Designation: D3310 – 00 (Reapproved 2023)

Standard Test Method for Determining Corrosivity of Adhesive Materials[1]

This standard is issued under the fixed designation D3310; 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 test method is intended to determine whether an adhesive material, cured or uncured, is corrosive to a metal. It is a general test method intended to screen out those materials that give a visible sign of corrosion.

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

1.3 *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.*

1.4 *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]

D907 Terminology of Adhesives

G15 Terminology Relating to Corrosion and Corrosion Testing (Withdrawn 2010)[3]

3. Terminology

3.1 *Definitions:*

3.1.1 Definitions of terms in this test method may be found in Terminologies D907 and G15.

3.1.2 *corrosivity, n*—the tendency to cause corrosion.

4. Summary of Test Method

4.1 The metal of interest is enclosed in a glass container with the adhesive material. The containers are stored in temperature-controlled ovens at various temperatures with and without water present.

4.2 *Controls,* glass jars containing samples (strips) of the same metal with and without water but no adhesive stored in the same oven for comparison.

5. Significance and Use

5.1 This test method is a subjective test in that determinations of degree of corrosivity is based upon a visual inspection for a green discoloration or other evidence of corrosion.

6. Apparatus

6.1 *Glass Jars,* wide-mouth, with screw cap (8-oz size). The cap liner shall be TFE- or FEP-fluorocarbon.

6.2 *Forced Draft Circulating Air Oven,* capable of maintaining 71 °C ± 2 °C (160 °F ± 4 °F); 93 °C ± 2 °C (200 °F ± 4 °F); 121 °C ± 2 °C (250 °F ± 4 °F). Other temperatures can be used with agreement of interested parties.

6.3 *Open Glass Jars or Cups,* 1-oz size.

6.4 *Metal or metals* being checked for corrosion.

7. Procedure

7.1 Place 5 g to 10 g of the adhesive in a small glass jar with the metal being evaluated partly embedded in the adhesive. Place this small uncovered jar in a large jar. Screw the cap of the large jar tightly in place. Then place the jar in the oven at a temperature as specified in 6.2.

NOTE 1—Here metal is exposed during cure rather than after cure.

7.2 Same as 7.1, except place a small jar half filled with distilled water in a large jar with the jar containing adhesive and metal. However, do not use water above 71 °C.

7.3 Same as 7.1 and 7.2, except cure the adhesive in accordance with manufacturer's instructions before placing it in the large jar.

NOTE 2—Hot-melt or air-dried materials are considered to be in the cured state.

[1] This test method is under the jurisdiction of ASTM Committee D14 on Adhesives and is the direct responsibility of D14.80 on Metal Bonding Adhesives.

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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.