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## Standard Specification for PROPYLENE PLASTIC MOLDING AND EXTRUSION MATERIALS<sup>1</sup>

This standard is issued under the fixed designation D 2146; 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 requirements for propylene molding and extrusion materials compounded with or without the addition of modifiers, colorants, stabilizers, or lubricants. It provides for their identification in such a manner that the seller and the purchaser can agree on the substantial similarity of different commercial lots or shipments. It is not the function of this specification to provide engineering or design data.

NOTE 1—The properties included in this specification are those required to identify the types of molding and extrusion material covered. There may be other requirements necessary to identify particular characteristics. These will be added to the specification as their inclusion becomes generally desirable and the necessary test data and methods become available.

### 2. Applicable Documents

#### 2.1 ASTM Standards:

- D 256 Tests for Impact Resistance of Plastics and Electrical Insulating Materials<sup>2</sup>
- D 257 Tests for D-C Resistance or Conductance of Insulating Materials<sup>2</sup>
- D 618 Conditioning Plastics and Electrical Insulating Materials for Testing<sup>3</sup>
- D 621 Tests for Deformation of Plastics Under Load<sup>4</sup>
- D 638 Test for Tensile Properties of Plastics<sup>4</sup>
- D 759 Recommended Practice for Conducting Physical Property Tests of Plastics at Subnormal and Supernormal Temperatures<sup>4</sup>
- D 792 Tests for Specific Gravity and Density of Plastics by Displacement<sup>4</sup>
- D 1238 Test for Flow Rates of Thermoplastics by Extrusion Plastometer<sup>4</sup>

D 1505 Test for Density of Plastics by the Density-Gradient Technique<sup>4</sup>

D 1531 Test for Dielectric Constant and Dissipation Factor of Polyethylene by Liquid Displacement Procedure<sup>5</sup>

D 1897 Recommended Practice for Injection Molding Test Specimens of Thermoplastic Molding and Extrusion Materials<sup>4</sup>

D 1898 Recommended Practice for Sampling of Plastics<sup>4</sup>

D 3892 Practice for Packaging/Packing of Plastics<sup>4</sup>

#### 2.2 Military Standard:

MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes<sup>6</sup>

### 3. Classification

3.1 *Types*—This specification covers two types of propylene molding and extrusion materials, classified according to basic composition:

3.1.1 *Type I*—Polypropylene, characterized by its rigidity and resistance to deformation under load (915 kg/m<sup>3</sup> density, maximum, based on uncolored, unfilled plastic).

3.1.2 *Type II*—Propylene copolymers and propylene-elastomer compounds, characterized

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.12 on Olefin Plastics.

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<sup>2</sup> Annual Book of ASTM Standards, Parts 35, 38, and 39.

<sup>3</sup> Annual Book of ASTM Standards, Parts 22, 35, and 39.

<sup>4</sup> Annual Book of ASTM Standards, Part 35.

<sup>5</sup> Annual Book of ASTM Standards, Parts 39 and 40.

<sup>6</sup> Available from Naval Publications and Forms Center, 5801 Tabor Ave., Philadelphia, Pa. 19120.