



Standard Specification for Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings¹

This standard is issued under the fixed designation F409; 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 and test methods for materials, dimensions and tolerances, hydrostatic pressure, joint integrity, and solvent cement for thermoplastic tube and fittings for accessible and replaceable domestic waste connections. Marking requirements are also included. Plastic which does not meet the material requirements specified in Section 5 is excluded.

1.2 The text of this specification references notes, footnotes, and appendixes which provide explanatory material. These notes and footnotes (excluding those in tables and figures) shall not be considered as requirements of the specification.

1.3 The values stated in inch-pound units are to be regarded as standard. The values given in parentheses are mathematical conversions to SI units that are provided for information only and are not considered standard.

1.4 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.*

2. Referenced Documents

2.1 ASTM Standards:²

- D618 Practice for Conditioning Plastics for Testing
- D1600 Terminology for Abbreviated Terms Relating to Plastics
- D1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride)

(CPVC) Compounds

- D2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings
 - D2235 Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
 - D2564 Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems
 - D2609 Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
 - D2657 Practice for Heat Fusion Joining of Polyolefin Pipe and Fittings
 - D2661 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings
 - D2665 Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
 - D3965 Classification System and Basis for Specifications for Rigid Acrylonitrile-Butadiene-Styrene (ABS) Materials for Pipe and Fittings
 - D4101 Specification for Polypropylene Injection and Extrusion Materials
 - F402 Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings
 - F412 Terminology Relating to Plastic Piping Systems
 - F1498 Specification for Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings
- ### 2.2 Federal Standard:
- Fed. Std. No. 123 Marking for Shipment (Civil Agencies)³
- ### 2.3 Military Standard:
- MIL-STD-129 Marking for Shipment and Storage³
- ### 2.4 ASME/ANSI Standard:
- B1.20.1 Pipe Threads, General Purpose (Inch)⁴

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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 Available from Standardization Documents Order Desk, DODSSP, Bldg. 4, Section D, 700 Robbins Ave., Philadelphia, PA 19111-5098, <http://www.dodssp.daps.mil>.

⁴ Available from American Society of Mechanical Engineers (ASME), ASME International Headquarters, Three Park Ave., New York, NY 10016-5990, <http://www.asme.org>.