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		June 2012
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## ATTACHMENTS

Pages 10 to 18

- TABLE 1-1 PAINT AND COATING SYSTEMS FOR INDUSTRIAL SERVICE FOR STRUCTURAL STEEL, PIPING AND PROCESS EQUIPMENT UNDER NORMAL INDUSTRIAL ENVIRONMENT
- TABLE 1-2 PAINT AND COATING SYSTEMS FOR INDUSTRIAL SERVICE FOR STRUCTURAL STEEL, PIPING AND PROCESS EQUIPMENT UNDER CORROSIVE INDUSTRIAL ENVIRONMENT
- TABLE 1-3 PAINT AND COATING SYSTEMS FOR MECHANICAL AND MISCELLANEOUS EQUIPMENT
- TABLE 1-4 PAINT APPLICATION FOR MARINE SERVICE OF CARBON STEEL CONSTRUCTION
- TABLE 2 SURFACE PREPARATION
- TABLE 3 PRIMERS
- TABLE 4 FINISH COATS
- TABLE 5 TOP COAT COLORS FOR PROCESS AND UTILITIES AREAS

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## 1. SCOPE

This specification covers the minimum requirements for the supply of paint and the paint work

### 1.1 Standards and Tech. Specification

SSPC - Steel Structure Painting Council Specification.

SSPC - PA1 - Shop, Field and Maintenance Painting

SSPC - PA2 - Measurement of Dry Paint Thickness with Magnetic Gauges

SSPC - SP1 - Solvent Cleaning

SSPC - SP2 - Hand Tool Cleaning

SSPC - SP3 - Power Tool Cleaning

SSPC - SP4 - Flame Cleaning

SSPC - SP5 - White Metal Blast Cleaning

SSPC - SP6 - Commercial Blast Cleaning

SSPC - SP7 - Brush-Off Blast Cleaning

SSPC - SP8 - Pickling

SSPC - SP9 -Weathering

SSPC - SP10 - Near-White Blast Cleaning

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## 2. DESIGN

- 2.1 The paint systems for corrosion protection are tabulated in Tables 1, 2, 3, 4 and 5 for painting materials and systems in this procedure.
- 2.2 Paint shall be in a consistency ready for use (as far as single component paints are concerned). Paint shall be brushed easily at 20°C and suitable for spraying after diluting with the appropriate thinner.
- 2.3 Paint shall show no thickening, hard sediments or skinning after being stored in a full, tightly covered container from the date of delivery until application; during this period they shall be suitable for easy application. Residues shall be easily and completely remissible.
- 2.4 The paints shall possess good coverage and good leveling without sagging on vertical surfaces. In general, curing of paints shall provide optimum smoothing of the paint film.
- 2.5 Shop applied primer shall be resistant to seawater and condensation and shall be suitable sea transport either on deck or below deck.
- 2.6 Paint shall be supplied in tightly-covered sheet metal containers. Containers shall be labelled or marked as follows;
  - Manufacturer's Name:
  - Type of paint and related thinner:
  - Color:
  - Weight: net
  - Filling date:

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### 3. PAINTING MATERIALS

Selection of primers and paints shall be in accordance with the applicable temperature and condition of the environment, See Table 3 & 4.

### 4. APPLICATION OF PAINTING SYSTEMS

4.1 Paint and Coating Systems for industrial service carbon steel construction. See Table 1.

4.2 The following metallic surface and materials do not require painting or coating unless otherwise specified.

- A. Non-ferrous metals
- B. Austenitic stainless steel
- C. Galvanized Surface (except safety painting)
- D. Zinc-coated, lead-coated, or aluminum-coated carbon steel surfaces
- E. Steel surfaces to be insulated, where the equipment is in continuous service with (fluid) operation temperatures outside the range of -4°C to 120°C
- F. Metal surface over 93°C to be insulated

4.3 The following non-metallic surface and materials do not require painting or coating unless otherwise required in the other specification and drawings.

- A. Building brick, masonry units and wall tile
- B. Concrete structures and foundations
- C. Plastic and plastic coated materials
- D. Concrete or gunite fireproofing, or in tumescent coating

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## 5. TOP COAT COLORS

Unless specified herein, the choice of colors will be decided in accordance with Table 5.

## 6. SURFACE PREPARATION

- 6.1 All surfaces to be finish painted shall be cleaned free of all dirt, dust, grease, oil or other contaminants. All jagged edges, weld scale, slag, and flux shall be removed and all seams and unprimed margins and abraded areas shall be treated in accordance with the degree of surface preparation specified. All pipe welds are to be cleaned to the degree of surface prepared in accordance with the Steel Structures Painting Council Specifications.
- 6.2 Shop primed and factory finished equipment will only be "spot cleaned" in damaged areas by means of power tool brush cleaning or hand tool cleaning and then spot primed, before applying a top coat, unless otherwise noted in the specification or requisitions.
- 6.3 All cleaned surfaces shall be primed the same day that cleaning is performed. Cleaned surfaces left unprimed overnight or on which rain falls, shall be re-cleaned before priming.
- 6.4 Surface preparation shall be done by one of the following methods in accordance with the SSPC specification.

<u>Specification</u>	<u>Nomenclature</u>	<u>Description</u>
SSPC-SP-1	Solvent Cleaning	Removal of oil, grease, dirt, soil, salts and contaminants by cleaning with solvents, vapor, alkali, emulsion or steam.
SSPC-SP-2	Hand Tool Cleaning	Removal of loose rust, loose mill scale and loose paint to degree specified, by hand chipping, scraping, sanding and wire brushing.
SSPC-SP-3	Power Tool	Removal of rust, loose mill scale and loose paint to degree specified, by power tool chipping, descaling, sanding, wire brushing and grinding.
SSPC-SP-4	Flame Cleaning	Dehydrating and removal of rust, loose mill scale, and some tight mill scale by use of flame, followed by wire brushing