

 <p>Construction & Engineering شرکت مهندسی و ساخت پارسان (مسئولیت محدود)</p>	Doc. Name: Surface Preparation and Painting Procedure نام مدرک:		
	Project: نام پروژه:	Customer: مشتری:	
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 <p>PAARSUN Construction & Engineering شرکت مهندسی و ساخت پارسان (مسئولیت محدود)</p>	Doc. Name: Surface Preparation and Painting Procedure نام مدرک:		
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Definition:

PROJECT:

Company:

Contractor/purchaser:

Supplier or Vendor or Manufacturer: PAARSUN Company

Purchase order (PO):

Requisition: Neutral Grounding Resistor (NGR)

Reference Document:

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1-Surface Preparation (Hot Dip Galvanized sheets)

Following items describe the steps for metal surface preparation before starting the painting on surface. This can definite total in 3 steps:

Step1: Washing and cleaning the surface of iron parts with degreasing solution by hand. This step helps to better result in the next step.

Step2: Moving metallic components in phosphate processing part and washing the surface with solution of phosphate and water by hand in all side.

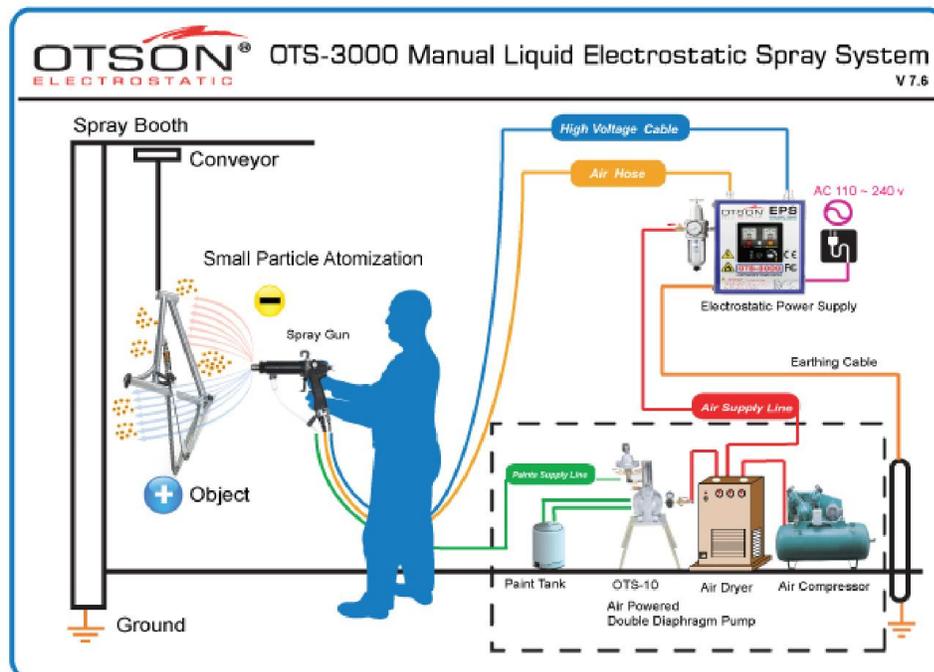
Step3: Drying the water and wet for 20-120 min. (drying time must not be less than 20 min)

2- Painting

After the preparation, surface painting steps shall be started. Procedure that use for painting is inclusive 2 steps.

First step is spray the polyester powder type color with electrostatic gun to surface with regulated voltage and suitable distance between gun head and surface.

Second step is move the painting surface in the warm cabin for 10-15 min. (Tem. Approximately 190-210°C)



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3-Quality Control Procedure

3-1-Visual check:

Complete cured coating surface with suitable film thickness checked by naked eyes, such as bit, crater, haze, and flow-out.

Acceptance criteria: In the coating surface not present foam, small crack, haze and complete coated all surface and positions.

3-2-Film thickness DIN EN ISO 2360:

Film thickness tester describes a method for non-destructive measurements of the thickness of non-conductive coatings on electrically conductive (generally metallic) basis materials, using amplitude-sensitive eddy current instruments.

Acceptance criteria: thickness of paint shall be about 80 μm .

3-3-Color ISO 7724:

Color RAL Coating film shall be selected according to the document and owner request.

Acceptance criteria: Painting RAL shall be same with document and owner request.

3-4-Adhesion Test DIN EN ISO 2409:

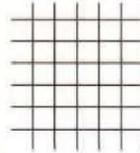
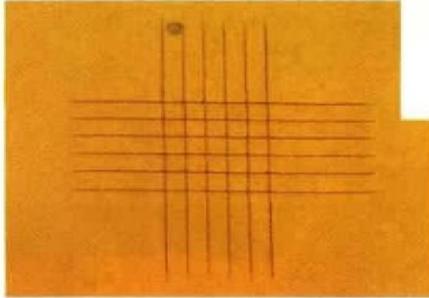
In the paint industries the principle concern with respect to adhesion is that of a coating remaining firmly attached to the substrate. One simple test to evaluate this is the cross-cut adhesion test. In this test the painted panel is subjected to a series of cross cuts at right angles to each other on the surface each series at a distance of 2mm apart. The amount of paint which is removed by brushing the surface is compared to a set of standards. This test is carried out using adhesive tape which is attached to the surface and then pulled away.

Procedure

- Make a lattice pattern and the film with the appropriate tool, cutting to the substrate.
- Brush in diagonal direction 5 times each, using a brush pen or adhesive tape over the cut and remove it quickly.
- Examine the grid by visual check with the following pictures, use a usual illuminated magnifier. (If necessary)

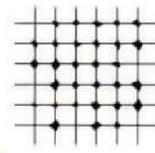
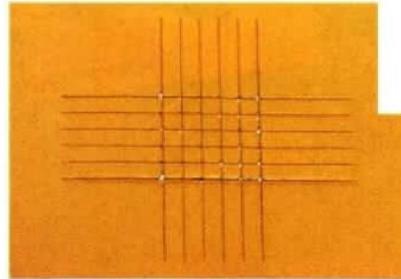
Acceptance criteria: ISO Class: 1/ ASTM Class 4B

■ ISO Class.: 0 / ASTM Class.:5 B



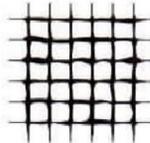
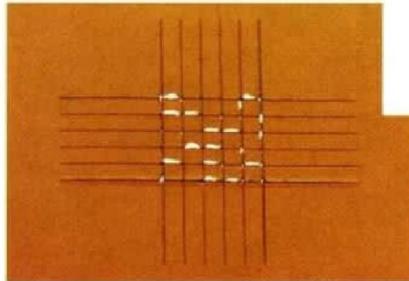
The edges of the cuts are completely smooth; none of squares of the lattice is detached.

■ ISO Class.: 1 / ASTM Class.: 4 B



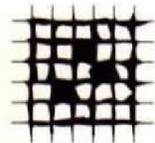
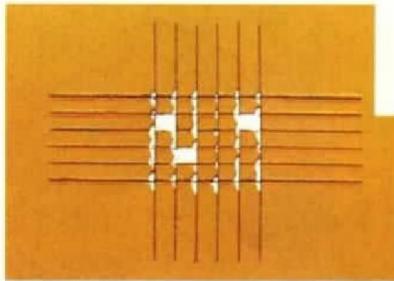
Detachment of small flakes of the coating at the intersecti of the cuts. A cross-cut area not significantly greater than is affected.

■ ISO Class.: 2 / ASTM Class.: 3 B



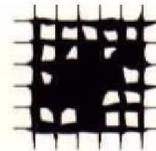
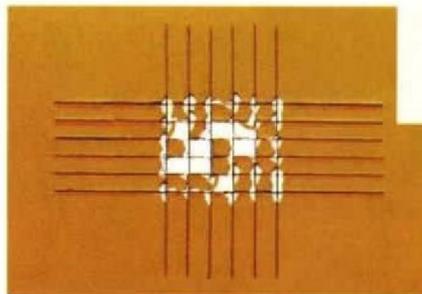
The coating has flaked along the edges and/or at the inte sections of the cuts. A cross-cut area significantly greater than 5 %, but not significantly greater than 15 %, is affect

■ ISO Class.: 3 / ASTM Class.: 2 B



The coating has flaked along the edges of the cuts partly or in large ribbons, and/or it has flaked partly or wholly on differen parts of the squares. A cross-cut area significantly greater than 15 %, but not significantly greater than 35 %, is affected.

■ ISO Class.: 4 / ASTM Class.: 1 B



The coating has flaked along the edges of the cuts in large ribbons and/or some squares have detached partly or whol A cross-cut area significantly greater than 35 %, but not significantly greater than 65 %, is affected.

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3-5- Elasticity Test DIN EN ISO 6860 :(Type test) **

Mandrel bending test describes a test procedure for evaluating the resistance of a coating on a metallic substrate when subjected to bending under standard conditions. For a multi-coat system, each coat may be tested separately or the complete system may be tested.

Procedure

Refer to paint supplier's information, put the coated part between the mandrels and by the force of hand, try to make a half circle completely. Then do a visual check in the special part of bended. If there was not the flaky layer on the coating part, it means you have an acceptable painted part.

Acceptance criteria: On coating part shall not be creating flaky layer

3-6- Impact Test DIN EN ISO 6272 :(Type test) **

This test is useful for evaluate the rate of hittable of powder color.

Procedure:

Referring to the supplier information, set the height of plummet and put the painted part under the tool test and then drop the plummet. The paint and painting process are acceptable if in contact area of plummet and painted part, there is not separate paint in side that contacted with plummet. Otherwise process of the painting should be revised completely.

Acceptance criteria: In contact area of plummet and painted part, there is not separate paint in side that contacted with plummet.

3-7- Salt spray test ISO 9297-ASTM B117 :(Type test) **

Salt spray test is standardized test method used to check corrosion resistance of coating samples. Coating provides corrosion resistance to metallic parts made of steel or aluminum. Salt spray test is an accelerated corrosion test that produces a corrosive attack to the coated samples in order to predict its suitability in use as a protective finish. The appearance of corrosion products is evaluated after a period of time. Test during depends of the corrosion resistance of the coating; the more corrosion resistant the coating is, the longer the period in testing without showing sign of corrosion.

****Note:** these tests can be applied in accordance with the customer request and payment of fees.

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4- Touch up procedure the damaged paint

After of assemble or installation the equipment, the surface of painting maybe damaged. For prevent of corrosion that surface shall be repair that positions. The following cases describe method for repairer damaged paint:

- Surface or locations soiled by grease/oil shall be cleaned with an aliphatic cleaning agent using a linen cloth.
- Paintwork repair set whose color matches that of the plant shall be used for paintwork repairs. This paintwork repairer consists of liquid oil paint (air dry).
- Paintwork repair shall be applied using a brush to the surface to be repaired.

Small marks may be repaired isolated; but the success depends on the surface preparation and /or the handling.