



Item No. 21088

Joint Surface Preparation Standard

NACE No. 8/SSPC-SP 14 Industrial Blast Cleaning

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Foreword

This joint standard covers the use of blast cleaning abrasives to achieve a defined degree of cleaning of steel surfaces prior to the application of a protective coating or lining system. This standard is intended for use by coating or lining specifiers, applicators, inspectors, or others who may be responsible for defining a standard degree of surface cleanliness.

The focus of this standard is industrial blast cleaning. White metal blast cleaning, near-white metal blast cleaning, commercial blast cleaning, and brush-off blast cleaning are addressed in separate standards.

Industrial blast cleaning provides a greater degree of cleaning than brush-off blast cleaning (NACE No. 4/SSPC-SP 7¹) but less than commercial blast cleaning (NACE No. 3/SSPC SP-6²).

Industrial blast cleaning is used when the objective is to remove most of the coating, mill scale, and rust, while the extra effort required to remove every trace of these is determined to be unwarranted.

The difference between an industrial blast cleaning and a brush-off blast cleaning is that the objective of a brush-off blast cleaning is to allow as much of an existing adherent coating to remain as possible, while the purpose of the industrial blast cleaning is to remove most of the existing coating.

A commercial blast cleaned surface is free of mill scale, rust, and coatings, and allows only random staining on less than 33 percent of each unit area of surface. The industrial blast cleaned surface allows defined mill scale, coating, and rust to remain on less than 10 percent of each unit area of surface and allows defined stains to remain on all surfaces.

This joint standard was originally prepared in 1998 by the SSPC/NACE Task Group (TG) A on Surface Preparation by Abrasive Blast Cleaning. This joint TG includes members of both the SSPC Surface Preparation Committee and the NACE Unit Committee T-6G on Surface Preparation. It was reaffirmed in 2006 by NACE Specific Technology Group (STG) 04, Protective Coatings and Linings: Surface Preparation, and the SSPC Surface Preparation Committee.

In NACE/SSPC standards, the terms *shall*, *must*, *should*, and *may* are used in accordance with Paragraph 2.2.1.8 of the Agreement Between NACE International and SSPC: The Society for Protective Coatings. The terms *shall* and *must* are used to state mandatory requirements. The term *should* is used to state something considered good and is recommended but is not mandatory. The term *may* is used to state something considered optional.

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Section 1: General

1.1 This joint standard covers the requirements for industrial blast cleaning of uncoated or coated steel surfaces by the use of abrasives. These requirements include the end condition of the surface and materials and procedures necessary to achieve and verify the end condition.

1.2 The mandatory requirements are described in Sections 1 to 9. Section 10, "Comments," and Appendix A,

"Explanatory Notes," are not mandatory requirements of this standard.

1.3 Information about the function of industrial blast cleaning is in Paragraph A1 of Appendix A.

1.4 Information about use of this standard in maintenance coating work is in Paragraph A2 of Appendix A.

Section 2: Definitions

2.1 Industrial Blast Cleaned Surface: An industrial blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dust, and dirt. Traces of tightly adherent mill scale, rust, and coating residues are permitted to remain on 10 percent of each unit area of the surface (approximately 5,800 mm² [9.0 in.²]) (i.e., a square 76 mm x 76 mm [3.0 in. x 3.0 in.]) if they are evenly distributed. The traces of mill scale, rust, and coating are considered to be tightly adherent if they cannot be lifted with a dull putty knife. Shadows, streaks, and discolorations caused by stains of rust, stains of mill scale, and stains of previously applied coating may be present on the remainder of the surface.

2.1.1 The shape, configuration, and design of structures can lead to areas of limited accessibility for blast cleaning. Examples include crevices around rivets or fasteners, and behind or between tightly configured back-to-back angles. Because of the limited accessibility, these areas are exempt from the 10 percent restrictions established in Paragraph 2.1. However, all surfaces in limited-access areas shall be subjected to the abrasive blast, and on completion, old

coating, rust, and mill scale are permitted to remain provided they are well-adherent as determined using a dull putty knife.

2.1.2 Acceptable variations in appearance that do not affect surface cleanliness as defined in Paragraph 2.1 include variations caused by type of steel, original surface condition, thickness of the steel, weld metal, mill or fabrication marks, heat treating, heat-affected zones, blasting abrasives, and differences because of blasting technique.

2.1.3 SSPC-VIS 1³, ISO⁽¹⁾ 8501-1⁴ (Condition B Sa 2), or other reference photographs or comparators may be used to supplement the written definition. Condition B Sa 2 of ISO 8501-1 does not depict the influence that previously applied coating may have on the appearance of the cleaned surface. It is based on cleaning of a previously uncoated steel surface covered with rust and flaking mill scale. Additional information on reference photographs and comparators is in Paragraph A3 of Appendix A.

Section 3: Associated Documents

3.1 The latest issue, revision, or amendment of the documents listed in Paragraph 3.3 in effect on the date of invitation to bid shall govern unless otherwise specified.

3.2 If there is a conflict between the requirements of any of the documents listed in Paragraph 3.3 and this standard, the requirements of this standard shall prevail.

3.3 Documents cited in the mandatory sections of this standard include:

⁽¹⁾ International Organization for Standardization (ISO), 1 rue de Varembe, Case postale 56, CH-1211 Geneva 20, Switzerland.