Designation: D352 – 97 (Reapproved 2016)

Standard Test Methods for Pasted Mica Used in Electrical Insulation[1]

This standard is issued under the fixed designation D352; 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 These test methods cover the testing of bonded mica splittings and bonded mica paper to be used for commutator insulation, hot molding, heater plates, and other similar insulating purposes.

1.2 These test methods appear in the following sections:

Test	Sections
Compressive Creep	4 – 10
Dielectric Strength	38 – 41
Mica or Binder Content	19
Molding Test	31 – 36
Organic Binder	20 – 24
Resistivity	42 – 46
Silicone Binder	25 – 30
Stability Under Heat and Pressure	11 – 18

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

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 and health practices and determine the applicability of regulatory limitations prior to use.* See 40.1 and 45.1 for specific hazard statements.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

D257 Test Methods for DC Resistance or Conductance of Insulating Materials

D1711 Terminology Relating to Electrical Insulation

3. Terminology

3.1 *Definitions:*

3.1.1 For definitions of terms relating to electrical insulation, refer to Terminology D1711.

3.2 *Definitions of Terms Specific to This Standard:*

3.2.1 *binder content, n,* (of pasted mica)—the percent by weight of binder relative to the original weight of a specimen as determined by procedures specified herein.

3.2.1.1 *Discussion*—Binder content includes any residual solvent. Pasted mica materials not fully cured (such as molding and flexible plates) may contain appreciable quantities of solvent in the binder. This solvent is usually later removed when the material is cured in the manufacture of electrical equipment. In such cases, the binder content after cure is less (by the amount of solvent removed) than would be determined by this method. To determine the binder content after cure of materials that are not fully cured, but subsequently will be, it is necessary, before initially weighing the specimen, to heat the specimen for a time and at a temperature that depends upon the material from which the specimen is prepared.

3.2.2 *compressive creep, n*—the change in thickness of a bonded micaceous material resulting from exposure to elevated temperature for a specified time while a specimen is under a specified compressive load.

3.2.3 *mica content, n,* (of pasted mica)—the percent by weight of mica relative to the original weight equal to 100 % minus the binder content as determined by procedures specified herein.

COMPRESSIVE CREEP

4. Significance and Use

4.1 This test determines the compressive creep under laboratory conditions or under conditions that may be encountered during manufacture of electrical equipment. It has special significance if the material to be tested is applied as commutator segment insulation. It serves as a measure under specified conditions of the ability of the material to resist deformation while under compressive load, during exposure to elevated temperature for a specified time. This test is suitable for acceptance tests and for manufacturing control.

[1] These test methods are under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and are the direct responsibility of Subcommittee D09.01 on Electrical Insulating Products.

Current edition approved May 15, 2016. Published May 2016. Originally approved in 1932. Last previous edition approved in 2008 as D352 – 97 (2008)ε1. DOI: 10.1520/D0352-97R16.

[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.

Copyright © ASTM International, 100 Barr Harbor Drive, PO Box C700, West Conshohocken, PA 19428-2959. United States