



ESTABLISHED 1935

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# Technical Bulletin

## VR-500 APRIL 2010

Supersedes all previous publications.

### VR-500 SERIES AIR DRY PHENOLIC COATINGS

**GENERIC TYPE:** Air drying phenolic.

**RECOMMENDED USAGE:** HERESITE VR-500 air dry phenolic series coatings are specially formulated to permit application by brush, spray or roller. Some of their outstanding properties are: excellent durability, good adhesion, good film building characteristics and flexibility.

When thoroughly aged, they produce hard corrosion resistant films. Recommended as a heavy duty maintenance coating for exposures to splash, spillage and fumes. Not recommended for immersion service.

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. All colors are primer-finish combination material, specially formulated for salt water service.

There are several color formulations which meet the requirements of 21CFR175.300 for direct food contact. The list includes, but not limited to, VR-500, VR-504, VR-507, VR-508, VR-554.

When finished product is going to be exposed to UV rays, one topcoat of HERESITE UC-5500 is recommended.

#### CHEMICAL RESISTANCE GUIDE:

Exposure	Splash and Spillage	Fumes
Acids (dilute)	Good	Excellent
Alkalies (dilute)	Good	Good
Solvents	Fair	Good
Inorganic Salts	Good	Excellent
Water	Good	Excellent

#### ORDERING INFORMATION:

##### SHIPPING WEIGHT:

VR-500 (depends on color)	Ave. Wt. 10 lbs./gal.
S-240 Solvent	Approx. 7.5 lbs./gal.
S-440 Solvent	Approx. 7.5 lbs./gal.
S-275 Solvent	Approx. 7.5 lbs./gal.

#### FLASHPOINT: (T.C.C.)

VR-500	101°F (38°C)
S-240 Solvent	101°F (38°C)
S-440 Solvent	62°F (17°C)
S-275 Solvent	-4°F (-20°C)

#### PHYSICAL DATA: (depends on color)

Solids by wt: approx. 60-70%  
Solids by vol: approx. 45-55%

Pot Life: N/A  
Shelf Life: 2 years @ 70°F (21°C)

**VISCOSITY:** (depends on color)  
Finish: 70-93 K.U. (Krebs Units)

#### TEMPERATURE LIMITATIONS:

HERESITE VR-500 accepts dry heat temperatures up to 200°F (93°C) with short term excursion to 250°F (121°F).

#### COLORS:

VR-500 Clear  
VR-502 Black  
VR-504 Brown  
VR-506 Gray  
VR-507 Aluminum  
VR-508 Ivory  
VR-509 Machinery Gray, (semi-gloss)  
VR-579 Maroon

Currently there are 71 color formulations in this series. Color matching is available upon request.

**COVERAGE:** Theoretical coverage - 737 sq. ft per gal. at 1 mil. Recommended total dry film thickness is 4 to 6 in a 2 to 3 coat system. (At 5 mils DFT average coverage would be 118 sq. ft. per gallon. This includes a 20% loss factor). In situations where heat transfer is of concern 2-3 mils dry film thickness is recommended in a 1 to 2 coat application.

Prices may be obtained from HERESITE Sales Representatives or Main office. Terms – Net 30 days.

**HERESITE®**

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REPRESENTED BY:

## APPLICATION INSTRUCTIONS

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 WORKMEN MUST WEAR FRESH AIR LINE RESPIRATORS. HYPERSENSITIVE 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, WORKMEN SHOULD BE REQUIRED TO USE NONFERROUS TOOLS AND TO WEAR CONDUCTIVE AND NONSPARKING SHOES.**

**SURFACE PREPARATION:** Remove all oil, grease from the surface with an appropriate solvent, such as HERESITE S-240, S-440, or S-275.

### STEEL:

**NON-IMMERSION:** A commercial blast is acceptable in accordance with NACE #3 or SSPC-6 specifications. Surface profile or anchor pattern shall be 20-25% of the recommended dry film thickness.

### CONCRETE:

**NON-IMMERSION:** Remove protrusions by stoning, sanding or grinding. Concrete must be cured at least 28 days @ 70°F (21°C) and 50% humidity. Surfaces must be acid etched or abrasive blasted to remove laitance.

**PRIMER:** VR-500 Series coatings are self-priming on steel.

**THINNER:** Recommend use of S-440 solvent for spray and S-240 solvent for brush or roller application.

**THINNING:** The amount of thinner required is dependent upon temperature, ventilation, humidity, spray equipment used and desired film thickness.

**SPRAY:** VR-500 series coatings are normally diluted using S-440. S-275 will work in situations where an exempt solvent is required. Conventional spray equipment thin to 35 seconds drain time using a Zahn #2 viscosity cup. Airless thin to 45 seconds drain time using a Zahn #2 viscosity cup. Drain times may need to be adjusted depending upon spray equipment, operator experience and preference.

**BRUSH OR ROLLER:** (non-porous surfaces) HERESITE VR-500 series coatings are normally applied without dilution. If desired, a small amount of S-240 solvent may be used.

### APPLICATION:

1. Do not apply if temperature is less than 5°F (2°C) above dewpoint or if temperature is below 45°F (7°C).
2. All spray equipment shall be thoroughly cleaned and the hoses in particular shall be free of old paint film and other contaminants.
3. Use standard production type spray guns:  
Conventional spray guns  
High Volume Low Pressure (HVLP)  
Airless using a 15 to 17 tip size
4. Air supply shall be uncontaminated. Adjust air pressure to approx. 50 lbs. at the gun and provide 15-20# pot pressure. Adjust spray gun by first opening liquid valve and then adjust air valve to give approx. an 8"-12" fan, holding gun perpendicular to the surface at a distance of 12".
5. Apply a mist bonding pass.
6. Allow to flash off for several minutes, but not long enough to allow film to completely dry.
7. Apply 3-4 criss-cross multi-passes maintaining a wet appearing film approx. 3-4 mils wet film thickness equals approx. 1.5 mils dry film thickness.
8. Air dry with ventilation.
9. Repeat steps 1 through 8 until the desired coating thickness is achieved.

### CURING SCHEDULE:

#### AIR DRY:

6-8 hrs per coat @ 70°F (21°C).

#### FORCE CURE:

20 mins. per coat @ 250°F (121°C).

**CLEAN UP:** Use HERESITE S-440 solvent.

**STORAGE CONDITIONS:** Coating should not be stored longer than 24 months. Warmer temperatures will shorten shelf life.

VR-500