

Heresite VR-514

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. The Heresite coating became then, and still remains a standard in the 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.

New formulation for an easy application, air-drying phenolic

Thin film, air-drying phenolics are excellent for resistance to corrosive fume atmospheres, and are particularly good in marine and salt air environments.

HERESITE VR-514 air-dry phenolic coating is specially formulated to permit application by brush, spray or roller. Some of its outstanding properties are excellent durability, good adhesion, good film building characteristics and flexibility.

When cured, VR-514 will produce a hard, corrosion resistant film, recommended as a heavy-duty coating for exposure to splash, spillage and fumes.

Successful applications include: HVAC equipment, agricultural implements, chemical plants, canning factories, construction equipment, marine finishes, steel plants, sewage disposal plant, textile industry, underground and underwater service and ventilating systems.

VR-514 is a primer-finish combination material specially formulated for marine/salt water environments.

When the finished product is going to be exposed to direct UV rays, a topcoat of Heresite UC-5500 series is recommended.

VR-514 Typical Properties

Salt Spray ASTM B-117: Passes 1,000 hours as primer-finish. Passes 3,000 hours with UC-5500 topcoat.

Dry Heat: Withstands 200°F with excursions to 250° without damage

Flame Spread Test ASTM E-84: 18.4 on a scale of 0-100 (oak wood = 100)

Smoke Density ASTM E-84: 5

Bend Test ASTM D522: Passes ½ inch mandrel

Meets Mil Specs: Mil-C-18468, Mil-V-1137, and Mil-V-134897

Pencil Hardness ASTM D-3363: 4H

Adhesion ASTM D-4541: >750 psi

Impact Resistance ASTM D-2794: Direct >25 in/pound
Indirect 13 in/pound

Heat Transfer: Loss less than 1% for finned tube coil applications

Meets FDA 175.300 for indirect food contact

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Product Description

Air dry phenolic

Recommended Uses

Heresite VR-514 is a heavy duty primer-finish combination material specially formulated for marine/salt water environments – particularly for HVAC equipment, agricultural implements, chemical and wastewater treatment plants.

If the VR-514 coated surfaces will be subjected to direct ultraviolet (UV) exposure, a spray-applied topcoat of Heresite UC-5500 series should be applied.

Chemical Resistance

VR-514 is chemically resistant to a wide range of acids, solvents, and inorganic salts. Please review chemical resistance guide for further information.

Packaging Information

VR-514 is available in one gallon, five gallon and 54 gallon drum quantities.

An aerosol version (VR-514T) is available upon request.

Thinners and Cleanup

Recommended use of Heresite S-275

Storage Conditions

Coating should not be stored longer than 2 years. 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 73%

Solids by volume: Approximately 56%

Pot life: NA

Mixing Ratio by Volume: NA 1 component

Shelf life: 2 years

Color: Red - Brown

VOC Content

2.82 lbs/gal (338 g/L) less exempt solvents, as supplied

Film Thickness

For heat transfer, a 2 coat spray process will typically yield a dry film thickness of 1.5 – 2.5 mils (38 – 63.5 microns).

For use with Heresite UC-5500 series, in the event of UV exposure, apply approximately 1.5 mil (~38 microns) of VR-514 followed by approximately 1.5 - 2.0 mils (38 – 50 microns) of UC-5500 series.

For all other surfaces, a typical dry film thickness of 4- 6 mils (102 – 152 microns).

Coverage

Theoretical coverage is 900 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

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

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In general, for new construction, the surface should be cleaned by solvent or a cleaner at elevated temperature followed by a clean water rinse. All surfaces must be dried prior to application of coating.

In cases where there is a large amount of contamination, a commercial blast is acceptable. Contact Heresite for coil remediation process.

Thinning

Reduce VR-514 with S-275 solvent to 20 - 25 seconds on Zahn #2 Cup. This requires approximately 1 gallon of paint to 0.25 gallons of solvent.

The amount of thinner required is dependent upon temperature, ventilation, humidity, application type and desired film thickness.

Application

Application is specific to heat transfer components, for other parts – please contact Heresite.

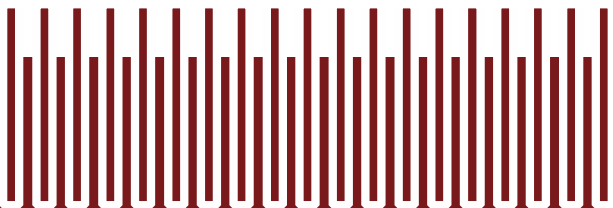
Spray Application For Heat Transfer Equipment:

1. Consult SDS prior to use.
2. Do not apply if temperature is less than 5°F above dew point, or if temperature is below 45°F.
3. Use standard production type spray equipment (conventional, HVLP, airless, etc.). A few starting recommendations can be found below:

<u>Guns</u>	<u>Fluid</u>	<u>Air</u>
Binks #2100	66-SS	66-SSx21MD-2
Graco Air Pro HVLP		

4. Spray viscosity will be dependent on type of equipment being used. Reduce per thinning instructions.
5. Spray equipment: always flush spray equipment with solvent to clean prior to applying coating.
6. Air supply must be uncontaminated. Adjust air pressure to approximately 50 pounds at the gun and provide 15-20 pounds at pressure pot. Adjust spray gun by first opening liquid valve and then adjust air valve to give approximately an 8"-12" fan, holding gun perpendicular to the surface at a distance of 12".
7. Apply a mist bonding pass.
8. Allow to flash off for approximately a minute, but not long enough to allow film to completely dry.
9. Coils shall be coated on both sides of fins (outside and inside)
10. Moving spray gun slowly – each coat consists of 3 spray passes: (1) straight into fins; (2) on 70-degree angle to right; (3) on 70-degree angle to left – on both sides of coil. These three spray passes are considered ONE coat – make sure to allow 15 minutes' dry time between passes to avoid runs/sags.
11. VR-514 may be recoated with itself after 15-30 minutes of air dry.
12. Allow VR-514 to air dry for a minimum of 24 hours of before assembly.

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- a. Check dry by twisting thumb while applying pressure to paint, or check with fingernail. If the VR-514 appears to be soft, let dry further and recheck. The VR-514 is dry enough if you do not leave a thumbprint in the paint, or if the films feel hard/tough using your fingernail.
 - i. Temperature and humidity can dramatically impact dry times.

Application of VR-514 and UC-5500 Series:

In the event that the VR-514 will be exposed to direct UV, a topcoat of UC-5500 series should be applied.

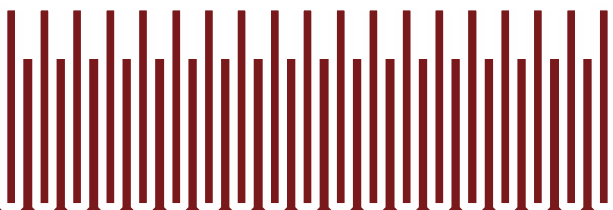
1. Following the directions above for spray application – follow steps 1 through 10
 - a. Apply approximately 1.5 mils of VR-514
2. After application of VR-514, allow the VR-514 to air dry for approximately 1 hour.
3. After 1 hour has elapsed, apply the UC-5500 series topcoat.
 - a. Part A and Part B are packaged in premeasured kits – with Part A being a short filled gallon allowing Part B to be added and mixed. The mixing ratio is 9 parts A to 1 part B. Mix Part A and Part B separately using an explosion-proof powder 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 5F above the dew point. Above 50C, sagging may occur.

- b. Spray application is preferred. Rolling or brushing is acceptable.
 - c. For an airless sprayer – flush lines with an appropriate solvent. Equipment must be clean prior to start. Apply the product in even coats and maintain a wet edge. Use parallel passes with 50% overlap to avoid bare areas and pinholes. If required, cross spray at right angles.
 - i. Tip orifice: 0.013” to 0.015”
 - ii. Atomizing Pressure: 2500-3000 PSI
 - iii. Material Hose ID: ¼”
 - iv. Manifold Filter: 60 mesh
 - d. See UC-5500 series technical data sheet for additional information.
4. Allow the VR-514 with the UC-5500 series topcoat to air dry for at least 24-48 hours before assembly.

VR-514 Dip Application:

1. Consult SDS prior to use.
2. Do not apply if temperature is less than 5°F above dew point, or if temperature is below 45°F.
3. Consult Heresite for tank and pump recommendations.
4. Ensure as the part is prepared for dip, one will have a low point for drainage.
5. Immerse the cleaned part for 5 seconds in the reduced VR-514.

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6. Upon removal of the part from the coating, apply light air pressure (approximately 15 psi) using an Air Knife or similar device to spread the air flow. Using the compressed air, remove excess coating. Minimal brushing should be required.
7. It may be deemed desirable to apply a final aesthetic spray. This can be accomplished immediately after the final dip is accomplished and prior to final bake.
8. During dip application, the viscosity must be maintained and monitored. It is recommended that the viscosity be checked every hour to ensure compliance with the specification of 13-13.5 seconds. Additional solvent and coating can be added to adjust viscosity as needed.

Curing/Drying:

Air Dry:

1. Coil should be dry to touch within 5 hours of final application – warmer temperatures will enhance dry, cooler temperatures will lengthen the dry time.

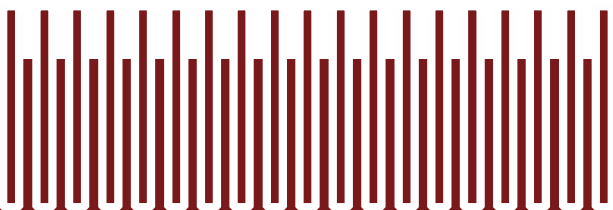
Force Cure:

1. A force cure at 180F for 30 minutes is an option if an appropriate oven is available.

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, WORKMERS SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.

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