

Steel Structures Painting Council

PAINTING SYSTEM SPECIFICATION NO. 1.04

Three-Coat Oil-Alkyd (Lead- and Chromate-Free) Painting System for Galvanized or Non-Galvanized Steel (With Zinc Dust-Zinc Oxide Linseed Oil Primer)

1. Scope

1.1 This specification covers an oil base, lead- and chromate-free painting system for new or weathered (white or red rusted) galvanized steel. It is also effective on nongalvanized steel cleaned with hand or power tools.

1.2 This system is suitable for use on parts or structures exposed in Environmental Zone 1A (interior, normally dry) and Zone 1B (exterior, normally dry).

1.3 The finish paint allows for a choice of durable, fade-resistant colors.

2. Description

2.1 This painting system consists of surface preparation by solvent cleaning and hand or power tool cleaning, one coat of zinc dust-zinc oxide linseed oil primer, and two coats of alkyd white or tinted finish coat.

3. Reference Standards

3.1 The standards referenced in this specification are listed in Section 3.4 and 3.5 and form a part of this 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 this specification, the requirements of this specification shall prevail.

3.4 STEEL STRUCTURES PAINTING COUNCIL (SSPC) SPECIFICATIONS:

PA 1	Shop, Field, and Maintenance Painting
PA 2	Measurement of Dry Paint Thickness with Magnetic Gages
PA Guide 3	A Guide to Safety in Paint Application
PA Guide 4	Guide to Maintenance Repainting with Oil Base or Alkyd Painting Systems
Paint 101	Aluminum Alkyd Paint
Paint 104	White or Tinted Alkyd Paint

Paint 108 High-Build Thixotropic Leafing Aluminum Paint

SP 1 Solvent Cleaning

SP 2 Hand Tool Cleaning

SP 3 Power Tool Cleaning

3.5 FEDERAL STANDARDS:

TT-P-641 Primer Coating, Zinc Dust-Zinc Oxide (for Galvanized Surface)

4. Surface Preparation

4.1 SSPC-SP 2, "Hand Tool Cleaning," or SSPC-SP 3, "Power Tool Cleaning," SSPC-SP 1, "Solvent Cleaning," is required only for new galvanized surfaces.

5. Paints

5.1 PRIMER: TT-P-641, "Primer Coating, Zinc Dust-Zinc Oxide (for Galvanized Surfaces)," Type I, "Linseed Oil Paint."

5.2 INTERMEDIATE (SECOND COAT): SSPC-Paint 104, "White or Tinted Alkyd Paint," tinted with carbon black or lamp black dispersion to a color contrasting with that of the finish paint.

5.3 FINISH COAT: SSPC-Paint 104, "White or Tinted Alkyd Paint." The color must be specified.

5.4 ALTERNATIVE FINISH COAT: If specified in the procurement documents, a finish coat complying with specification SSPC-Paint 101, "Aluminum Alkyd Paint," Type I, "Leafing" shall be applied in place of the standard finish coat. If this alternative finish coat is used, then the intermediate coat shall consist of one coat of SSPC-Paint 101, "Alkyd Aluminum Paint," Type II, "Non-Leafing."

5.5 ALTERNATIVE FINISH COAT: If specified in the procurement documents, a finish coat complying with specification SSPC-Paint 108, "High-Build Thixotropic Leafing Aluminum Paint" shall be applied in place of the standard finish coat. If this alternative finish coat is used, then no intermediate coat shall be required, but the dry film thickness shall not be less than 2.5 mils (64 microns) for the finish coat and 4.5 mils (114 microns) for the painting system.

6. Paint Application

6.1 PAINT APPLICATION: Follow requirements of SSPC-PA 1, "Shop, Field, and Maintenance Painting."

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

6.3 MAINTENANCE PAINTING: The provisions of SSPC-PA Guide 4, "Guide to Maintenance Repainting with Oil Base and Alkyd Painting Systems" should be followed.

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 Paint Thickness with Magnetic Gages": primer 2.0 mils (51 microns); intermediate coat 1.5 mils (38 microns); finish coat 1.0 mil (25 microns); for the three-coat painting system 4.5 mils (114 microns). If alternative finish coat is used as indicated in Section 5.5, see that section for dry film thickness requirements.

7. Inspection

7.1 All work and materials supplied under this specification shall be 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. In case of dispute the arbitration or settlement procedure established in the procurement documents, if any, shall be followed. If no arbitration or settlement procedure is established, the procedure specified by the American Arbitration Association shall be used.

7.2 Samples of paints used under this painting system should be supplied upon request along with the supplier's name and identification for the materials.

7.3 Unless otherwise specified, the methods of sampling and testing should be in accordance with Federal Test Method Standard No. 141, or applicable methods of the American Society for Testing and Materials.

7.4 The procurement documents covering work or purchase should establish the responsibility for samples, testing, and any required affidavit certifying full compliance with the specification.

8. Safety

8.1 All safety requirements stated in this specification and its component parts apply in addition to any applicable federal, state, and local rules and requirements. They also shall be in accord with instructions of the paint manufacturer and requirements of insurance underwriters.

8.2 Paints are hazardous because of their flammability and potential toxicity. Proper safety precautions shall be observed to protect against these recognized hazards. Safe handling practices are required and should include, but not be limited to, the provisions of SSPC-PA Guide 3, "A Guide to Safety in Paint Application."

8.3 The paints specified herein may not comply with some air pollution regulations because of their hydrocarbon solvent content.

9. Note

9.1 While every precaution is taken to insure that all information furnished in SSPC specifications is as accurate, complete, and useful as possible, the SSPC cannot assume responsibility or incur any obligation resulting from the use of any materials, paints, or methods specified therein, or of the specification itself.