

SSPC: The Society for Protective Coatings

PAINT SPECIFICATION NO. 9

White (or Colored) Vinyl Paint

1. Scope

1.1 This specification covers a ready mixed white vinyl chloride-acetate copolymer paint intended for use as a primer over blast cleaned steel or over vinyl butyral wash primer (SSPC Paint 27¹). It may also be used as an intermediate or finish coat over vinyl chloride-acetate copolymer paint.

1.2 This paint is suitable for exposures in Environmental Zones 2C (fresh water immersion), 2D (salt water immersion), 3A (chemical, acidic), and 3B (chemical, neutral), and is intended primarily to be used in a system applied to blast cleaned (SSPC-SP 10) or pickled (SSPC-SP 8) steel. When used for salt water immersion, a wash primer is recommended. Because of the possibility of lifting of the undercoats, this paint is not intended to be used over types of paints which have poor solvent resistance. This paint is intended primarily for application by conventional air spray and is to be applied in accordance with SSPC-PA 1, "Shop, Field, and Maintenance Painting of Steel."

1.3 This paint allows for a choice of colors.

2. Description

2.1 This paint consists of titanium dioxide pigment and vinyl resins in solution suitably plasticized to make a durable, elastic paint film. This paint includes both a carboxyl-containing polymer for good adhesion to steel and a hydroxyl-containing polymer for good adhesion to wash primers. It is supplied, unless specified otherwise, as a white paint. Details of the composition are given in Table 1.

2.2 This paint contains approximately 17% by volume of nonvolatile film-forming solids (pigment and binder). The theoretical spreading rate for a 1.0 mil (25 micrometers) dry film thickness is 275 square feet/U.S. gallon (6.7 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.

3.3 SSPC STANDARDS AND JOINT STANDARDS:

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 27¹	Basic Zinc Chromate — Vinyl Butyral Wash Primer
SP 8	Pickling
SP 10/NACE No. 2	Near-White Blast Cleaning

3.4 ASTM INTERNATIONAL STANDARDS:

D 185	Test Methods for Coarse Particles in Pigments, Pastes, and Paints
D 362	(Withdrawn) Specification for Industrial Grade Toluene
D 476	Classification for Dry Pigmentary Titanium Dioxide Products
D 562	Test Method for Consistency of Paints Measuring Krebs Units (KU) Viscosity Using a Stormer -type Viscometer
D 1153	Specification for Methyl Isobutyl Ketone
D 1208	Test Methods for Common Properties of Certain Pigments
D 1210	Test Methods for Fineness of Dispersion of Pigment-Vehicle Systems by Hegman-type Gage
D 1243	Test Method for Dilute Solution Viscosity of Vinyl Chloride Polymers
D 1296	Test Method for Odor of Volatile Solvents and Diluents
D 1475	Test Method for Density of Liquid Coatings, Inks, and Related Products
D 1640	Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature
D 2369	Test Method for Volatile Content of Coatings
D 3925	Practice for Sampling Liquid Paints and Related Pigmented Coatings

¹ This paint contains chromate pigments. Users are urged to follow all health, safety, and environmental requirements in applying, handling, and disposing of these materials.

3.6 FEDERAL STANDARDS:

DoD-P-15328¹	Primer (Wash) Pretreatment
FED-STD-141	Paint, Varnish, Lacquer and Related Materials: Methods of Inspection, Sampling and Testing
Method 3011	Condition in Container
Method 4021	(Canceled) Pigment Content (Ordinary Centrifuge)
Method 4053	Nonvolatile Vehicle Content
Method 4061	Drying Time
Method 4092	(Canceled) Coarse Particles and Skins in Synthetic Vehicle Enamels, Lacquers and Dopes (Use ASTM D 185)
Method 4203	Reducibility and Dilution Stability
Method 4331	Spraying Properties
Method 4541	(Canceled) Working Properties and Appearance of Dried Film

3.7 AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD:

Z129.1 Hazardous Industrial Chemicals — Precautionary Labeling

4. Composition

4.1 Ingredients and proportions shall be as specified in Table 1.

4.2 The paint based on the specified ingredients shall be uniform, stable in storage, and free from grit and coarse particles. Beneficial additives such as anti-skinning agents, suspending agents, or wetting aids may be added.

4.3 The paint shall conform to the composition (analysis) requirements of Table 2.

5. Properties

5.1 The paint shall meet the requirements of Table 3 and Sections 5.2 through 5.7.

5.2 ODOR: Shall be normal for the materials permitted (ASTM D 1296).

**TABLE 1
COMPOSITION**

INGREDIENTS	REQUIRED		TYPICAL COMPOSITION		INGREDIENT STANDARDS
	Min. Wt. %	Max. Wt. %	Wt.%	Vol.%	ASTM
PIGMENT: (12 ± 1 %)					
Titanium Dioxide	95.0	—	12.0	2.9	D 476, Type II Class II
Tinting Pigments ¹	—	5.0	—	—	—
VEHICLE: (88 ± 1%)					
Vinyl Resin A ²	9.1	—	8.0	5.9	—
Vinyl Resin B ³	9.1	—	8.0	5.9	—
Diocetyl phthalate ⁴	3.4	—	3.0	2.5	—
Methyl Isobutyl Ketone ⁵	—	39.2	34.5	43.0	D 1153
Toluene	—	39.2	34.5	39.8	D 362
TOTALS			100.0	100.0	

¹ Stable, durable tinting pigments shall be substituted for a portion of the pigment when a tint is specified in the procurement documents.

² Vinyl Resin A shall be an hydroxyl containing vinyl chloride-acetate copolymer. It shall contain 89.5% and 91.5% vinyl chloride, 5.3% to 7.0% vinyl alcohol, and 2.0% to 5.5% vinyl acetate. The inherent viscosity of the resin (ASTM D 1243, Method A) at 20°C shall not be less than 0.48.

³ Vinyl Resin B shall be a carboxyl containing vinyl chloride-acetate copolymer. It shall contain 85% to 87% vinyl chloride, 12% to 14% vinyl acetate, and 0.5% to 1.0% maleic acid. The inherent viscosity of the resin (ASTM D 1243, Method A) at 20°C shall not be less than 0.48.

⁴ Diocetyl phthalate (di-2-ethylhexyl phthalate) shall be commercial material which conforms to the following requirements:
Specific gravity @ 25°C 0.980 — 0.9861
Refractive index @ 25°C 1.4830 — 1.6859

⁵ When specified in the procurement documents, suitable high boiling vinyl solvent may be substituted for a portion of the methyl isobutyl ketone to make the paint amenable to application in hot weather or by brush.