



Designation: F 409 – 99a

An American National Standard

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

This standard is issued under the fixed designation F 409; 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 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 the standard. The values given in parentheses are for information only.

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:

- D 618 Practice for Conditioning Plastics for Testing²
- D 1600 Terminology for Abbreviated Terms Relating to Plastics²
- D 1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds²
- D 2122 Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings³
- D 2235 Specification for Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings³

D 2564 Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems³

D 2609 Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe³

D 2657 Practice for Heat Joining of Polyolefin Pipe and Fittings³

D 2661 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings³

D 2665 Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings³

D 3965 Specification for Rigid Acrylonitrile-Butadiene-Styrene (ABS) Compounds for Pipe and Fittings⁴

D 4101 Specification for Propylene Plastic Injection and Extrusion Materials⁴

F 402 Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings³

F 412 Terminology Relating to Plastic Piping Systems³

F 1498 Specification for Taper Pipe Thread 60° for Thermoplastic Pipe and Fittings³

2.2 Federal Standard:

Fed. Std. No. 123 Marking for Shipment (Civil Agencies)⁵

2.3 Military Standard:

MIL-STD-129 Marking for Shipment and Storage⁵

2.4 ANSI/ASME Standard:

B1.20.1 Pipe Threads, General Purpose (Inch)⁶

2.5 Other Document:

Uniform Plumbing Code⁷

3. Terminology

3.1 **Definitions**—Definitions are in accordance with Terminology F 412, and abbreviations are in accordance with Terminology D 1600, unless otherwise specified.

3.1.1 The plumbing terminology used in this specification is

¹ This specification is under the jurisdiction of ASTM Committee F-17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.63 on Drain, Waste, and Vent Pipe and Tube.

Current edition approved August 10, 1999. Published September 1999. Originally published as F 409 – 75. Last previous edition F 409 – 99.

² *Annual Book of ASTM Standards*, Vol 08.01.

³ *Annual Book of ASTM Standards*, Vol 08.04.

⁴ *Annual Book of ASTM Standards*, Vol 08.02.

⁵ Available from Standardization Documents Order Desk, Bldg. 4 Section D, 700 Robbins Ave., Philadelphia, PA 19111-5094, Attn: NPODS.

⁶ Available from the American National Standards Institute, 11 West 42nd St., 13th Fl., New York, NY 10036.

⁷ Available from the International Association of Plumbing and Mechanical Officials, 20001 E. Walnut Drive, South Walnut, CA 917892825.