



Item No. 21065

Joint Surface Preparation Standard

NACE No. 1/SSPC-SP 5 White Metal Blast Cleaning

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NACE International
1440 South Creek Dr.
Houston, TX 77084-4906
(telephone +1 281/228-6200)

SSPC: The Society for Protective Coatings
40 24th Street, Sixth Floor
Pittsburgh, PA 15222
(telephone +1 412/281-2331)

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 white metal blast cleaning. Near-white metal blast cleaning, commercial blast cleaning, industrial blast cleaning, and brush-off blast cleaning are addressed in separate standards.

White metal blast cleaning provides a greater degree of cleaning than near-white metal blast cleaning (NACE No. 2/SSPC-SP 10¹).

The difference between a white metal blast and a near-white metal blast is that a white metal blast removes all of the coating, mill scale, rust, oxides, corrosion products, and other foreign matter from the surface. Near-white metal blasting allows light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating to remain on no more than 5 percent of each unit area of surface as defined in NACE No. 2/SSPC-SP 10.

This joint standard was originally prepared in 1994 and reaffirmed in 1999 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 white metal 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 white metal 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 **White Metal Blast Cleaned Surface:** A white metal blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dust, dirt, mill scale, rust, coating, oxides, corrosion products, and other foreign matter.

2.1.1 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.

2.1.2 SSPC-VIS 1² may be specified to supplement the written definition. In any dispute, the written definition set forth in this standard shall take precedence over reference photographs and comparators. 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:

Document	Title
SSPC-AB 1 ³	Mineral and Slag Abrasives
SSPC-AB 2 ⁴	Cleanliness of Recycled Ferrous Metallic Abrasives
SSPC-AB 3 ⁵	Ferrous Metallic Abrasives
SSPC-SP 1 ⁶	Solvent Cleaning
SSPC-VIS 1	Guide and Reference Photographs for Steel Surfaces Prepared by Dry Abrasive Blast Cleaning

Section 4: Procedures Before Cleaning

4.1 Before blast cleaning, visible deposits of oil, grease, or other contaminants shall be removed in accordance with SSPC-SP 1 or other agreed-upon methods.

4.2 Before blast cleaning, surface imperfections such as sharp fins, sharp edges, weld spatter, or burning slag should be removed from the surface to the extent required by the procurement documents (project specification).

Additional information on surface imperfections is in Paragraph A4 of Appendix A.

4.3 If reference photographs or comparators are specified to supplement the written standard, the condition of the steel prior to blast cleaning should be determined before the blasting commences. Additional information on reference photographs and comparators is in Paragraph A3 of Appendix A.