



Item No. 21068

Joint Surface Preparation Standard

NACE No. 4/SSPC-SP 7 Brush-Off Blast Cleaning

This NACE International (NACE)/The Society for Protective Coatings (SSPC) standard represents a consensus of those individual members who have reviewed this document, its scope, and provisions. It is intended to aid the manufacturer, the consumer, and the general public. Its acceptance does not in any respect preclude anyone, whether he or she has adopted the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not addressed in this standard. Nothing contained in this NACE/SSPC standard is to be construed as granting any right, by implication or otherwise, to manufacture, sell, or use in connection with any method, apparatus, or product covered by Letters Patent, or as indemnifying or protecting anyone against liability for infringement of Letters Patent. This standard represents current technology and should in no way be interpreted as a restriction on the use of better procedures or materials. Neither is this standard intended to apply in all cases relating to the subject. Unpredictable circumstances may negate the usefulness of this standard in specific instances. NACE and SSPC assume no responsibility for the interpretation or use of this standard by other parties and accept responsibility for only those official interpretations issued by NACE or SSPC in accordance with their governing procedures and policies which preclude the issuance of interpretations by individual volunteers.

Users of this NACE/SSPC standard are responsible for reviewing appropriate health, safety, environmental, and regulatory documents and for determining their applicability in relation to this standard prior to its use. This NACE/SSPC standard may not necessarily address all potential health and safety problems or environmental hazards associated with the use of materials, equipment, and/or operations detailed or referred to within this standard. Users of this NACE/SSPC standard are also responsible for establishing appropriate health, safety, and environmental protection practices, in consultation with appropriate regulatory authorities if necessary, to achieve compliance with any existing applicable regulatory requirements prior to the use of this standard.

CAUTIONARY NOTICE: NACE/SSPC standards are subject to periodic review, and may be revised or withdrawn at any time in accordance with technical committee procedures. The user is cautioned to obtain the latest edition. NACE and SSPC require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of initial publication.

Reaffirmed 2006-09-13
Revised 2000-06-16
Approved October 1994

ISBN 1-57590-102-1

©2006, SSPC: The Society for Protective Coatings and NACE International

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)

Printed by NACE International

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

Brush-off blast cleaning provides a lesser degree of cleaning than industrial blast cleaning (NACE No. 8/SSPC-SP 14¹). 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 and to roughen the surface prior to coating application, whereas the purpose of the industrial blast cleaning 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.

This joint standard was originally prepared in 1994 and revised in 2000 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.

NACE No. 4/SSPC-SP 7

Joint Surface Preparation Standard

**NACE No. 4/SSPC-SP 7
Brush-Off Blast Cleaning**

Contents

1. General	1
2. Definition	1
3. Associated Documents	1
4. Procedures Before Cleaning	1
5. Blast Cleaning Methods and Operation	2
6. Blast Cleaning Abrasives	2
7. Procedures Following Blast Cleaning and Immediately Prior to Coating	2
8. Inspection	3
9. Safety and Environmental Requirements	3
10. Comments (Nonmandatory).....	3
References.....	4
Appendix A: Explanatory Notes (Nonmandatory).....	4

Section 1: General

1.1 This joint standard covers the requirements for brush-off 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 brush-off 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 Brush-Off Blast Cleaned Surface: A brush-off blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose coating. Tightly adherent mill scale, rust, and coating may remain on the surface. Mill scale, rust, and coating are considered tightly adherent if they cannot be removed by lifting with a dull putty knife after abrasive blast cleaning has been performed.

2.1.1 The entire surface shall be subjected to the abrasive blast. The remaining mill scale, rust, or coating shall be tight. Flecks of the underlying steel

need not be exposed whenever the original substrate consists of intact coating.

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.