

*Marine***LINE**[®]

*The industry leading cargo tank coating for
chemical & product tankers, with superior chemical resistance.*



ADVANCED
POLYMER COATINGS



The MarineLINE® Cargo Tank Coating System

Key Coatings Benefits

- For chemical and product carriers
- Strong Return on Investment (ROI)
- Virtually non-permeable for assurance of product purity
- Faster, easier cleaning and venting
- Maximum versatility to carry acids, alkalis, solvents, CPPs, PFADs, Bio-Fuels, and Methanol
- Excellent flex stressing
- GRAS - Generally recognized as safe for food grade cargoes.
- FDA compliant
- Superior chemical resistance
- Superior bond strength and adhesion
- Resistance to wear, abrasion and impact
- Very low VOC - 130 grams/L (1.09 lbs./gal)
- Thermal shock resistance -40°C to +150°C (-40°F to +302°F)
- ABS ISO 9001:2015 Certification

MarineLINE® offers long service life potential. See these photos of tanks at various inspection intervals.



3 Years



4 Years



5 Years



6 Years

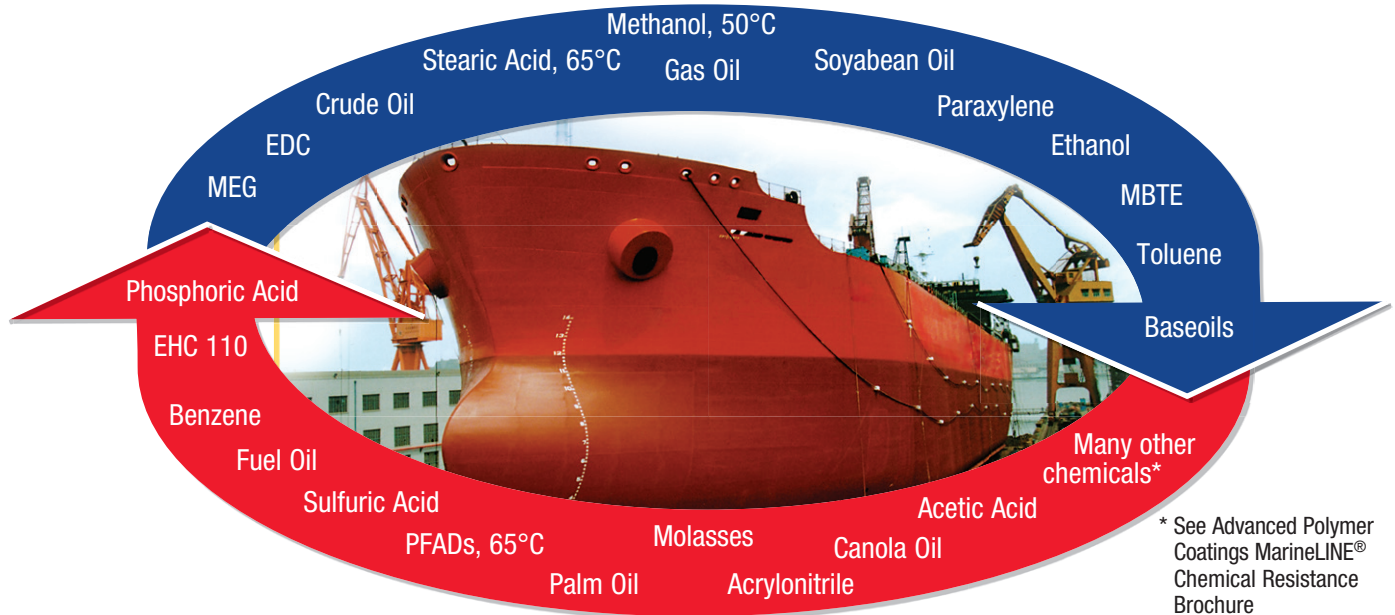


11 Years

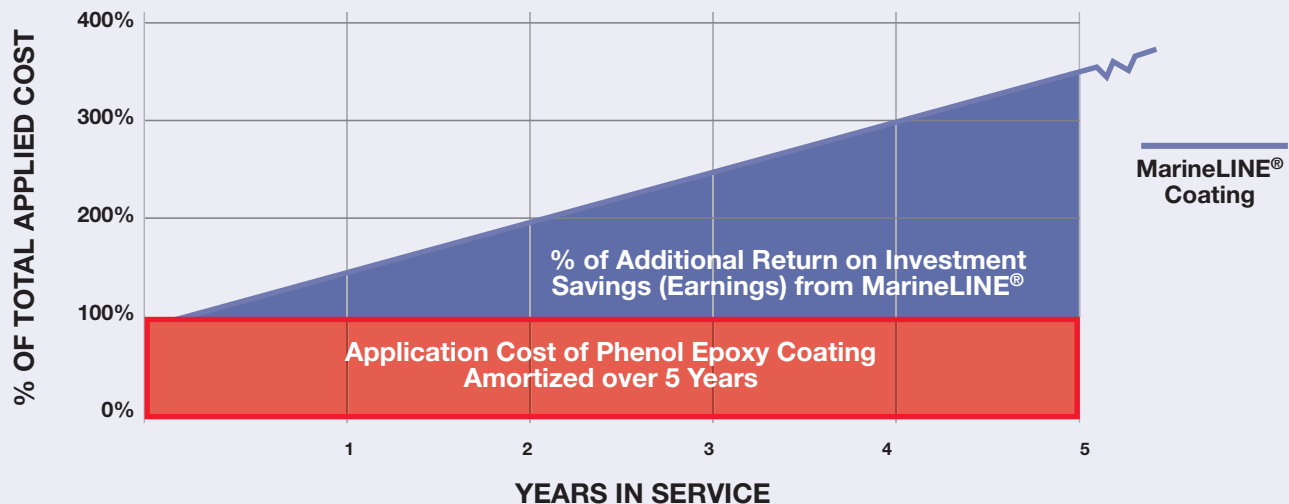
▶ MarineLINE® Operational Benefits

Greater Versatility When Switching Cargoes

These charts show how easily you can switch cargoes to take advantage of the greatest amount of sequencing possibilities and the opportunity to carry the most profitable cargoes.



Compare Cargo Tank Coating Additional Return On Investment (ROI)



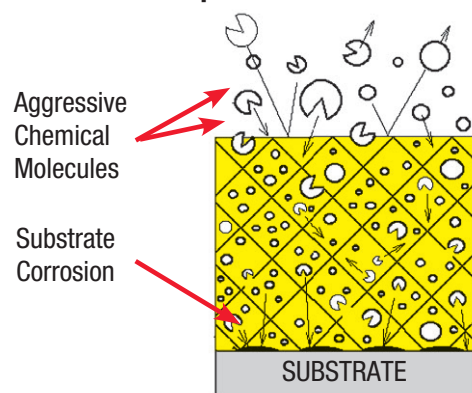
This 5-year comparison of MarineLINE® versus Phenol Epoxy coatings shows the tremendous difference in Additional Return On Investment. Chart calculations are based on data accumulated from a number of tanker shipowners. 25,000 DWT Tanker, Nine (9) voyages per year @ \$20,000 USD per day

- 1) Three (3) less cleaning days per voyage than Phenol Epoxy (27 more sailing days)
- 2) 50% less cleaning chemicals used
- 3) 50% less slops
- 4) MarineLINE® cargo tank coating is fully cured when leaving the shipyard, so additional income is earned as MarineLINE® can immediately carry all cargoes on the MarineLINE® resistance list.

Compare the Superior Performance Capability of MarineLINE®

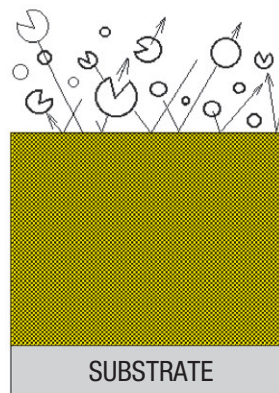
- Higher chemical resistance
- Higher temperature resistance
- Resistance to permeation (absorption)

Problems with Phenolic Epoxy and Modified Epoxy Open Screen Structures



Aggressive chemical molecules penetrate into and through the polymer groups attacking both the inner polymer structure and the substrate.

MarineLINE® 784 Closed Screen Structure



Aggressive chemical molecules cannot penetrate the high density surface. Inner polymer structure and substrate protected from chemical attack.

Compare the Range of Chemicals Carried

MarineLINE® covers the widest range of chemicals carried by a marine cargo tank coating. See the full Chemical Resistance list at <http://www.adv-polymer.com>

Corrosion resistance data from published literature.

A = Good at ambient temperatures (35°C/95°F) **L** = Limited Service **N** = Not recommended

This is Only A Reference Guide.

This is an abbreviated listing of MarineLINE® capabilities. See the MarineLINE® Chemical Resistance Guide for full capabilities. The end user is responsible for determining if MarineLINE® is the appropriate coating for the specific application involved.

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► Why MarineLINE® Is Better

APC Uses Professional Coating Inspection & Heat Curing

To ensure the performance of MarineLINE®, it is imperative that APC provides inspection services throughout the entire application process. APC focuses on the importance of good surface preparation, correct application and proper heat cure, in a 6-Step approach. MarineLINE® has set the benchmark regarding heat curing and spark testing the entire tank surface.

Step 1 Pre-Blast

- Weld & Grind Inspection
- Staging • Dehumidification
- Ventilation • Rain Protection
- Surface Contamination Testing
- Surface Protection



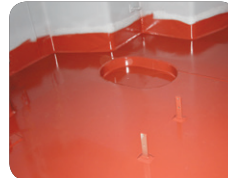
Step 2 Blasting

- Surface Profile
- Surface Cleanliness
- Environmental Conditions
- Cleaning
- Visual Blast Inspection
- Rejection of Blast Quality



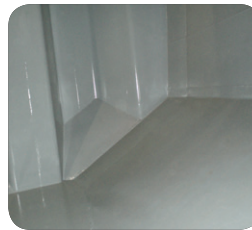
Step 3 Spray Application

- Environmental Conditions
- Mixing Thinners
- Base Coat (shown here)
- Stripe Coat
- Top Coat



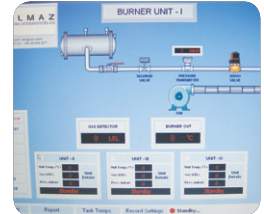
Step 4 Inspection

- Dry Film Thickness Test
- Spark Test



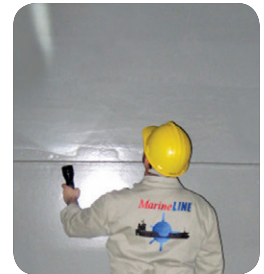
Step 5 Heat Cure

- Equipment
- Set-up
- Charting
- Curing



Step 6 Final Inspection

- Hardness Test
- Solvent Wipe Test
- Completion Certificate



APC Offers Warranty Through Helvetia Insurance



APC has joined forces with Helvetia Group, the Swiss-based insurer, to offer a specialized insurance program to warranty the application and performance of MarineLINE® cargo tank coatings.

This insurance program covers shipowners and operators on the MarineLINE® tank coating for a specified warranty period up to 5 years. With the Helvetia program, APC offers customers a true 'turn-key' solution for their cargo tank coating.

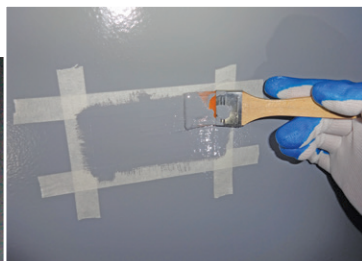


Presenting **PerforMAX**[®]

Advanced Cargo Tank Lining Services

APC now offers a full range of high-quality professional services and programs to optimize the performance of MarineLINE[®] coating, and to extend its service life. This provides long lasting asset protection and costs savings. Services can include:

- Performance monitoring/optimization
- Maintenance and repair program for vessels
- Crew training
- OBI reports
- Third party warranty
- Hand-off completion documents
- Additional services including cargo tank cleaning consultation and others



The MarineMEND Repair System Kit is designed for minor repairs of MarineLINE[®] coated cargo tanks. The repair procedure can be used when the coating has minor mechanical damage.



The information contained in this brochure is intended to show the broad range of applications where Advanced Polymer Coatings' products have been used. This brochure is not an offer to sell any product. The information provided is not a warranty that Advanced Polymer Coatings' products are suitable for any specific service condition. All products sold by Advanced Polymer Coatings come with a warranty that the product supplied is suitable for the service condition disclosed by the customer prior to sale when properly applied. Advanced Polymer Coatings will not warrant the quality of the application work performed by others and shall have no liability for in service product failure resulting from improper application. Advanced Polymer Coatings offers a range of products for different service conditions. In the event a product supplied by Advanced Polymer Coatings is shown to be inadequate for the customer's conditions of service, Advanced Polymer Coatings shall, in its discretion, provide an alternative product or refund

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www.adv-polymer.com

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