the paint with a cotton cloth. Allow to tack dry, then, re-spray a full coat. Re-assemble the HVAC/R Unit and after 2 - 4 hours, re-power at the circuit box.

**CLEAN UP:** Thorough cleaning of the spray system is essential to ensure continued operational efficiency. Purge all remaining AD35 from the pressure pot and fluid hose. Pour at least 1 quart of MicroKleen™ Spray & Equipment Cleaner (IPA) AD1-919 into the pressure pot. Make sure that all interior surfaces of the pot reservoir have been cleaned free from AD35 residue. Next, pressurize the pot and spray the AD1-919 through the wand and nozzle, until the entire quart of AD1-919 has been evacuated into a collecting bucket. Finally, spray one more quart of MicroKleen™ AD1-919 through the wand and nozzle. This will remove all lingering AD35 residue from the equipment fluid hose. Remove the nozzle/tip from the wand and thoroughly clean with AD1-919. Reassemble the tip onto the wand and store the equipment.

**Note:** Dispose of collected cleaning material according to current local regulations.

Remove debris from the job site area and after 2 - 4 hours, assemble and re-power up the Unit.

**ASTM LAB TESTING:**

ASTM B 117 Salt Chamber – 6,000 hours (aluminum)

ASTM D 4060 Taber Abrasion (CS-10 Wheel @ 1000 Cycles) – 12.5 mg loss

ASTM G 21 Fungal Growth – Zero (0) Growth

**Note:** All MicroGuard® product performance testing has been accomplished by accredited, third party testing laboratories and in full compliance with the particular ASTM Testing Protocol.

**POST MAINTENANCE:**

Periodic post cleaning of the coil and fin assemblies will help improve the general operating efficiencies of the HVAC/R Unit. For proper post cleaning, use MicroKleen™ PLC-1 Industrial Cleaner & Degreaser, diluted 1 part cleaner to 20 parts hot water. Using an Adsil Pump & Wand System, flood the surface and allow the cleaner to "work" for 2 to 3 minutes. Then, rinse liberally with clean tap water.

Limited Warranty - In order to maintain peak operating efficiency of the HVAC/R Unit and also maintain the integrity of any limited warranty protection, cleaning maintenance must occur at least every 180 days, per published specifications.

Never use harsh commercial coil cleaners for post cleaning maintenance.

**CURING INFORMATION:**

MicroGuard® AD35 cures by a cross-linking reaction. Whereas this protective clear dries to touch in about 1 hour, full cure is not realized for 5 to 7 days. Avoid premature cleaning of the coil fin-pack or exposure to harsh chemicals for at least 5 days following application. Avoid contact with water for 4 hours after installation. Do not apply when air, product, or surface temperatures are, or will be below 60 F.

Curing of the film does not occur at ambient or surface temperatures below 500 F.

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