



## Palmali Shipping Turns to APC GuardLine® Cargo Tank Coating for Innovative River/Sea Tankers



TECHNICAL REPORT

When Advanced Polymer Coatings, manufacturers of the well-known MarineLine® cargo tank coating system introduced the new GuardLine® cargo tank coating, Palmali Shipping became one of the first major users for its newbuild river/sea tankers, shown above. GuardLine® is a breakthrough 'low temperature cure' tank coating engineered for product/parcel tankers. So how is GuardLine® different than MarineLine®, the premier cargo tank coating system in the world?

The logo for GuardLINE, featuring the word "Guard" in a red serif font and "LINE" in a bold, blue sans-serif font, with a registered trademark symbol.

**1 GuardLine® only requires an Ambient Cure (+25°C/+77°F) after application.** This eliminates the need for a MarineLine®-type forced hot air heat cure, which saves on installation costs. So GuardLine® is offered at a reduced price when compared to MarineLine®.

**2 GuardLine® has the ability to carry thousands of different cargoes with less severe service requirements,** such as CPPs, Bio-Fuels, Vegetable/Edible Oils, Wine, and DPPs. GuardLine® offers greater versatility and chemical resistance than any Phenolic Epoxy or Zinc coating on the market today, at a comparable cost to these conventional coatings.

For shipowners/operators that require the **highest level of chemical service and versatility**, the optimum decision is still clearly MarineLine® with its ability to **carry the widest range** of chemical and product cargoes. MarineLine® outperforms stainless steel and all other coatings, allowing shipowners to carry aggressive cargoes immediately after leaving the shipyard without restrictions, so shipowners and

operators can earn premium chartering rates from day one. Choosing which APC cargo tank coating to use is up to the shipowner.

It should be noted that both MarineLine® and GuardLine® coatings from APC are easy to apply, and provide superior cleaning features due to their low energy smooth surfaces.

## PALMALI SHIPS AT THE YARDIMCI YARD

The first Palmali Shipping river/sea product tanker constructed at the Yardimci Shipyard in Tuzla, Turkey was coated with the new GuardLine® tank coating system. This was the first of a multi-vessel newbuild program with the application and inspection work handled by APC's Turkish operations, Marine Line Coating San.İç ve Dış Tic.A.S.

The new GuardLine® tank coating system has a distinctive blue color. It was used to line the 7,000 dwt ship's six (6) cargo tanks and two (2) slop tanks. With GuardLine®, the vessel can now carry easy chemicals such as CPPs, Bio-Fuels, Vegetable and Edible Oils, DPPs, and other cargoes.

Palmali Shipping, headquartered in Istanbul, Turkey ([www.palmali.com.tr](http://www.palmali.com.tr)) is committed to providing a professional ship management service to its customers in a competent cost effective manner at the highest environmental and safety standards.

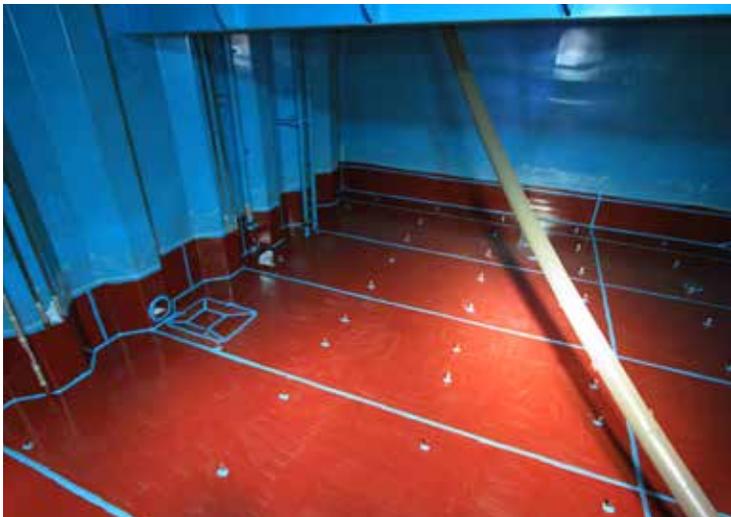
The company's main long-term goal and aspiration is 'zero incidents and zero spills to sea,' while carrying millions tons of liquid and dry cargoes annually from inner ports of central Russia, Caspian, Black and Mediterranean Seas to West Europe, across Atlantic Ocean and Far East. Palmali operates a large fleet of vessels.

### THE GUARDLINE® ADVANTAGE

GuardLine® has an eco-friendly formulation, highlighted by a VOC level that has been reduced to only 36 grams per litre, the lowest level of any other cargo tank coating.

This coating formulation can be sprayed by several methods. The first method uses plural component equipment to separately hold the coating components (resin and catalyst) until spraying occurs. This reduces waste and eliminates the need for added solvent. The other method, airless spraying, can be used after adding in a recommended amount of non-VOC solvent to the coating prior to application. These developments show APC is leading the maritime industry into using more advanced spray technologies that other industrial markets are already successfully using.

GuardLine® complies with all FDA regulations and offers excellent versatility and product cycling.



*(Top) Construction of the Palmali Shipping river/sea tankers at Yardimci Shipyard in Tuzla, Turkey. (Middle-left) Tank with red basecoat on tank top, ready for GuardLine® topcoat. (Middle-right) Finished tank coating being prepared for final inspection (as shown in lower photo).*