

# SSPC: The Society for Protective Coatings

## SURFACE PREPARATION STANDARD NO. 2

### Hand Tool Cleaning

#### 1. Scope

**1.1** This standard contains the requirements for hand tool cleaning to remove loose detrimental foreign matter from steel substrates.

**1.2** This standard differs from SSPC-SP 3, Power Tool Cleaning, in that SSPC-SP 3 requires use of powered hand-held tools. This standard requires use of hand-held tools without supplemental power.

**1.3 Units of Measure:** This standard makes use of both the IEEE/AST SI 10<sup>(1)</sup>, International Standards (SI) units and U.S. Customary units. The measurements are not exact equivalents; therefore, each system must be used independently of the other without combining in any way. This standard uses SI units with the U.S. Customary conversions shown in parentheses.

#### 2. Definitions

**2.1** Hand tool cleaning is a method of preparing steel substrates with hand-held tools without supplemental power.

**2.2** A hand tool cleaned surface, when viewed without magnification, shall be free of visible deposits of oil and grease, and all loose mill scale, loose rust, loose paint, and other loose foreign matter. It is not intended that adherent material be removed by this process. Material is considered adherent if it cannot be removed by lifting with a dull flexible putty knife as described in Section 6.3 (see also Notes 8.1 and 8.2).

**2.3 DULL PUTTY KNIFE (for use as an inspection tool):** A commercially manufactured, straight, flexible metal blade capable of returning to its original shape without permanent distortion after being bent by hand around a 28- to 33-cm (11 to 13-in) diameter mandrel (or pipe or other curved surface). The blade shall also have the following characteristics: length of approximately 75 to 125 mm (3 to 5 in); thickness of approximately 760 to 1270  $\mu\text{m}$  (30 to

50 mils); and a straight working edge approximately 40 to 75 mm (1.5 to 3 in) in width. The putty knife is acceptable for use if the thickness at the working edge of the blade is not less than 635  $\mu\text{m}$  (25 mils) or 75% of its original thickness, whichever is greater.<sup>(2)</sup>

**NOTE:** Some commercially manufactured, straight, flexible metal blades are between 500 and 760  $\mu\text{m}$  (20 and 30 mils) in thickness. New blade thicknesses between 500 and 760  $\mu\text{m}$  (20 and 30 mils) are permitted, provided the coating being tested is 20 mils or less in thickness, and the thickness of the blade is not worn to less than 20 mils.

**2.4** Reference photographs of cleaned surfaces found in SSPC-VIS 3 are often used to supplement the written definition. In any dispute, the written definition set forth in this standard shall take precedence over reference photographs (see Note 8.3).

#### 3. Referenced Documents

**3.1** The latest issue, revision, or amendment of the referenced documents in effect on the date of publication of this standard shall govern unless otherwise specified. Documents marked with an asterisk (\*) are not requirements of this standard.

**3.2** If there is a conflict between the requirements of any of the cited standards and this standard, the requirements of this standard shall prevail.

##### 3.3 ASTM INTERNATIONAL STANDARDS

ASTM D4285	Standard Test Method for Indicating Oil or Water in Compressed Air
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##### 3.4 SSPC STANDARDS AND JOINT STANDARDS

SSPC-SP 1	Solvent Cleaning
* SSPC-SP 3	Power Tool Cleaning
* SSPC-SP 11	Power Tool Cleaning to Bare Metal
* SSPC-SP 7/ NACE No. 4	Brush-Off Blast Cleaning

<sup>(1)</sup> ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For Annual Book of ASTM Standards volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>(2)</sup> Exact dimensions of equipment manufactured using S.I. units may vary slightly from the S.I. values provided.