



CPC ENGINEERING SPECIFICATION

SECTION	Doc. No. CES 26-090
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PROCEDURE FOR PREPARATION OF SURFACE FOR PAINTING

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THREE COAT POLYURETHANE SYSTEM

1 SURFACE PREPARATION AND APPLICATION PROCEDURES

1.1 SURFACE PREPARATION

- All sharp edges shall be ground to produce a radius and all imperfections such as delamination's, scale, gouges, slivers, and slag shall be corrected prior to abrasive blasting the steel surface shall be clean of all chemical residue, moisture, dirt, etc., prior to abrasive blasting.
- Prepare steel substrate by abrasive blasting.
- The depth of the anchor profile shall be 1.5 to 2.0 mills.
- In preparing the surface, compressed air shall be used maintaining a minimum of 90 psi at the blasting nozzle. The nozzle size used shall be dictated by the amount of pressure/volume available. The air supply shall be free of oil, water, and other contaminants.
- The blasting abrasive selected for surface preparation shall be a coal slag material such as Clemtex black grit of a #3 graded size or finer.
- Blasting shall be carried out till the scale is cleaned off.
- The freshly blasted surface should be cleaned of all abrasives by blowing down with clean air, brushing, and/or vacuuming.
- The first coat shall be applied within 4 hours of blasting. If rust bloom forms after blasting, the affected area shall be reblasted before the application of the first coat.

1.2 COATING SYSTEM

- PRIMER COAT: One (1) coat of self-curing, inorganic zinc to achieve 2.5 to 3.5 mils d.f.t.
- INTERMEDIATE COAT: One (1) coat of a two component, cross-linked epoxy to achieve 4.0 to 6.0 mils d.f.t.
- TOPCOAT: One (1) coat of *aliphatic acrylic polyurethane (2 components)* to achieve 1.5 to 2.0 mils d.f.t

1.3 ENVIRONMENTAL EXCLUSIONS

The following conditions must exist before blasting or painting operations will be conducted:

- Air temperature must be 50° to 95° F
- Surface temperature must be 50° to 100° F and 5° F above the dew point
 - Relative humidity less than 90%.

1.4 REPAIR PROCEDURES

- Touch up of damaged or reworked areas should be prepared with power tool cleaning and primed with a zinc rich epoxy. Follow with the intermediate and topcoat.

1.5 APPLICATION

- The spray equipment used for applying the coating material shall be standard production type conventional spray equipment.
- All spray equipment shall be clean.
- Pressure pot must be continuously agitated by a mixer.
- A moisture trap and filter should be included in the main supply airline.



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- Flush all equipment with the recommended thinner for the coating material before use.
- Adjust spray equipment to apply an even wet coat with minimum overspray.
- Continue slow mixing during application to maintain uniformity of material.
- Apply a wet coat in even, parallel passes, overlapping each pass 50%. On irregular surfaces, coat the edges first, making an extra pass later.
- When applying the intermediate coat over the inorganic zinc primer, a mist coat is required to minimize bubbling.

1.6 INSPECTION

- The dry film thickness shall be determined using a non-destructive magnetic thickness gauge. The totally dry film thickness of this system shall be 3.0 mils minimum to 6.0 mils max.
- Each coat of paint shall be free from drips, runs, sags, dirt, etc. All painting activities, including repairs, shall be done using good painting practices.

1.7 HANDLING

- The completed coating film should be allowed to cure completely prior to handling. Care should be taken when handling coated items to avoid damage to the cured film. Use wood beams and carpet to protect the coating during handling and staging. Avoid contacting the painted object directly with the ground or concrete.

1.8 MISCELLANEOUS

- The coating system is to be applied in three (3) coats to a minimum dry film thickness of 8.0 mils and a maximum dry film thickness of 12.0 mils.
- The manufacturers recommendations that support the proper application of this system will also apply as part of these written.

