



Designation: D1301 – 91 (Reapproved 2020)

Standard Test Methods for Chemical Analysis of White Lead Pigments¹

This standard is issued under the fixed designation D1301; 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.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope

1.1 These test methods cover procedures for the chemical analysis of basic carbonate white lead and basic sulfate white lead.

NOTE 1—If it is necessary to separate these pigments from others, refer to Practice D215.

1.2 The analytical procedures appear in the following order:

	Section
Preparation of Sample	6
Basic Carbonate White Lead:	
Small Amounts of Iron	7
Total Lead	8
Moisture and Other Volatile Matter	9
Carbon Dioxide (Evolution Method)	10
Carbon Dioxide and Combined Water (Combustion Method)	11
Lead Carbonate	12
Total Matter Insoluble in Acetic Acid	13
Total Matter Insoluble in Acid Ammonium Acetate	14
Total Impurities Other Than Moisture	15
Coarse Particles	16
Basic Sulfate White Lead:	
Small Amounts of Iron	17
Total Lead	
Moisture and Other Volatile Matter	19
Total Sulfate	20
Zinc Oxide	21
Basic Lead Oxide	22
Total Impurities	23
Coarse Particles	24

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

1.5 *This international standard was developed in accordance with internationally recognized principles on standard-*

ization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.

2. Referenced Documents

2.1 ASTM Standards:²

C25 Test Methods for Chemical Analysis of Limestone, Quicklime, and Hydrated Lime
D185 Test Methods for Coarse Particles in Pigments
D215 Practice for the Chemical Analysis of White Linseed Oil Paints (Withdrawn 2005)³
D280 Test Methods for Hygroscopic Moisture (and Other Matter Volatile Under the Test Conditions) in Pigments
D1193 Specification for Reagent Water
D2371 Test Method for Pigment Content of Solvent-Reducible Paints
D2372 Practice for Separation of Vehicle From Solvent-Reducible Paints
D3280 Test Methods for Analysis of White Zinc Pigments
E11 Specification for Woven Wire Test Sieve Cloth and Test Sieves

3. Significance and Use

3.1 These test methods are suitable for determining the level of purity and for determining the levels of various impurities. They may be used to establish compliance with specification requirements.

4. Reagents

4.1 *Purity of Reagents*—Reagent grade chemicals shall be used in all tests. Unless otherwise indicated, it is intended that all reagents shall conform to specifications of the Committee on Analytical Reagents of the American Chemical Society,

¹ These test methods are under the jurisdiction of ASTM Committee D01 on Paint and Related Coatings, Materials, and Applications and are the direct responsibility of Subcommittee D01.31 on Pigment Specifications.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.