



Designation: D5213 – 19

Standard Specification for Polymeric Resin Film for Electrical Insulation and Dielectric Applications¹

This standard is issued under the fixed designation D5213; 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 (ϵ) indicates an editorial change since the last revision or reapproval.

This standard has been approved for use by agencies of the U.S. Department of Defense.

1. Scope*

1.1 This specification covers requirements for the material, dimensions and tolerances, and property values of film, in sheet or strip form, with or without heat-sealable coatings.

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

NOTE 1—This document is similar to IEC 60674, Part 3, Sheets 2, 4, 5, 6, and 7.

1.3 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 *ASTM Standards:*²

D149 Test Method for Dielectric Breakdown Voltage and Dielectric Strength of Solid Electrical Insulating Materials at Commercial Power Frequencies

D883 Terminology Relating to Plastics

D1711 Terminology Relating to Electrical Insulation

D2305 Test Methods for Polymeric Films Used for Electrical Insulation

D3636 Practice for Sampling and Judging Quality of Solid Electrical Insulating Materials

D4088 Practice for Preparation for Shipment of Solid Electrical Insulating Materials (Withdrawn 2003)³

¹ This specification is under the jurisdiction of ASTM Committee D09 on Electrical and Electronic Insulating Materials and is the direct responsibility of Subcommittee D09.07 on Electrical Insulating Materials.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

2.2 *IEC Standards:*

Publication 60674-3 Specification for Electrical Films for Electrical Purposes⁴

3. Terminology

3.1 *Definitions*—Definitions are in accordance with Terminologies D1711 and D883 unless otherwise specified.

4. Classification

4.1 This specification covers the following:

4.1.1 *Type I*—General purpose,

4.1.2 *Type II*—Heat sealable,

4.1.2.1 *Grade 1*—One side coated, and

4.1.2.2 *Grade 2*—Two sides coated.

4.2 *Materials:*

4.2.1 *Item A*—Poly(N,N'-p,p'-oxydiphenylene pyromellitimide),

4.2.2 *Item B*—Poly(N,N'-p,p'-oxydiphenylene biphenyltetracarboxylimide),

4.2.3 *Item C*—Poly(N,N'-p-phenylene biphenyltetracarboxylimide),

4.2.4 *Item D*—FEP-fluorocarbon, and

4.2.5 *Item E*—Polyethylene terephthalate.

4.2.6 *Item F*—Polyethylene naphthalate.

4.2.7 *Item G*—Polyetherimide.

4.3 For the purposes of this specification, a sheet refers to material greater than 75 mm in width and a strip refers to material 75mm or less in width.

5. Ordering Information

5.1 Order the film covered by this specification stating the type, grade, class, thickness, width, and roll dimensions.

6. Materials

6.1 Type I material is flexible, unsupported film.

6.2 Type II material is film meeting all of the requirements of Type I, and having a heat-sealable coating on one or both sides.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

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