



Unit 8 Lagrange, Tamworth, Staffs, UK B79 7XD

Tel: +44 (0) 1827 63489

Fax: +44 (0) 1827 51918

E-mail: [info@optical-coatings.com](mailto:info@optical-coatings.com)

Web: [www.optical-coatings.com](http://www.optical-coatings.com)

## **ASTM D257 - 07**

### **Standard Test Methods for DC Resistance or Conductance of Insulating Materials.**

#### Summary.

#### 1. Scope

1.1 These test methods cover direct-current procedures for the measurement of dc insulation resistance, volume resistance, and surface resistance. From such measurements and the geometric dimensions of specimen and electrodes, both volume and surface resistivity of electrical insulating materials can be calculated, as well as the corresponding conductances and conductivities.

1.2 These test methods are not suitable for use in measuring the electrical resistance/conductance of moderately conductive materials. Use Test Method D 4496 to evaluate such materials.

1.3 This standard describes several general alternative methodologies for measuring resistance (or conductance). Specific materials can be tested most appropriately by using standard ASTM test methods applicable to the specific material that define both voltage stress limits and finite electrification times as well as specimen configuration and electrode geometry. These individual specific test methodologies would be better able to define the precision and bias for the determination.

1.4 The procedures appear in the following sections:

#### 2. Referenced Documents

##### ASTM Standards

D150 Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation

D374 Test Methods for Thickness of Solid Electrical Insulation

D1169 Test Method for Specific Resistance (Resistivity) of Electrical Insulating Liquids

D1711 Terminology Relating to Electrical Insulation

D4496 Test Method for D-C Resistance or Conductance of Moderately Conductive Materials



D5032 Practice for Maintaining Constant Relative Humidity by Means of Aqueous Glycerine Solutions

D6054 Practice for Conditioning Electrical Insulating Materials for Testing

E104 Practice for Maintaining Constant Relative Humidity by Means of Aqueous Solutions