Designation: D2115 – 22

Standard Practice for Oven Heat Stability of Poly(Vinyl Chloride) Compositions[1]

This standard is issued under the fixed designation D2115; 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 This practice lists procedures for determining the relative thermal stability of sheet or molded poly(vinyl chloride) compounds as indicated by discoloration due to exposure to an elevated temperature at controlled oven conditions.

1.2 A specimen preparation technique using a two-roll mill is provided for compositions that are not in molded or sheeted form.

1.3 This practice is not intended for use in purchasing specifications because the conditions of processing plastic compounds vary widely, and the degree of correlation of data obtained by this practice to process exposure has not been determined. However, despite this limitation, this practice does yield data of value in judging the comparative service quality of poly(vinyl chloride) compositions.

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

1.5 *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.*

NOTE 1—This standard is similar in content, but not technically equivalent to ISO 305–1990.

1.6 *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]

D883 Terminology Relating to Plastics

D1600 Terminology for Abbreviated Terms Relating to Plastics

2.2 *ISO Standard:*

ISO305–1990 Plastics—Determination of Thermal Stability of Poly(Vinyl Chloride), Related Chlorine-Containing Polymers and Copolymers and Their Compounds—Discoloration Method[3]

3. Terminology

3.1 *General*—Definitions are in accordance with Terminology D883 and abbreviations with Terminology D1600, unless otherwise indicated.

4. Significance and Use

4.1 Poly(vinyl chloride) compositions degrade by discoloration on prolonged exposure to heat. The degree of discoloration is related to the condition of exposure, such as length of period and temperature. When the conditions of exposure are fixed and controlled, then the relative resistance to discoloration due to heat of two or more compositions is able to be determined. The precision of heat stability testing is also dependent on the thickness of the specimens and the history of heat exposure prior to testing. This practice allows for control or the reporting of these variables.

4.2 This practice is particularly applicable for determining gross differences in the heat stabilities of poly(vinyl chloride) compositions that are detectable as a color change. It is not intended to measure absolute thermal stability. This test method applies when observed changes are evidence of

[1] This practice is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic Materials.

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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] Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036.

***A Summary of Changes section appears at the end of this standard**