



**Designation: D4802 – 16 (Reapproved 2024)**

## Standard Specification for Poly(Methyl Methacrylate) Acrylic Plastic Sheet<sup>1</sup>

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, health, and environmental 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.

1.5 *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 Recom-*

*mendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

### 2. Referenced Documents

#### 2.1 ASTM Standards:<sup>2</sup>

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 by the Taber Abraser

D1308 Test Method for Effect of Household Chemicals on Clear and Pigmented Coating Systems

D3002 Guide for Evaluation of Coatings Applied to Plastics (Withdrawn 2016)<sup>3</sup>

D3359 Test Methods for Rating 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<sup>4</sup>

### 3. Terminology

#### 3.1 Definitions:

<sup>2</sup> For referenced ASTM standards, visit the ASTM website, [www.astm.org](http://www.astm.org), or contact ASTM Customer Service at [www.astm.org/contact](http://www.astm.org/contact). For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

<sup>3</sup> The last approved version of this historical standard is referenced on [www.astm.org](http://www.astm.org).

<sup>4</sup> Available from American National Standards Institute (ANSI), 1180 Avenue of the Americas, 10th Floor, New York, NY 10036, <http://www.ansi.org>.

<sup>1</sup> 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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\*A Summary of Changes section appears at the end of this standard