Heresite P-403L

Our 75 years of coating history speaks for itself.

P-403L was developed to resist the corrosive effects of Sulfuric Acid and has also been successfully used in applications with pH <9.0. Heresite's chemical resistance guide lists over 700 chemical immersion and fume environments that the P-403L will resist.

Recommended Uses

HERESITE P-403L is designed for use in tank cars, railcars, storage tanks, heat transfer equipment, piping, spiral heat exchangers, blowers, fans, and other industrial equipment.

Railcars: P-403L baked phenolic was the first organic lining ever installed in a railcar in North America. Today, thousands of cars have been lined with P-403L.

Tanks and Vessels: P-403L has been used to line tanks and vessels as well.

A high performance baked phenolic coating.

HERESITE P-403L coating is a highly chemical resistant baked phenolic coating designed for use in tank cars, railcars, and storage tanks where chemicals with a pH value less than 9 are likely to be encountered. This coating is formulated to be compliant with FDA 21 CFR 175.300.

P-403L Typical Properties

Abrasion Resistance: 80 mg weight loss per 1,000 cycles CS-17 wheel with 1,000 g weight

Flexibility: Passes 1 inch on a mandrel bend test

Product Description

High Baked Phenolic

Chemical Resistance

P-403L offers excellent immersion service resistance to 92-98% sulfuric acid up to temperatures of 120°F. For specific chemical resistance, see Heresite's Chemical Resistance Guide.

Exposure	Immersion	Splash & Spillage
Acids	Excellent	Excellent
Solvents	Excellent	Excellent
Inorganic Salts	Excellent	Excellent
Water	Excellent	Excellent

Temperature Limitation

Heresite P-403L accepts dry heat temperatures up to 400°F (204°C).

Physical Properties

Solids by weight: Approximately 65%
Solids by volume: Approximately 49%
Induction Time: NA
Mixing Ratio by Volume: NA
Color: Brown

VOC Content

3.38 lbs/gal (405 g/L) as supplied

Film Thickness

Recommended total dry film thickness (DFT) is approximately 5.0 – 7.0 mils (approximately 125 - 175 microns) in a 2 - 3 coat application, approximately 5 wet mils will achieve 3 dry mils.

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HERESITE® PROTECTIVE COATINGS, LLC

Coverage

Theoretical coverage is approximately 750 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.

Packaging Information

P-403L is available in one gallon, five gallon and 54 gallon drum quantities.

Thinners and Cleanup

Recommended use of Heresite S-275 (VOC exempt solvent). If a slower solvent is required, use of Heresite S-215 is an option, please consult local VOC regulations.

Storage Conditions

Coating should not be stored longer than 6 months. 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.

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. For best results, all bare surfaces must be properly prepared prior to application of this product. For previously coated/treated surfaces, confirmation of adhesion should be performed.

If applying to bare steel, it is required to commercially blast in accordance with NACE #1 or SSPC-SP-5 specifications. Surface profile or anchor pattern shall be 20-25% of the recommended dry film thickness.

If applying to bare aluminum, it is required to commercially blast.

Thinning

Suggested thinning at 77°F is 10-15% based on coating volume using Heresite S-275.

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

Spray 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. Use standard production type spray equipment (conventional, HVLP, airless, etc.). A few starting recommendations can be found below:

Guns	Fluid	Air
DeVilbiss JGA-510	E	46MP
Binks #2100	67-SS	46-21MD-2 or 3
Binks #95	66-SS	66-SD

Graco Air Pro HVLP
Typical equipment:
Airless spray equipment, Graco Extreme pumps 1500-1800 psi liquid pressure. Tip size from 0.013” to 0.021”.

4. Spray viscosity will be dependent on type of equipment being used. It has been seen that spraying at dip viscosity is very effective.
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 80 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 several minutes, but not long enough to allow film to completely dry.

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9. Apply a wet film of approximately 3 mils (measured immediately after spraying), normally sprayed in 3 to 4 passes. Repeat until desired film thickness is obtained.
10. Air dry a *minimum* of 60 minutes with ventilation prior to introducing heat.
11. After the air dry period has elapsed, introduction of heat slowly is required. Following baking instructions

Bake Schedule

Intermediate Bake:

1. 90°C (metal temperature) held for 15 minutes
2. Larger equipment and heavy gauge metal will require longer bake times to obtain metal temperature

Final Bake:

For Maximum Chemical Resistance:
All temperatures listed are based on metal temperatures.

1. Starting from room temperature, the temperature should then be raised approximately 22°C (40°F) in increments of 30 minutes until 204°C (400 °F) has been reached. Hold 204°C (400 °F) (metal temperature) for 90 minutes.
2. To determine correct bake, evaluate the color and/ or saturate a cloth with S-275, rub coating lightly. Coating should wipe off between coats, but should not after final bake (cure).

If using P-403L in conjunction with Heresite L-66L, the P-403L should be intermediate baked prior to application of the L-66L. See the L-66L technical data sheet for additional information.

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