



Designation: D6803 – 19

Standard Practice for Testing and Sampling of Volatile Organic Compounds (Including Carbonyl Compounds) Emitted from Architectural Coatings Using Small-Scale Environmental Chambers¹

This standard is issued under the fixed designation D6803; 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 practice describes procedures for testing the emissions of volatile organic compounds (VOCs), formaldehyde, and other carbonyl compounds, from alkyd paint, latex paint, primer, and other architectural coating samples using a small-scale environmental chamber test facility.

1.2 This practice describes the requirements for the chamber test facility, the small-scale test chamber, the clean air supply system, the environmental controls, the environmental monitoring and data acquisition system, and the chamber air sampling system.

1.3 This practice describes procedures for documenting the paint and coating samples and for the handling and storage of these samples including splitting of samples into smaller containers for storage and subsequent testing.

1.4 This practice identifies appropriate substrates to be used for the preparation of test specimens of paints and coatings, as well as procedures for preparing substrates for use.

1.5 This practice provides detailed procedures for preparing test specimens of paint and coating samples.

1.6 This practice generally describes chamber test procedures and chamber air sampling procedures. The details of these procedures are dependent upon the objectives of the test.

1.7 This practice does not recommend specific methods for sampling and analysis of VOCs, formaldehyde, and other carbonyl compounds. The appropriate methods are dependent upon the objectives of the test.

1.8 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.9 *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 appro-*

priate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.

1.10 *This international standard was developed in accordance with internationally recognized principles on standardization 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

D16 Terminology for Paint, Related Coatings, Materials, and Applications

D1005 Test Method for Measurement of Dry-Film Thickness of Organic Coatings Using Micrometers

D1212 Test Methods for Measurement of Wet Film Thickness of Organic Coatings

D1356 Terminology Relating to Sampling and Analysis of Atmospheres

D3687 Practice for Analysis of Organic Compound Vapors Collected by the Activated Charcoal Tube Adsorption Method

D5116 Guide for Small-Scale Environmental Chamber Determinations of Organic Emissions from Indoor Materials/Products

D5197 Test Method for Determination of Formaldehyde and Other Carbonyl Compounds in Air (Active Sampler Methodology)

D5466 Test Method for Determination of Volatile Organic Compounds in Atmospheres (Canister Sampling Methodology)

D6196 Practice for Choosing Sorbents, Sampling Parameters and Thermal Desorption Analytical Conditions for Monitoring Volatile Organic Chemicals in Air

¹ This practice is under the jurisdiction of ASTM Committee D22 on Air Quality and is the direct responsibility of Subcommittee D22.05 on Indoor Air.

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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.