



Designation: D6670 – 18

Standard Practice for Full-Scale Chamber Determination of Volatile Organic Emissions from Indoor Materials/Products¹

This standard is issued under the fixed designation D6670; 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 is intended for determining volatile organic compound (VOC) emissions from materials and products (building materials, material systems, furniture, consumer products, etc.) and equipment (printers, photocopiers, air cleaners, etc.) under environmental and product usage conditions that are typical of those found in office and residential buildings.

1.2 This practice is for identifying VOCs emitted and determining their emission rates over a period of time.

1.3 This practice describes the design, construction, performance evaluation, and use of full-scale chambers for VOC emission testing.

1.4 While this practice is limited to the measurement of VOC emissions, many of the general principles and procedures (such as methods for evaluating the general performance of the chamber system) may also be useful for the determination of other chemical emissions (for example, ozone, nitrogen dioxide). Determination of aerosol and particle emissions is beyond the scope of this document.

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

1.6 *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.*

1.7 *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.*

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.

Current edition approved Sept. 1, 2018. Published September 2018. Originally approved in 2001. Last previous edition approved in 2013 as D6670 – 13. DOI: 10.1520/D6670-18.

2. Referenced Documents

2.1 *ASTM Standards:*²

D1356 Terminology Relating to Sampling and Analysis of Atmospheres

D1914 Practice for Conversion Units and Factors Relating to Sampling and Analysis of Atmospheres

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

D6345 Guide for Selection of Methods for Active, Integrative Sampling of Volatile Organic Compounds in Air

D7706 Practice for Rapid Screening of VOC Emissions from Products Using Micro-Scale Chambers

E741 Test Method for Determining Air Change in a Single Zone by Means of a Tracer Gas Dilution

E779 Test Method for Determining Air Leakage Rate by Fan Pressurization

E1333 Test Method for Determining Formaldehyde Concentrations in Air and Emission Rates from Wood Products Using a Large Chamber

2.2 *Other Documents:*

ASHRAE 62.1–2010 Ventilation for Acceptable Indoor Air Quality³

ASHRAE 62.2–2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings³

CMEIAQ 1999a A Method for Sampling and Analysis of

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 Available from American Society of Heating, Refrigerating, and Air-Conditioning Engineers, Inc. (ASHRAE), 1791 Tullie Circle, NE, Atlanta, GA 30329, <http://www.ashrae.org>.