Designation: D4802 – 16

Standard Specification for Poly(Methyl Methacrylate) Acrylic Plastic Sheet[1]

This standard is issued under the fixed designation D4802; 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 monolithic methacrylate sheets produced by various processes. For this specification, methacrylate sheet shall be composed of polymerized acrylic monomers of which at least 80 % shall be methyl methacrylate.

NOTE 1—This specification is intended to consolidate the requirements of the Cast Methacrylate Plastic Sheets portion of discontinued Fed. Spec. L-P-391D, discontinued Specification D702. Cast Methacrylate Plastic Sheets, Rods, Tubes and Shapes, and discontinued Specification D1547, Extruded Acrylic Plastic Sheet.

1.2 This specification is intended to cover acrylic sheet for general-purpose applications. For specialty applications consult the appropriate use standards.

1.3 The following safety hazards caveat pertains only to the test methods portion, Section 8, 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.*

1.4 Acrylic sheet is used frequently in applications in which extreme clarity, lack of optical distortion and absence of any foreign particulate matter are of primary significance. Reground material is suitable for use as long as careful control is used to eliminate adverse effects on these properties. The use of recycled material in type B-1 and B-2 sheet, is not suitable for use when these properties are adversely affected. The use of recycled or reground material is not possible for type A-1 and A-2 materials since the sheet is produced directly from monomer

NOTE 2—This standard and ISO 7823-1 address the same subject matter, but differ in technical content.

2. Referenced Documents

2.1 *ASTM Standards:*[2]

D256 Test Methods for Determining the Izod Pendulum Impact Resistance of Plastics
D542 Test Method for Index of Refraction of Transparent Organic Plastics
D570 Test Method for Water Absorption of Plastics
D618 Practice for Conditioning Plastics for Testing
D638 Test Method for Tensile Properties of Plastics
D648 Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position
D792 Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
D883 Terminology Relating to Plastics
D1003 Test Method for Haze and Luminous Transmittance of Transparent Plastics
D1044 Test Method for Resistance of Transparent Plastics to Surface Abrasion
D1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Organic Finishes
D3002 Guide for Evaluation of Coatings Applied to Plastics (Withdrawn 2016)[3]
D3359 Test Methods for Measuring Adhesion by Tape Test
D3892 Practice for Packaging/Packing of Plastics
E29 Practice for Using Significant Digits in Test Data to Determine Conformance with Specifications

2.2 *ISO Standard:*

ISO 7823-1 (E) Plastics—Poly(Methyl Methacrylate) Sheets—Types, Dimensions, and Characteristics[4]

3. Terminology

3.1 *Definitions:*

[1] This specification is under the jurisdiction of ASTM Committee D20 on Plastics and is the direct responsibility of Subcommittee D20.15 on Thermoplastic 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.

[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**

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