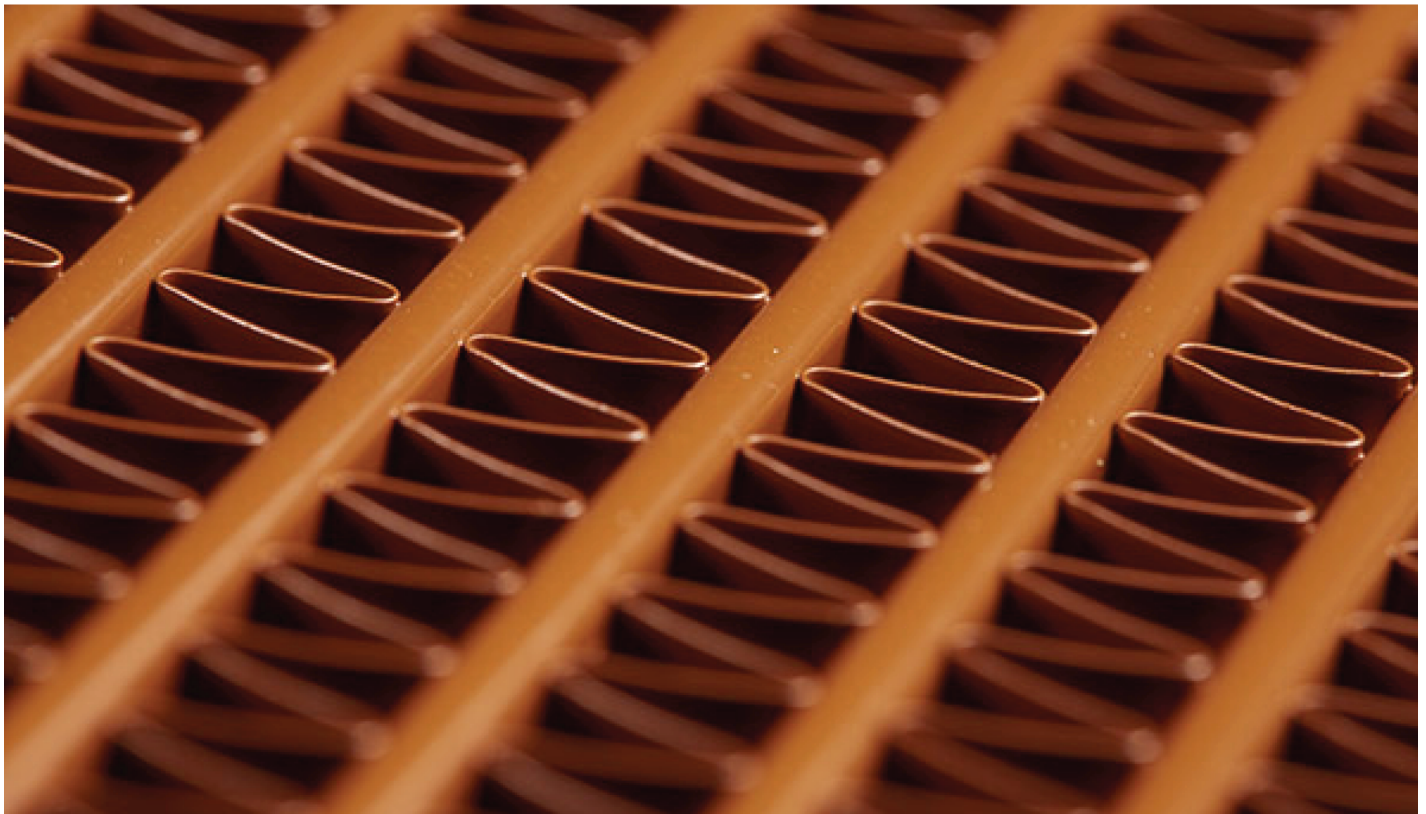
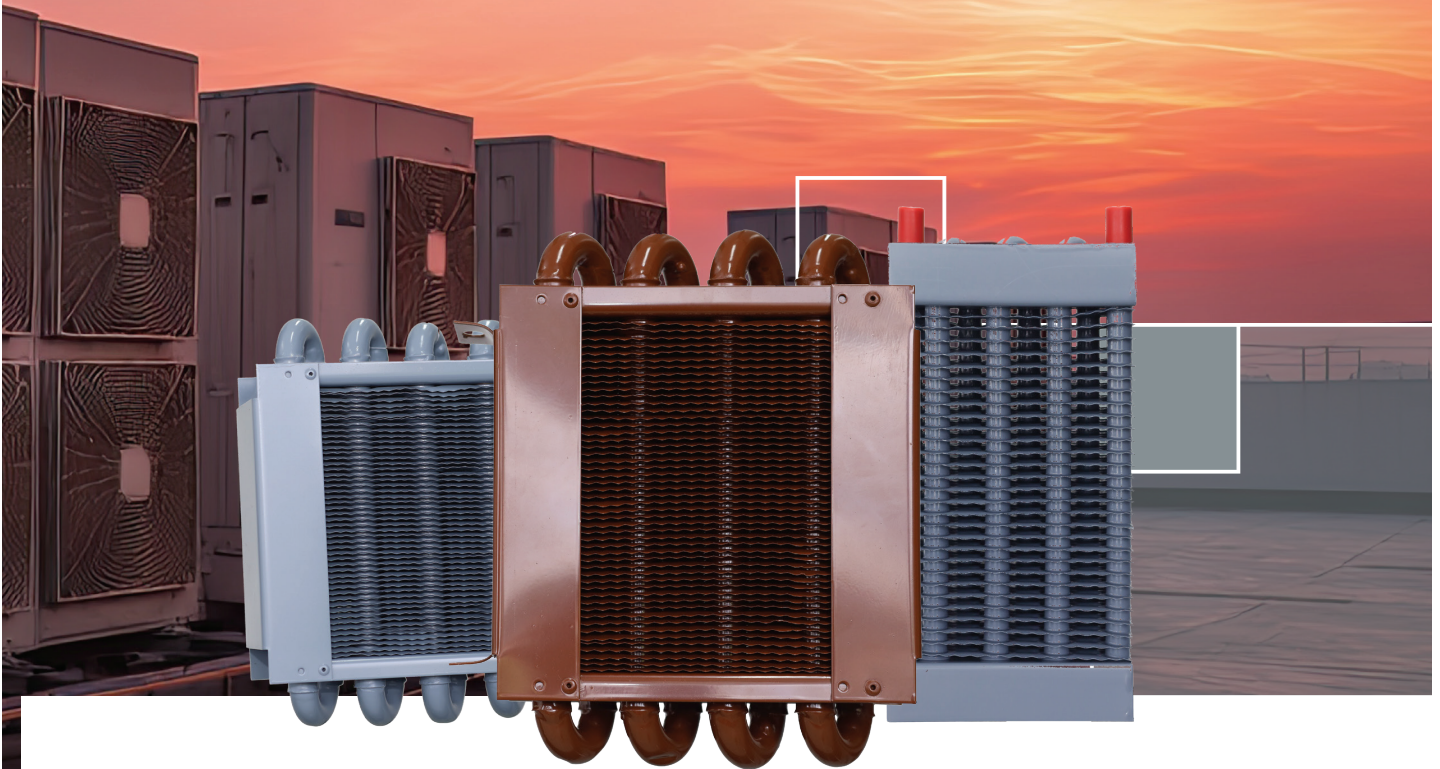


COATING SOLUTIONS FOR HVAC-R

Coatings for **Heating, Ventilation,
Air Conditioning and
Refrigeration**





UNPARALLELED PROTECTION WITHOUT COMPROMISING HEAT TRANSFER

Regardless of the application or the severity of the environment, **Heresite Protective Coatings** offers the broadest line of protective coatings to meet your needs. From dip and oven-cured coatings to the convenience of spray application, our team of experts is ready to provide a complete solution for your equipment.

COILS TO CABINETS. ALUMINUM, COPPER, OR GALVANIZED. OFFSHORE OR CHEMICAL. HERESITE HAS YOU COVERED.

Heresite provides comprehensive solutions for protecting HVAC-R assets in harsh environments such as the oil and gas and water treatment industries.

Founded in 1935 and headquartered in Wisconsin, United States, Heresite has a strong international presence. Recognized as the first company to offer anti-corrosive coatings for HVAC-R systems, with a focus on performance through innovation. Whether in commercial or industrial environments, Heresite coatings outperform the competition, increasing return on investment and ensuring total protection.

HERESITE
PROTECTIVE COATINGS

WHY USE PROTECTIVE COATINGS ON MY HEAT EXCHANGER?

According to the leading corrosion control organization, NACE International, corrosion is one of the largest single costs in the US economy. NACE further estimates that companies could save 15 – 35% of these costs by implementing corrosion control measures.

Every heat exchanger placed in an environment where the coil is exposed to chemicals, severe weather, or salt spray should have a protective coating applied before corrosion begins. The best time to apply coatings is before the unit is put into service.

The use of protective coatings can improve coil unit performance including heat transfer reduction and optimized fan power requirements. Protective coatings can also help protect coils in areas requiring sanitization and can make cleaning equipment easier.

Consider protecting equipment that services the following environments:

- Wastewater treatment plants
- Coastal, marine, and offshore
- Meat & dairy processing
- Sulfur water areas
- Heat recovery
- Confectionary
- Swimming pools
- Agriculture
- Chemical plants
- Mining industry
- Boats & barges
- Pharmaceutical
- Sanitation
- Heavy manufacturing
- Agriculture
- Bakeries
- Defense
- Other corrosive environments

THE BUSINESS CASE FOR CORROSION PREVENTION

Although cost savings from corrosion control are often not immediately obvious, applying a protective coating to your HVAC-R and industrial equipment will, over time, reduce maintenance costs, cut down the need for frequent inspections, reduce production downtime due to unexpected failures, optimize unit performance, and can even help improve public relations.

Plus, corrosion protection can prevent customer service and public relations issues related to equipment failure. For example, equipment failure at a wastewater treatment facility, an airport, or a manufacturing plant can impact residents of the greater community in which the business operates.

At Heresite, we estimate that using a high-performance coating to protect the coil can more than triple a coil unit's life. Ideally, coatings should be applied before coils are installed into a unit; depending on the environment, corrosion can begin in as little as the first year of equipment use.

The use of protective coatings for corrosion management is a key part of sustainable business practices combining the benefits of reduced environmental impact, increased profitability, and demonstrable social responsibility.

Applying a protective coating can reduce costs related to:

- Corrosion-related inspection, repairs, and maintenance
- Replacement parts ordering, inventory, and installation
- Loss of production

Learn about the variety of HVAC-R protective coatings offered at Heresite.

HERESITE
PROTECTIVE COATINGS

HERESHIELD – WATER-BASED AIR-DRY COATING

This spray applied single component coating is typically applied to new or unfinished metal on the internal and external surfaces of HVAC-R heat exchangers and related equipment.

Solids by Volume	Thickness	Salt Spray
25%	20 - 30 microns	22,000 hours
Application	Surface Preparation	Product
▪ Copper ▪ Aluminum	▪ Sandblasting ▪ Cleaning	Water-based

- *Air-dry single component coating;*
- *Application by spray or immersion;*
- *Ultra-fast drying;*
- *Excellent chemical resistance;*
- *Low to medium aggressive chemical environments;*
- *Less than 1% influence on heat exchange;*
- *Great ecological alternative to galvanization, in line with ESG practices.*



● **HERESHIELD WB506**
22,000 hours salt spray
resistance

WHY CHOOSE A BAKED PHENOLIC EPOXY COATING?

Heresite's P-413 is a thin film high-performance coating used principally for coil and radiator heat exchangers as well as other air and fume handling equipment fabricated of light gauge metals. The high heat curing process produces a finish that is superior to air dry finishes.

WHAT IS A THERMOSET PHENOLIC EPOXY COATING?

Thermoset coatings are generally referred to as "baked" coatings as they are cured in a high heat oven. The thermoset baking process produces a high degree of crosslinking resulting in a durable, very dense chemical resistant finish. The P-413 liquid phenolic resin has been chemically modified to include an epoxy functional group that produces a change in the crosslinking network of the coating. This results in improved flexibility, adhesion and durability.

WHY CHOOSE A BAKED PHENOLIC EPOXY COATING?

P-413's superior chemical and corrosion resistance is backed up by Heresite's industry-leading 29-page Chemical Resistance Guide. It is the first HVAC-R coil and radiator coating to meet the ISO 12944-9 (formerly ISO 20340) Standard for severe offshore marine environments. The corrosion resistance of Heresite P-413 coatings significantly extends the service life of HVAC-R (heating, ventilation, air conditioning, and refrigeration), and other heat transfer equipment. It achieves over 30,000 ASTM B117 salt spray hours.

HOW DOES P-413 PERFORM IN CORROSIVE ENVIRONMENTS?

P-413 protects against the most severe C5 or CX environments and is certainly capable of providing protection in less severe conditions. In addition to marine and salt air environments, the P-413 coatings will withstand exposure to an extensive variety of high and low pH corrosive and chemical fumes and condensate.

DOES THE IMMERSION APPLICATION PROCESS IMPACT PERFORMANCE?

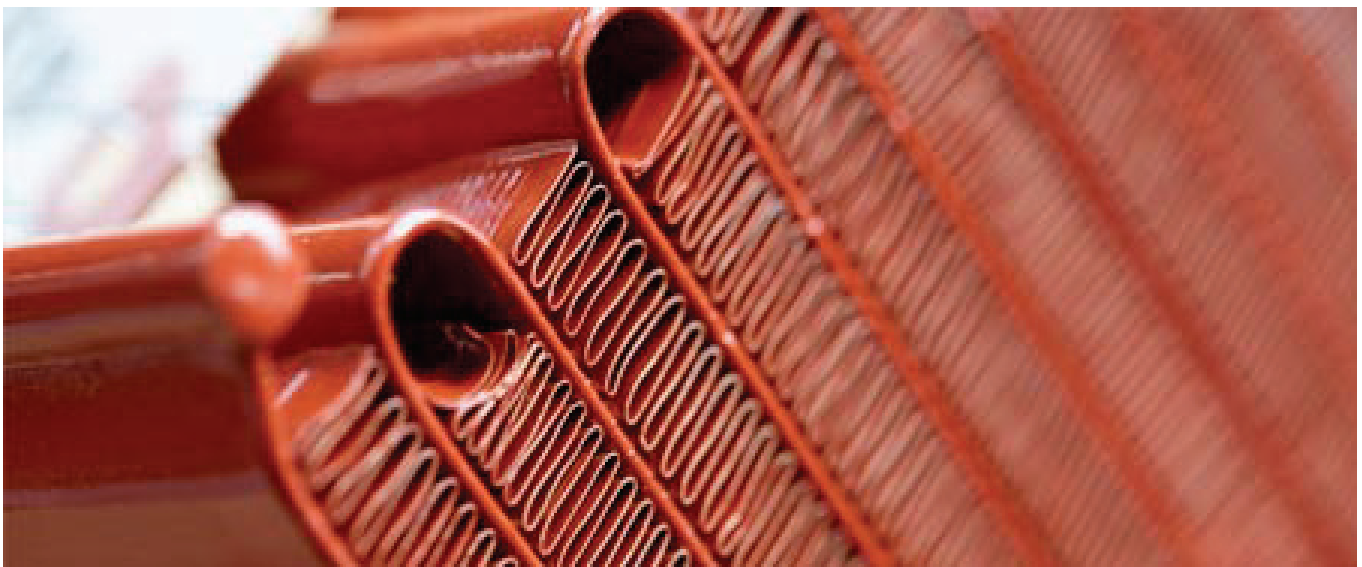
P-413 is applied by immersion or flow coat for maximum performance. Immersion is superior to spray application as there is an assurance that the interior of the coil is coated.

HOW DOES P-413 IMPACT HEAT TRANSFER?

Less than 1% of heat transfer reduction.

HOW DOES P-413 PERFORM IN TESTING?

The technical data sheet contains results for over 20 different performance tests. The chemical resistance guide lists test results for hundreds of chemicals at various concentrations and temperatures. With over 60 years of real world performance Heresite defines performance in every environment.



IS P-413 FOOD SAFE?

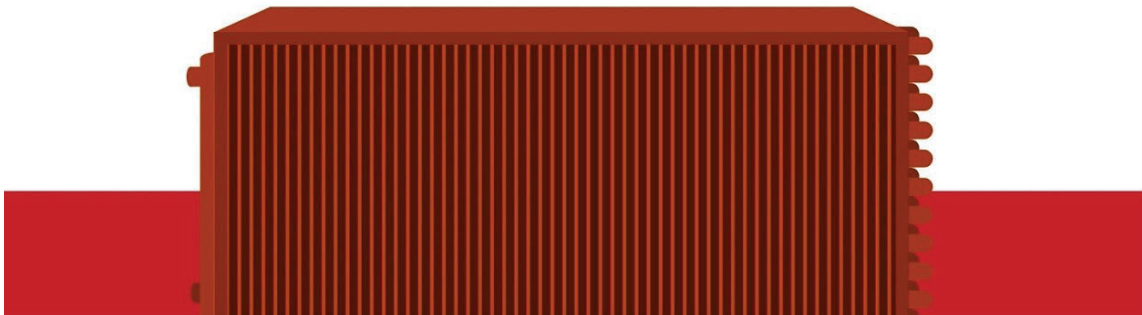
P-413 meets FDA 175.300 for indirect food contact, NSF Certified – ANSI 51 Certification of Coatings for Food Zone – Non-Contact.

DECISION MATRIX: P-413 VS ELECTRO-DEPOSITION (E-COAT)

Use these questions to choose the right product in your configurator.

1. What is the harshest environment the product was tested against?
Environments are categorized as C1 – C5 and CX based upon long-term material weight loss and surface degradation testing in different corrosive environments. Coatings such as P-413 that can protect against the most severe C5 or CX environments are certainly capable of providing protection in a less severe environment.
2. Was the test conducted with or without a topcoat?
Heresite posts results both with and without a topcoat. If your specs do not include a topcoat, be sure the coating was also tested without a topcoat.
3. Was the coating tested on the materials used to manufacture the equipment you are specifying?
Some products are tested on cold rolled steel. To understand the performance of the coating on your equipment, ensure the coating was tested on the materials used to manufacture your equipment.
4. Was the product tested in a cyclic test or a static salt spray test?
Static salt spray tests bear almost no resemblance to a real-world environment. A cyclic test alternates between periods of UV light, humidity, and cold to more accurately approximate the performance of the coating in the field.
5. What was the pretreatment process used in the test?
It is important to discover how test panels were treated prior to application of the protective coating. Be sure to understand if that process will be followed when your equipment is coated. Unlike P-413, which requires a simple alkaline dip and rinse, some coatings require a complex treatment process to ensure the product adheres properly.
6. Where will your equipment be coated?
The best place to store and coat any HVAC-R equipment is indoors, away from the elements. Ensure your partner can store your equipment in a protected area, rather than outdoors, especially if your coils or units are large. Many coating suppliers do not have the ability to coat or bake large units or coils indoors.

**HERESITE P-413 HAS
NO EQUAL.™**



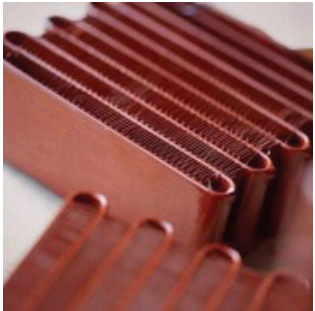
HERESITE®
PROTECTIVE COATINGS

HERESITE P-413 BAKED PHENOLIC EPOXY

Made for the most severe chemical and C5 offshore environments. Features dense cross linking with superior chemical and salt air resistance providing stable heat transfer.

Solids by Volume	Thickness	Salt Spray
57%	20 - 30 microns	30,000 hours
Application	Surface Preparation	Product
- Copper - Aluminum	- Sandblasting - Cleaning	Solvent based

- *High-performance coating with low thickness;*
- *Application by spray, immersion or flooding;*
- *Cure at 90°C held for 10 minutes, then increased to 160°C for 15 min, then increased to 190°C held for 45 min;*
- *Significantly extends the service life of HVAC-R systems;*
- *Can be considered a replacement for e-coat, with better performance (evaluate part geometry);*
- *It is the first HVAC-R coil and radiator coating to meet ISO 12944-9 for severe offshore maritime environments.*

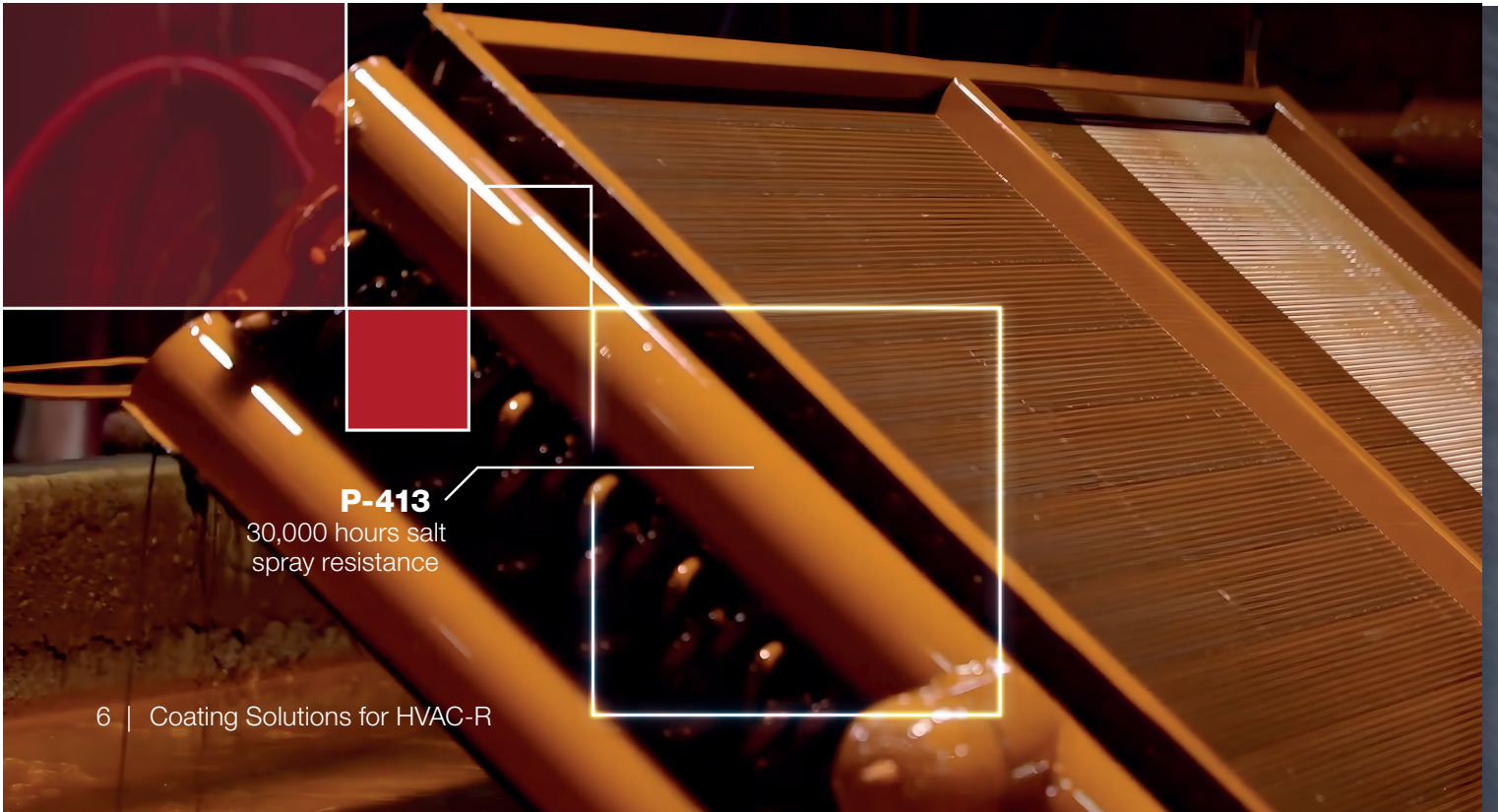


RECOMMENDED USES

- Radiators;
- Heat exchangers;
- Equipment with aluminum or copper substrate that requires high anti-corrosive protection.

HIGH PERFORMANCE

A thin film increase equipment performance while having less than 1% heat transfer loss. Immersion application ensures complete coverage of the equipment.



COMPARATIVE FACTS

HereShield is Heresite's first spray-application product, introduced only after years of extensive research into the best ways to provide exceptional corrosion protection in a water-based formula that is as environmentally sustainable as it is effective. The only spray-on product worthy of the Heresite brand, HereShield outpaces the competition at every turn.

	HereShield	BlyGold	Bronz-Glow	Aqua Aero	EGuard DCC	Ozkem ECRA-DTM
Salt Spray Test Hours	22,000	11,000	15,000	15,000	10,000	Excellent
Water-based	✓	✓		✓		✓
Chemistry	Cross-linking Acrylic Resin	Unknown	Unknown	Unknown	Unknown	Acrylic Hybrid Resin
UV Protection	✓	✓	✓			
pH Resistant	✓		✓			
Low VOC	✓	✓			✓	
Corrosion Resistant	✓	✓		✓	✓	✓
Chemical Resistant	✓	✓		✓	✓	✓
Spray-on Formula	✓	✓	✓		✓	✓
Direct-to-Metal	✓				✓	✓

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www.heresite.com

Innovation and Technology in Liquid Coatings



Innovation and Technology in Liquid Coatings

Coatings for all situations

Our high-performance solutions combine advanced formulations, rigorous technical specification and hands-on field expertise to protect metal assets where performance matters.

We have developed integrated systems designed to deliver extended durability, color and gloss retention, and chemical and mechanical resistance even in harsh environments such as marine zones, chemical plants, and onshore/offshore operations.



EACH PRODUCT IS FORMULATED WITH THE MAINTENANCE CYCLE IN MIND TO EXTEND THE TIME BETWEEN MAINTENANCE INTERVALS AND MINIMIZE OPERATING COSTS

The technical approach prioritizes protection, high solids by volume, layer compatibility and application under real construction conditions, including partially wet or hydroblasted surfaces. We meet and exceed international corrosion and coating standards, ensuring that system specifications are tailored to the customer requirements. This guarantees predictable performance in laboratory tests and operational reliability in the field.

DUAL-FUNCTION AND SELF-PRIMING PRODUCTS EQUAL SAVING TIME

In addition to performance, our solutions deliver tangible business benefits: fewer steps (dual-function or self-priming products), **higher productivity** per coat (high-build and high-solids), and compliance with relevant certifications when required by the project. We provide technical support for coating systems selection, products samples, adhesion and laboratory tests, as well as complete documentation for approval in contracts and tenders.

PRIMER

Primers are the **protective basis of the coating system**, ensuring adhesion, anti-corrosion resistance and performance of the subsequent layers. Formulated to withstand severe industrial conditions, they offer an effective barrier against corrosion, excellent anchorage to the substrate and stability in different surface preparations. They are essential to ensure durability and reliability in any metal application.

HERESITE EPX N1277 ZINC-RICH EPOXY PRIMER



**Cathodic
Protection**



**Surface
Tolerance**

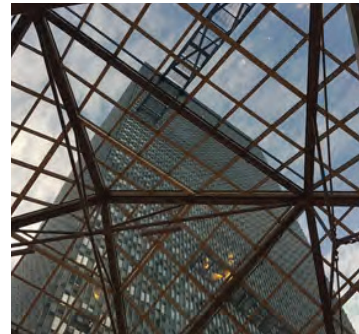


**Petrobras/NORSOK
Approvals**

Two-component polyamide epoxy primer formulated with **zinc metallic pigment** to offer anticorrosive protection by galvanic action on carbon steel. Its surface-tolerant composition allows application in real industrial conditions, reducing the need for absolute drying of the substrate and ensuring optimal adhesion on sandblasted or hydroblasted steel.

Suitable for **onshore and offshore metal structures**, platforms, bridges and installations in the chemical industry, the formulation provides long-lasting cathodic protection and compatibility with coating systems certified according to **ISO 12944**, in addition to meeting the Petrobras N1277 standard and having NORSOK M-501 pre-qualification.

Technically, the product features typical volume solids in the range of zinc-rich primers, recommended dry thickness between 2,36 - 3,94 mil / 60 - 100µm per coat, approximate pot-life of 4 hours at 77 °F / 25 °C, touch around 30 minutes, **release for handling in about 8 hours**, and full functional curing in 168 hours (7 days), with typical maximum service temperature up to 248 °F / 120 °C depending on the system.



Innovation and Technology in Liquid Coatings

SELF-PRIMING

Self-priming coatings **combine primer and topcoat in a single product**, reducing steps and increasing productivity. With high adhesion and resistance to weathering, they deliver efficient corrosion protection and durable finish, making them the ideal solution for projects that require speed, simplification and high performance in fewer coats.

HERESITE EPX 88 HT

PRIMER/TOPCOAT EPOXY POLYAMINE FOR WET SURFACES



**Applicable on
Wet Surfaces**



High Build



**Certified for drinking water
and ballast tanks**

High-thickness **polyamine epoxy primer**, specially formulated for application on wet, hydroblasted substrates or those that cannot be completely dried before painting, being ideal for ballast tanks, drinking water tanks, port piles, industrial pipes and platforms. When the project **does not require resistance to weathering**, the product can also act as a **primer/topcoat**, reducing steps and maintaining the necessary protection in confined, submerged or low UV exposure environments.

Its wet-surface application capability **reduces operational risk** in marine and industrial environments, while the high solids content ($\approx 85 \pm 2\%$) allows for thick films and protection against continuous immersion.

Certified for use with potable water (GM/MS No. 888) and pre-qualified to Norsok M-501 (System 7), meets IMO Resolution MSC.215 for ballast tanks and can integrate demanding protection systems as per ISO 20340 where specified. Its features include **high waterproofing** and yield for high thickness roofing.

HERESITE PSX HPD 371

SELF-PRIMING POLYSILOXANE FOR EXTERNAL PROTECTION



**High UV
Resistance**



**Superior
Waterproofing**



**Very High
Solids ($\approx 93\%$)**

Two-component polysiloxane with high gloss and very high solids content ($\approx 93 \pm 2\%$) formulated for **long-lasting protection against weathering**, with high waterproofing power and color and shine retention even in intense sun exposure.

Its formulation is indicated for exteriors of **tanks, pipes, silos and metal structures** in industries such as pulp and paper, sugar & alcohol, chemical and petrochemical, both in onshore applications and in coastal environments.

As a topcoat in compatible applications, the product reduces the number of coats when the surface system allows it, delivering **high yield per gallon** and superior UV resistance.



HERESITE PAS HPD 451

HIGH PRODUCTIVITY POLYASPARTIC SELF-PRIMING



**High Solids
Content (≈85%)**



**High Thickness
per Coat**



**Petrobras N2943
Approval**

Two-component polyaspartic coating designed to **maximize productivity** on construction sites and maintenance by combining near-corrosion resistance to that of an epoxy primer with gloss and color retention typical of an acrylic polyurethane, which often eliminates the need for primer and reduces the coating cycle.

Recommended for onshore and offshore metal structures and industrial applications that require quick reinstallations and high yield, the product has a high solids content ($\approx 85 \pm 2\%$) that allows the application of high thickness per coat, good chemical resistance and good weathering stability, being homologable to compose systems in the **C4 and C5 of ISO 12944**.

Approved to Petrobras Standard N 2943 – Annex G. In the field, offers a pot-life of ≈ 40 minutes at $77^\circ\text{F} / 25^\circ\text{C}$, **release for handling in 6–8 hours** and total curing in 7 days, with recommended thicknesses per coat depending on the project. Its application reduces steps and improves overall project productivity.



HERESITE PU SRD 501

SELF-PRIMING POLYURETHANE



**Excellent UV
Resistance**

**Galvanized
Adhesion**

**High Range of Colors
and Brightness**

Two-component aliphatic acrylic polyurethane developed to act simultaneously as a primer and topcoat, delivering **excellent UV resistance**, good corrosion protection and adhesion on carbon steel and galvanized steel.

Its formulation provides a durable finish and controlled aesthetics, with availability in different levels of gloss through the **tintometric system**. Aimed at metal structures, agricultural implements and road equipment, this product reduces operational steps and repainting costs, maintaining color and gloss retention in outdoor conditions.

In practical terms, it has a pot-life of approximately 4 hours at $77^\circ\text{F} / 25^\circ\text{C}$, touch around 30 minutes, release for handling in about 8 hours and final cure in up to 7 days, with typical dry thicknesses between 1,97 - 3,54 mil / 50–90 μm per coat.



TOPCOAT

The topcoat is the final layer that ensures UV resistance, an aesthetic finish, and extra protection against wear and weather. **Formulated with high-performance resins**, it preserves color and shine for extended periods, prolonging the system's lifespan and ensuring a uniform, durable appearance in demanding industrial environments.

HERESITE PU N 2677

TOPCOAT POLYURETHANE HIGH GLOSS ACRYLIC



Premium
High Gloss



High
Durability



Petrobras/NORSOK
Approvals

Aliphatic two-component topcoat developed to provide a high gloss finish, excellent waterproofing and mechanical and chemical resistance, being widely applied as a topcoat in **anti-corrosion systems** for onshore, offshore and aggressive industries such as fertilizers.

Combining high yield per gallon with **high-quality finish** and technical compatibility with certified epoxy primers, with Petrobras Standard N2677 approval and NORSOK pre-qualifications when required in a coating system.

In practical application, it delivers a **dry-to-touch in 4 hours**, release for handling in 8 hours, functional curing between 7–14 days depending on conditions and typical pot-life of ≈ 2 hours at $77^{\circ} / 25^{\circ} \text{C}$; It is indicated when contractual specifications demand controlled appearance, high durability and compliance with industrial standards.

