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ASTM D 149

ASTM D 149: Standard Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

This test method covers procedures for the determination of dielectric strength of solid insulating materials at commercial power frequencies, under specific conditions.

Unless otherwise specified the test shall be made at 60 Hz. However, this test method may be used at any frequency 25 to 800 Hz. At frequencies above 800 Hz dielectric heating may be a problem.

This test method is intended to be used in conjunction with any ASTM standard or other document that refers to this test method. References to this document should specify the particular options to be used.

It may be used at various temperatures, and in any suitable gaseous or liquid surrounding medium.

This test method is not intended for measuring the dielectric strength of materials that are fluid under the conditions of the test.

This test method is not intended for use in determining intrinsic dielectric strength, direct-voltage dielectric, or thermal failure under electrical stress.

This test method is most commonly used to determine the dielectric breakdown voltage through the thickness of a test specimen (puncture). It may also be used to determine dielectric breakdown voltage along the interface between a solid specimen and a gaseous or liquid surrounding medium (flashover). With the additional instructions that modify section 12, this test method may be used for proof testing.