

HOW TO EXTEND THE LIFE OF STEEL PIPES, TUBES AND FITTINGS ON SHIP'S DECKS

Ship decks are one of the most extreme corrosive environments for steel pipes, tubing, valves and fittings. Typically, these pipes and fittings drive crucial equipment for loading and unloading operations onboard of vessels and cannot be at risk of failure. Other crucial equipment types are cranes, hatch covers, capstans, conduit pipes, etc.

The combination of salt sea spray, oxygen, and constant changing weather conditions on a vessel can quickly deteriorate deck equipment if it is not properly protected.

Traditional coatings have proven to be of little or no help in the fight against corrosion on deck.

THE BASICS

In order to produce rust on steel pipes, moisture and oxygen must be present as the basic ingredients. If, in addition, sea salt water is present, a recipe for corrosive disaster is imminent.

A traditional coating will initially protect the surface, but, due to eventual hardening over time and exposure to the elements, cracking and chipping will occur and, more importantly, will hide most of the rust while degrading the condition of the metal.

Under extreme marine weather conditions, a system is required that will repel water while providing long term protection while remaining soft and flexible underneath.

PETRO COATING SYSTEMS

PCS Anti-Corrosion System is a Canadian manufacturer of high quality petrolatum based products specifically formulated for the harshest marine conditions. It is a non-woven, stitch-bonded synthetic fabric which is fully impregnated and coated with neutral petrolatum based compounds and inert fillers that are impervious to water and will maintain flexibility and long term protection of metal surfaces.

THE SYSTEM

Applying petrolatum based PCS Anti-Corrosion Tape System, stops dangerous corrosion and provides many years of maintenance free operation of deck equipment, therefore extending the life of pipes and fittings on deck.

PCS System can be applied on new or already lightly corroded surfaces and requires minimal surface preparation and no shut down is necessary. Application instructions and basic training can be provided to Chief Officer, Bosun, and crew members so installation costs can be kept to a minimum.

The System is composed of the following:

- **PCS Primer**, a smooth paste used to displace moisture and oxygen from surface as well as providing a nice clean surface to receive the tape.
- **PCS Mastic**, a putty used to fill uneven surfaces and crevices in order to eliminate any air pockets.
- **PCS Tape**, a non woven stitch bonded fabric fully impregnated with wax, oils and anti-corrosion agents, that applies spirally to the prepared surface making sure you cover at least 55% overlap to assure proper sealing.
- **PCS Over Wrap**, a PVC tough tape spirally applied to areas that may require mechanical protection.

HISTORY AND INDUSTRY CHANGES

Petrolatum tapes have been in the industrial market for many years under the trade name DENSO. Since the early 90's, the system has been introduced to the marine industry under different names and manufacturers, however, a combination of poor quality tapes and lack of proper installation guidance have discouraged ship managers and operators to use this system.

A very common quality issue with manufacturers is the lack of oils and wax in the fabric which results in short life after installation and subsequent unraveling of the material. Of course, a proper installation procedure needs to be utilized in order to assure the system will provide long term protection.