



TECH TIPS



METALS IN MARINE ENVIRONMENTS

Durability and strength are two benefits that are fueling the growing popularity of metal roofing. Whether used for commercial or residential applications, metal roofing is proven to withstand hurricane strength winds. Structures protected with metal roofing have survived the worst of the recent hurricanes.

Given its inherent ability to withstand the severest weather conditions, building code officials, community associations and individuals alike are looking to replace standard asphalt and clay tile roofing with metal roofing systems. Metal's usage in direct coastal applications has been limited, however, due to its inability to withstand the corrosive effects of the sea's salt laden air.

Traditionally, metal panels have not been recommended for applications located closer than one mile from the sea's coast. This recommendation, however, applies to metallic coated steel panels, not aluminum. Since steel is highly susceptible to corrosion, most paint manufacturers require a heavy primer and/or film thickness when their paint system is applied to a metallic coated panel system. These heavy film thickness coatings are generally not stocked as a standard offering for most panel manufacturers; therefore, the cost of such panels becomes prohibitive for an average size project.

A cost-effective solution is to select a pre-painted aluminum panel system. Aluminum is much more resistant to the corrosive effects of a marine environment; therefore, panel manufacturers can typically use a standard stock 70% PVDF based paint system when manufacturing the panel system.

In support of this recommendation, pre-painted aluminum panels were tested in accordance with the ASTM standard B117-85 (salt fog tolerance) and passed at 3000 hours, whereas the metallic coated steel products can only meet 1000 hours of exposure within the test chamber.

As with any general recommendation, local climate conditions such as rainfall and humidity levels may affect a product's overall performance. The results, however, have prompted a leading paint manufacturer to recommend the use of their 70% PVDF based paint system on aluminum panels located 0 to 1/4 mile from the seacoast.



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