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SSPC SPECIFICATIONS

The Society for Protective Coatings (SSPC) has published specifications detailing performance requirements for zinc-rich coating systems designed for corrosion resistance. A summary of these specifications appears in the sections that follow. Galv-Match-Plus & Prime-Zinc-Plus™ both are applicable under these specifications.

Painting System Guide No. 12.00, Guide to Zinc-Rich Coating Systems (Galv-Match-Plus & Prime-Zinc-Plus™)

This guide provides general information on the description, selection and applications of zinc-rich coatings, and the selection of topcoats.

Zinc-rich coatings are highly pigmented primer coatings that are uniquely defined by their capability of galvanically protecting steel exposed at discontinuities such as narrow scratches and holidays. While the major pigment component in a zinc-rich coating is zinc dust, the vehicle may be inorganic or organic.

Zinc-rich coatings are classified as follows:

- Type IA--Inorganic - postured, water-borne, alkali-silicates
- Type IB--Inorganic - self cured, water-borne, alkali-silicates
- Type IC--Inorganic - self cured, solvent-borne, alkali-silicates
- Type IIA--Organic - thermoplastic binders
- Type IIB--Organic - thermoses binders

Certain zinc-rich coating systems are suitable for use in protecting steel surfaces either top coated or un-top coated. Zinc-rich systems are not suitable for certain exposure conditions.

Painting System Specification No. 12.01, One-Coat Zinc-Rich Painting System (Galv-Match-Plus & Prime-Zinc-Plus™)

This specification covers a one-coat zinc-rich painting system to be use on steel in mild to moderately serve environments.

This system is suitable for use on parts or structures exposed in Environmental Zone 3B (chemical, neutral). It is not recommended for environments where corrosive contaminants will have a pH below 5 or above 9 or severely corrosive environments. The system is recommended as a durable shop primer or as a protective one-coat system for normal atmospheric weathering environments and certain immersion services.

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SSPC Continued ...

This specification does not pertain to weldable prefabrication zinc-rich primers which are applied at lower thicknesses (one mil [25 microns] or less). Further information regarding these and other zinc-rich primers can be found in SSPC-PS Guide 12.00, "Guide for Selecting Zinc-Rich Painting Systems."

Paint System Guide No. 14: Guide for the Repair of Imperfections in Galvanized or Inorganic Zinc Coated Steel Using Organic Zinc-Rich Coating

This guide describes one method for repairing galvanizing or inorganic zinc coating using an organic zinc-rich coating.

This method is intended to repair imperfections resulting from the application, welding, cutting, drilling, grinding, abrading, or rough handling during transport or erection. It may also be used to repair imperfections in galvanizing or inorganic zinc coating that have occurred from weathering during storage or after erection. This method can also be used to repair top coating galvanizing or inorganic zinc coating. This method is intended for localized imperfections where the major portion of the existing zinc coating is intact.

Organic zinc-rich coatings are suitable for repairing damaged zinc coatings because they combine several favorite properties. These coatings can be applied by brush or spray, under field conditions to small and irregular shapes and are compatible with both zinc and steel substrates.

Paint Specification No. 20

Zinc-Rich Primers (Type I, "Inorganic," and Type II, "Organic") This specification covers one group of highly pigmented zinc-rich coatings that are uniquely defined by their capability of galvanically protecting steel exposed at discontinuities such as narrow scratches and holidays. While the major pigment component in this coating is zinc dust, the vehicle may be inorganic (Type I) or organic (Type II).

This specification does not cover all types of zinc-rich coatings. For example, it is not a straight performance specification, nor does it pertain to extended zinc-rich coatings, nor to weldable prefabrication zinc-rich primers, which are applied at low thicknesses (approximately one mil [25 microns] or less). Further information regarding these and other zinc-rich coatings can be found in SSPC-PS Guide 12.00, "Guide to Zinc-Rich Painting Systems," and other SSPC specifications.

This specification defines the minimum compositional and laboratory performance requirements for identifying a group of zinc-rich paints. It is to be used in conjunction with SSPC-PS Guide 12.00, "Guide to Zinc-Rich Painting Systems"; and other SSPC specifications covering surface preparation, applications, thickness, inspection, and safety.

SSPC Continued ...



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This primer, when applied over properly prepared steel surfaces is suitable for use on parts or structures exposed in Environmental Zones 1A (interior, normally dry), 1B (exterior, normally dry), 2A (frequently wet by fresh water), and 2C (fresh water immersion). The primer may be use in Environmental Zones 2B (frequently wet by salt water), 2D (salt water immersion), 3A (chemical, acid), and 3C (chemical, alkaline) with proper top coating.

This primer is intended for application by spray and to be applied in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Painting".

Paint Specification No. 22, Epoxy-Polyamide Paints (Primer, Intermediate, and Topcoat)

This specification covers three types of two-component epoxy-polyamide coatings--primer, intermediate, and topcoat--for use on steel surfaces. The information described herein shall be used as a control for evaluation of proposed coating systems. See SSPC-PS 13.01, "Epoxy-Polyamide Painting System," for specifications covering system requirements, including surface preparation, application, and thickness. These coatings, when applied over properly prepared steel surfaces, are suitable for exposures in Environmental Zones 2A (frequently wet by fresh water), 2B (frequently wet by salt water), 3A (chemical, acidic), 3B (chemical, neutral), 3C (chemical, alkaline), and 3D (chemical, solvents), but not for potable water tanks. They are intended for brush or spray application over steel prepared in accordance with SSPC-SP 6, "Commercial Blast Cleaning," or SSPC-SP 8, "Pickling." The performance will be improved by a better degree of surface preparation. They are suitable for shop, field, or maintenance coating and are applied in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Painting." If the primed part of the structure is to be exposed to the weather, it should be top coated as soon as practical.

Paint Specification No. 29, Zinc Dust Sacrificial Primer, Performance-Based

This specification covers highly pigmented primers that contain zinc dust as the major pigment component (minimum 50% by weight in the dry film) and are defined by their ability to galvanically protect ferrous substrates.

The vehicle type may be inorganic (Type I) or organic (Type II). Each primer type (I and II) is classified according to the level of exterior performance at a severe marine site. Laboratory performance criteria are also included. The primers are also classified per the maximum VOC content. This specification does not cover weldable pre-construction primers.

This primer, when applied over properly prepared steel substrates, can provide effective corrosion resistance in a wide range of environmental zones. In some cases, a topcoat may be required.



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SSPC Continued ...

Paint Specification No. 30, Weld-Through Inorganic Zinc Primer

This specification covers a group of inorganic zinc primers which can protect steel during the fabrication process, permit welding to specification requirement, and be over coated.

The major pigment component in this coating is zinc dust, and the binder is inorganic.

This specification defines the minimum compositional and laboratory performance requirements for characterizing a group of zinc primers. It is to be used in conjunction with SSPC-PS Guide 22.00, " Guide for Selecting One-Coat Pre-construction or Prefabrication Painting Systems," SSPC-PS Guide 12.00, "Guide for Selecting Zinc-Rich Painting Systems," and with other SSPC specifications covering surface preparation, applications, thickness, inspection, and safety.

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