## PPG PHENGUARD™ PRO

Revolutionary two-layer premium tank coating reduces total operational costs

Our premium tank coating provides the widest chemical resistance, longest carriage time on the market, and delivers maximum flexibility.





# Two-layer premium tank coating lowers total operational costs for shipyard and shipowner



We identified market demand in the IMO II/III product/ chemical tanker segment for a two-layer phenolic epoxy system offering maximum cargo flexibility with improved efficiency at installation.

The result is our PPG PHENGUARD PRO tank coating system, which is suitable for new-building and refurbishment projects. The system builds on the heritage and outstanding track record of our original, proven PPG PHENGUARD product range, which has been on the market for over 40 years and used on over 1,500 vessels.

#### All stakeholders profit from this groundbreaking solution

Our premium, two-layer tank coating is a revolutionary development that delivers significant benefits to all participants in this market sector.

The PPG PHENGUARD PRO system has been specifically designed for use on IMO II and III chemical/product tankers typically in the 30,000–60,000 DWT range. Engineered to have the widest chemical resistance and the longest carriage time on the market, the system achieves this in just two layers of 125 microns (5.0 mils) rather than the standard three layers of 100 microns (4.0 mils).

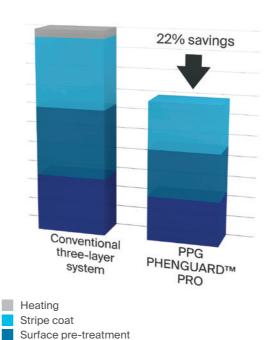
#### Helping shipyards reduce costs and increase efficiency

Your shipyard can lower its total operational costs by using the PPG PHENGUARD PRO tank coating. It typically takes three days less to apply than traditional three-layer systems and can provide potential efficiency gains of as much as 20% when compared to traditional three-layer coating systems.





#### **Cutting your shipyard's operational costs**



Your Shipyard's energy costs can be reduced by using the PPG PHENGUARD PRO system as it can be applied all year round, in temperatures as low as 5°C (41°F). This offers a significant advantage over other systems on the market, which can only be applied down to 10°C (50°F) and, therefore, need additional heating in the tanks during winter.

Application

The unique two-layer system also helps to minimize the industry-wide issue of cracking that can occur on larger vessels that have more torsion in sea trials. Costs can be further reduced as the system also results in less overspray, saving time and money.

#### Shipowners get maximum cargo flexibility and lower operational costs

As a shipowner, we understand the need to manage costs while retaining superior protection for your vessels. That is why our PPG PHENGUARD PRO system is the ideal tank coating solution. Its durable, smooth finish is easy to clean and will reduce your total operational costs.

The system also has the widest chemical resistance list of any premium marine tank coating on the market with over 3,400 cargoes that can be carried, delivering maximum flexibility in the support of long-range trade.

Shipowners will also benefit from our 40+ years of practical experience in the application of tank linings and fully documented guidance and procedures for all cargoes requiring pre-wash, which will extend the life of the coating and safeguard your investment.

### PPG PHENGUARD PRO – the industry's finest tank coating system

Our comprehensive R&D and technical expertise, gained over many years of successful product development and coating application, has given us a unique advantage in the development of advanced tank coatings. That is why the PPG PHENGUARD PRO coating uses a high concentration of Novolac phenolic epoxy, which outperforms all other technologies and delivers wider chemical resistance.

This unique two-layer system has been made possible by removing the larger particles in the pigment. In doing so, we have been able to reduce the thickness of the coating whilst keeping the same ultra-strong network bonds, thus giving a more consistent, homogenous distribution. The system has also been engineered to include specific chemicals that ensure optimal attachment of the molecules and corresponding coating system to the substrate.





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