



Document Type / Category Instructions For Use (IFU)

Document Number, Issue, Title IFU 006, Rev02 - Application of AerisGUARD Corrosion Protection Plus

1. PURPOSE

This Application Procedure outlines the process to effectively apply the Corrosion Protection PLUS treatment products to Outdoor Heat Exchange Surfaces and Coils.

The AerisGUARD Corrosion Protection PLUS Coating is a self-etching high performance modern polymeric finish that has been specifically designed for in-the-field applications to coat and protect aluminium and copper surfaces. ***This coating is ideal for the protection of a number of ferrous and non-ferrous metals.***

This provides 2 outcomes;

- A clean and efficient Heat Exchange Coil performing as designed.
- A Coil or Surface treated with AerisGUARD Corrosion Protection PLUS treatment provides 12-months protection against any further corrosion to the coil or surface. This ensures long-term efficiency, optimal system performance and operation as well as maximised operational efficiency. This process will help prolong the operational life of the treated asset.

This IFU covers the steps and actions that need to be taken in the use of AerisGUARD Corrosion Protection PLUS products.

All Aeris Environmental personnel, sub-contractors and certified applicators are expected to take an active role in establishing, implementing and maintaining this Procedure in line with this IFU according to their role and responsibility.

The purpose of acting in accordance with this IFU is to have an uninterrupted, smooth process that ensures that correct process and use of the products are followed. This IFU shall also be part of Aeris' continuous improvement initiative.

2. PROCEDURE DESCRIPTION AND PROCESS FLOW

The Application of Corrosion Protection Treatment procedure is conducted by a Certified AerisGUARD Applicator in accordance with Aeris Environmental Recommendation, your work order and/or job specification.

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The steps in this procedure are as follows:

1. Preparation
 - a. Product Handling & Packaging
 - b. Apparatus & Equipment Required
 - c. Product Dilution and Application Rates
 - d. PPE and OH&S Requirements
2. Setup
3. Application Process
4. Clean up Process
5. Warranty Reporting

3. PROCEDURE

1. Preparation

a. Product Handling & Packaging

- Applicators should consult the product Safety Data Sheet (SDS) prior to use and handling.
- AerisGUARD Corrosion Protection PLUS product is available in 350g (12.3 oz) Aerosol cans, 5L (1.32 US Gal) & 20L (5.28 US Gal) bulk units, both are available in either Aeris Blue or Clear finishes.
- The product has a shelf life of 1 year from the date of manufacture.
- Always store the product out of direct sunlight and not exposed to hot environments for extended periods of time.
- Protection Coating is a self-etching high performance modern polymeric finish.

b. Apparatus & Equipment Required

Tarpaulin
Plastic Sheeting
Thin rope
Broom
Tape
Mop and bucket

Airless spray gun (for application of bulk product)
Residual current device (RCD)
Ladder
G-clamps
Power leads

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c. Product Dilution and Application Rates

AerisGUARD Corrosion Protection PLUS is supplied READY TO USE and DOES NOT require dilution prior to application.

The application rates of the AerisGUARD Corrosion Protection PLUS product are -

COIL

- 200mL/m² of Coil face for a Low Risk environment (0.63 fl. oz./sq. ft.) based on 5 fins/cm (12 fins/inch) and 100mm (4 inch) depth

- 400mL/m² of Coil face for a Medium Risk environment (1.26 fl. oz./sq. ft.) based on 5 fins/cm (12 fins/inch) and 100mm (4 inch) depth

Coastal area – Industrial area – High temperatures

- 500mL/m² of Coil face for a High Risk environment (1.57 fl. oz./sq. ft.) based on 5 fins/cm (12 fins/inch) and 100mm (4 inch) depth
An environment both Coastal and Industrial – Extreme temperatures
– Extreme industrial environment including high Gas levels

FLAT METALLIC SURFACE

- is 20mL/m² for low risk (0.063 fl. oz./sq. ft.)

- is 40mL/m² for medium risk (0.126 fl. oz./sq. ft.)

- is 50mL/m² for high risk (0.157 fl. oz./sq. ft.)

d. PPE and OH&S Requirements

- Gloves (*hi density rubber are recommended*)
- Full or half face masks with filters rated for pesticides and solvents, (P2)
- Safety goggles (*Wraparound Clear are recommended*)
- Full body waterproof suit with hood is recommended (*Disposable suit is adequate to keep clean*)
- Type 1 heavy duty safety boots should always be worn.

Note* Other safety equipment may be required. OH&S requirements can vary geographically or by project nature.

2. Setup

- a. Ensure that the unit is “off line / isolated from operation” prior to and during the entire

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application process. This must be done by an appropriately certified person and may require arrangement with the engineering staff at the site if necessary.

- b. Ensure that equipment being used is protected by a (RCD) Residual Current Device to protect the user from electrical shock
- c. Ensure equipment being used is in good working order.
- d. Remove filtration media to protect the air filters from any deposits of contaminants, cleaning solution, treatment solution or water. A tarpaulin or plastic sheeting may be used to cover these if required.

Note: Air filters are best disposed of and replaced when cleaning and treating the air handling system to avoid contamination of the cleaned components downstream of the filters.

- e. Other parts of the system may need to be covered as well, e.g. fan motor and sensors located near the area to be cleaned.
- f. Ensure that the product barrels on application devices are all attached securely to avoid any spills, leaking or potential hazards.

3. Application process

Surface preparation process

Remove visible debris and corrosion as per IFU 005 CLEANING / PREPARATION OF OUTDOOR HEAT EXCHANGE COILS & SURFACES prior to any application of Corrosion Protection PLUS treatment. Aeris warranty will be void if treatment is applied over existing corrosion.

- A dust mask must be used on starting the pre-clean.
- The entire area of the coils and surface to be treated must be physically brushed to remove any debris or existing coating which are present or have been dislodged.
 - This process is very important to maximise treatment results.
 - Ensures correct surface prep for application of corrosion protection products.
 - Save overall clean up time at the end of the job.
 - Shows a higher level of professionalism.

Application of AerisGUARD Corrosion Protection PLUS Treatment

All personal safety equipment must be worn for the remainder of the procedure.

Apply corrosion protection

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- To apply the treatment:
 - 350gm (12.3 oz) Aerosol can – spray directly on to Coil or surface
 - ONLY suitable for coils up to 100mm (4 inch) thick/depth (must have access to both sides)
 - Suitable for flat surfaces
 - 5L (1.32 Gal) Bulk – decant into Airless spray gun / applicator and spray directly on to the coil or surface to be treated/coated
 - An electric airless spray gun such as a Wagner W180P, Flexio 585, an industrial unit with a variable pressure airless system or equivalent. (For spraying of micro-channel coils an Atomex HSP-10 is a better option as penetration is increased).
 - Suitable for coils when applied with Airless spraygun
 - Suitable for flat surfaces
 - The final appearance of the cured AerisGUARD Maintenance Corrosion Protection PLUS coating deposit can vary from translucent light blue when applied to un-oxidised aluminium fins to a darker colour when applied to oxidised/heavily oxidised aluminium fins. The final colour of the deposited coating is regulated by the state and condition of the aluminium fins.
 - **For optimal performance of the coating it is important that condensing water does not wet the coated surface, wait until it is dry before turning on the system.**
 - Drying Time – drying time will depend on environmental factors. 4-6hrs is needed for drying and can be assisted by airflow passing through the coil.
- **On A Coil up to 100mm (4 inch) thick/depth.**
 - Prior to coating ensure AerisGUARD Maintenance Corrosion Protection PLUS is homogenous by shaking or stirring.
 - Check the bottom of the container to ensure that all viscous deposit has been thoroughly dispersed.
 - Application by Aerosol (must have access to both sides of coil) or use of airless spray gun is preferable.
 - Apply AerisGUARD Corrosion Protection PLUS treatment starting from the top of the coil, covering the entire surface of the coil paying special attention to endplates and tube ends / elbows
 - Three spray passes are recommended for each side of the coil. Allow each spray pass to at least partially dry prior to subsequent passes. Do not over-apply on any pass. Maintain uniform

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distance from the coil to achieve effective coil surface coverage.

- Wherever possible access and apply treatment **TO BOTH SIDES** of the coil is recommended to ensure best results.
- Ensure that treatment is applied to coil end plates and tube bends/ ends.
- Clean overspray, equipment, etc. immediately post application with water (before the product sets). Flush with Ethanol/Methylated Spirits if treatment has started to dry.
- The applied coating dries readily post application particularly with airflow passing through the coil.

- On A Coil more than 100mm/4 inches thick.

- Prior to coating, ensure AerisGUARD Maintenance Corrosion Protection PLUS is homogeneous by shaking or stirring.
- Check the bottom of the container to ensure that all viscous deposit has been thoroughly dispersed.
- Only apply with an electric airless spray gun such as a Wagner W180P or Wagner Flexio 585 OR an industrial unit with a variable pressure airless system or equivalent (AtomexHSP-10)
- Apply AerisGUARD Corrosion Protection PLUS starting from the top of the coil, covering the entire surface of the coil paying special attention to endplates and tube ends / elbows
- Three spray passes are recommended for each side of the coil. Allow each spray pass to at least partially dry prior to subsequent passes. Do not over-apply on any pass. Maintain uniform distance from the coil to achieve effective coil surface coverage.
- Wherever possible access and apply treatment **TO BOTH SIDES** of the coil is recommended to ensure best results.
- Ensure that treatment is applied to coil end plates and tube bends/ ends.
- Clean overspray, equipment, etc. immediately post application with water (i.e. before the product sets). Flush with Ethanol/Methylated spirits if treatment has started to dry.
- The applied coating dries readily post application particularly with airflow passing through the coil.

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- **On a flat surface**

- Ensure AerisGUARD Maintenance Corrosion Protection PLUS is homogenous by shaking or stirring.
- Check the bottom of the container to ensure that all viscous deposit has been thoroughly dispersed.
- Application by Aerosol can or airless spray gun is suitable
- Allow each spray pass to at least partially dry prior to subsequent passes. Do not over-apply on any pass.
- Maintain uniform distance from the surface to achieve effective surface coverage.
- Wherever possible access and apply treatment TO BOTH SIDES of the surface is recommended to ensure best results.
- Ensure that treatment is applied to all ends and corners of the surface
- Clean overspray, equipment, etc. immediately post application with water (before the product sets). Flush with Ethanol/Methylated Spirits if product has started to dry.
- The applied coating dries readily post application particularly with airflow passing through the coil.

4. Clean up process

- Ensure that all equipment is cleaned, packed up and removed from the area
- Mop up all excess water and ensure work area is clean and tidy with no sign of being there / take care to remove plastic sheeting sealing ductwork.
 - Leave the worksite as you found it
- Remove and dispose of all empty product containers.
- Remove all rubbish you have taken on site.

5. Warranty Reporting

- The 12 Month Corrosion warranty can only be activated by a Certified AerisGUARD Applicator
 - To activate the warranty, the applicator MUST
 - Complete and attach the certification sticker to the asset treated
 - Scan the QR code on the sticker and register and submit the asset and job details.
 - a. Site name
 - b. Unit ID number
 - c. Treatment applied

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- d. Applicator contact details
 - e. Pre application Picture
 - f. Post application Picture
 - g. Picture of the certification sticker
- A certificate of certification can be requested for the client for an asset of whole building if required.
 - ONLY where product is applied by an AerisGUARD Platinum Corrosion Protection Partner, alternate warranty activation process and warranty periods are applicable.

Recommended additional process

It is highly recommended that the entire HVAC&R System be cleaned and treated with AerisGUARD HVAC&R hygiene products and processes. This will provide long term benefits:

- Prevention from surface corrosion
- Sustained and long-term coil efficiency
- Improved machine operational performance
- Up to 12-month protection from corrosion
- Extended asset life
- Assist with compliance to AS3666 & BA19

Please visit www.aeris.com.au for further information or call +61 2 8344 1315

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