

## ■ White Hull Paint

A double-hull tanker's ballast tanks are especially susceptible to corrosion. Ballast tanks are a maze of steel plates, supporting structures, T-bars, L-bars, I-bars and small brackets. And while the nominal surface area of ballast tanks is just the tank length times two times the beam and height, the actual coated surface area is 5 times greater. Making matters worse, are the tight spaces, backward facing surfaces, underneath corners and seam lines.

The condition of steel in ballast tanks depends on the condition and longevity of the paint coatings. During construction the ballast space is painted before erection. There is always damage caused to the weld seams during assembly which requires subsequent repair. Repairing and renewing the paint is extremely difficult in the confined space of a fully assembled ballast tank and this work can not realistically be of the same quality as that done prior to erection.

Fact is, paint ages. As it ages it cracks and fails, no longer protecting the steel underneath. One of the key determinates of paint life is the temperature of the steel it is painted on. High temperatures and constant temperature changes make the paint brittle. Heated cargoes can also affect the temperature of ballast tank bulkheads. But a major recurring cause of high and oscillating steel temperatures on tankers is the sun. That is the reason why Hellespont paints the topsides and deck areas above the ballast tanks of their tankers white. This reduces the steel temperature of these areas and protects the ballast tank coatings.

How high is temperature difference between white and other colours? Various field measurements by Hellespont back up the theoretical radiation reflectance values for colours. Bright red is more than 15C hotter than white. Dark red is hotter still. Many colours were tested: blue and green were essentially the same as red. Grey is 5-10C hotter. These temperature values are average semi-tropical values during mid day (09:00 to 15:00). In the Arabian Gulf at noon these differences are more pronounced. You can fry an egg on red but you can't on white.

The disadvantages of white paint are its maintenance - it is harder to keep clean and fact it reveals rust. However, Hellespont believes that revealing rust and defects is a good thing, as it can be dealt with immediately. The higher preservation costs of a white hull is money well spent.