

SECTION 1071—SPOT/ZONE MAINTENANCE PAINTING OF EXISTING STRUCTURAL STEEL

1071.1 DESCRIPTION—This work is the painting of existing bridges using an approved surface tolerant coating system.

1071.2 MATERIAL—

(a) **Coating System.** An approved proprietary coating system selected from the list “Approved Surface Tolerant Coating Systems” in [Bulletin 15](#). Do not mix components from different systems.

(b) **Technical Representation.** [Section 1060.2\(a\)2](#)

(c) **Technical Data.** Submit copies of the manufacturer's current Technical Data, Safety Data, and Recommended Repair Procedures for the coating system. Also, include the manufacturer's color designation for the color of finish coat to be used. Identify this information for each bridge for each coating system used. Work will not be permitted to proceed until this information is received.

In the event of a conflict between the manufacturer's technical data and these specifications, the specifications will govern.

1071.3 CONSTRUCTION—

(a) **General.** [Section 1060.3\(a\)](#)

(b) **Surfaces to be Painted.** Unless otherwise specified, paint all surfaces previously painted and all surfaces of new metal. Do not paint aluminum and galvanized metal surfaces, unless otherwise directed.

Do not apply mastic to areas that will be in contact with concrete. Paint areas in contact with concrete with an approved inorganic zinc rich prime coat.

(c) **Surface Preparation.** [Sections 1060.3\(b\)1, 2, and 4](#); and as follows:

1. Blast Cleaning. Blast clean all steel to a commercial blast condition, as defined in SSPC-SP6-85, using acceptable abrasives propelled through nozzles. Resultant anchor pattern to be 40 µm to 90 µm (1 1/2 mils to 3 1/2 mils) as measured by a Keane-Tator Surface Profile Comparator or Testex Replica Tape.

Before proceeding with the production blast cleaning operation, prepare test sections on each structure of at least 1 m² (9 square feet) in locations considered by the Inspector to be representative of existing surface conditions and structural characteristics. Blast clean test section areas using the same equipment, materials, and procedures that will be used for the production blast cleaning. Provide safe access for close visual inspection and testing. Do not proceed with the production blast cleaning operation until the Inspector agrees that the surface of each test section has been prepared to conform with specified requirements.

Determine the commercial blast condition by use of SSPC-VIS 1-89.

Remove all mill scale from steel to be painted.

If the surface is pitted, slight residues of primer may remain in the bottom of pits.

Slight residue of paint or rust in seams between plates and around rivet heads is acceptable and need not be completely removed.

Clean dry-blasted surface with clean bristle, fiber or hair brushes; with compressed air; or with vacuum. Remove traces of blast residue from the surface and from pockets and corners. Equip compressors with separators or traps to remove water and oil. If water is used in the cleaning procedure, assure that surfaces, pockets, and corners are dry and clean before applying paint. Allow a minimum of 48 hours of ambient air drying; then, remove rust bloom by dry blasting and clean to remove blast residue from surfaces, pockets, and corners. Do not use rust inhibitors.

2. **Acceptable Abrasives.** [Section 1070.3\(c\)6](#)

(d) **Painting.**

1. **Mixing Paint.** Mix paint as recommended by the manufacturer.

2. **Thinning Paint.** Thin paint only as recommended by the manufacturer.

3. **Conditions for Painting.** [Section 1060.3\(c\)3](#)

4. **Application.** Before paint is applied, clean dust and dirt and other contamination from the surfaces to be painted. Apply coatings that are free of runs, sags, embedded foreign matter, and any other imperfections indicative of improper application.

Apply paint according to the manufacturer's recommendations consistent with environmental and physical constraints.

Use acceptable brushes, rollers, spray equipment, or any combination of equipment that gives satisfactory results.

Do not apply field coats between October 31 and April 1, unless otherwise permitted in writing by the District Executive.

4.a **Spray Painting.** [Section 1060.3\(c\)6.a](#)

4.b **Roller Painting.** [Section 1060.3\(c\)6.b](#)

4.c **Brush Painting.** [Section 1060.3\(c\)6.c](#)

4.d **Surfaces Inaccessible to Normal Painting Methods.** [Section 1060.3\(c\)6.d](#)

4.e **Primer.** Apply immediately after cleaning, inspection, and acceptance of the surface. Apply primer the same day the metal is cleaned. If the blast cleaned metal remains unpainted overnight, blast clean it again before priming.

4.f **Intermediate and Finish Coats.** For application of the intermediate and finish coats, wet stripe all edges, bolts, welds, rivets, corners, crevices, and other irregularities, either by brush or by a separate and distinct spray operation, before application of the full coat. Provide safe access for inspection, as requested by the Representative, before application of the full coat over the striped areas. Do not apply the full coat until approval of the striping is provided.

4.g **Stencilling.** [Section 1060.3\(c\)6.e](#)

5. **Repair.** Reclean and, if directed, repaint areas damaged by concreting or other operations.

6. **Thickness of Coats.**

6.a **Primer.** Apply in a manner recommended by the manufacturer, in a single application, to a minimum dry film thickness of 125 μm to 175 μm (5 mils to 7 mils) above the anchor pattern, so that a dense and uniform appearance is obtained after the coating is cured. Use a color that contrasts with the color of the cleaned based metal.

6.b **Intermediate Coat.** Apply in a manner recommended by the manufacturer, in a single application, to a minimum dry film thickness of 125 μm to 175 μm (5 mils to 7 mils), so that a dense and uniform appearance is obtained after the coating is cured. Use a color that contrasts with the primer and finish coats. Repair areas deficient in thickness as recommended by the manufacturer.

6.c Finish Coat. Apply in a manner recommended by the manufacturer, in a single application, to a minimum dry film thickness of 50 μm to 75 μm (2 mils to 3 mils). Provide a finish that is uniform in color and appearance.

The cumulative dry film thickness will be determined by use of a Magnetic Dry Film Thickness Gage, or the thickness of each coat will be determined by the use of a Tooke gage, or equal. Increase the thickness of coating, if directed by the Inspector-in-Charge, to ensure a finish that is uniform in color and appearance.

Correct coatings deficient in thickness as directed and according to the manufacturer's recommendations.

7. Removal of Unsatisfactory Paint. [Section 1060.3\(c\)8](#)

1071.4 MEASUREMENT AND PAYMENT—Lump Sum