



The Philosophy of Long-Term Coating Protection

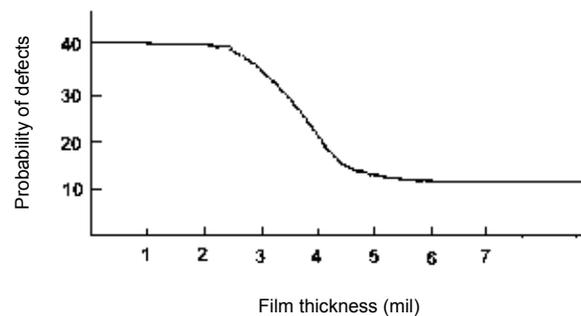
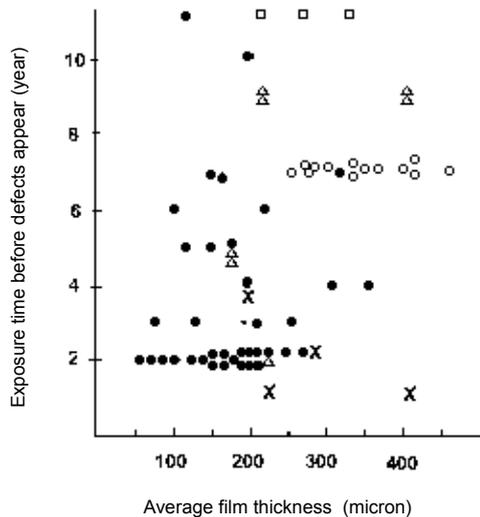
Long-term protection is not limited by the protective coatings that are available. There are more sophisticated high-performance coatings available today than ever before and ones that will satisfy almost any set of corrosive conditions on a long-term basis. As a matter of fact, the high-performance coatings presently available will always perform better protection when applied in higher thickness. In a series of weathering tests conducted by the Railway Technical Research Institute of Japan, 86 different coatings were exposed to the sea and compared in terms of durability and film thickness (fig. 1). The test results revealed that films of 250 microns and more in thickness performed adequately for much longer time than films that were less thick. Therefore we may conclude that paint applications in highly corrosive require a film thickness of more than **250 microns**, which is possible with the Liquid form "A" of FLUID FILM and all our FLUID FILM products.

According to the study of R.P. Pierce, the probability of finding some defects in paint film depends on the film thickness (fig. 2).

Some soft coatings of other producers based on lanolin, petroleum based derivatives or vegetable oils are claimed to be the cheapest long-term protection for ballast water tanks. These coatings are often recommended to be applied in a single coat to a film thickness of only 75-150 microns. One may therefore conclude on base of the studies and practical experience that this group of soft coatings prevents corrosion only for a short period, when the best types of hard coatings used in ballast tanks, i.e. epoxy or urethane coatings, should be applied in a film thickness of more than 250 microns.

When long-term coating protection is desired, the cost of the actual coating material is relatively small compared to the overall cost of the job.

•	Spot rust
X	Blisters
○ Δ □	Conditions before rusting and blistings



[Report of Japan National Railway technical Research Institute No. 1070 (1978) Mar.]

[R.P. pierce, Corrosion 8 (5) 178 (1952)]

Fig. 1 Realship between film Tickness and Durability of Film when Weathered on Sea

Fig. 2. Realtionshio between Film Thickness and Probability of Defects on Freshly painted film