

SSPC: The Society for Protective Coatings

PAINT SPECIFICATION NO. 35

Medium Oil Alkyd Primer (Air Dry/Low Bake)

Type I and Type II

1. Scope

1.1 This specification covers a French process zinc oxide, and medium oil alkyd primer designed for cold rolled sheet or unruled hot rolled, blast cleaned structural steel. Recoat or dry-through time is 18 hours. It has good resistance to weathering.

1.2 This paint is suitable for exposures in Environmental Zones 1A (interior, normally dry) and 1B (exterior, normally dry). It is intended for brush, roller, or spray application over new or unruled steel surfaces prepared in accordance with SSPC-SP 6, "Commercial Blast Cleaning," or SSPC-SP 11, "Power Tool Cleaning to Bare Metal," or better (See Note 9.1). This primer is to be applied in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel." If the primed steel is to be exposed to the weather, it should be topcoated as soon as practical.

2. Description

2.1 This specification contains provisions to assure performance which is comparable to that customarily expected from paints containing lead and chromates. Type II has a lower percentage of volatile organic compounds (VOC) than Type I. (Details of the composition are given in Table 1 for Type I and in Table 2 for Type II.)

2.2 Type I primer contains approximately 37% by volume of nonvolatile film-forming solids (pigment and binder). The theoretical spreading rate for a 25 micrometer (1 mil) dry film thickness is 15 square meters/liter (590 square feet/U.S. gallon). Actual spreading rates can be significantly lower. On a calculated basis, the VOC is 492 grams per liter (4.1 pounds per gallon).

2.2 Type II primer contains approximately 66% by volume of nonvolatile film-forming solids (pigment and binder). The theoretical spreading rate for a 25 micrometer (1 mil) dry film thickness is 26 square meters/liter (1058 square feet/U.S. gallon). Actual spreading rates can be significantly lower. On a calculated basis, the VOC is 312 grams per liter (2.6 pounds per gallon).

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. Standards marked with an asterisk (*) are referenced only in the Notes, which are not requirements of this specification.

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.

3.3 SSPC 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
*SP 5/NACE No. 1	White Metal Blast Cleaning
SP 6/NACE No. 3	Commercial Blast Cleaning
*SP 10/NACE No. 2	Near-White Blast Cleaning
SP 11	Power Tool Cleaning to Bare Metal
*Guide 7	Guide for the Disposal of Lead-Contaminated Surface Preparation Debris

3.4 ASTM INTERNATIONAL STANDARDS:

D 79	Specification for Zinc Oxide Pigments
D 185	Test Methods for Coarse Particles in Pigments, Pastes, and Paints
D 235	Specification for Mineral Spirits (Petroleum Spirits) (Hydrocarbon Dry Cleaning Solvent)
D 522	Test Methods for Mandrel Bend Test of Attached Organic Coatings
D 562	Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-type Viscometer
D 600	Specification for Liquid Paint Driers
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 Method for Fineness of Dispersion of Pigment-Vehicle Systems

TABLE 1
COMPOSITION
SSPC-Paint 35, Type I

INGREDIENTS	REQUIRED		TYPICAL COMPOSITION		INGREDIENT STANDARDS	
	Min. Wt. %	Max. Wt. %	Wt. %	Vol. %	ASTM	FEDERAL
PIGMENT ¹ : (41.0 ± 2 wt. %)						
Zinc Oxide	9.0	11.0	4.1	0.9	D 79, Dry Pigment, French Process	—
Iron Oxide (85% minimum Fe ₂ O ₃)	57.0	—	23.4	7.2	D 3722/D 3724	—
Magnesium Silicate	—	23.0	9.4	4.2	D 605	—
Mica	10.0	12.0	4.1	1.8	D 607	
TOTAL PIGMENT:	100		41.0	14.1		
VEHICLE: (59.0 ± 2 wt. %)						
Alkyd Resin Solids	33.0	—	19.6	22.8	---	TT-R-266, Type III
Solvent	---	67.0	39.4	63.1	D 235	—
Driers	—	—	—	---	D 600, Non-Lead	—
TOTAL VEHICLE:	100		59.0	85.9		
TOTAL:			100	100		

¹ The composite pigment shall comply with the following:

PROPERTY	METHOD	REQUIRED
pH	—	7 to 8
Specific Resistance of Leachate	ASTM D 2448	5000 ohm-cm minimum

D 1296	Test Method for Odor of Volatile Solvents and Diluents	D 3724	Specification for Synthetic Brown Iron Oxide Pigment
D 1475	Test Method for Density of Liquid Coatings, Inks, and Related Products	D 3734	Specification for High-Flash Aromatic Naphthas
D 1542	(Withdrawn) Test Method for Qualitative Detection of Rosin in Varnishes	D 3925	Practice for Sampling Liquid Paints and Related Pigmented Coatings
D 1640	Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature	D 3951	Practice for Commercial Packaging
D 2369	Test Method for Volatile Content of Coatings	D 4400	Test Methods for Sag Resistance of Paints Using a Multinotch Applicator
D 2371	Test Method for Pigment Content of Solvent-Reducible Paints	3.5 FEDERAL SPECIFICATIONS AND STANDARDS:	
D 2448	Test Method for Water-Soluble Salts in Pigments by Measuring the Specific Resistance of the Leachate of the Pigment	3.5.1 Standard Specifications for Ingredients	
D 2832	Guide for Determining Volatile and Nonvolatile Content of Paint and Related Coatings	TT-R-266 Resin, Alkyd: Solutions	
D 3278	Test Methods for Flash Point of Liquids by Small-Scale Closed-Cup Apparatus	3.5.2 Federal Specification and Test Method Standard No. 141	
D 3722	Specification for Natural Red and Brown Iron Oxide Pigments	Method 3011	Condition in Container
		Method 3021.1	(Canceled) Skinning (Partially Filled Container)