

Surface Prep Definitions

SSPC-SP 1, Solvent Cleaning

This specification covers the requirements for the solvent cleaning of steel surfaces.

Solvent cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble contaminants from steel surfaces.

It is intended that solvent cleaning be used prior to the application of paint, and in conjunction with surface preparation methods specified for the removal of rust, mill scale, or paint.

SSPC-SP 2, Hand Tool Cleaning

This standard covers the requirements for hand tool cleaning steel surfaces.

Hand tool cleaning is a method of preparing steel surfaces by the use of non-power hand tools.

Hand tool cleaning removes all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife.

SSPC-SP 3, Power Tool Cleaning

This specification covers the requirements for power tool cleaning of steel surfaces.

Power tool cleaning is a method of preparing steel surfaces by the use of power assisted hand tools.

Power tool cleaning removes all loose mill scale, loose rust, loose paint, and other loose detrimental foreign matter. It is not intended that adherent mill scale, rust, and paint be removed by this process. Mill scale, rust, and paint are considered adherent if they cannot be removed by lifting with a dull putty knife.

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

This joint standard covers the requirements for white metal blast cleaning of unpainted or painted 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.

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.

SSPC-SP 6/NACE No. 3, Commercial Blast Cleaning

This joint standard covers the requirements for commercial blast cleaning of unpainted or painted 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.

A commercial 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, except for staining as noted.

Random staining shall be limited to no more than 33 percent of each unit area of surface as defined, and may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating.

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

This joint standard covers the requirements for brush-off blast cleaning of unpainted or painted 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.

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.

SSPC-SP 8, Pickling

This specification covers the requirements for the pickling of steel surfaces.

Pickling is a method of preparing steel surfaces by chemical reaction, electrolysis, or both. The surfaces when viewed without magnification shall be free of all visible mill scale and rust.

SSPC-SP 10/NACE No. 2, Near-White Blast Cleaning

This joint standard covers the requirements for near-white blast cleaning of unpainted or painted 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.

A near-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, except for staining as noted.

Random staining shall be limited to no more than 5 percent of each unit area of surface as defined, and may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating.

SSPC-SP 11, Power Tool Cleaning to Bare Metal

This standard covers the requirements for power tool cleaning to produce a bare metal surface and to retain or produce a minimum 25 micrometer (1.0 mil) surface profile.

This standard is suitable where a roughened, clean, bare metal surface is required, but where abrasive blasting is not feasible or permissible.

This standard differs from SSPC-SP 3, Power Tool Cleaning, in that SSPC-SP 3 requires only the removal of loosely adherent materials, and does not require producing or retaining a surface profile.

This standard differs from SSPC-SP 15, Commercial Grade Power Tool Cleaning, in that SSPC-SP 15 allows stains of rust, paint, or mill scale to remain on the surface. SSPC-SP 11 only allows materials to remain at the bottom of pits.

SSPC-SP 12/NACE No. 5, Surface Preparation and Cleaning of Metals by Waterjetting Prior to Recoating

This standard describes the use of waterjetting to achieve a defined degree of cleaning of surfaces prior to the application of a protective coating or lining system. These requirements include the end condition of the surface plus materials and procedures necessary to verify the end condition. This standard is limited in scope to the use of water only.

This standard is written primarily for applications in which the substrate is carbon steel. However, waterjetting can be used on nonferrous substrates such as bronze, aluminum, and other metals such as stainless steel. This standard does not address the cleaning of concrete. Cleaning of concrete is discussed in SSPC SP-13/NACE No. 6.

SSPC-SP 13/NACE No. 6, Surface Preparation of Concrete

This standard gives requirements for surface preparation of concrete by mechanical, chemical, or thermal methods prior to the application of bonded protective coating or lining systems.

The requirements of this standard are applicable to all types of cementitious surfaces including cast-in-place concrete floors and walls, pre-cast slabs, masonry walls, and shotcrete surfaces.

An acceptable prepared concrete surface should be free of contaminants, laitance, loosely adhering concrete and dust, and should provide a sound, uniform substrate suitable for the application of protective coating or lining systems.

When required, a minimum concrete surface strength, maximum surface moisture content, and surface profile range should be specified in the procurement documents (project specifications).

SSPC-SP 14/NACE No. 8, Industrial Blast Cleaning

This joint standard covers the requirements for industrial blast cleaning of unpainted or painted 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.

An industrial blast cleaned surface, when viewed without magnification, shall be free of all visible oil, grease, dust, and dirt. Traces of tightly adherent mill scale, rust, and coating residues are permitted to remain on 10% of each unit area of the surface, if they are evenly distributed.

The traces of mill scale, rust, and coating shall be considered tightly adhered if they cannot be lifted with a dull putty knife. 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.

SSPC-SP 15, Commercial Grade Power Tool Cleaning

This standard covers the requirements for power tool cleaning to provide a commercial grade power tool cleaned steel surface, and to retain or produce a minimum 25 micrometer (1.0 mil) surface profile.

A commercial grade power tool cleaned steel surface, when viewed without magnification, shall be free of all visible oil, grease, dirt, rust, coating, oxides, mill scale, corrosion products, and other foreign matter, except as noted.

Random staining shall be limited to no more than 33 percent of each unit area of surface as defined. Staining may consist of light shadows, slight streaks, or minor discolorations caused by stains of rust, stains of mill scale, or stains of previously applied coating. Slight residues of rust and paint may also be left in the bottoms of pits if the original surface is pitted.

This standard differs from SSPC-SP 3, Power Tool Cleaning, in that a higher degree of surface cleanliness is required, and a minimum surface profile of 25 micrometers (1.0 mil) will be retained or produced.

This standard differs from SSPC-SP 11, Power Tool Cleaning to Bare Metal, in that stains of rust, paint, or mill scale may remain on the surface.