



Technical Data Sheet TS-18

MG1-3500 HVAC/R & Metals Clear Coating

TYPE	FILM THICKNESS	APPLICATION METHOD	THINNER	CLEAN UP	LIFE		DRY TIME	
					POT	SHELF	TACK FREE	FULL CURE
Clear, Inorganic, Reacted Siloxane	Wet 25.4-38.1 microns (1 – 1.5 mils) Dry 6 - 8 microns	AS1-2 HVAC Spray System w/EPDM seals and hoses	None	MicroKleen™ AD1-919	7 Days	1 Year	1-2 Hours (average)	5 Days (75° F, 50% RH)

DESCRIPTION: MicroGuard1™ 3500 (MG1-3500) HVAC/R & Metals Coating 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 inorganic, low viscosity formula penetrates deeply into the coil fin-pack, and molecularly bonds to it, ensuring maximum protection. Extensive field and laboratory testing have demonstrated that MG1-3500 significantly inhibits mold growth, which promotes better indoor air quality. Plus, its micro-thin film does not act as an insulating barrier to heat exchange efficiencies, 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**
 - **Painted Metal Surfaces**
 - **Non-Ferrous Metals**
- MicroGuard1™ 3500 provides maximum corrosion protection over HVAC/R coils (most configurations including microchannel coils), and fan blades. Excellent for protecting bare aluminum, good quality copper, stainless steel, non-ferrous metals, and painted metals. Suitable for faded/weathered cabinets. Please contact Adsil for specific instructions to coat galvanized metals and copper alloy fins.

SAFETY PRECAUTIONS:

- Use Nitrile gloves and safety goggles when working with product
- During application, wear OSHA approved respirator fitted with organic vapor cartridges (3M model #60926 or equivalent)

SURFACE PREPARATION:

1. If the A/C unit is field installed, disconnect the power supply; implement lock out/tag out. Remove access doors and fan guards in accordance with professional industry standards. Mask or protect all non-hermetically sealed electronic parts, such as circuit boards and relays. Mask name plates and tag plates. 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.
2. Using the AS1-4 Adsil Pump & Wand Soap System, flood the coil fins, fan blades and cabinet with MicroKleen™ Industrial Cleaner & Degreaser PLC-1 reduced 1:1 (20:1 on older faded cabinets). Use hot water if available. Apply the diluted PLC-1 from the bottom to the top of the coils on both sides. 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 to a surface pH of 6 to 8. Use an electric leaf blower to help dislodge water trapped between the fins (never use gasoline powered blowers). Where regulated, capture and reclaim all rinse material. Neutralize and dispose of rinse effluent per any existing regulations.
3. After cleaning and rinsing has been accomplished, thoroughly flush all traces of cleaner residue from the AS1-4 Pump & Wand Soap System with liberal quantities of clean water. Next flush the coil and surfaces with MicroKleen™ AD72-930 Final Rinse. Methodically work from the bottom to the top of the coil on both sides. Do not rinse off the AD72-930. Allow the unit to dry completely (run unit in cooling mode if possible). Use an electrically powered leaf blower to help with final drying.

APPLICATION: SHAKE CONTAINER FOR 30 SECONDS BEFORE EACH USE

- **Coil Fin Pack** – The surface must be completely dry before application begins. Read all applicable SDS information. MicroGuard1™ 3500 **must be applied** using the Adsil AS1-2 HVAC Spray System w/EPDM seals and hoses, a dual regulated pressure pot and spray wand assembly. Set the fluid pressure gauge (first regulator) to 10 - 12 psi and the air pressure gauge to 40 - 45 psi. Position the spray wand tip about 4 – 6 inches from the surface and fully trigger the wand. If you can see spray mist passing through the coil to the other side, the pressure gauge settings are sufficient. If not, increase the pressure settings of the gauges by 5 psi increments until total penetration of the MG1-3500 is realized through the coil fin-pack. Spray apply with two crosshatched passes ONLY. Spray side-to side with 50% overlap, turn the gun 90°, and spray up-and-down with 50% overlap. Do not fully flood the coil fin-pack. Work in a manner so that already applied coating will not be over sprayed after 10 minutes of cure time has elapsed. Spray from both sides of the coil. After excess coating has stopped dripping off fins, lightly blow any excess product accumulation (drops) off the bottom of the fins with an electric leaf blower or low pressure compressed air nozzle.
- **Cabinet Enclosures** – When coating new (glossy) painted cabinets, use PLC-1 at 1:1 to remove any dirt or oils. Rinse thoroughly with water. For older (oxidized) cabinets, wash off paint chalk using PLC-1 at 20:1 with water and use mechanical agitation (such as a soft brush or rag). Rinse well with water and let dry.

Cabinet Coating Application Options: (mask name plates and tag plates)

Option 1: Use an HVLP paint gun to spray a very light coat onto the cabinet (this works well for older, oxidized units).

Option 2: Dampen a cheese cloth rag with coating, and wipe on a thin film that is free from runs and sags.

Re-assemble the HVAC/R Unit, re-power at the circuit box (if field connected).



PRODUCT YIELD: After calculating the amount of product to use, add a minimum of 10% additional product.

- Residential HVAC/R (5 tons or less): 1 quart of MicroGuard1™ 3500 will treat approximately 4 tons.
- Commercial HVAC/R (6-100 tons): 1 quart of MicroGuard1™ 3500 will treat approximately 5 to 6 tons.
1 gallon MicroGuard1™ 3500 will treat approximately 12.5 tons.

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

CURING INFORMATION:

MicroGuard1™ 3500 cures by a cross-linking chemical reaction. This protective clear treatment dries to the touch in about 1 -2 hours, but a full cure is not realized for 5 days. The coating *can* reach full cure faster if heated by running the condenser unit in cooling mode. Avoid contact with water for 4 hours after installation.

- **MicroGuard1™ 3500 does not cure when air, material or surface temperatures are below 60° F. Do not apply when air or surface temperatures are above 95° F, or if ambient relative humidity is above 85%.**

CLEAN UP:

- Application tools and spray equipment should be cleaned using MicroKleen™ AD1-919 Spray & Equipment Cleaner (IPA).
- Clean up drips, spills and over spray by saturating a cloth with MicroKleen™ AD1-919 and wiping the affected area before the coating dries to touch. **Do not** allow AD1-919 to get on any uncured coating surfaces (fins, cabinets, etc.) because it will cause the coating to fisheye and leave bare areas for corrosion to begin.
- Dispose of alcohol saturated cloths in a safe manner.

POST-INSTALLATION CLEANING & MAINTENANCE:

- Periodic post cleaning of the coil fin-pack will help improve the general operating efficiencies of the HVAC/R unit. For proper post cleaning, use a neutral pH cleaner (6-8 pH). Using the AS1-4 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.
- To maintain peak operating efficiency of the HVAC/R unit, cleaning maintenance must occur at least every 180 days, per published specifications.
- **Do not use harsh commercial coil cleaners or high alkaline cleaners for post-installation maintenance.**

ASTM LAB TESTING:

MicroGuard® product performance testing is performed in the Adsil lab, or by accredited, third-party testing laboratories in full compliance with each particular ASTM or ISO Testing Protocol.

- ASTM B 117 Salt Chamber Test – 25,300 hours in process (aluminum)
- ISO 16773-3 EIS Barrier Test – 8.19 log Z ohms (significantly better barrier than AD35)
- ASTM G 21 Fungal Growth Test– Rated Zero (0) Growth
- ASTM D3363 Pencil Hardness Test – 9H
- ASTM G 154 UV/Accelerated Weathering Test – no cracking, no erosion, no oxidation
- ASTM D3359 Cross Hatch Adhesion – 5B adhesion

Adsil Cares:

Please handle all chemicals safely and use the proper personal protective equipment (PPE).

Adsil

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