valmont STRUCTURES
FINISHES

F-283 GALVANIZED & POWDER TOP COAT OVERVIEW

SPECIFICATIONS - GALVANIZING

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).

SPECIFICATIONS - TOP COATING

General: The standard powder coat finish consists of either a Polyester Urethane, TGIC (Triglycidyl Isocyanurate) Polyester or, when specified, a Super Durable Powder[1].

Surface Preparation and Powder Coating: The exterior steel surface is blast cleaned to Steel Structures Painting Council Surface Preparation Specification No. 7 (SSPC-SP7) requirements utilizing cast steel abrasives. Prior to the powder application, the zinc-coated substrate is preheated to a maximum temperature of 450° F for a minimum of one (1) hour. Then all exterior surfaces are cleaned & coated with either a Polyester Urethane, TGIC (Triglycidyl Isocyanurate) Polyester or a Super Durable Powder to an average dry film thickness (DFT) of 3.0 mils (0.003"). The powder coating is electrostatically applied and then cured in a gas fired convection oven at a temperature range of 350° F - 400° F. The thermosetting powder resin provides both intercoat as well as substrate fusion adhesion that meets 5A or 5B classifications of ASTM D3359.

Quality Control: The powder coating facilities are owned and operated by the pole manufacturer to ensure a quality coating system.

Packaging: Prior to shipment, small poles are wrapped in an ultraviolet inhibiting plastic backed foam. Larger poles are cradled in a rubberized foam base.

[1] A Super Durable Powder provides a minimum of three times the gloss retention, color retention and ultraviolet light (UV) resistance compared to the standard powder coatings. The Super Durable Powder is only stocked in Valmont standard colors. Other Super Durable colors may be made available upon factory request.

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