

# SSPC: The Society for Protective Coatings

## PAINTING SYSTEM NO. 10.01

### Hot-Applied Coal Tar Enamel Painting System

#### 1. Scope

1.1 This specification covers a hot-applied coal tar painting system for underground and underwater steel structures, consisting of a primer and two hot-applied coats.

1.2 This system is suitable for use on parts or structures exposed in Environmental Zones 2C (fresh water immersion), 3B (chemical, neutral), and 3C (chemical, alkaline). It has good abrasion resistance. It is also suitable for underground use. It must be used with discretion for immersion in corrosive chemicals since the coating is dissolved by some organic solvents and attacked by oxidizing solutions.

1.3 The coal tar enamel must be topcoated with coal tar emulsion when exposed to sunlight to prevent checking and alligatoring.

#### 2. Description

2.1 This painting system consists of surface preparation by commercial blast cleaning or pickling, one prime coat, and two finish coats of hot-applied coal tar enamel per AWWA C 203, "Standard Specifications for Coal-Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot Applied." A final topcoat of coal tar emulsion is to be applied when exposed to sunlight. The AWWA enamel is recommended for potable water.

#### 3. Reference Standards

3.1 The standards referenced in this guide are listed in Section 3.4 through 3.7 and form a part of the specification.

3.2 The latest issue, revision, or amendment of the reference standards in effect on the date of invitation to bid shall govern unless otherwise specified.

3.3 If there is a conflict between the requirements of any of the cited reference standards and the specification, the requirements of the specification shall prevail.

##### 3.4 SSPC STANDARDS AND JOINT STANDARDS:

|      |                                                          |
|------|----------------------------------------------------------|
| PA 1 | Shop, Field, and Maintenance Painting of Steel           |
| PA 2 | Measurement of Dry Coating Thickness With Magnetic Gages |

|                  |                                                                         |
|------------------|-------------------------------------------------------------------------|
| PA Guide 4       | Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems |
| Paint 32         | Coal Tar Emulsion Coating                                               |
| SP 5/NACE No. 1  | White Metal Blast Cleaning                                              |
| SP 6/NACE No. 3  | Commercial Blast Cleaning                                               |
| SP 8             | Pickling                                                                |
| SP 10/NACE No. 2 | Near-White Blast Cleaning                                               |

##### 3.5 AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM) STANDARD:

|        |                                                                    |
|--------|--------------------------------------------------------------------|
| D 3925 | Practice for Sampling Liquid Paints and Related Pigmented Coatings |
|--------|--------------------------------------------------------------------|

##### 3.6 AMERICAN WATER WORKS ASSOCIATION (AWWA) SPECIFICATION:

|       |                                                                                                |
|-------|------------------------------------------------------------------------------------------------|
| C 203 | Coal-Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot-Applied |
|-------|------------------------------------------------------------------------------------------------|

##### 3.7 FEDERAL STANDARDS AND SPECIFICATIONS:

|             |                                                                                            |
|-------------|--------------------------------------------------------------------------------------------|
| MIL-C-15203 | (canceled) Coating Compound, Bituminous, Emulsion Type, Coal Tar Base [See SSPC-Paint 32.] |
|-------------|--------------------------------------------------------------------------------------------|

#### 4. Surface Preparation

4.1 SSPC-SP 6, "Commercial Blast Cleaning," or SSPC-SP 8, "Pickling." If specified in the procurement documents, better degrees of cleaning shall be substituted (SSPC-SP 5, "White Metal Blast Cleaning," or SSPC-SP 10, "Near-White Blast Cleaning").

#### 5. Paints

5.1 **PRIMER:** Primer complying with specification AWWA C 203, "Standard Specifications for Coal-Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot-Applied."

5.2 **SECOND COAT:** Second coat complying with specification AWWA C 203, "Standard Specifications for Coal Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot Applied."

**5.3 THIRD COAT:** The third coat shall be the same coating as the second coat.

**5.4 FOURTH COAT (when required):** All surfaces that are to be exposed to sunlight shall be given a fourth coat consisting of MIL-C-15203, "Coating Compound, Bituminous, Emulsion Type, Coal-Tar Base." This coat shall be applied no sooner than two weeks after the third coat is applied. [MIL-C-15203 has been canceled; see SSPC-Paint 32.]

## 6. Paint Application

**6.1 PAINT APPLICATION:** Follow the requirements of SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," and, where applicable, AWWA C 203, "Standard Specifications for Coal-Tar Protective Coatings and Linings for Steel Water Pipelines—Enamel and Tape—Hot-Applied."

**6.2 TOUCH-UP PAINTING:** In accordance with specification SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel," and in particular with the section thereof entitled "Field Painting."

**6.3 MAINTENANCE PAINTING:** For maintenance painting procedures, see SSPC-PA Guide 4, "Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems."

**6.4 NUMBER OF COATS:** Minimum of three.

**6.5 DRY FILM THICKNESS OF PAINT SYSTEM:** Not less than the following as measured in accordance with SSPC-PA 2, "Measurement of Dry Coating Thickness with Magnetic Gages": primer 13 to 50 micrometers (0.5-2.0 mils); second coat 760 micrometers (30 mils); finish coat 760 micrometers (30 mils); for the three-coat painting system 1575 micrometers (62 mils); fourth coat (when required) 250 micrometers (10 mils); for the four-coat system 1830 micrometers (72 mils).

## 7. Inspection

**7.1** All work and materials supplied under this specification are subject to timely inspection by the purchaser or his authorized representative. The contractor shall correct such work or replace such material as is found defective

under this specification. (See Note 9.1.) In case of dispute, unless otherwise specified, the arbitration or settlement procedure established in the procurement documents shall be followed. If no arbitration procedure is established, the procedure specified by the American Arbitration Association shall be used.

**7.2** Samples of paints under this painting system may be requested by the purchaser and shall be supplied upon request along with the manufacturer's name and identification for the materials. Samples may be requested at the time the purchase order is placed, or may be taken from unopened containers at the job site.

**7.3** Unless otherwise specified, the sampling shall be in accordance with ASTM D 3925.

## 8. Disclaimer

**8.1** While every precaution is taken to ensure that all information furnished in SSPC standards and specifications is as accurate, complete, and useful as possible, SSPC cannot assume responsibility nor incur any obligation resulting from the use of any materials, coatings, or methods specified herein, or of the specification or standard itself.

**8.2** This specification does not attempt to address problems concerning safety associated with its use. The user of this specification, as well as the user of all products or practices described herein, is responsible for instituting appropriate health and safety practices and for insuring compliance with all governmental regulations.

## 9. Notes

Notes are not a requirement of this specification.

**9.1** The procurement documents should establish the responsibility for samples, testing, and any required affidavit certifying full compliance with the specification.

**9.2** If an electrical inspection is required, use a 7,200 volt holiday detector of an approved type.

**9.3** Hot enamels are applied at temperatures ranging from 220 to 260°C (425 to 500°F), and extreme care must be used when melting and handling.