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Swedish Standards Association
Standard SIS 05 59 00
ISO 8501
Steel Structures Painting Council
SSPC-Vis 3
Danish Standards Association
Danish Standard DS 2019
European Committee of Paint and Printing
Ink Manufacturers' Association

Standard
Pictorial Surface Preparation Standards for Painting Steel Surfaces[1]

This standard is issued under the fixed designation D 2200; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

ε[1] NOTE—Footnotes were corrected editorially in June 2001.

1. Scope

1.1 The visual surface preparation standards consist of a series of color prints available as separate publications. Three different sets of photographs are described in this standard, designated as Method A (ISO/Swedish Standard[2]) and Method B and C (SSPC Standards[3]). The three methods differ in the depiction of the initial surface, in the definition and depiction of the cleaning conditions, and in the number of cleaning methods included. Because of these differences, the specifier should state whether Method A, Method B, or C should be used.

1.2 The colored visual surface preparation standards represent different conditions of hot rolled steel before and after surface preparation. Prior to cleaning, there are four rust grades, A to D, that cover the range from intact mill scale to 100 % rusted and pitted steel. The standards then depict the appearance of the four grades after cleaning by one or more methods (for example, blast cleaning) to various degrees of thoroughness. In addition, Method C includes three painted conditions that contain various degrees of rusting. The Standard[4] depicts these conditions after various grades of hand and power tool cleaning.

2. Referenced Documents

2.1 ASTM Adjuncts:
Pictorial Surface Preparation Standards[2,3,4]
Surface Cleanliness Definitions[3,4]

3. Terminology

3.1 *Definitions:*

3.1.1 The cleanliness definitions for the Method A visual surface preparation standard appear in the text of the pictorial surface preparation standards publication.[2] The definitions for Methods B and C are found in a separate publication.[3,4]

4. Significance and Use

4.1 The appearance of the various degrees of blast cleaning are influenced by the initial rust grades of the steel being cleaned. The standards aid visually in judging and evaluating the degree of rusting before cleaning and the degree of cleaning of steel surfaces prior to painting.

4.2 Three methods for visual standards have evolved because of differences in the practice of using visual standards throughout the world. In Europe, the visual standards (Method A) are used as the primary means of determining the degree of cleaning. In the US, the SSPC written definitions take precedence with the visual standards used as a supplement. The visual standards of Methods B and C comply with the SSPC definitions.

5. Procedure and Interpretation

Method A—ISO/Swedish Standard (Hand Tool Cleaning, Power Tool Cleaning, Abrasive Blasting, Flame Cleaning)

5.1 Determine the method of cleaning to be used (for example, hand/power tool cleaning, abrasive blast cleaning, or flame cleaning).

5.2 Determine the initial condition of the steel in accordance with four initial grades (A, B, C, or D).

[1] This standard is under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and is the direct responsibility of Subcommittee D01.46 on Industrial Protective Coatings.

The pictorial standards described were prepared by the Swedish Corrosion Institute and have been jointly approved by ASTM, The Society For Protective Coatings (SSPC) (Vis 1), and the Swedish Standardizing Commission.

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[2] The pictorial surface preparation standard Method A is available from ASTM Headquarters (order Adjunct ADJD2200); The Society For Protective Coatings (SSPC), 2100 Wharton St., Suite 310, Pittsburgh, PA 15203–1951; and Sveriges Standardiseringskommission, Box 3295, Stockholm 3, Sweden.

[3] The Visual Standards Method B and surface cleanliness definitions are available from ASTM Headquarters (order Adjunct ADJD22001) or The Society For Protective Coatings (SSPC).

[4] The Visual Standards Method C and the surface cleanliness definitions are available from The Society For Protective Coatings (SSPC).

5.3 Following the cleaning operation, compare the surface prepared with the photographs showing the degree of thoroughness for that particular initial condition. Select the degree that most closely corresponds to the prepared surface.

5.4 Repeat the procedure for representative areas of structure and record all three items (initial condition, method of cleaning, and degree of thoroughness achieved).

Method B, SSPC Visual Standard Vis 1 (Abrasive Blasting Only)

5.5 Determine the degree of blast cleaning to be employed.

5.6 Determine the initial condition of steel in accordance with photographs A, B, C, and D.

5.7 Following the cleaning operation, compare the prepared surface with the photographs showing the degree of thoroughness for that particular initial condition. Select the degree that most closely corresponds to the prepared surface.

5.8 Repeat for all representative areas of structure and record for each area the initial condition and degree of thoroughness achieved.

5.9 When abrasives other than silica sand are used for blast cleaning, consult the photographs in the appendix of the SSPC Standard for possible variations in appearance created by the abrasive type.

Method C, SSPC Visual Standard Vis 3 (Hand and Power Tool Cleaning Only)

5.10 Determine the degree of hand or power tool cleaning to be employed.

5.11 Determine the initial condition of previously uncoated or previously coated steel with photographs A-D or E-G, respectively.

5.12 Following the cleaning operation, compare the prepared surface with the photographs showing the degree of thoroughness for that particular initial condition. Select the degree that most closely corresponds to the prepared surface.

5.13 Repeat for all representative areas of the structure and record for each area the initial condition method of cleaning and the degree of thoroughness achieved.

NOTE 1—Different steel surfaces show differences in shade, color, tone, pitting, flaking, mill scale, etc. To some extent, these differences between the actual steel surface and the visual standard can be reconciled between the painting contractor and the inspector.

6. Keywords

6.1 abrasive blast cleaning; blast cleaning; flame cleaning; hand tool cleaning; photographic standards for surface preparation; power tool cleaning; surface preparation; surface preparation standards