



# Heresite ES-600

## **Our 50 years of coating history speaks for itself.**

In 1964, Heresite was the first company to apply coatings to aluminum-finned, copper-tubed heat exchangers. Heresite coatings became then, and remain a standard in the heat exchanger industrial coatings industry. We provide the highest quality protective coatings for air conditioning and refrigeration systems that operate in moderate to severely corrosive environments, including both coastal and/or industrial applications.

## **A high-performance epoxy-silane specially designed to provide superior performance in demanding environments.**

ES-600 is formulated as a direct-to-metal coating. It exhibits excellent corrosion resistance, UV resistance and weathering qualities, along with good adhesion to ferrous metals without complex pretreatment or primers. This two-component coating is typically sprayed on internal and external surfaces of HVAC-R heat exchangers and related equipment.

## **ES-600 Specifications**

**Salt Spray ASTM B117:** Passes 5,000 hours

**ISO 12944-9 (formerly 20340) Cyclic Offshore Testing:** Passes 4,200 hours cyclic corrosion

**QUV ASTM D4587:** Passes 5,000+ hours

**Water Resistance by Controlled Condensation ASTM D4585 (Cleveland Condensing Humidity):** Passes 5,000+ hours

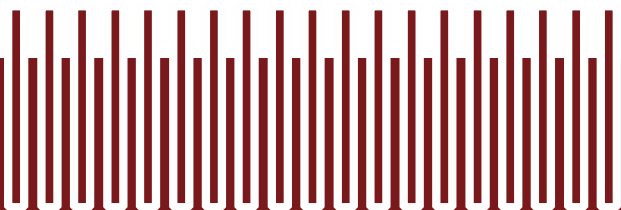
**Solvent Resistance ASTM D5402:** Passes 100+ acetone double rubs

**Dry Film Thickness:** 1.0 – 1.5 mils

**Cross-hatch Adhesion ASTM D3359:** 4B – 5B

**Bend Test ASTM D522:** Passes ¼ inch mandrel

**Pencil Hardness ASTM D3363:** 2H – 4H



### Product Description

Two-component Epoxy Silane

### Recommended Uses

Heresite ES-600 is a high-performance coating used to protect heat transfer equipment and components – including, but not limited to, coils, cabinets, piping.

### Chemical Resistance

See chemical resistance guide on page 4 of this document or contact Heresite.

### Packaging Information

ES-600 series is available in one-gallon kits. Both Part A and Part B are provided in short-filled cans, allowing for accurate and easy mixing.

### Thinners and Cleanup

Product is provided at application viscosity, typically not requiring further thinning.

S-275 can be used for cleanup.

### Storage Conditions

Coating should not be stored longer than 1 year. Coating should be stored in a clean, dry environment at 50-75°F. Keep out of direct sunlight. Avoid excessive heat and keep from freezing.

### Physical Properties

Solids by weight: Approximately 75%  
Solids by volume: Approximately 63%  
Pot life: 3 hours at 70°F (21°C) and 50% relative humidity. Extreme temperature or humidity can drastically change pot life.

Induction Time: None

Mixing Ratio by Volume: 4 Parts A : 1 Part B

Shelf life: 1 year

Color: Gray

### VOC Content

1.10 lbs/gal (132 g/L) as supplied

### Film Thickness

Dry Film Thickness (DFT): 1.0 – 1.5 mils

Wet Film to Achieve DFT: 1.6 – 2.4 mils

### Coverage

Theoretical coverage is 1,011 square feet per gallon per dry mil. Coverage rates are estimates and make no allowance for material loss. Actual rates will vary dependent on application method, surfaces, etc.

### Surface Preparation

Unpainted or New Metal Surfaces:

All surfaces must be clean, sound, and free of any oils, dirt, grease, wax and any other contamination that may interfere with coating adhesion.

For optimal adhesion, it is recommended to clean with Heresite's HSP-100 solution at a concentration of 25% by volume. Spray the diluted HSP-100 onto the parts, thoroughly wetting all areas. Do not allow the solution to dry – reapplying to areas as necessary. After 10 minutes of application, thoroughly rinse with clean water and immediately dry. Ensure surface is completely dry prior to application. Please note, that if cleaning steel, care must be taken to avoid flash rusting. To help prevent flash rusting rinse with hot water and/or immediately dry.



**Previously Painted Metal Surfaces:**

Remove all loose coatings, rust and corrosion by scraping, sanding or sand blasting. In cases where there is a large amount of contamination, a commercial blast is acceptable in accordance with NACE #3 or SSPC-SP-6-63 specifications.

**Application**

Part A and Part B are packaged in pre-measured kits, with Part A being a short-filled gallon, allowing Part B to be added and mixed. The mixing ratio is 4 parts A to 1 part B. Mix Part A and Part B separately using an explosion-proof power drill and blade type mixer. Add part B to Part A and thoroughly mix and blend using an explosion-proof power drill and blade type mixer. Mix only the amount that can be used within the estimated pot life. For optimum application, air and surface temperature should be from 10 to 32C and at least 3C above the dew point.

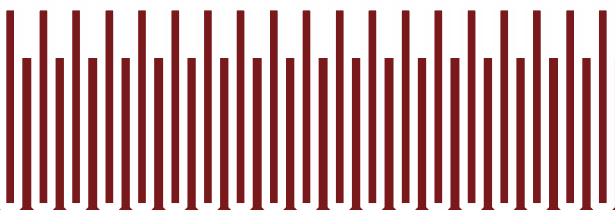
Spray application is preferred.

1. Consult SDS prior to use.
2. Do not apply if temperature is less than 3C above dew point, or if temperature is below 10C
3. Use standard production type spray equipment (conventional or HVLP).
  - a. A typical conventional setup:
    - i. Gun: Binks #2100
    - ii. Fluid: 66-SS
    - iii. Air: 66-SSx21MD-2
    - iv. Air pressure: 50 pounds at gun
    - v. Pressure pot: 15-20 pounds
  - b. A typical HVLP setup:
    - i. Gun: Graco AirPro
    - ii. Nozzle size: 0.055"
    - iii. Air pressure: 50 pounds at gun
    - iv. Pressure pot: 15-20 pounds

4. Spray viscosity may be dependent on type of equipment being used. Contact Heresite if additional thinning is necessary.
5. Spray equipment: always flush spray equipment with S-275 solvent to clean prior to applying coating.
6. Air supply must be uncontaminated.
7. Adjust spray gun by first opening liquid valve and then adjust air valve to give approximately a 8"-12" fan, holding gun perpendicular to the surface at a distance of 12" (will be dependent on tip).
8. Apply the product in an even coat and maintain a wet edge.
9. Use parallel and perpendicular passes to ensure complete coverage.
10. Apply until the target dry film thickness of 1.0 – 1.5 mils is achieved.
11. Allow ES-600 to air dry for a minimum of 24 hours prior to final assembly.
  - a. Check dry by twisting thumb while applying pressure to paint, or check with fingernail. If the ES-600 appears to be soft, let dry further and recheck. The ES-600 is dry enough if you do not leave a thumbprint in the paint, or if the films feel hard/tough using your nail.
    - i. Temperature and humidity can dramatically impact dry times.

**Drying Time**

Drying Time	At 70°F (21°C)
Tack free	3.5 hours
Dry Through	13 hours
Recoat Time - Minimum	TBD
Recoat Time - Maximum	TBD



**Chemical Resistance for Splash**

Solvents	Rating	Acid	Rating	Oils	Rating	Miscellaneous	Rating
MEK	VG	Acetic Acid 5%	E	Dirty Motor Oil	VG	Bleach	E
Toluene	VG	Acetic Acid 10%	E	Brake Fluid	VG	Dowanol PM	VG
Xylene	VG	Sulfuric Acid 5%	E	Skydrol	VG	Water	E
Unleaded Gas	VG	Sulfuric Acid 10%	E	Diesel Fuel	E	Hydrogen Peroxide 3%	E
Denatured Alcohol	E	Sulfuric Acid 50%	E	Aviation Hydraulic Fluid	G	Povidone Iodine 10%	G
Methanol	VG	Hydrochloric Acid 5%	E	10W30	E	TSP 1%	E
Mineral Spirits	E	Hydrochloric Acid 10%	E	Aircraft Motor Oil	E	TSP 10%	E
Triethylamine	VG	Hydrochloric Acid 37%	VG	Disc Brake Fluid	G	Windex w/ ammonia	E
N-Butanol	VG	Phosphoric Acid 10%	E			Pot Ash	E
MIBK	VG	Phosphoric Acid 50%	E	<b>Salts and Bases:</b>	<b>Rating</b>	Phosphate Fertilizer	E
Phenol PM Acetate 5%	G	Phosphoric Acid 85%	E	Sodium Hydroxide 10%	E	Nitrogen Fertilizer 28%	E
Isopropyl Alcohol	E	Oleic	E	Sodium Hydroxide 50%	E		
Butyl Cellosolve	VG			Ammonium Hydroxide 10%	E		
Perchloroethylene	VG			Ammonium Hydroxide 28%	E		
Ethylene Glycol	E						

Rating: E – Excellent, VG – Very Good, G – Good

The ratings in the above table are indicative of general resistance to periodic chemical splash and spillage.

These instructions are not intended to show product recommendations for specific service. They are issued as an aid in determining correct surface preparation, mixing instructions, and application. It is assumed that the proper product recommendations have been made. These instructions should be followed closely to obtain the maximum service from the materials.

CAUTION: CONTAINS FLAMMABLE SOLVENTS. KEEP AWAY FROM SPARKS AND OPEN FLAMES. IN CONFINED AREAS WORKERS MUST WEAR FRESH AIR LINE RESPIRATORS. PERSONS SHOULD WEAR GLOVES OR USE PROTECTIVE CREAM. ALL ELECTRICAL EQUIPMENT AND INSTALLATIONS SHOULD BE MADE AND GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE. IN AREAS WHERE EXPLOSION HAZARDS EXIST, WORKERS SHOULD BE REQUIRED TO USE NON-FERROUS TOOLS AND TO WEAR CONDUCTIVE AND NON-SPARKING SHOES.

To the best of our knowledge, the technical data contained herein are true and accurate at the date of issuance and are subject to change without prior notice. No guarantee of accuracy is given or implied. We guarantee our products to conform to strict quality control. We assume no responsibility for coverage, performance, or injuries resulting from use. Liability, if any, is limited to replacement of products. Prices are subject to change without prior notice. NO OTHER WARRANTY OR GUARANTEE OF ANY KIND IS MADE BY THE SELLER, EXPRESSED OR IMPLIED, STATUTORY, BY OPERATION OF LAW, OR OTHERWISE, INCLUDING MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

