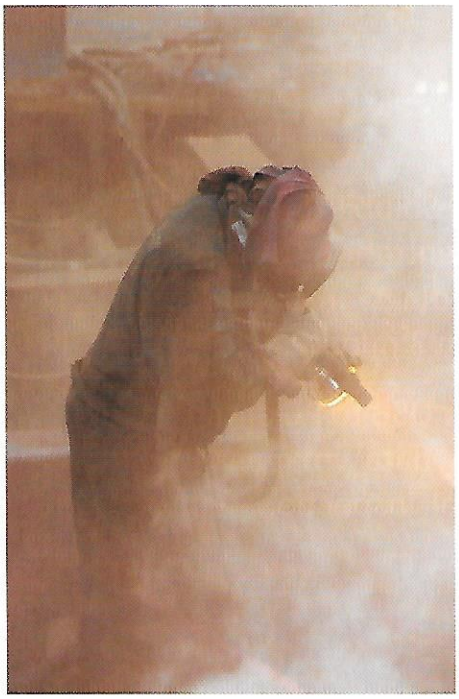
SSPC Surface Preparation Standards Update

2015 was a busy year for SSPC Surface Preparation standards committees.

A revision of **SSPC-SP 1, Solvent Cleaning** was completed in March 2015. SSPC-SP 1 is used to specify removal of visible deposits of oil, grease and other soluble contaminants from metal surfaces before additional mechanical means of surface preparation are employed. All of the SSPC mechanical surface preparation standards require solvent cleaning to SSPC-SP 1 prior to performing any additional cleaning required by the project specification. Removal of heavy deposits of oil, grease and dirt is important because power tool or dry abrasive blast-cleaning can push these contaminants into the surface profile.



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Contractors should note that the 2015 revision of SSPC-SP 1 clarifies that "visible contaminants" are seen with normal or corrected normal (i.e. glasses) vision, but without use of any additional inspection equipment, such as ultraviolet light. A non-mandatory appendix added to the 2015 revision lists additional methods for verifying cleanliness that are not required unless specified in procurement documents. SSPC-SP 1 also requires that any solvent used must comply with local environmental safety and health regulations.

SSPC-AB 1, Mineral and Slag Abrasives was also revised in 2015. In addition to the existing requirements that are used by the abrasive manufacturer to qualify the abrasive, the 2015 revision clarifies that the contractor must perform field tests for oil contamination and conductivity. If the abrasive is only used once, it must be tested prior to use to ensure the media has not become contaminated in shipment or storage. If the media is recycled, the contractor must test the recycled material for conductivity and oil contamination every eight hours or every work shift, whichever period is shorter.

SSPC-AB 2, Cleanliness of Recycled Ferrous Metallic Abrasives, which is used to ensure that recycled ferrous metallic abrasive work-mix remains consistently clean and capable of providing the required profile throughout the duration of a project, was also revised in 2015. The revision has eliminated the requirement for field sieve testing of the abrasive to verify that excessive abrasive fines have been removed from the work-mix. Instead, the contractor must ensure that the profile created by the recycled work-mix continues to meet project requirements when tested in accordance with SSPC-PA 17, Procedure for Determining Conformance to Steel Profile/Surface Roughness/Peak Count Requirements. The test to determine the percentage of abrasive fines that was a requirement in the 2004 version of SSPC-AB 2 has been simplified and moved into a non-mandatory appendix.

The requirements for maximum lead content, freedom from oil and maximum conductivity level were not changed in the 2015 revision. However, the frequency for each of these tests has been clarified. Oil and conductivity testing are required once every 12 hours or work shift, whichever is shorter. The frequency of laboratory testing for lead content has been reduced from once per week to once immediately prior to first use.

The five joint **SSPC/NACE Wet Abrasive Blast-Cleaning Standards** were completed in 2015 and should be available in the first quarter of 2016. These standards combine elements of the existing standards for dry abrasive blast-cleaning with elements of the 2012 SSPC/NACE waterjet cleaning standards. The definitions of cleanliness for the steel surface immediately following wet abrasive blast-cleaning are identical to the definitions in the five dry abrasive blast-cleaning standards. However, because water is used to convey the abrasive onto the surface, a layer of flash rust will form on the cleaned steel as the water evaporates. Due to the varied tolerance of coatings for the presence of flash rust on the surface, it is important that the contractor know the maximum permissible level of flash rust that may be present on the steel immediately prior to the application of the protective coating, and how to assess how much flash rust has developed. The wet abrasive blast cleaning standards define four levels of flash rust: no flash rust; light flash rust; medium flash rust; and heavy flash rust. These definitions are based on the extent to

which the flash rust obscures the underlying steel substrate, the ease with which it can be removed by wiping with a cloth and the amount of material that appears on the cloth after the surface is wiped.

As with the waterjetting standards and the dry abrasive blast-cleaning standards, the wet abrasive blast-cleaning standards also include information on materials and methods used to perform the cleaning process. For example, the water used must be free of contaminants that would affect the cleanliness of the prepared surface or the functioning of the pumps or other equipment. If the project specification includes requirements for non-visible contaminants, the water used for waterjetting must be free of impurities that could prevent the surface from meeting those requirements.

For further information on the 2015 SSPC surface preparation standards updates, as well as other SSPC standards, contact Aimée Beggs, SSPC standards development specialist, at beggs@sspc.org or 412-281-2331, ext. 2223. Beggs has been with SSPC for 36 years and has managed the SSPC standards development process since 1993.