

IMO-SOLAS mandates and their affect on marine decking materials

All vessels bound for international waters are subject to IMO-SOLAS (Safety of Life at Sea) regulations regarding primary deck coverings. The true focus of IMO and the basis for this approval is fire safety, prevention and testing.

Purpose of IMO-SOLAS

In the past, countries produced ships based on their own local levels of fire safety. These safety standards varied significantly from country to country.

The world shipping and maritime community realized that a universal set of fire safety test procedures was necessary, so the United Nations called on International Maritime Organization, or IMO, their specialized marine agency, which oversees standards for safe shipping and clean oceans.

In 1991, the United States signed the Safety of Life at Sea, or SOLAS, Treaty. This treaty contains minimum international safety measures, including fire performance requirements for construction materials.

Effective January 2004, all vessels bound for international waters became subject to new IMO-SOLAS fire safety regulations. These require rigorous combustibility, smoke and toxicity tests of all onboard materials to ensure the safety of personnel and passengers.

The purpose of IMO-SOLAS is standardization throughout the world of important safety considerations. In essence, *safety of life at sea*.

IMO-SOLAS choices for marine decking material

Fortunately, the marine industry is offered a number of choices when it comes to IMO-SOLAS approved marine decking materials. Each option, however, offers significant advantages and/or disadvantages.

The following considerations are important factors in selecting your marine decking:

- **IMO-SOLAS Approval**
First and foremost, is the material IMO-SOLAS approved? Ask the manufacturer for proof in the form of a certificate issued by the local governing agency (for instance, the U.S. Coast Guard in the United States).
- **Service Life & Maintenance**
How much direct use will the decking endure? How many years of useful life are expected? Also, consider how easily the product can be cleaned and repaired/replaced.
- **Moisture Control**
Your decking choice can indirectly affect the safety of the vessel's underlying steel deck. How important is it to produce a waterproof barrier to protect this structure?
- **Product Flexibility**
Your vessel is subject to significant stress from the ocean. Therefore, decking material must be flexible enough that it will "give" and not crack, delaminate or detach in harsh sea conditions. Remember that failure in flexibility can lead to moisture transmission, which could ultimately harm your steel deck.
- **Chemical/Stain Resistance**
Most decking is subjected to more than simple foot traffic. Is chemical resistance important? How about ease of cleaning — especially in food or restroom areas?
- **Overall Cost**
True, some products are available at a lower up-front cost. But how will these materials withstand the test of time? Consider cost of ownership:
 - *Expected Life:* How soon will you need to replace the decking?
 - *Ease of Repair/Replacement:* Can the product be patch repaired? Easily refreshed with a simple surface sand and reseat?



Marine Decking Materials: Comparison Guide

Product Type	Advantages	Disadvantages
<i>carpet</i>	<ul style="list-style-type: none"> offers good insulation & sound deadening properties; good aesthetic properties small number of carpet manufacturers have gained IMO approval 	<ul style="list-style-type: none"> trap & hold dirt, oil, water, food and many other contaminants, making it a virtual breeding ground for microbial organisms hard to clean and difficult to repair, making replacement a common recurring expense requires underlayment and moisture barrier to protect steel deck
<i>vinyl sheet</i>	<ul style="list-style-type: none"> relatively easy to install low installation cost many decorative appearance options 	<ul style="list-style-type: none"> shows heavy wear and discoloration in high traffic areas can delaminate at seams unrepairable; entire sheet must be removed and replaced requires completely smooth underlayment and moisture barrier over steel decks
<i>vinyl composite tile (VCT)</i>	<ul style="list-style-type: none"> good wear characteristics many styles and colors from which to choose relatively easy installation 	<ul style="list-style-type: none"> poses risk of moisture transmission at every foot of floor space due to many seams can only be repaired by replacing affected area of damage (complete removal) requires smooth underlayment and moisture barrier over steel decks
<i>quarry tile</i>	<ul style="list-style-type: none"> good wear characteristics tough (impact resistant) 	<ul style="list-style-type: none"> rigid; can't handle flexing, leading to cracking and moisture intrusion at grout lines cleanliness issues at grout lines very heavy expensive
<i>seamless epoxy</i>	<ul style="list-style-type: none"> protects decks from corrosion by forming flexible, seamless, waterproof barrier that permanently adheres to the steel excellent wear properties and chemical resistance easy to clean and maintain appearance can be refreshed by simply sanding and resealing the surface 	<ul style="list-style-type: none"> must be installed by a trained applicator

The PolySpec Solution: FLEX-IMO System

PolySpec's FLEX-IMO decorative flake seamless epoxy decking is the first U.S. Coast Guard approved IMO-SOLAS epoxy decking. It has passed rigorous fire performance, smoke and toxicity evaluations and fully meets the newest regulations for safety of life at sea.

We introduced FLEX-IMO to market in 2003, and since that time have completed many successful installations around the world.

With customers including Enasco, LeTourneau, U.S. Joiner and the U.S. Navy, we can provide a detailed track record of product performance in real use situations.

The FLEX-IMO system protects your decks from corrosion by forming a flexible, seamless and waterproof barrier that permanently adheres to the steel.

Plus, FLEX IMO offers excellent wear properties and chemical resistance and is easy to maintain. It will provide you with many more

years of useful life than traditional flooring systems, with cost of ownership less than that of carpet, tile or vinyl. Plus the appearance is easily renewed with a surface sand and reseat.

This zero VOC, low odor system can be customized to fit your color, texture, and other aesthetic preferences.

For additional information, please visit www.polyspec.com, or call (281) 397-0033.