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Standard Guide for State and Institutional Purchasing of Paint¹

This standard is issued under the fixed designation D 3927; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This guide aids state and local governments to make logical decisions in purchasing architectural paints on the basis of both quality and cost.

1.2 This guide concerns itself primarily with architectural trade sales paints as listed in Annex A2.2 especially whites and tints. Emphasis on this group of products is justified by their preeminence in usage and the difficulty in describing in simple terms requirements applicable to them.

NOTE 1—With experience much of the logic and many of the techniques described herein can be found applicable to a broad range of architectural coatings.

1.3 Many different methods can be used to select coatings. Three methods are presented in this guide and the user may choose the method or combination of methods best suited to his needs. The three methods are:

	Sections
Active Ingredients/Cost Ratio Method	4
Performance/Cost Ratio Method	5
Specification Method	6

2. Referenced Documents

2.1 ASTM Standards:

- D 344 Test Method for Relative Hiding Power of Paints by the Visual Evaluation of Brushouts²
- D 523 Test Method for Specular Gloss²
- D 562 Test for Consistency of Paints Using the Stormer Viscometer²
- D 659 Method of Evaluating Degree of Chalking of Exterior Paints²
- D 660 Method of Evaluating Degree of Checking of Exterior Paints²
- D 661 Test Method of Evaluating Degree of Cracking of Exterior Paints²
- D 662 Test Method of Evaluating Degree of Erosion of Exterior Paints²
- D 772 Test Method of Evaluating Degree of Flaking (Scaling) of Exterior Paints²
- D 1475 Test Method for Density of Paint, Varnish, Lacquer, and Related Products²
- D 1640 Test Methods for Drying, Curing, or Film Formation of Organic Coatings at Room Temperature²

¹ This guide is under the jurisdiction of ASTM Committee D-1 on Paint and Related Coatings and Materials and is the direct responsibility of Subcommittee D01.41 on Government Procurement Criteria for Commercial Paint and Coatings.
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² Annual Book of ASTM Standards, Vol 06.01.

- D 2197 Test Methods for Adhesion of Organic Coatings by Scrape Adhesion²
- D 2243 Test Method for Freeze-Thaw Resistance of Latex and Emulsion Paints²
- D 2244 Method for Calculation of Color Differences from Instrumentally Measured Color Coordinates²
- D 2366 Test Method for Accelerated Testing of Moisture Blister Resistance of Exterior House Paints on Wood²
- D 2486 Test Method for Scrub Resistance of Interior Latex Flat Wall Paints²
- D 2805 Test Method for Hiding Power of Paints by Reflectometry²
- D 3258 Test Method for Porosity of Paint Films²
- D 3359 Methods for Measuring Adhesion by Tape Test²
- D 3719 Test Method for Dirt Collection on Coated Exterior Panels²
- D 3928 Method for Visual Evaluation of Gloss or Sheen Uniformity²
- D 4062 Test Method for Leveling of Paints by Draw-Down Method²
- D 4400 Test Method of Sag Resistance of Paints Using a Multinotch Applicator²

3. Products

3.1 It is recommended that standard commercial products offered to the general public for a period of 2 years or produced and sold in accordance with applicable government specifications be considered for purchase by the methods described in Sections 4, 5, or 6.

4. Active Ingredients/Cost Ratio Method

4.1 This method utilizes, as an indication of quality, the coating composition provided by the manufacturer and is limited to interior and exterior wall paints listed in Annex A2.2.

4.2 Only those ingredients considered to contribute directly to quality are considered. The major active ingredients in most paints are vehicle solids or binder and primary hiding pigments.

4.2.1 The weight percent of vehicle solids may help to predict the scrubability or cleanability of a paint, but the quantity of pigment must also be considered. In general, the greater the ratio of vehicle solids to pigment, the better the scrubability and cleanability will be. The ratio of vehicle solids volume to pigment volume is a more useful parameter but is not readily available. Moreover, each type of vehicle solids, such as alkyd in solvent-borne paints and vinyl or acrylic latex in waterborne paints, has its own properties and there are many other additives not shown that can affect scrubability, cleanability, and other properties.