

SSPC: The Society for Protective Coatings

PAINT SPECIFICATION NO. 17

Chlorinated Rubber Inhibitive Primer

1. Scope

1.1 This specification covers a fast drying chlorinated rubber inhibitive primer for use on steel surfaces or exterior non-submerged surfaces, as well as most submerged surfaces prior to being overcoated with additional chlorinated rubber coatings. When applied as a shop coat to steel expected to be exposed to normal weathering or mild chemical environments for more than 60 days, it is recommended that either an additional coat of primer be applied or that the next succeeding coat be applied in the shop. This coating is not recommended for areas exposed to strong organic solvents, oxidizing acids, or to areas where the surface temperature exceeds 165°F (74°C). Straight chain unsaturated acids, and fats and oils of animal or vegetable origin will cause softening and swelling of the coating.

1.2 This primer, when applied over properly prepared steel surfaces and coated with SSPC-Paint 18, "Chlorinated Rubber Intermediate Coat Paint," and followed by at least one (optional) finish coat of SSPC-Paint 19, "Chlorinated Rubber Topcoat Paint," is suitable for exposures in Environmental Zones 1A (interior, normally dry), 1B (exterior, normally dry), 2A (frequently wet by fresh water), 2B (frequently wet by salt water), 2C (fresh water immersion), 2D (salt water immersion), 3A (chemical, acid), 3B (chemical, neutral), and 3C (chemical, alkaline).

1.3 Steel surfaces shall be blast cleaned in accordance with SSPC-SP 6, "Commercial Blast Cleaning," for atmospheric use or with SSPC-SP 10, "Near-White Blast Cleaning," for immersion or heavy chemical use. Steel may also be prepared according to SSPC-SP 8, "Pickling."

1.4 This primer is intended for application by brush, roller, or spray and is to be applied in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel."

1.5 If this coating is applied over alkyd- or oil-base enamels, there is the possibility of lifting, particularly on interior surfaces. A spot check is necessary to determine suitability. If lifting occurs, then a seal-coat, as recommended by the manufacturer, may be required. For immersion service, this coating should not be applied over alkyd or oil-base enamels.

2. Description

2.1 This primer is a mixture of inhibitive pigments, extender pigments, chlorinated rubber, chlorinated resins, plasticizers, and solvents. Details of the composition are given in Table 1.

2.2 This primer contains a minimum of 32% by volume of nonvolatile film-forming solids (pigment and binder). The minimum theoretical spreading rate for a 1.5 mil (38 micrometers) dry film thickness is 340 square feet/U.S. gallon (8.4 square meters/liter). Actual spreading rates can be significantly lower.

3. Referenced Standards

3.1 The latest issue, revision, or amendment of the referenced standards in effect on the date of invitation to bid shall govern, unless otherwise specified.

3.2 If there is a conflict between the requirements of any of the cited referenced standards and this specification, the requirements of this specification shall prevail.

3.4 SSPC STANDARDS AND JOINT STANDARDS:

SSPC Guide 13	Guide for the Identification and Use of Industrial Coating Material in Computerized Product Databases
PA 1	Shop, Field, and Maintenance Painting of Steel
Paint 18	Chlorinated Rubber Intermediate Coat Paint
Paint 19	Chlorinated Rubber Topcoat Paint
SP 6/NACE No. 3	Commercial Blast Cleaning
SP 8	Pickling
SP 10/NACE No. 2	Near-White Blast Cleaning

3.5 ASTM INTERNATIONAL STANDARDS:

B 117	Practice for Operating Salt Spray (Fog) Apparatus
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**TABLE 1
COMPOSITION**

INGREDIENTS	REQUIRED		TYPICAL COMPOSITION		INGREDIENT STANDARDS	
	Min. Wt. %	Max. Wt. %	Wt.%	Vol.%	ASTM	Federal
PIGMENT: (39 ± 10 wt. %)						
Rust Inhibitive Pigments ¹	35.0	—	26.3	5.3	—	—
Tinting Pigments ²	—	12.0	0.3	0.2	—	—
Extender Pigments	—	55.0	12.1	6.4	—	—
Barytes					D 602	—
Magnesium					D 605	—
Mica					D 607	—
VEHICLE: (61 ± 10 wt. %)						
Chlorinated Rubber ³	19.0	—	12.3	10.8	—	—
Chlorinated Resins	—	—	3.3	3.0	—	MIL-C-429, Type II
Chlorinated Plasticizers	10.0	18.0	6.7	8.4	—	MIL-C-429 Type I
Plasticizer ⁴	—	—	—	—	—	—
Solvents ⁵	—	65.0	37.0	64.0	—	—
Vehicle Stabilizers ⁶	0.6	—	0.4	0.5	—	—
Vapor Phase Stabilizers ⁷	0.2	—	0.1	0.2	—	—
Suspending Aids ⁸	—	3.0	1.5	1.2	—	—
TOTALS			100.0	100.0		

¹ The rust inhibitive pigments shall be of good quality and such that when incorporated in the vehicle portion of this specification paint, the proposed paint will perform equal to or better than the paint made from the "control formulation" at each inspection period in the tests described in Sections 5.8 through 5.12. NOTE: When this paint is to be used in a paint system applied to the interior of potable water vessels, the ingredients shall not be deemed objectionable for such use by the U.S. Environmental Protection Agency or any agency that would have jurisdiction over such matters. When so formulated, the Salt Fog Test (Section 5.9) requirement shall be waived.

² Lightfast and compatible chemically resistant colored pigments shall be used to provide a tint or color when desired.

³ The chlorinated rubber shall contain approximately 66% by weight chlorine. The viscosity (based on a solution of 20% by weight concentration in toluene at 20°C) shall fall in the range of 9 to 14 centipoise, when measured according to ASTM D 445. Up to 50% by weight of the amount of chlorinated rubber could be of the viscosity range of 17 to 25 centipoises, but spray application is more difficult.

⁴ Alternative plasticizers can be used, provided they are compatible, high quality, and chemically resistant.

⁵ The solvent shall consist of aromatic or a blend of aromatic and aliphatic hydrocarbons, with the aliphatic portion limited to 25% by weight, and shall have a minimum kauri butanol value of 75. Up to 10% by weight of turpentine (ASTM D 13) or other highboiling aromatic-type solvents may be added to improve application properties.

⁶ The vehicle stabilizer shall be a suitable chloride acceptor such as an expoxidized vegetable oil.

⁷ A vapor phase stabilizer, such as propylene oxide, can also be used. It must be a high-grade commercial material suitable for the intended purpose.

⁸ The suspending aid shall be hydrogenated castor oil or montmorillonite mineral.

D 13 Specification for Spirits of Turpentine
D 185 Test Methods for Coarse Particles in Pigments, Pastes, and Paints
D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (and the Calculation of Dynamic Viscosity)
D 562 Test Method for Consistency of Paints Measuring Krebs Units (KU) Viscosity Using a Stormer-type Viscometer
D 602 Specification for Barium Sulfate Pigments
D 605 Specification for Magnesium Silicate Pigment (Talc)

D 607 Specification for Wet Ground Mica Pigments
D 1208 Test Methods for Common Properties of Certain Pigments
D 1210 Test Methods for Fineness of Dispersion of Pigment-Vehicle Systems
D 1296 Test Method for Odor of Volatile Solvents and Diluents
D 1475 Test Method for Density of Liquid Coatngs, Inks, and Related Products
D 1542 (Withdrawn) Test Method for Qualitative Detection of Rosin in Varnishes
D 3278 Test Methods for Flash Point of Liquids by Small-Scale Closed-Cup Apparatus