

ADVANCED POLYMER COATINGS

Optimising Tank Coatings for Cargo Operations

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ADVANCED POLYMER COATINGS

History **in Maritime**



30 YEARS

Founded in 1997, Advanced Polymer Coatings has been serving the maritime industry for nearly 3 decades.



950+ VESSELS

Cargo tanks have been protected with MarineLINE® on over 950 vessels; the vast majority of which are still trading today.



110+ SHIPYARDS

MarineLINE® has been applied and supported in over 110 shipyards worldwide.



ZERO

Since the product's inception, there have been ZERO cargo contamination claims.

ADVANCED POLYMER COATINGS

A History of Reliable Production

APC has complete control over the manufacturing, quality, and performance of our products from our home office in Avon, OH. All of our coatings utilize a special polymer that we invented and only we can manufacture.



The technology that **changed the industry**

1. **What cargos a vessel can carry**
2. **Faster turnaround times**
3. **Maximizing earning**



MarineLINE®

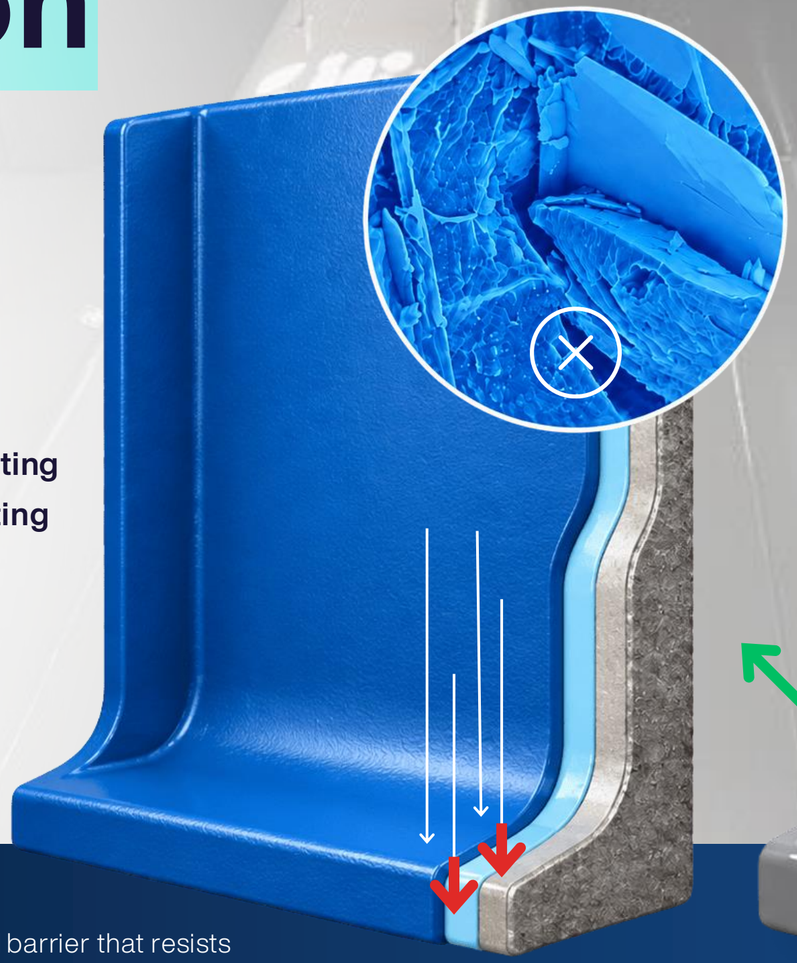
PERFORMANCE STARTS AT THE MOLECULAR LEVEL

MarineLINE®'s high-functionality polymer forms an extensively crosslinked network during curing. This molecular structure is the foundation of MarineLINE®'s chemical resistance and cargo-handling performance.



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Why density matters...
Absorption



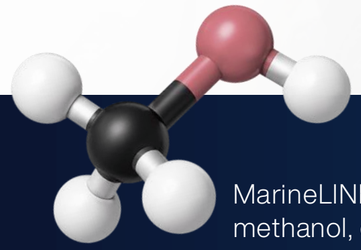
NOVOLAC EPOXY

- Rough Surface
- Cargo penetrates gaps in coating
- More absorption into the coating



MarineLINE®

- High Gloss, dense surface
- Cargo molecules do not penetrate
- Low cargo adhesion, easier cleaning



MarineLINE® creates a tightly cross-linked barrier that resists methanol, **one of the smallest molecules in the tanker trade,** helping limit absorption and reduce venting time between cargoes.

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Less Absorption
faster tank turnaround

WHY LOW ABSORPTION MATTERS

- Less absorbed cargo needs to be released through desorption after discharge.
- Shorter cleaning and ventilation cycles help prepare tanks for the next cargo sooner.

EXAMPLE:
AFTER METHANOL DISCHARGE
(total cleaning + ventilation time after methanol)

- **~3 days MarineLINE®**
- **7-10 days Premium Epoxy**

less absorption + shorter ventilation = **more days back in service**

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Faster Cleaning
less hot water washing

Cargo cleaning comparison:
USD to methanol. 16-tank IMO 3 MR

	Zinc Silicate	MarineLINE®
Total Cleaning	64 hours	16 hours
Hot Water Cleaning	56 hours	12 hours
Cleaning Chemicals	3,200 L	0 L

48 hours
less total cleaning

44 hours
less hot water cleaning

CO_2 Less hot-water washing **can reduce fuel use and associated emissions.**



Cargo Tank Cleaning
Case Study

Faster Cleaning, **more days trading**

Typical MR Vessel cleaning operations

From Oils → Water White Std

per operation

1.5 - 2 days
faster

bonus: **$0** vs **$2-3k**
chemicals

From Oils/CPP → Wall Wash Std

per operation

2 - 2.5 days
faster

bonus **20-30%**
lower chemical consumption
($1.6k - $2.4k saved per operation)

10.5 - 13.5 days regained

*MR 50–55k DWT | Trade-pattern example: 3 water-white + 3 wall-wash transitions.
Comparative assumptions: same vessel class, trade context, and operating factors held constant.

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Cargo Tank Coating Selection **is also an energy efficiency decision**

Low cargo absorption = **Easier to clean**

Shorter cleaning & ventilation = **Faster turnaround**

Less time in port = **Improves CII rating / EEOI measures**

1 5000kpa+ cargo = 5-7days Saved Ventilating

1 Oil cargo = 2-3 days Saved Cleaning

5-6 Cargos a year = extra 10-30 days sailing a year @$35,000 a day

MarineLINE®

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What's Next?

New Technology
One-coat simplicity.

Introducing **OneGuard™**

APC's new hybrid tank lining for product tankers.



ADVANCED POLYMER COATINGS

Novel Technology for **Product Tankers**

- High-solids, one-coat hybrid lining
- Simple application: Airless spray, no stripe coat, ambient cure
- Enhanced flexibility and impact resistance
- Low VOCs (solvents)
- Improved hydrophobic barrier protection
- Shorter repair schedules
- Faster deployment to service

OneGuard™ streamlines coating application from 2-3 steps to **just 1.**



OneGuard™

ABS FOUNDED 1862

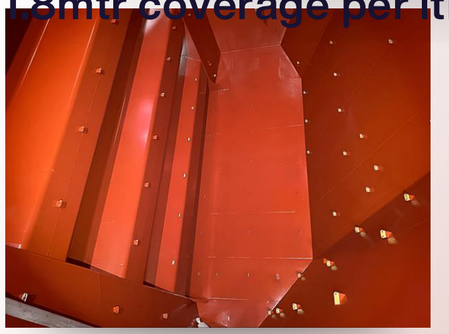
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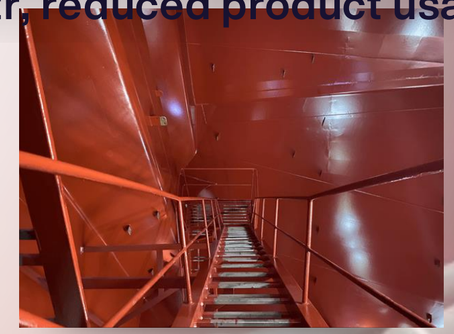
OneGuard™

OneGuard™ Application, July 2025
Yiu Lian Dockyards (Shekou) Ltd. in Shenzhen, China

OneGuard™ application savings

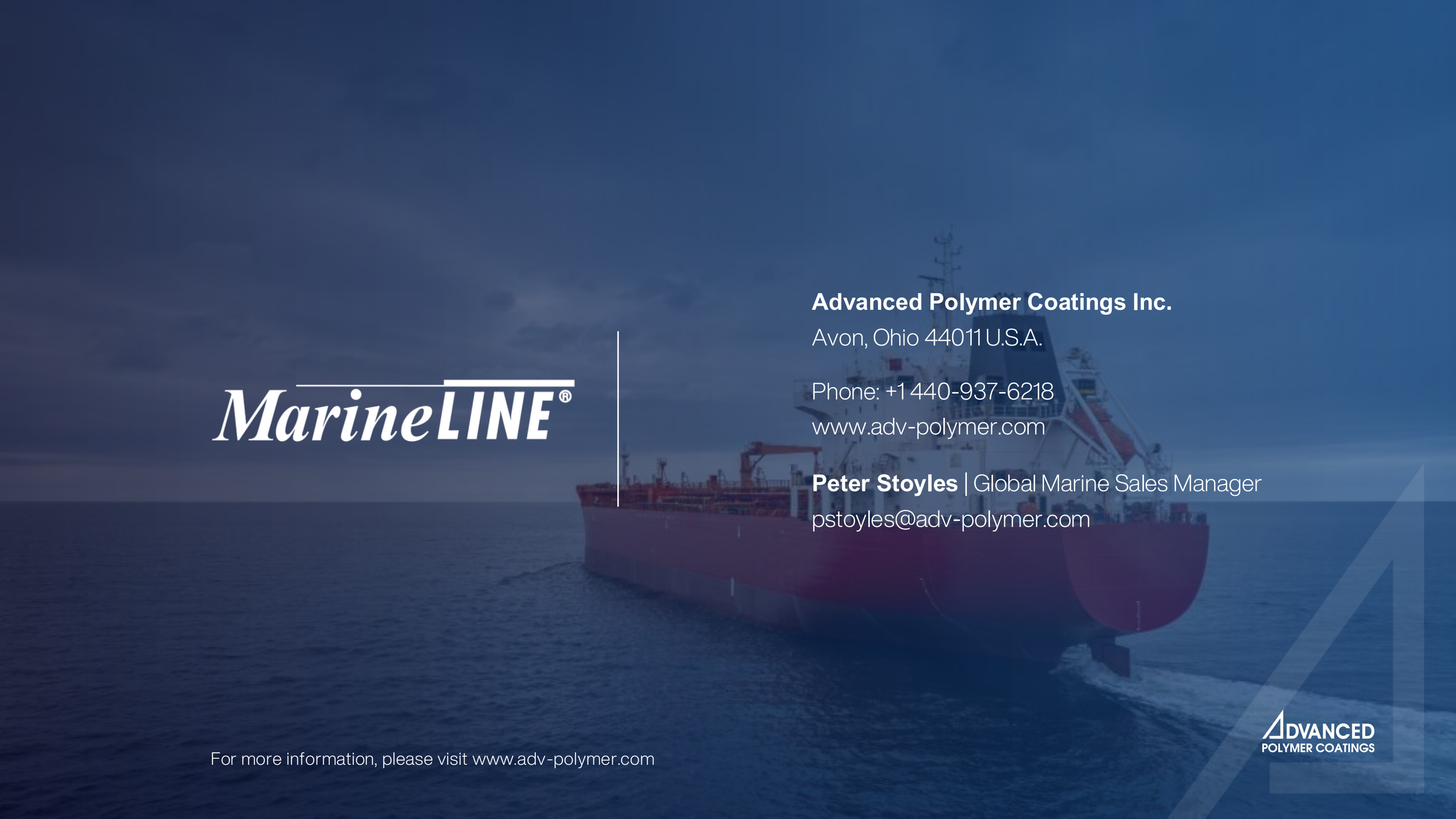
- One tank fully completed in under four days
- **Greater than 50% reduction in coating application time**
- 6-hour dry time fully cured 72hrs
- Smooth, high-gloss cargo tank finish
- **75% lower VOC emissions versus traditional epoxy-based coatings**
- **1.8mtr coverage per ltr, reduced product usage**







ADVANCED POLYMER COATINGS



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