



# Standard Specification for Cool-Application Filling Compounds for Telecommunications Wire and Cable<sup>1</sup>

This standard is issued under the fixed designation D 4732; 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 ( $\epsilon$ ) indicates an editorial change since the last revision or reapproval.

## 1. Scope

1.1 This specification covers a variety of compounds used for filling the air spaces in telecommunications wires and cables (both electrical and fiber optic) for the purpose of preventing water and other undesirable fluids from entering or migrating through the cable structure. (For related standards see Specifications D 4730 and D 4731.)

1.2 A cool-application compound is a material that has sufficiently low viscosity that it does not require heating.

1.3 The values stated in SI units are the standard.

## 2. Referenced Documents

### 2.1 ASTM Standards:

- D 6 Test Method for Loss on Heating of Oil and Asphaltic Compounds<sup>2</sup>
- D 88 Test Method for Saybolt Viscosity<sup>2</sup>
- D 92 Test Method for Flash and Fire Points by Cleveland Open Cup<sup>3</sup>
- D 97 Test Method for Pour Point of Petroleum Products<sup>3</sup>
- D 127 Test Method for Drop Melting Point of Petroleum Wax Including Petrolatum<sup>3</sup>
- D 150 Test Methods for AC Loss Characteristics and Permittivity (Dielectric Constant) of Solid Electrical Insulation<sup>4</sup>
- D 217 Test Methods for Cone Penetration of Lubricating Grease<sup>3</sup>
- D 257 Test Methods for DC Resistance or Conductance of Insulating Materials<sup>4</sup>
- D 445 Test Method for Kinematic Viscosity of Transparent and Opaque Liquids (the Calculation of Dynamic Viscosity)<sup>3</sup>
- D 566 Test Method for Dropping Point of Lubricating Grease<sup>3</sup>
- D 938 Test Method for Congealing Point of Petroleum

- Waxes, Including Petrolatum<sup>3</sup>
- D 942 Test Method for Oxidation Stability of Lubricating Greases by the Oxygen Bomb Method<sup>3</sup>
- D 972 Test Method for Evaporation Loss of Lubricating Greases and Oils<sup>3</sup>
- D 1264 Test Method for Determining the Water Washout Characteristics of Lubricating Greases<sup>3</sup>
- D 1500 Test Method for ASTM Color of Petroleum Products (ASTM Color Scale)<sup>3</sup>
- D 1742 Test Method for Oil Separation from Lubricating Grease During Storage<sup>3</sup>
- D 1743 Test Method for Determining Corrosion Preventive Properties of Lubricating Greases<sup>3</sup>
- D 2161 Practice for Conversion of Kinematic Viscosity to Saybolt Universal Viscosity or to Saybolt Furol Viscosity<sup>3</sup>
- D 3895 Test Method for Oxidative Induction Time of Polyolefins by Differential Scanning Calorimetry<sup>5</sup>
- D 3954 Test Method for Dropping Point of Waxes<sup>6</sup>
- D 4565 Test Methods for Physical and Environmental Performance Properties of Insulations and Jackets for Telecommunications Wire and Cable<sup>7</sup>
- D 4568 Test Methods for Evaluating Compatibility Between Cable Filling and Flooding Compounds and Polyolefin Wire and Cable Materials<sup>7</sup>
- D 4730 Specification for Flooding Compounds for Telecommunications Wire and Cable<sup>7</sup>
- D 4731 Specification for Hot-Application Filling Compounds for Telecommunications Wire and Cable<sup>7</sup>
- D 4872 Test Method for Dielectric Testing of Wire and Cable Filling Compounds<sup>7</sup>

## 3. Terminology

### 3.1 Definitions of Terms Specific to This Standard:

3.1.1 *filling material*—any of several materials used to fill the air spaces in the cores of multi-conductor insulated wires and cables, or between buffer tubes covering optical fibers, or within such buffer tubes, or any combination of these configurations and any other cable components, for the purpose of excluding water and other undesirable fluids; especially with

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and is the direct responsibility of Subcommittee D09.18 on Solid Insulations, Non-Metallic Shieldings and Coverings for Electrical and Telecommunication Wires and Cables.

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<sup>2</sup> Annual Book of ASTM Standards, Vol 04.04.

<sup>3</sup> Annual Book of ASTM Standards, Vol 05.01.

<sup>4</sup> Annual Book of ASTM Standards, Vol 10.01.

<sup>5</sup> Annual Book of ASTM Standards, Vol 08.02.

<sup>6</sup> Annual Book of ASTM Standards, Vol 15.04.

<sup>7</sup> Annual Book of ASTM Standards, Vol 10.02.