valmont STRUCTURES

FINISHES

# F-306 POWDER TOP COAT OVER GALVANIZED AND INTERMEDIATE COAT OVERVIEW

## SPECIFICATIONS

**Surface Preparation:** Prior to being incorporated into an assembled product, steel plates 0.75" or more in thickness are blast cleaned to remove rolled-in mill scale, impurities and non-metallic foreign materials. After assembly, all weld flux is mechanically removed.

The iron or steel product is degreased by immersion in a 4% – 6% concentrated caustic solution, elevated to a temperature ranging from 150° F to 190° F. It is then rinsed free of residual caustic solution by immersion in a fresh water bath.

The steel product is then pickled by immersion in either a heated sulfuric acid solution of 6% to 13% concentration with a temperature of 140° F to 160° F or a 6% to 13% hydrochloric acid solution at ambient temperature, until all surface rust and remaining metallic impurities are removed. It is then rinsed free of residual acid solution by immersion in fresh water rinse.

Final preparation is accomplished by immersion in a zinc ammonium chloride flux solution, heated 140° F to 180° F. The solution's pH is maintained between 4.0 and 5.0. The assembly is either allowed to air dry or placed in a pre-heat chamber to dry before moving to the zinc bath.

**Zinc Coating:** The product is hot-dip galvanized to the requirements of either the current revision of ASTM A123 (Specification for Zinc Coatings on Iron and Steel Products) or the current revision of ASTM A153 (Specification for Zinc Coating on Iron and Steel Hardware). AASHTO, MILSPEC or International specifications can be accommodated when requested in advance. The coating is applied by emersion in a molten bath of zinc maintained between 810° F to 840° F. The zinc bath is maintained and tested in accordance with the current revision of ASTM B6 (Standard Specification for Zinc) and, at a minimum, is 98% zinc. Upon completion of the galvanizing process, the product is inspected for surface defects, coating thickness and any specific customer requirements. If repairs are required, they are done so in accordance with the current revision of ASTM A780 (Practice for Repair of Damaged and Uncoated Areas of Hot-Dip Galvanized Coatings).

**Intermediate Coat:** All galvanized exterior surfaces visually exposed are coated with an corrosion-inhibiting polyamide epoxy to a minimum dry film thickness (DFT) of 2.5 – 3.0 mils(.003"). Prior to application, the surfaces to be coated are mechanically etched by brush blasting (Ref. SSPC-SP7) and the zinc coated substrate preheated to 450° F for a minimum of one (1) hour in a gas-fired convection oven. The epoxy coating is applied and force cured in a convection oven.

**Top Coat:** The intermediate coated surfaces are coated with a aliphatic acrylic polyurethane to a minimum dry film thickness of 2.5 – 3.0 mils. The polyurethane coating is applied and force cured in a convection oven by heating the steel substrate to a minimum of 200° F.

**Packaging:** Prior to shipment, small poles are wrapped in 0.125" thick ultraviolet-inhibiting, plastic-backed foam. Larger poles are cradled in a 1.0" rubberized foam base.

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