



Designation: D 2673 – 99

## Standard Specification for Oriented Polypropylene Film<sup>1</sup>

This standard is issued under the fixed designation D 2673; 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 reappraisal. A superscript epsilon ( $\epsilon$ ) indicates an editorial change since the last revision or reappraisal.

### 1. Scope \*

1.1 This specification covers oriented polypropylene (OPP) film in the thickness range from 10 to 75  $\mu\text{m}$  (0.4 to 3.0 mils).

1.2 The film may contain colorants, stabilizers, or other additives, and may be coated for the improvement of performance properties (heat sealability, gas permeability, etc.).

1.3 The film may be annealed (heat-set) to reduce the unrestrained linear shrinkage and shrink tension on exposure to heat.

1.4 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.5 The following safety hazards caveat pertains only to the test methods portion, Section 7, of this specification: *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.*

NOTE 1—There is no similar or equivalent ISO standard. ISO TC 61/SC 11 Project 715 is writing a document that is similar to this specification.

### 2. Referenced Documents

#### 2.1 ASTM Standards:

- D 374 Test Methods for Thickness of Solid Electrical Insulation<sup>2</sup>
- D 618 Practice for Conditioning Plastics and Electrical Insulating Materials for Testing<sup>3</sup>
- D 882 Test Methods for Tensile Properties of Thin Plastic Sheeting<sup>3</sup>
- D 1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics<sup>3</sup>
- D 1434 Test Method for Determining Gas Permeability Characteristics of Plastic Film and Sheeting<sup>4</sup>
- D 1746 Test Method for Transparency of Plastic Sheeting<sup>5</sup>

<sup>1</sup> This specification is under the jurisdiction of ASTM Committee D-20 on Plastics and is the direct responsibility of Subcommittee D20.19 on Film and Sheeting.

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<sup>2</sup> Annual Book of ASTM Standards, Vol 10.01.

<sup>3</sup> Annual Book of ASTM Standards, Vol 08.01.

<sup>4</sup> Annual Book of ASTM Standards, Vol 15.09.

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

- D 1894 Test Method for Static and Kinetic Coefficients of Friction of Plastic Film and Sheeting<sup>5</sup>
- D 1898 Practice for Sampling of Plastics<sup>5</sup>
- D 1922 Test Method for Propagation Tear Resistance of Plastic Film and Thin Sheeting by Pendulum Method<sup>5</sup>
- D 2457 Test Method for Specular Gloss of Plastic Films and Solid Plastics<sup>5</sup>
- D 2578 Test Method for Wetting Tension of Polyethylene and Polypropylene Films<sup>5</sup>
- D 2732 Test Method for Unrestrained Linear Thermal Shrinkage of Plastic Film and Sheeting<sup>5</sup>
- D 2838 Test Method for Shrink Tension and Orientation Release Stress of Plastic Film and Thin Sheeting<sup>5</sup>
- D 3354 Test Method for Blocking Load of Plastic Film by the Parallel Plate Method<sup>6</sup>
- D 3892 Practice for Packaging/Packing of Plastics<sup>6</sup>
- D 3985 Test Method for Oxygen Gas Transmission Rate Through Plastic Film and Sheeting Using a Coulometric Sensor<sup>7</sup>
- D 4000 Classification System for Specifying Plastic Materials<sup>6</sup>
- D 4101 Specification for Propylene Plastic Injection and Extrusion Materials<sup>6</sup>
- D 4321 Test Method for Package Yield of Plastic Film<sup>6</sup>
- E 96 Test Methods for Water Vapor Transmission of Materials<sup>8</sup>
- E 462 Test Method for Odor and Taste Transfer from Packaging Film<sup>9</sup>
- F 88 Test Methods for Seal Strength of Flexible Barrier Materials<sup>7</sup>

### 3. Terminology

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

3.1.1 *nominal thickness, width, yield*—target values to be as agreed upon between the seller and the purchaser.

3.1.2 *oriented polypropylene (OPP) film*—a film yielding a minimum tensile strength of 68 MPa (10 000 psi) in at least one principal direction (machine or transverse).

3.1.2.1 *balanced oriented PP film (OPP-B)*—a film in which the machine- and transverse-direction tensile strength

<sup>6</sup> Annual Book of ASTM Standards, Vol 08.03.

<sup>7</sup> Annual Book of ASTM Standards, Vol 15.09.

<sup>8</sup> Annual Book of ASTM Standards, Vol 04.06.

<sup>9</sup> Annual Book of ASTM Standards, Vol 15.07.

\*A Summary of Changes section appears at the end of this standard.