SSPC-VIS 1

Guide and Reference Photographs for Steel Surfaces Prepared by

Dry Abrasive Blast Cleaning

¡Ahora con la Guía de Fotografías de Referencia en Español!

SSPC The Society For Protective Coatings

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GUIDE TO SSPC-VIS 1

Guide to Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

1. Scope

This guide describes the use of reference photographs depicting the appearance of both previously unpainted and previously painted and partially rusted hot-rolled carbon steel prior to and after abrasive blast cleaning. These photographs are intended to be used to supplement the written SSPC/NACE International blast cleaning surface preparation standards. The written standards are the primary means to determine conformance with blast cleaning requirements. The photographs shall not be used as a substitute for the written standards (see Note 7.1).

2. Description

The reference photographs consist of a series of 1:1 (actual size) color photographs that represent various conditions of unpainted and painted steel surfaces prior to and after surface preparation by abrasive blast cleaning. The photographs were taken under controlled studio lighting designed to show the maximum detail possible.

3. Referenced Standards

3.1 SSPC AND NACE INTERNATIONAL JOINT STANDARDS:

SP 5/NACE No. 1	White Metal Blast Cleaning
SP 6/NACE No. 3	Commercial Blast Cleaning
SP 7/NACE No. 4	Brush-Off Blast Cleaning
SP 10/NACE No. 2	Near-White Blast Cleaning
SP 14/NACE No. 8	Industrial Blast Cleaning

4. Conditions Depicted

4.1 These reference photographs illustrate five initial rust conditions before surface preparation, covering the range from intact mill scale to rusted and pitted steel, as well as previously painted steel.[1] The rust conditions are:

Condition A: Steel surface completely covered with adherent mill scale; little or no rust visible.

Condition B: Steel surface covered with both mill scale and rust.

[1] Conditions E and F are described and illustrated in SSPC-VIS 4/NACE VIS 7.

Condition C: Steel surface completely covered with rust; little or no pitting visible

Condition D: Steel surface completely covered with rust; pitting visible

Condition G: Coating system applied over mill scale bearing steel; system thoroughly weathered, thoroughly blistered, or thoroughly stained

Condition G_1 In this series of photographs, extensive pinpoint rusting is present.

Condition G_2 In this series of photographs, moderate pitting is present

Condition G_3 In this series of photographs, severe pitting is present.

4.2 These reference photographs illustrate surfaces prepared by abrasive blast cleaning using silica sand with the exception of those in Appendix A (see Section 4.3).

The various degrees of cleaning represented are:

SSPC-SP 7/NACE No. 4	Brush-Off Blast Cleaning
SSPC-SP 14/NACE No. 8	Industrial Blast Cleaning
SSPC-SP 6/NACE No. 3	Commercial Blast Cleaning
SSPC-SP 10/NACE No. 2	Near-White Blast Cleaning
SSPC-SP 5/NACE No. 1	White Metal Blast Cleaning

4.3 Appendix A: Photographs illustrative of some variations in color, texture, and general appearance that can result from the choice of abrasive are provided in Appendix A (also see Note 7.2). These photographs represent Condition A (adherent mill scale) surfaces blast cleaned to SSPC-SP 5/NACE No. 1 (white metal) by mineral, slag, and metallic abrasives. The variations in appearance are depicted only for white metal; however, these same variations must be considered when assessing steel prepared to other degrees of cleaning.

4.4 Appendix B: These photographs illustrate how variations in surface profile, view angle, and lighting can affect the appearance of G_1 and G_3 surfaces blast cleaned to SSPC-SP 5/NACE No. 1.

4.4.1 Profile Variations: The photographs labeled "P" show G_1 SP 5 and G_3 SP 5 surfaces with a profile height of 4 mils (100 µm). For comparison, a single photo of the same surface condition with a profile height of 1 mil (25 µm) is also shown. The lighting conditions were the same as those used in the G_1 and G_3 series.

4.4.2 Angle of View: The photographs labeled "H", "L" and "D" show variations in appearance of the 4-mil (100 µm) G_1 SP 5 P and G_3 SP 5 P specimens caused by differences in the angle at which the surface is viewed. Photographs labeled "H" were taken at a high (i.e., nearly perpendicular) camera angle. Photographs labeled "L" were taken at a lower (more acute) camera angle.