SSPC and NACE Surface Preparations

SSPC-SP-1

Solvent Cleaning - Solvent Cleaning is a method for removing all visible oil, grease, soil, drawing and cutting compounds, and other soluble surface contaminants. It is intended that solvent cleaning be used prior to the application of paint and in conjunction with surface preparation methods for the removal of rust, mill scale, or paint. Prior to solvent cleaning, remove any heavy deposits of oil, grease, etc., with a scraper. Remove remaining oil, grease, etc., by wiping/scrubbing the surface with rags or brushes wetted with solvent. It is important that the final wash/rinse be made with clean rags/brushes and solvent so that a film of oil/grease, etc., won't be left on the surface when the solvent evaporates.

SSPC-SP-2

Hand Tool Cleaning - Surface preparation before and after Hand-Tool Cleaning entails that you follow SSPC-SP-1. Remove all loose mill scale, loose rust and other detrimental foreign matter with non-power hand tools. Under SSPC-SP-2 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. "Feather" edges of all remaining adherent material so that the repainted surface can have a reasonably smooth surface.

SSPC-SP-3

Power Tool Cleaning - Removal of all rust scale, mill scale, loose paint, and loose rust to the degree specified by power wire brushes, power impact tools, power grinders, power sanders or by a combination of these methods. The substrate should have a pronounced metallic sheen and also be free of oil, grease, dirt, soil, salts and other contaminants. Surface should not be buffed or polished smooth.

SSPC-SP-4

Flame Cleaning - Removal of all loose scale, rust and other detrimental foreign matter by passing high temperature, high velocity oxy-acetylene flames over the entire surface, followed by wire brushing. Surface should also be free of oil, grease, dirt, soil, salts and other contaminants.

SSPC-SP-5, NACE 1

White Metal Blast Cleaning - Removal of all mill scale, rust, rust scale, paint or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels. A White Metal Blast Cleaned Surface Finish is defined as a surface with a gray-white, uniform metallic color, slightly roughened to form a suitable anchor pattern for coatings. The surface, when viewed without magnification, shall be free of all oil, grease, dirt, visible mill scale, rust, corrosion products, oxides, paint, or any other foreign matter.

SSPC-SP6, NACE 3

Commercial Blast Cleaning - Removal of mill scale, rust, rust scale, paint or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels, to the degree specified. A Commercial Blast Cleaned Surface Finish is defined as one from which all oil, grease, dirt, rust scale and foreign matter have been completely removed from the surface and all rust, mill scale and old paint have been completely removed except for slight shadows, streaks, or discolorations caused by rust stain, mill scale oxides or slight, tight residues of paint or coating that may remain; if the surface is pitted, slight residues of rust or paint may by found in the bottom of pits; at least two-thirds of each square inch of surface area shall be free of all visible residues and the remainder shall be limited to the light discoloration, slight staining or tight residues mentioned above.

Pierre Dostie

SSPC-SP-7, NACE 4

Brush-Off Blast Cleaning - Removal of loose mill scale, loose rust, and loose paint, to the degree hereafter specified, by the impact of abrasives propelled through nozzles or by centrifugal wheels. It is not intended that the surface shall be free of all mill scale, rust, and paint. The remaining mill scale, rust, and paint should be tight and the surface should be sufficiently abraded to provide good adhesion and bonding of paint. A Brush-Off Blast Cleaned Surface Finish is defined as one from which all oil, grease, dirt, rust scale, loose mill scale, loose rust and loose paint or coatings are removed completely but tight mill scale and tightly adhered rust, paint and coatings are permitted to remain provided that all mill scale and rust have been exposed to the abrasive blast pattern sufficiently to expose numerous flecks of the underlying metal fairly uniformly distributed over the entire surface.

SSPC-SP-8

Pickling - Removal of all mill scale, rust and rust scale by chemical reaction, or by electrolysis, or by both. It is intended that the pickled surface shall be completely free of all scale, rust, and foreign matter. Furthermore, the surface shall be free of un reacted or harmful acid or alkali, or smut.

SSPC-SP-9

Weathering Followed By Blast Cleaning - Weathering to remove all or part of the mill scale followed by one of the blast cleaning standards.

SSPC-SP-10, NACE 2

Near-White Blast Cleaning - Removal of nearly all mill scale, rust, rust scale, paint, or foreign matter by the use of abrasives propelled through nozzles or by centrifugal wheels, to the degree hereafter specified. A Near-White Blast Cleaned Surface Finish is defined as one from which all oil, grease, dirt, mill scale, rust, corrosion products, oxides, paint or other foreign matter have been completely removed from the surface except for very light shadows, very slight streaks or slight discolorations caused by rust stain, mill scale oxides, or light, tight residues of paint or coating that may remain. At least 95 percent of each square inch of surface area shall be free of all visible residues, and the remainder shall be limited to the light discoloration mentioned above.

SSPC-SP-11

Tool Cleaning to Bare Meta - Complete removal of all rust, scale and paint by power tools, with resultant surface profile.

SSPC-SP-12, NACE 5

Surface Preparation and Cleaning of Steel and Other Hard Materials by High- and Ultrahigh-Pressure Water Jetting Prior to Re coating - Used where abrasive blasting is not feasible because the resultant flying abrasive particles and drifting dust may damage highly sensitive rotary equipment and filters, cause contamination of nearby mechanical equipment and structures or cause contamination of the environment.

SSPC-SP-13, NACE 6

Concrete Preparation - 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 dry, sound, uniform substrate suitable for the application of protective coating or lining systems. Depending upon the desired finish and system, a block filler may be required. Block (Cinder and Concrete) – Remove all loose mortar and foreign material.

SSPC-SP-14, NACE 8

Industrial Blast Cleaning - Surfaces viewed without magnification, are free of all visible oil, grease, dust, and dirt. Traces of tightly adherent mill scale, rust and coating residue are permitted to remain on 10% of each unit area of the surface if they are evenly distributed.

Pierre Dostie