



INDUSTRIAL COATING SOLUTIONS, Inc.

45 Orchard Ln

Billings, MT. 59101

Ph. 406-256-1124 Fx. 406-256-7299

www.icspowdercoat.com

SURFACE PREPARATION STANDARD SPECIFICATIONS

1. Scope

1.1. These specifications cover the standards that ICS, Inc. adheres to for the preparation and pretreatment of metals for powder coating. Some of the information contained herein is taken from SSPC and Joint Specifications as listed below.

SSPC-SP14 Industrial Blast Cleaning

2. Definitions

2.1. Industrial blast cleaning, 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. Shadows, streaks, and discolorations caused by stains of rust, stains of mill scale, and stains of previously applied coating maybe present on the remainder of the surface.

2.2. Iron Phosphate pretreatment is a method of preparing metal surfaces by chemical reaction. The surfaces, when viewed without magnification shall be free of all visible mill scale and rust.

2.3. Acceptable variations in appearance are differences in appearance that do not affect surface cleanliness, including variations caused by type of metal, original surface condition, thickness, welds, mill or fabrications marks, heat treating, heat affected zones, blasting abrasives and blasting technique.

2.4. Surface profile is the rough-ness of the surface which results from abrasive blast cleaning. The profile depth (or height) is dependent upon the size, shape, type, and hardness of the abrasive, particle velocity and angle of impact, hardness of the surface, amount of recycling, and the proper maintenance of working mixtures of grit and/or shot.

3. Surface Preparation

3.1. Before power tool cleaning or any of the blasting methods previously defined, heavy contaminants such as visible oil, cutting compounds, grease and other foreign matter other than rust, scale or oxide shall be removed.

3.2. Before Iron phosphate pretreatment of any metal surfaces, remaining contaminants from the chosen cleaning method, such as dust, dirt and remnant

blast media shall be removed by brushing, using clean compressed air, or further chemical or power tool cleaning, including vacuuming.

4. Methods

- 4.1.** Industrial blast cleaning method shall use clean, dry compressed air to propel the blast media through a hose and nozzle of sufficient size and shape to remove contaminants as described in the definitions above.
- 4.2.** The blast media shall be garnet or slag and shall be of sufficient grit or wire mesh size to leave an average surface profile of 1.5-2.0 mil. The blast media shall further be kept clean, dry and free of contaminants that may interfere with or cross contaminate other metal surfaces that have not been blast cleaned.
- 4.3.** Iron Phosphate pretreatment shall be applied through a pressurized spray wand system, capable of applying the iron phosphate chemicals at an average ratio of 1.0-2.0% (by weight), at pressures up to 1000 psi, and at temperatures ranging from 140°F (60°C) to 180°F (88°C). The same equipment shall be capable of applying pressurized rinse water at pressures up to 1500 psi.
- 4.4.** All Iron Phosphate pretreated metals shall be thoroughly dried and subsequently cooled to atmospheric temperatures prior to proceeding to powder coating.

5. Inspection

- 5.1.** Work and materials as described in these standard specifications are subject to inspection by responsible personnel as appointed by management, or directly by management as deemed necessary to ensure strict compliance at all times.
- 5.2.** Customer representatives may be present by appointment to coordinate compliance efforts.

6. Safety and Environment

- 6.1.** Because abrasive blast cleaning is a hazardous operation, all work shall be conducted in compliance with applicable occupational and environmental health and safety rules and regulations.