NACE SP0915 WAB
Item No. 21400

Standard Practice

SSPC Surface Preparation Standard
NACE WAB-8/SSPC-SP 14 (WAB)
Industrial Wet Abrasive Blast Cleaning

This NACE International/SSPC: The Society for Protective Coatings joint surface preparation standard represents a consensus of those individual members who have reviewed this document, its scope, and provisions. 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 in conformance with this standard practice. 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 minimum requirements and should in no way be interpreted as a restriction on the use of better procedures or materials not discussed herein. 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 NACE or SSPC 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, 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 also are 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NOTICE**:** NACE/SSPC joint surface preparation standards are subject to periodic review, and may be revised or withdrawn at any time in accordance with NACE/SSPC technical committee procedures. 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 and subsequently from the date of each reaffirmation or revision. The user is cautioned to obtain the latest edition. Purchasers of NACE/SSPC standards may receive current information on all standards and other NACE/SSPC joint publications by contacting the organizations at the addresses below:

ISBN 1-57590-325-3
Approved Date: 2015-03-14

NACE International
15835 Park Ten Place
Houston, TX 77084-4135
+1 281-228-6200

SSPC: The Society for Protective Coatings
800 Trumbull Drive
Pittsburgh, PA 15205
+1-412-281-2331

Foreword

This NACE/SSPC joint standard defines the process for preparing a carbon steel surface to the Industrial degree of surface cleanliness using a wet abrasive blast (WAB) method of cleaning. This standard is intended for use by coating or lining specifiers, applicators, inspectors, or others whose responsibility is to define a standard degree of surface cleanliness for carbon steel surfaces to be achieved by wet abrasive blast cleaning.

WAB cleaning is a process using a mixture of water and abrasive that can produce various levels of surface cleanliness and surface profile (roughness) similar to those obtained with dry abrasive blast (DAB) cleaning. WAB cleaning may be specified when dust suppression is desired, and may also be a means for reducing soluble salt contamination. The WAB cleanliness level specified should be the same as the corresponding degree of cleaning specified if DAB cleaning were the process being used.

The focus of this standard 860is Industrial WAB cleaning. The five degrees of WAB cleaning are as follows:

Degree of Surface Cleanliness	Designation
White Metal WAB	NACE WAB-1/SSPC-SP 5 (WAB)[1]
Near-White Metal WAB	NACE WAB-2/SSPC-SP 10 (WAB)[2]
Commercial WAB	NACE WAB-3/SSPC-SP 6 (WAB[3]
Industrial WAB	NACE WAB-8/SSPC-SP 14 (WAB)
Brush-Off WAB	NACE WAB-4/SSPC-SP 7 (WAB)[4]

Industrial WAB Cleaning provides a greater degree of cleaning than Brush-Off WAB Cleaning (NACE WAB-4/SSPC-SP 7 [WAB]) but a lesser degree of cleaning than Commercial WAB Cleaning (NACE WAB-3/SSPC-SP 6 [WAB].

Industrial WAB Cleaning allows tightly adherent paint, mill scale and rust to remain on no more than 10% of each unit area of surface. Brush-off WAB Cleaning allows all tightly adherent paint, mill scale and rust to remain on the surface. Commercial WAB Cleaning allows staining to remain on no more than 33% of each unit area of surface, but requires removal of all coating, mill scale, and rust.

This standard references the three levels of flash rust as defined in the NACE/SSPC joint standards for waterjetting (see Paragraph 3.1).[5-8] Additional information regarding flash rust is provided in Nonmandatory Appendixes A, B, and C.

Steel surfaces prepared by WAB cleaning can develop flash rust within minutes after the cleaning is completed. The project specification often contains requirements for the permissible level of flash rust before coating application. Additional information is provided in Paragraph A1 in Appendix A and in Appendix C.

This standard was prepared in 2015 by NACE/SSPC Joint Task Group (TG) 350D, "Industrial Surface Preparation by Wet Abrasive Blast Cleaning." TG 350D is administered by NACE Specific Technology Group (STG) 04, "Coatings and Linings, Protective: Surface Preparation"; and SSPC C.2 Surface Preparation Group Committee. This joint standard is issued by NACE/SSPC under the auspices of NACE STG 04 and SSPC C.2. This standard is one of a set of five standards on the degrees of surface cleanliness to be achieved by WAB cleaning.

In NACE/SSPC standards, the terms *shall, must, should,* and *may* are used in accordance with the definitions of these terms in the *NACE/SSPC Joint Publications Style Manual*, Paragraph 2.2.1.8. *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.

Joint NACE Standard Practice/SSPC Surface Preparation Standard
NACE WAB-2/SSPC-SP 10 (WAB)
Near-White Metal Wet Abrasive Blast Cleaning

Contents

Section 1: General

1.1 A (WAB-cleaned surface is one prepared by combining water and abrasive in a blast cleaning operation by one of several methods, which include: 1) injection of water into the abrasive stream either internally or externally as the abrasive stream exits the blast nozzle; 2) injection of abrasive into pressurized water; or 3) use of an abrasive slurry under pressure to achieve the specified WAB degree of cleanliness.

1.2 This standard defines the Industrial Wet Abrasive Blast Cleaning (NACE WAB-8/SSPC-SP 14 [WAB])) degree of visible surface cleanliness of uncoated or coated steel surfaces achieved by the use of wet abrasive blast cleaning. The requirements include the end condition of the surface as determined by visual inspection, and materials and procedures used to achieve and verify the end condition.

1.3 This standard is limited to requirements for visible surface contaminants. Additional information on nonvisible contamination is provided in Paragraph A2 of Appendix A. Additional information on soluble salt testing is provided in SSPC-Guide 15.[9]

1.4 Information about the function of WAB cleaning is provided in Paragraph A3 of Appendix A.

1.5 Information about use of this standard in maintenance coating work is provided in Paragraph A4 of Appendix A.

Section 2: Definitions

2.1 Industrial WAB Cleaned Surface: An Industrial WAB cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, dust, loose mill scale, loose rust, and loose coating. Traces of tightly adherent mill scale, rust, and coating residues are permitted to remain on up to 10% of each unit area of 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. 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% restrictions established in Paragraph 2.1. However, all surfaces in limited-access areas shall be subjected to the abrasive blast, and on completion of cleaning, old coating, rust, and mill scale are permitted to remain provided they are tightly adherent as determined using a dull putty knife.

Section 3: Additional Technical Considerations

3.1 Flash Rust: Flash rust is an oxidation product that forms as a wetted carbon steel substrate dries. Flash rust is an additional consideration when a carbon steel substrate is subjected to WAB cleaning. Additional information is provided in Section 8. Degrees of flash rust may be qualitatively described as follows:

3.1.1 No flash rust: A carbon steel surface that, when viewed without magnification, exhibits no visible flash rust.

3.1.2 Light (L) flash rusted surface: A carbon steel surface that, when viewed without magnification, exhibits small quantities of a rust layer through which the carbon steel substrate may be observed. The rust or discoloration may be evenly distributed or present in patches, but it is tightly adherent and not easily removed by lightly wiping with a cloth. (Table C1 in Appendix C provides flash rust evaluation criteria if the tape pull test is specified for assessing the degree of flash rust.)

3.1.3 Moderate (M) flash rusted surface: A carbon steel surface that, when viewed without magnification, exhibits a layer of rust that obscures the original carbon steel surface. The rust layer may be evenly distributed or present in patches, but it is reasonably well adherent and leaves light marks on a cloth that is lightly wiped over the surface. (Table C1 Appendix C provides flash rust evaluation criteria if the tape pull test is specified for assessing the degree of flash rust.)