Standards
For
Plastics Piping

TR – 5
STANDARDS FOR PLASTICS PIPING

Foreword

This technical report has been prepared to provide producers, users, engineers, code officials, installers and others interested in plastics piping with an up-to-date list of standards covering high quality plastic piping components. Standards for the purpose of this report include component specifications, methods of test and recommended practices for pipe, tubes, conduits, fittings and related products made of plastics. Although the Plastics Pipe Institute is concerned only with thermoplastics, standards for thermoset plastics are also included.

The only piping products and regulations listed in this publication are those of national standing. State, regional and local plumbing and other piping codes—many of which are adoptions in total, or in part, of national model codes—are not covered.

It should be noted that most of these product standards (specifications) include product quality control requirement values that usually cannot be used for engineering design criteria. Such criteria are covered in recommended practices, codes, model codes, installation procedures, separate reports and the appendices of some of these product standards. Those standards that contain information on engineering design criteria and/or the closely related installation procedures are herein identified.

Before selecting the type of plastic and the related standards for an application, the design criteria, limitations, and installation techniques must be considered to achieve satisfactory service. Also, any applicable codes must be considered. Information on these aspects may be obtained from the pertinent codes; the standards listed herein, the publications or staff of the Plastics Pipe Institute and of other organizations (identified in this report), or from the manufacturers of plastic pipe components and plastic materials.

As the plastics industry has grown, other trade organizations have been formed. Their scopes are listed at the end of this report to enable you to direct your inquiries to the appropriate organization.

The Plastics Pipe Institute, Inc., as a service to the industry has prepared this report. The information in this report is offered in good faith and believed to be accurate at the time of its preparation, but is offered without any warranty, express or implied. PPI does not endorse the proprietary products or processes of any manufacturer and assumes no responsibility for compliance with applicable laws and regulations.

This Technical Report is a living document and is updated on a regular basis. If standards need to be added, please forward the standard title to PPI.

“This Technical Report was first issued in December 1979. This revision was prepared in September 2009.”
STANDARDS FOR PLASTICS PIPING

Introduction

This publication contains listings of standards for various types of plastics piping as promulgated by numerous standards-making organizations, such as the American Society for Testing and Materials (ASTM), the American Association of State Highway and Transportation Officials (AASHTO), various U.S. Government agencies and so on.

For the convenience of the reader, this publication has been arranged into three sections. Section I and II are devoted to ASTM standards, which are published in Volume 08.04 of the Annual Book of ASTM Standards.

Section I categorizes the ASTM standards into one of eight listings:

- Plastic Pipe Specifications
- Plastic Fittings Specifications
- Plastic Pipe Joints and Joining Materials
- Systems Specifications (both pipe and fittings)
- Methods of Test
- Recommended Practices
- Terminology
- Plastic Pipe and Fittings Materials

Section II categorizes the ASTM Standards into listings such as:

- Piping by Type of Material (PE, PVC, etc.)
- Piping Systems by Type of Application (DWV, gas, sewer, water, etc.)
- Pipe Installation and Components (fittings, joints, seals, solvent cement and primers, underground installation)
- General Test Methods

Section III contains listings of standards promulgated by organizations other than ASTM (with their addresses) as well as sources of further information.

- American Association of State Highway and Transportation Officials (AASHTO)
- American National Standards Institute (ANSI)
- American Petroleum Institute (API)
- American Society of Agricultural Engineers (ASAE)
- American Water Works Association (AWWA)
- Canadian Government Standards Board (CGSB)
- Canadian Standards Association (CSA)
- U.S. Department of Agriculture – Natural Resources Conservation Service (NRCS)
- U.S. Department of Transportation
U.S. Department of Housing & Urban Development (HUD)
International Association of Plumbing & Mechanical Officials (IAPMO)
International Standards Organization (ISO)
National Electrical Manufacturer’s Association (NEMA)
National Fire Protection Association (NFPA)
NSF International
Underwriters Laboratories (UL)
UniBell PVC Pipe Association (UniBell)
International Code Council (ICC)
National Association of Plumbing-Heating-Cooling Contractors (PHCC)
Plastic Pipe and Fittings Association (PPFA)
The Vinyl Institute (VI)
SECTION I

Plastic Pipe Specifications

D1527 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80
D1785 Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, and 120
D2104 Polyethylene (PE) Plastic Pipe, Schedule 40
D2239 Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D2241 Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
D2282 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)
D2310 Machine-Made “Fiberglass” (Glass-fiber-reinforced Thermosetting-resin) Pipe
D2447 Polyethylene (PE) Plastic Pipe, Schedules 40 and 80 Based on Outside Diameter
D2466 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D2513 Thermoplastic Gas Pressure Pipe, Tubing and Fittings
D2737 Polyethylene (PE) Plastic Tubing
D2996 Filament-Wound “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D2997 Centrifugally Cast “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D3035 Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
D3262 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D3517 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe
F187 Specification for Folded/Formed Poly (Vinyl Chloride) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F405 Corrugated Polyethylene (PE) Pipe and Fittings
F441 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80
F442 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)
F714 Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F810 Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields
Crosslinked Polyethylene (PEX) Tubing
Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core
Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe
Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe
Pressure-Rated Composite Pipe and Fittings for Elevated Temperature Service
Oriented Poly (Vinyl Chloride) PVC, Pressure Pipe
Coextruded Composite Pipe
Coextruded Composite Drain, Waste and Vent Pipe (DWV)
Specification for Deformed Polyethylene (PE) Liner
Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)
Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Tubing OD Controlled SDR9

**Plastic Fittings Specifications**

Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings Schedule 80
Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
Socket-Type Polyethylene (PE) Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
Drain, Waste and Vent (DWV) Plastic Fittings Patterns
Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Non-Pressure Applications
Standard Specification for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe Fittings
Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings
F1380 Metal Insert Fittings for Polybutylene (PB) Tubing
F1733 Butt Heat Fusion Polyamide (PA) Plastic Fittings for Polyamide (PA) Plastic Pipe and Tubing
F1807 Standard Specification for Metal Insert Fittings utilizing a Copper Crimp Ring for SDR9 Cross-Linked Polyethylene (PEX) Tubing
F1924 Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing
F1970 Specification for Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems
F1974 Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe
F2080 Specification for Cold-Expansion Fittings With Metal Compression-Sleeves for Cross-Linked Polyethylene (PEX) Pipe
F2135 Specification for Molded Drain, Waste, and Vent (DWV) Short- Pattern Plastic Fittings
F2159 Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
F2434 Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Tubing
F2735 Specification for Plastic Insert Fittings For SDR9 Cross-linked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing

**Plastic Pipe Joints and Joining Materials**

D2235 Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D2564 Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Piping Systems
D3138 Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
D3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
D4161 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
D2672 Joints for IPS PVC Pipe Using Solvent Cement
D3122 Solvent Cement for Styrene-Rubber (SR) Plastic Pipe and Fittings
F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F493 Solvent Cement for Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe and Fittings
F656 Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
F913  Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F1056 Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings

Systems Specifications (Both Pipe and Fittings)

D2513 Standard Specification for Thermoplastic Gas Pressure Pipe, Tubing, and Fittings
D2517 Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings
D2665 Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings
D2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D2729 Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D2751 Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D2846 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
D3034 Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D3754 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
F194 Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing
F480 Standard Specification for Thermoplastic Well Casing Pipe and Couplings Made in Standard Dimension Ratios (SDR), SCH 40 and SCH 80
F512 Specification for Smooth-Wall Poly Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation
F667 Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings
F679 Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
F714 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F771 Polyethylene (PE) Thermoplastic High-Pressure Irrigation Pipeline Systems
F794 Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
F877 Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
F1412 Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
F1498  Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings
F1865  Specification for Mechanical Cold Expansion Insert Fitting With
Com Compression Sleeve for Cross-linked Polyethylene (PEX) Tubing
F1866  Specification for Poly (Vinyl Chloride) (PVC) Plastic Schedule 40
Drainage and DWV Fabricated Fittings
F1960  Specification for Cold Expansion Fittings with PEX Reinforcing
Rings for Use with Cross-linked Polyethylene (PEX) Tubing
F1986  Specification for Multilayer Pipe Type 2, Compression Fittings, and
Compression Joints for Hot and Cold Drinking-Water Systems
F2164  Practice for Field Leak Testing of Polyethylene (PE) Pressure
Piping Systems Using Hydrostatic Pressure
F2206  Specification for Fabricated Fittings of Butt-Fused Polyethylene
(PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock
F2307  Specification for Series 10 Poly(Vinyl Chloride) (PVC) Closed
Profile Gravity Pipe and Fittings Based on Controlled Inside
Diameter
F2389  Specification for Pressure-rated Polypropylene (PP) Piping
Systems
F2390  Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste,
and Vent (DWV) Pipe and Fittings Having Post-Industrial Recycle
Content
F2618  Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Pipe and
Fittings for Chemical Waste Drainage Systems

Methods of Test

D256  Test Methods for Determining the Izod Pendulum Impact
Resistance of Plastics
D618  Practice for Conditioning Plastics for Testing
D638  Test Method for Tensile Properties of Plastics
D882  Test Method for Tensile Properties of Thin Plastic Sheeting
D883  Terminology Relating to Plastics
D1043  Test Method for Stiffness Properties of Plastics as a Function of
Temperature by Means of a Torsion Test
D1045  Test Methods for Sampling and Testing Plasticizers Used in
Plastics
D1525  Standard Test Method for Vicat Softening Temperature of Plastics
D1598  Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
D1599  Resistance to Short-Time Hydraulic Pressure of Plastic Pipe,
Tubing, and Fittings
D1603  Test Method for Carbon Black Content in Olefin Plastics
D1693  Test Method for Environmental Stress-Cracking of Ethylene
Plastics
D2105  Longitudinal Tensile Properties of “Fiberglass” (Glass-Fiber-
Reinforced Thermosetting-Resin) Pipe and Tube
D2122  Determining Dimensions of Thermoplastic Pipe and Fittings
D2143  Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D2152  Adequacy of Fusion of Extruded Poly (Vinyl Chloride) (PVC) Pipe
and Molded Fittings by Acetone Immersion
D2222  Test Method for Methanol Extract of Vinyl Chloride Resins
D2290  Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic
        Pipe by Split Disk Method
D2412  Determination of External Loading Characteristics of Plastic Pipe by
        Parallel-Plate Loading
D2444  Impact Resistance of Thermoplastic Pipe and Fittings by Means of
        a Tup (Falling Weight)
D2837  Obtaining Hydrostatic Design Basis for Thermoplastic Pipe
        Materials, or Pressure Design Basis for Thermoplastic Pipe
        Products
D2924  External Pressure Resistance of “Fiberglass” (Glass-Fiber-
        Reinforced Thermosetting-Resin) Pipe
D2925  Beam Deflection of “Fiberglass” (Glass-Fiber-Reinforced
        Thermosetting Resin) Pipe Under Full Bore Flow
D2990  Test Methods for Tensile, Compressive, and Flexural Creep and
        Creep-Rupture of Plastics
D2992  Obtaining Hydrostatic or Pressure Design Basis for
        “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
        and Fittings
D3681  Chemical Resistance of “Fiberglass” (Glass-Fiber-Reinforced
        Thermosetting-Resin) Pipe in a Deflected Condition
F243   Test Method for Determining Thermoplastic Pipe Wall Stiffness
F610   Evaluating the Quality of Molded Poly(Vinyl Chloride) (PVC) Plastic
        Pipe Fittings by the Heat Reversion Technique
F948   Tim-to-Failure of Plastic Piping Systems and Components under
        Constant Internal Pressure with Flow
F1057  Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe
        by the Heat Reversion Technique
F1365  Water Infiltration Resistance of Plastic Underground Conduit Joints
        Which Use Flexible Elastomeric Seals
F1417  Installation Acceptance of Plastic Gravity Sewer Lines Using Low-
        Pressure Air
F1429  Assembly Force of Plastic Underground Conduit Joints that use
        Flexible Elastomeric Seals Located in the Bell
F1473  Notch Tensile Test to Measure the Resistance to Slow Crack
        Growth of Polyethylene Pipes and Resins
F1588  Constant Tensile Load Joint Test (CTLJT)
F2018  Test Method for Time-to-Failure of Plastics Using Plane Strain
        Tensile Specimens
F2023  Test Method for Evaluating the Oxidative Resistance of Crosslinked
        Polyethylene (PEX) Tubing and Systems to Hot Chlorinated Water
F2136  Test Method for Notched, Constant Ligament-Stress (NCLS) Test
        to Determine Slow-Crack-Growth Resistance of HDPE Resins or
        HDPE Corrugated Pipe
F2231  Test Method for Charpy Impact Test on Thin Specimens of
        Polyethylene Used in Pressurized Pipes
F2261  Test Method for Pressure Rating Poly(Vinyl Chloride) (PVC) Plastic
        Pipe Fittings, Schedule 40 and 80 Socket-Type.
F2263  Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Chlorinated Water
F2330 Test Method for Evaluating the Oxidative Resistance of Multilayer Polyolefin Tubing to Hot Chlorinated Water
F2634 Test Method for Laboratory Testing of Polyethylene (PE) Butt Fusion Joints using Tensile-Impact Method
F2657  Test Method for Outdoor Weathering Exposure of Crosslinked Polyethylene (PEX) Tubing

Recommended Practices

D1972  Practice for Generic Marking of Plastic Products
D2321 Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
D2488 Description and Identification of Soils (Visual-Manual Procedure)
D2657  Heat-Joining Polyolefin Pipe and Fittings
D2774 Underground Installation of Thermoplastic Pressure Piping
D2839 Practice for Use of a Melt Index Strand for Determining Density of Polyethylene
D2855 Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
D3567 Determining Dimensions of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting Resin) Pipe and Fittings
D3839 Underground Installation of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
F402 Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings
F449 Subsurface Installation of Corrugated Polyethylene Pipe for Agricultural Drainage or Water Table Control
F481 Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
F585 Insertion of Flexible Polyethylene Pipe into Existing Sewers
F645 Selection, Design, and Installation of Thermoplastic Water-Pressure Piping Systems
F689 Determination of the Temperature of Above-Ground Plastic Gas Pressure Pipe within Metallic Casings
F690 Underground Installation of Thermoplastic Pressure Piping Irrigation Systems
F905 Qualification of Polyethylene Saddle-Fused Joints
F1025 Selection and Use of Full-Encirclement-Type Band Clamps for Reinforcement or Repair of Punctures or Holes in Polyethylene Gas Pressure Pipe
F1041 Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing
F1176 Design and Installation of Underground Thermoplastic Irrigation Systems With Maximum Working Pressure of 125 psi
F1216 Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
F1290 Electrofusion Joining Polyolefin Pipe and Fittings
F1563 Specification for Tools to Squeeze-off Polyethylene (PE) Gas Pipe or Tubing
F1668 Construction Procedures for Buried Plastic Pipe
F1734 Qualification of a Combination of Squeeze Tool, Pipe, and Squeeze-Off Procedures to Avoid Long-Term Damage in Polyethylene (PE) Gas Pipe
F1743 Practice for Rehabilitation of Existing Pipelines and Conduits by Pulled-in-Place Installation of Cured-in-Place Thermosetting Resin Pipe (CIPP)
F1804 Practice for Determining Allowable Tensile Load for Polyethylene (PE) Gas Pipe During Pull-In Installation
F1867 Practice for Installation of Folded/Formed Poly (Vinyl Chloride) (PVC) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F2620 Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

**Terminology**

D883 Standard Terminology Relating to Plastics
D1600 Standard Terminology for Abbreviated Terms Relating to Plastics
D2749 Standard Symbols for Dimensions of Plastic Pipe Fittings
F412 Standard Terminology Relating to Plastic Piping Systems

**Plastic Fittings Materials**

D1784 Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds
D2581 Polybutylene (PB) Plastics Molding and Extrusion Materials
D3350 Polyethylene Plastics Pipe and Fittings Materials
D3915 Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Pressure Applications
D3965 Rigid Acrylonitrile-Butadiene-Styrene (ABS) Materials for Pipe and Fittings
D4066 Nylon Injection and Extrusion Materials (PA)
D4396 Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications
D4976 Standard Specification for Polyethylene Plastics Molding and Extrusion Materials
F876 Standard Specification for Crosslinked Polyethylene (PEX) Tubing
SECTION II

A. PLASTIC PIPE MATERIALS CLASSIFICATIONS

Materials

Specification for:

D2581 Standard Classification System for Polybutylene (PB) Plastics Molding and Extrusion Materials
D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
D3915 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Pressure Applications
D4066 Standard Classification System for Nylon Injection and Extrusion Materials (PA)
D4396 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Nonpressure Applications
D4976 Standard Specification for Polyethylene Plastics Molding and Extrusion Materials

Type of Plastics Piping

Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings

Specifications for:

D2680 Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D2751 Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D3138 Standard Specification for Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
F409   Standard Specification for Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings

Test Method for:

D2444  Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

Polyamide (PA) Plastic Pipe and Fittings

Specifications for:


Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Tubing, and Fittings

Specifications for:

F437   Standard Specification for Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F438   Standard Specification for Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
F441   Standard Specification for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80
F1336  Standard Specification for Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings
Polyethylene (PE) Plastic Pipe, Tubing, and Fittings

Specifications for:

D2104 Standard Specification for Polyethylene (PE) Plastic Pipe, Schedule 40
D2239 Standard Specification for Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D2447 Standard Specification for Polyethylene (PE) Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter
D2609 Standard Specification for Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
D2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D2737 Standard Specification for Polyethylene (PE) Plastic Tubing
F2306 Standard Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications
F2619 Standard Specification for High-Density Polyethylene (PE) Line Pipe
F2623 Standard Specification for Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing
F2769 Standard Specification for Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems

Specifications for:

D3035 Standard Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
D3350 Standard Specification for Polyethylene Plastics Pipe and Fittings Materials
F405 Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings
F667 Standard Specification for Large Diameter Corrugated Polyethylene Pipe and Fittings
F2648 Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications

Specifications for:

F714 Standard Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F771 Standard Specification for Polyethylene (PE) Thermoplastic High-Pressure Irrigation Pipeline Systems
F876 Standard Specification for Crosslinked Polyethylene (PEX) Tubing
F894 Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
F1055 Standard Specification for Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
F1533 Standard Specification for Deformed Polyethylene (PE) Liner
F2788 Standard Specification for Crosslinked Polyethylene (PEX) Pipe

Practice for:

F905 Standard Practice for Qualification of Polyethylene Saddle-Fused Joints

Poly (Vinyl Chloride) (PVC) Plastic Pipe, Tubing, and Fittings

Specifications for:

D1785 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
D2466 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D2467 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D2672 Standard Specification for Joints for IPS PVC Pipe Using Solvent Cement
D2729 Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D3034 Standard Specification for Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D3138 Standard Specification for Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D3915 Standard Specification for Rigid Poly (Vinyl Chloride) (PVC) and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds for Plastic Pipe and Fittings Used in Pressure Applications
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</thead>
<tbody>
<tr>
<td>D4396</td>
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<td>F409</td>
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<td>F679</td>
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<td>F1697</td>
<td>Standard Specification for Poly (Vinyl Chloride) (PVC) Profile Strip for Machine Spiral-Wound Liner Pipe Rehabilitation of Existing Sewers and Conduits</td>
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<tr>
<td>F2658</td>
<td>Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) SDR 51 and SDR 64 Sewer Pipe and Fittings</td>
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Test Method for:

D2152  Standard Test Method for Adequacy of Fusion of Extruded Poly (Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
D2444  Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
F610   Standard Test Method for Evaluating the Quality of Molded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings by the Heat Reversion Technique
F1674  Standard Test Method for Joint Restraint Products for Use with PVC Pipe

Practice for:

D2855  Standard Practice for Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
F1741  Standard Practice for Installation of Machine Spiral Wound Poly (Vinyl Chloride) (PVC) Liner Pipe for Rehabilitation of Existing Sewers and Conduits

Polybutylene (PB) Plastic Pipe and Tubing

Specification for:

Practice for:

Fiberglass Pipe and Fittings

Specification for:

D2517  Standard Specification for Reinforced Epoxy Resin Gas Pressure Pipe and Fittings
D2996  Standard Specification for Filament-Wound “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D2997  Standard Specification for Centrifugally Cast “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D3262  Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D3517  Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe
D3754  Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
D3840  Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Nonpressure Applications
D4161 Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
F2720 Standard Specification for Glass Fiber Reinforced Polyethylene (PE-GF) Spiral Wound Large Diameter Pipe

Test Methods for:

D2105 Standard Test Method for Longitudinal Tensile Properties of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Tube
D2143 Standard Test Method for Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D2924 Standard Test Method for External Pressure Resistance of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D2925 Standard Test Method for Beam Deflection of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Under Full Bore Flow
D3681 Standard Test Method for Chemical Resistance of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe in a Deflected Condition

Practice for:

D2992 Standard Practice for Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings
D3567 Standard Practice for Determining Dimensions of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings
D3839 Standard Guide for Underground Installation of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe

Classification for:

D2310 Standard Classification for Machine-Made “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe

Styrene-Rubber Plastic Pipe and Fittings

Specifications for:

Plastic Lined Metal Pipe and Fittings

Specifications for:

F1545  Standard Specification for Plastic-Lined Ferrous Metal Pipe, Fittings, and Flanges

B. PLASTICS PIPE SYSTEM CLASSIFICATIONS

Conduit and Fittings

Specifications for:

C875  Standard Specification for Asbestos-Cement Conduit
D2466 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D2467 Standard Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D2661 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe
D2665 Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D2683 Standard Specification for Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D2750 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Utilities Conduit and Fittings
D3311 Drain, Waste and Vent (DWV) Plastic Fittings Patterns
F409  Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
F437  Standard Specification for Threaded Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F438  Standard Specification for Socket-Type Chlorinated Poly(Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
F628 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core
F1335 Standard Specification for Pressure-Rated Composite Pipe and Fittings for Elevated Temperature Service
F1412 Standard Specification for Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
F1499 Coextruded Composite Drain, Waste, and Vent Pipe (DWV)
F1673 Polyvinylidene Fluoride (PVDF) Corrosive Waste Drainage Systems
F1807 Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
F1866 Standard Specification for Poly (Vinyl Chloride) (PVC) Plastic Schedule 40 Drainage and DWV Fabricated Fittings
F1867 Standard Practice for Installation of Folded/Formed Poly (Vinyl Chloride) (PVC) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F1871 Standard Specification for Folded/Formed Poly (Vinyl Chloride) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F1901 Standard Specification for Polyethylene (PE) Pipe and Fittings for Roof Drain Systems
F1924 Standard Specification for Plastic Mechanical Fittings for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing
F1947 Standard Practice for Installation of Folded Poly (Vinyl Chloride) (PVC) Pipe into Existing Sewers and Conduits
F1948 Standard Specification for Metallic Mechanical Fittings for Use on Outside Diameter Controlled Thermoplastic Gas Distribution Pipe and Tubing
F1960 Standard Specification for Cold Expansion Fittings with PEX Reinforcing Rings for Use with Cross-linked Polyethylene (PEX) Tubing
F1961 Standard Specification for Metal Mechanical Cold Flare Compression Fittings with Disc Spring for Crosslinked Polyethylene (PEX) Tubing
F1962 Standard Guide for Use of Maxi-Horizontal Directional Drilling for Placement of Polyethylene Pipe or Conduit Under Obstacles, Including River Crossings
F1970 Standard Specification for Special Engineered Fittings, Appurtenances or Valves for use in Poly (Vinyl Chloride) (PVC) or Chlorinated Poly (Vinyl Chloride) (CPVC) Systems
F1973 Standard Specification for Factory Assembled Anodeless Risers and Transition Fittings in Polyethylene (PE) and Polyamide 11 (PA11) and Polyamide 12 (PA12) Fuel Gas Distribution Systems
F1974 Standard Specification for Metal Insert Fittings for Polyethylene/Aluminum/Polyethylene and Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe
F1986 Standard Specification for Multilayer Pipe Type 2, Compression Fittings, and Compression Joints for Hot and Cold Drinking-Water Systems
F1987 Standard Specification for Multilayer Pipe Type 2, Compression Fittings, and Compression Joints for Hydronic Heating Systems
F2018 Standard Test Method for Time-to-Failure of Plastics Using Plane Strain Tensile Specimens
F2019 Standard Practice for Rehabilitation of Existing Pipelines and Conduits by the Pulled in Place Installation of Glass Reinforced Plastic (GRP) Cured-in-Place Thermosetting Resin Pipe (CIPP)
F2021 Standard Guide for Design and Installation of Plastic Siphonic Roof Drainage Systems
F2023 Standard Test Method for Evaluating the Oxidative Resistance of Crosslinked Polyethylene (PEX) Tubing and Systems to Hot Chlorinated Water
F2080 Standard Specification for Cold-Expansion Fittings With Metal Compression-Sleeves for Cross-Linked Polyethylene (PEX) Pipe
F2136 Standard Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack-Growth Resistance of HDPE Resins or HDPE Corrugated Pipe
F2138 Standard Specification for Excess Flow Valves for Natural Gas Service
F2145 Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing
F2158 Standard Specification for Residential Central-Vacuum Tube and Fittings
F2159 Standard Specification for Plastic Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing
F2160 Standard Specification for Solid Wall High Density Polyethylene (HDPE) Conduit Based on Controlled Outside Diameter (OD)
F2164 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Hydrostatic Pressure
F2165 Standard Specification for Flexible Pre-Insulated Piping
F2176 Standard Specification for Mechanical Couplings Used on Polyethylene Conduit, Duct and Innerduct
F2206 Standard Specification for Fabricated Fittings of Butt-Fused Polyethylene (PE) Plastic Pipe, Fittings, Sheet Stock, Plate Stock, or Block Stock
F2207 Standard Specification for Cured-in-Place Pipe Lining System for Rehabilitation of Metallic Gas Pipe
F2231 Standard Test Method for Charpy Impact Test on Thin Specimens of Polyethylene Used in Pressurized Pipes
F2261 Standard Test Method for Pressure Rating Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40 and 80 Socket-Type
F2262 Standard Specification for Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Tubing OD Controlled SDR9
F2263 Standard Test Method for Evaluating the Oxidative Resistance of Polyethylene (PE) Pipe to Chlorinated Water
F2306 Standard Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications
F2307 Standard Specification for Series 10 Poly(Vinyl Chloride) (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter
F2331 Standard Test Method for Determining Chemical Compatibility of Thread Sealants with Thermoplastic Threaded Pipe and Fittings Materials
F2389 Standard Specification for Pressure-rated Polypropylene (PP) Piping Systems
F2418 Standard Specification for Polypropylene (PP) Corrugated Wall Stormwater Collection Chambers
F2433 Standard Test Method for Determining Thermoplastic Pipe Wall Stiffness
F2434 Standard Specification for Metal Insert Fittings Utilizing a Copper Crimp Ring for SDR9 Cross-linked Polyethylene (PEX) Tubing and SDR9 Cross-linked Polyethylene/Aluminum/Cross-linked Polyethylene (PEX-AL-PEX) Tubing
F2435 Standard Specification for Steel Reinforced Polyethylene (PE) Corrugated Pipe
F2487 Standard Practice for Infiltration and Exfiltration Acceptance Testing of Installed Corrugated High Density Polyethylene Pipelines
F2509 Standard Specification for Field-assembled Anodeless Riser Kits for Use on Outside Diameter Controlled Polyethylene Gas Distribution Pipe and Tubing
F2510 Standard Specification for Resilient Connectors Between Reinforced Concrete Manhole Structures and Corrugated High Density Polyethylene Drainage Pipes
F2536 Standard Guide for Installing Plastic DWV Piping Suspended from On-Grade Slabs
F2561 Standard Practice for Rehabilitation of a Sewer Service Lateral and Its Connection to the Main Using a One Piece Main and Lateral Cured-in-Place Liner
F2562 Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage
F2599 Standard Practice for The Sectional Repair of Damaged Pipe By Means of An Inverted Cured-In-Place Liner
F2600 Standard Specification for Electrofusion Type Polyamide-11 Fittings for Outside Diameter Controlled Polyamide-11 Pipe and Tubing
F2619/F2619M-Standard Specification for High-Density Polyethylene (PE) Line Pipe
F2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings
F2623 Standard Specification for Polyethylene of Raised Temperature (PE-RT) SDR 9 Tubing
F2648 Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications
F2649 Standard Specification for Corrugated High Density Polyethylene (HDPE) Grease Interceptor Tanks
F2657 Standard Test Method for Outdoor Weathering Exposure of Crosslinked Polyethylene (PEX) Tubing
F2658 Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) SDR 51 and SDR 64 Sewer Pipe and Fittings
F2718 Standard Specification for Polyethylene (PE) and Cement Materials for an Encapsulated Cement Mortar Formed in Place Liner System (FIPLS) for the Rehabilitation of Water Pipelines
F2719 Standard Practice for Installation of Polyethylene (PE) and Encapsulated Cement Mortar Formed in Place Lining System (FIPLS) for the Rehabilitation of Water Pipelines
F2720 Standard Specification for Glass Fiber Reinforced Polyethylene (PE-GF) Spiral Wound Large Diameter Pipe
F2735 Standard Specification for Plastic Insert Fittings For SDR9 Crosslinked Polyethylene (PEX) and Polyethylene of Raised Temperature (PE-RT) Tubing
F2736 Standard Specification for 6 to 30 in. (152 To 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe and Double Wall Pipe
F2737 Standard Specification for Corrugated High Density Polyethylene (HDPE) Water Quality Units
F2767 Standard Specification for Electrofusion Type Polyamide-12 Fittings for Outside Diameter Controlled Polyamide-12 Pipe and Tubing for Gas Distribution
F2768 Standard Specification for Modified Stub ACME Thread Joint with Elastomeric Seal in Plastic Piping Components
F2769 Standard Specification for Polyethylene of Raised Temperature (PE-RT) Plastic Hot and Cold-Water Tubing and Distribution Systems
F2785 Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings
F2786 Standard Practice for Field Leak Testing of Polyethylene (PE) Pressure Piping Systems Using Gaseous Media Under Pressure (Pneumatic Leak Testing)
F2787 Standard Practice for Structural Design of Thermoplastic Corrugated Wall Storm water Collection Chambers
F2788 Standard Specification for Crosslinked Polyethylene (PEX) Pipe
F2805 Standard Specification for Multilayer Thermoplastic And Flexible Steel Pipe And Connections
F2817 Standard Specification for Poly (Vinyl Chloride) (PVC) Gas Pressure Pipe and Fittings For Maintenance or Repair
Gas Pipe, Tubing, and Fittings

Specifications for:

D2321 Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications
D2513 Thermoplastic Gas Pressure Pipe, Tubing, and Fittings
D 2517 Reinforced Epoxy Resin Gas Pressure Pipe and Fittings
D2680 Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping
D3138 Standard Specification for Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Non-Pressure Piping Components
D3262 Standard Specification for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
F405 Standard Specification for Corrugated Polyethylene (PE) Pipe and Fittings
F481 Standard Practice for Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
F794 Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
F891 Standard Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core
F894 Standard Specification for Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
F1336 Standard Specification for Poly(Vinyl Chloride) (PVC) Gasketed Sewer Fittings
F1504 Standard Specification for Folded Poly(Vinyl Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation
F1675 Standard Practice for Life-Cycle Cost Analysis of Plastic Pipe Used for Culverts, Storm Sewers, and Other Buried Conduits
F1803 Standard Specification for Poly (Vinyl Chloride)(PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter
F1867 Chloride) (PVC) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F1871 Standard Specification for Folded/Formed Poly (Vinyl Chloride) Pipe Type A for Existing Sewer and Conduit Rehabilitation
F1947 Standard Practice for Installation of Folded Poly (Vinyl Chloride) (PVC) Pipe into Existing Sewers and Conduits
F2145 Standard Specification for Polyamide 11 (PA 11) and Polyamide 12 (PA12) Mechanical Fittings for Use on Outside Diameter Controlled Polyamide 11 and Polyamide 12 Pipe and Tubing
F2306 Standard Specification for 12 to 60 in. [300 to 1500 mm] Annular Corrugated Profile-Wall Polyethylene (PE) Pipe and Fittings for Gravity-Flow Storm Sewer and Subsurface Drainage Applications

F2307 Standard Specification for Series 10 Poly(Vinyl Chloride) (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter

F2562 Specification for Steel Reinforced Thermoplastic Ribbed Pipe and Fittings for Non-Pressure Drainage and Sewerage

F2620 Standard Practice for Heat Fusion Joining of Polyethylene Pipe and Fittings

F2648 Standard Specification for 2 to 60 inch [50 to 1500 mm] Annular Corrugated Profile Wall Polyethylene (PE) Pipe and Fittings for Land Drainage Applications

F2658 Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) SDR 51 and SDR 64 Sewer Pipe and Fittings

F2736 Standard Specification for 6 to 30 in. (152 To 762 mm) Polypropylene (PP) Corrugated Single Wall Pipe And Double Wall Pipe

F2785 Standard Specification for Polyamide 12 Gas Pressure Pipe, Tubing, and Fittings

Practice for:

F689 Determination of the Temperature of Above-Ground Plastic Gas Pressure Pipe within Metallic Casings

Guide for:

F1025 Selection and Use of Full-Encirclement-Type Band Clamps for Reinforcement or Repair of Punctures or Holes in Polyethylene Gas Pressure Pipe

F1041 Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing

Sewer Pipe and Fittings

Specification for:


D494 Standard Test Method for Acetone Extraction of Phenolic Molded or Laminated Products

D542 Standard Test Method for Index of Refraction of Transparent Organic Plastics


D570 Standard Test Method for Water Absorption of Plastics

D618 Standard Practice for Conditioning Plastics for Testing
D635 Standard Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position
D638 Standard Test Method for Tensile Properties of Plastics
D695 Standard Test Method for Compressive Properties of Rigid Plastics
D696 Standard Test Method for Coefficient of Linear Thermal Expansion of Plastics Between -30°C and 30°C With a Vitreous Silica Dilatometer
D704 Standard Specification for Melamine-Formaldehyde Molding Compounds
D705 Standard Specification for Urea-Formaldehyde Molding Compounds
D706 Standard Classification System and Basis for Specifications for Cellulose Acetate Molding and Extrusion Compounds
D707 Standard Classification System and Basis for Specification for Cellulose Acetate Butyrate Molding and Extrusion Compounds
D731 Standard Test Method for Molding Index of Thermosetting Molding Powder
D732 Standard Test Method for Shear Strength of Plastics by Punch Tool
D746 Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact
D747 Standard Test Method for Apparent Bending Modulus of Plastics by Means of a Cantilever Beam
D785 Standard Test Method for Rockwell Hardness of Plastics and Electrical Insulating Materials
D787 Standard Specification for Ethyl Cellulose Molding and Extrusion Compounds
D788 Standard Classification System for Poly(Methyl Methacrylate) (PMMA) Molding and Extrusion Compounds
D789 Standard Test Methods for Determination of Solution Viscosities of Polyamide (PA)
D790 Standard Test Methods for Flexural Properties of Unreinforced and Reinforced Plastics and Electrical Insulating Materials
D792 Standard Test Methods for Density and Specific Gravity (Relative Density) of Plastics by Displacement
D882 Standard Test Method for Tensile Properties of Thin Plastic Sheeting
D883 Standard Terminology Relating to Plastics
D952 Standard Test Method for Bond or Cohesive Strength of Sheet Plastics and Electrical Insulating Materials
D953 Standard Test Method for Bearing Strength of Plastics
D955 Standard Test Method of Measuring Shrinkage from Mold Dimensions of Thermoplastics
D957 Standard Practice for Determining Surface Temperature of Molds for Plastics
D1003 Standard Test Method for Haze and Luminous Transmittance of Transparent Plastics
D1004 Standard Test Method for Tear Resistance (Graves Tear) of Plastic Film and Sheeting
D1042 Standard Test Method for Linear Dimensional Changes of Plastics Under Accelerated Service Conditions
D1043 Standard Test Method for Stiffness Properties of Plastics as a Function of Temperature by Means of a Torsion Test
D1044 Standard Test Method for Resistance of Transparent Plastics to Surface Abrasion
D1045 Standard Test Methods for Sampling and Testing Plasticizers Used in Plastics
D1056 Standard Specification for Flexible Cellular Materials—Sponge or Expanded Rubber
D1201 Standard Specification for Thermosetting Polyester Molding Compounds
D1203 Standard Test Methods for Volatile Loss From Plastics Using Activated Carbon Methods
D1204 Standard Test Method for Linear Dimensional Changes of Nonrigid Thermoplastic Sheeting or Film at Elevated Temperature
D1238 Standard Test Method for Melt Flow Rates of Thermoplastics by Extrusion Plastometer
D1239 Standard Test Method for Resistance of Plastic Films to Extraction by Chemicals
D1243 Standard Test Method for Dilute Solution Viscosity of Vinyl Chloride Polymers
D1248 Standard Specification for Polyethylene Plastics Extrusion Materials For Wire and Cable
D1430 Standard Classification System for Polychlorotrifluoroethylene (PCTFE) Plastics
D1435 Standard Practice for Outdoor Weathering of Plastics
D1499 Standard Practice for Filtered Open-Flame Carbon-Arc Exposures of Plastics
D1505 Standard Test Method for Density of Plastics by the Density-Gradient Technique
D2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D2729 Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D2751 Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D2852 Styrene-Rubber (SR) Plastic Drain Pipe and Fittings
D3034 Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D3262 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D3754 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
D3840 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Non-Pressure Applications
F679 Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
F949 Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
F1417 Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
F1504 Folded Poly (Vinyl Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation
F1697 Poly (Vinyl Chloride) (PVC) Profile Strip for Machine Spiral Wound Liner Pipe Rehabilitation of Existing Sewers and Conduits
F1698 Installation of Poly (Vinyl Chloride) (PVC) Profile Strip Liner and Cementitious Grout for rehabilitation of Existing Man-Entry Sewers and Conduits

Practice for:

D2321 Underground Installation of Thermoplastic Sewer Pipe for Sewers and Other Gravity-Flow Applications
F1606 Rehabilitation of Existing Sewers and Conduits with Deformed Polyethylene (PE) Liner
F1675 Life-Cycle Cost Analysis of Plastic Pipe used for Culverts, Storm Sewers and Other Buried Conduits
F1759 Practice for Design of High Density Polyethylene (HDPE) Manholes for Subsurface Applications

Hot and Cold Water Distribution Pipe and Fittings

Specification for:

D2846 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
F877 Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems

C. PLASTICS PIPE INSTALLATION AND COMPONENTS

Fittings

Specification for:

D2464 Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D2466 Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D2467 Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D2609 Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
D2683 Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D3261 Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
F437 Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F438 Socket-Type Chlorinated Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
F439 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F1055 Electrofusion-Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing

Practice for:
F725 Drafting Impact Test Requirements in Thermoplastic Pipe and Fittings Standards

Joints, Seals, Solvent Cements and Primers

Specification for:

D2235 Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D3122 Solvent Cements for Styrene-Rubber (SR) Plastic Pipe and Fittings
D3138 Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
D3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
D4161 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
F477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F493 Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings
F656 Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
F913 Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F1056 Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings

Practice for:

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D2855 Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
F402 Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings
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F481 Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
F481 Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
F481 Installation of Thermoplastic Pipe and Corrugated Pipe in Septic Tank Leach Fields
F585 Insertion of Flexible Polyethylene Pipe into Existing Sewers
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F1176 Design and Installation of Underground Thermoplastic Irrigation Systems with Maximum Working Pressure of 125 psi
F1216 Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube
F1668 Construction Procedures for Buried Plastic Pipe

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D1599 Short-Time hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings
D2105 Longitudinal Tensile Properties of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Tube
D2122 Determining Dimensions of Thermoplastic Pipe and Fittings
D2143 Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D2152 Adequacy of Fusion of Extruded Poly (Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
D2290 Apparent Hoop Tensile Strength of Plastic or Reinforced Plastic Pipe by Split Disk Method
D2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plate Loading
D2444 Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
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AASHTO

American Association of State Highway and Transportation Officials
444 North Capitol St., NW, Suite 249
Washington, DC  20001
(202) 624-5800
Internet Address:  www.transportation.org

M 252  Standard Specification for Corrugated Polyethylene Drainage Pipe
M 264  Standard Specification for Acrylonitrile-Butadiene-Styrene (ABS) and Poly(Vinyl Chloride) (PVC) Composite Sewer Piping
M 278  Standard Specification for Class PS46 Poly(Vinyl Chloride) (PVC) Pipe
M 294  Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm Diameter
M 297  Standard Specification for Preformed Polychloroprene Elastomeric Joint Seals for Bridges
M 304  Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter

ANSI

American National Standards Institute, Inc.
25 West 43rd Street, 4th floor
New York, NY  10036
(212) 642-4900
Internet Address:  www.ansi.org

ANSI/SPI B151.1-2007   Plastics Machinery -Horizontal Injection Molding Machines -Safety Requirements for Manufacture, Care, and Use
ANSI/SPI B151.15-2003 Extrusion Blowmolding Machines - Safety Requirements for the Manufacture Care and Use
ANSI/SPI B151.20-1999 American National Standard for Plastic Sheet Production Machinery - Manufacture, Care, and Use
ANSI/SPI B151.21-2003 Injection Blowmolding Machinery - Safety Requirements for Manufacture, Care and Use
ANSI/SPI B151.2-1999 Film Casting Machines - Construction, Care, and Use (revision and redesignation of ANSI B151.2-1982 (R1988))
ANSI/SPI B151.29-2002 Safety Requirements for the Manufacture, Care and Use of Vertical Clamp Injection Molding Machines
ANSI/SPI B151.5-2000 Plastic Film and Sheet Winding Machinery - Manufacture, Care, and Use
API
American Petroleum Institute
Publications and Distribution Section
1220 L St., NW
Washington, DC  20005
(202) 682-8000
Internet Address: www.api.org

15LE  Specification for Polyethylene Line Pipe (PE), Fourth Edition
15HR  Specification for High Pressure Fiberglass Line Pipe
15LR  Specification For Low Pressure Fiberglass Line Pipe and Fittings
15LT  Specification for PVC Lined Steel Tubular Goods

ASABE
American Society of Agricultural and Biological Engineers
2950 Niles Road
St. Joseph, MI  49085-9659
(269) 429-0300
Internet Address: www.asabe.org

S376.2 Design, Installation and Performance of Underground Thermoplastic Irrigation Pipelines
S435 Polyethylene Pipe used for Microirrigation Laterals
ANSI/ASAE S261.7 OCT96 Design and Installation of Nonreinforced Concrete Irrigation Pipe Systems

ASME
United Engineering Center
345 East 47th Street
New York, NY  10017
(212) 705-7722

ASME Guide for Gas Transportation and Distribution Piping Systems
B16.40  Manually Operated Thermoplastic Gas Shutoffs and Valves in Gas Distribution Systems
B31.3  Process Piping
B31.4  Pipeline Transportation Systems for Liquid Hydrocarbons and Other Liquids
B31.8  Gas Transmission and Distribution Piping Systems
B31.9  Building Services Piping
B31.11 Slurry Transportation Piping Systems
C105  American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems
C215  Extruded Polyolefin Coatings for the Exterior of Steel Water Pipelines
C216  Heat-Shrinkable Cross-Linked Polyolefin Coatings for the Exterior of Special Sections, Connections, and Fittings for Steel Water Pipelines
C303  Concrete Pressure Pipe, Bar-Wrapped, Steel-Cylinder Type
C605  Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water
C900  Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In.-12In. (100 mm-300 mm), for Water Transmission and Distribution
C901  Polyethylene (PE) Pressure Pipe and Tubing, 1/2 In. (13 mm) Through 3 In. (76 mm), for Water Service
C904  ANSI/AWWA C904-06, AWWA Standard for Cross-Linked Polyethylene (PEX) Pressure Pipes, 1/2 In. (12 mm) Through 3 In. (76 mm) for Water Service
C906  AWWA Standard for Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,575 mm), for Water Distribution and Transmission
C907  Polyvinyl Chloride (PVC) Pressure Fittings for Water-4IN. through 8 In. (100 mm through 200 mm)
C908  PVC Self-Tapping Saddle Tees for Use on PVC Pipe
C909  ANSI/AWWA C909-09, AWWA Standard for Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 In. Through 24 In. (100 mm Through 600 mm), for Water, Wastewater, and Reclaimed Water Service
C950  Fiberglass Pressure Pipe

Bell Communication Research Inc.
445 South Street
Morristown, NY  07960
Internet Address: www.telcordia.com

GR356  Generic Requirements for Optical Cable Innerduct, Associated Conduit, and Accessories
41-GP-25M  Pipe, Polyethylene for the Transport of Liquids, October, 1977

B 125.1  Plumbing Supply Fittings
B 125.2  Plumbing Waste Fittings
B 125.3  Plumbing Fittings
B 137.0  Definitions, General Requirements and Methods of Testing for Thermoplastic Pressure Piping
B 137.1  Polyethylene (PE) Pipe, Tubing, and Fittings for Cold-Water Pressure Services
B 137.2  Polyvinylchloride (PVC) Injection-Moulded Gasketed Fittings for Pressure Applications
B 137.3  Rigid Polyvinylchloride (PVC) Pipe and Fittings for Pressure Applications
B 137.4  Polyethylene (PE) Piping Systems for Gas Services
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B 137.5  Crosslinked Polyethylene (PEX) Tubing Systems for Pressure Applications
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B 181.1  Acrylonitrile-butadiene-styrene (ABS) Drain, Waste and Vent Pipe and Pipe Fittings
B 181.2  Polyvinylchloride (PVC) and Chlorinated Polyvinylchloride (CPVC) Drain, Waste and Vent Pipe and Pipe Fittings
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B 181.11 Standard Practice for the Installation of Thermoplastic Drain, Storm, and Sewer Pipe and Fittings
B 196.3 PVC Underground Telecommunication Cable Ducting and Fittings
B 602 Mechanical Couplings for Drain, Waste and Vent Pipe and Sewer Pipe
C 22.2 General Requirements and Methods of Testing for NonMetallic Conduit (No. 211.0)
C 22.2 Rigid Types EB1 and DB2/ES2 PVC Conduit (No. 211.1)
C 22.2 Rigid PVC (Unplasticized) Conduit (No. 211.2)

Department of Agriculture
U.S. Department of Agriculture
Natural Resources Conservation Service
P.O. Box 2890
Washington, DC 20013
Internet Address: www.nrcs.usda.gov

NHCP 378 Pond, July 2002
NHCP 410 Grade Stabilization Structure, October 1985
NHCP 430-DD Irrigation Water Conveyance, High-Pressure, Underground, Plastic Pipeline, December 1988
NHCP 430-EE Irrigation Water Conveyance, Low Pressure, Underground, Plastic Pipeline, December 1988
NHCP 430-GG Irrigation Water Conveyance, Reinforced Plastic Mortar, Pipeline, April 1982
NCHP 431 Above Ground, Multi-Outlet Pipeline, August 2006
NHCP 441 Irrigation System, Microirrigation, August 2006
NHCP 442 Irrigation System, Sprinkler, December 2003
NHCP 443 Irrigation System, Surface and Subsurface, March 2003
NHCP 447 Irrigation System, Tailwater Recovery, June 2007
NHCP 516 Pipeline, August 2000
NCHP 587 Structure for Water Control, December 2003
NHCP 606 Subsurface Drain, September 2003
NHCP 614 Watering Facility, August 2006
NHCP 620 Underground Outlet, September 2008
NHCP 630  Vertical Drain, May 2004
NHCP 634  Waste Transfer, November 2008
NHCP 636  Water Harvesting Catchment, September 2003
NHCP 638  Water and Sediment Control Basin, September 2008
NHCP 640  Waterspreading, July 2002
NHCP 642  Well, February 2005

U.S. Department of Transportation (DOT)
Pipeline and Hazardous Materials Safety Administration

1200 New Jersey Ave, SE
East Building, 2nd Floor
Washington, D.C. 20590
202-366-0656


HUD
U.S. Department of Housing & Urban Development
451 7th Street S.W.
Washington, DC 20410
(202) 708-1122
http://portal.hud.gov

UM-76  CPVC and PB Hot and Cold Water Distribution Piping
UM-78  PE, ABS, PVC, and PB Plastic Piping for Domestic Cold Water Service
UM-79  ABS and PVC Plastic Drain, Waste and Vent Pipe and Fittings

The following are former FHA standards that have been superseded by those listed above:

UM-31e  Polyethylene Plastic Pipe and Fittings for Domestic Water Service (September 1, 1966)
UM-41  PVC Plastic Pipe and Fittings for Domestic Water service (August 1, 1996)
UM-43  Acrylonitrile-Butadiene-Styrene Plastic Pipe and Fittings for Domestic Water Service (November 1, 1966)
UM-49  ABS and PVC Plastic Drainage and Vent Pipe and Fittings, FHA 4550.49 (May 1, 1968)
UM-53a  Polyvinyl Chloride Plastic Drainage, Waste and Vent Pipe and Fittings (February 22, 1971)
UM-61  (CPVC) - -Hot and Cold Water Distribution Systems - -
Chlorinated Polyvinyl Chloride (April 9, 1971)
MR-562  Rigid Chlorinated Polyvinyl Chloride (CPVC) Hi/Temp Water
Pipe and Fittings (November 3, 1967)
MR-563  PVC Plastic Drainage and Vent Pipe and Fittings (November
6, 1967)

IAPMO  International Association of Plumbing and
Mechanical Officials
5001 E. Philadelphia St.
Ontario, CA 91761
(909) 472-4100
Internet Address: www.iapmo.org

IS 01-2006  Non-Metallic Building Sewers
IS 05-2006  ABS Building Drain, Waste and Vent Pipe and Fittings
IS 07-2008  Polyethylene (PE) Cold Water Building Supply and
Yard Piping
IS 08-2006  PVC Cold Water Building Supply and Yard Piping
IS 09-2006  PVC Building Drain, Waste and Vent Pipe and Fittings
IS 11-2006  ABS Sewer Pipe and Fittings
IS 12-2006  Polyethylene (PE) for Gas Yard Piping
IS 20-2006  CPVC Solvent Cemented Hot and Cold Water
Distribution Systems
IS 26-2006  Trenchless Insertion of Polyethylene (PE) Pipe for Sewer
Laterals
IS 28-2005  Composite PEX-AL-PEX Hot and Cold PE-AL-PE Water
Distribution Systems
PS 25-2002  Metallic Fittings for Joining Polyethylene Pipe for Water
Service and Yard Piping
PS 34-2003  Polyethylene Encasement Sleeve for Potable Water Pipe
and Tubing
PS 53-2008  Grooved Mechanical Pipe Couplings and Grooved End
Fittings
PS 64-2007a  Pipe Flashings
IGC 109-2009c  Water Distribution Manifolds for Use with SDR 9 PEX
Tubing, PE-AL-PE, & PEX-AL-PEX Composite Piping
IGC 116-99  Metal Insert Fittings for
Polyethylene/Aluminum/Polyethylene and Crosslinked
Polyethylene/Aluminum/Polyethylene Composite
Pressure Pipe
IGC 121-98a  PVC Plastic Valves for Cold Water Distribution
Systems Outside a Building and CPVC Plastic Valves
for Hot and Cold Water Distribution Systems
IGC 122-2005a  Test Caps and Test Gates with ABS (Acrylonitrile-
Butadiene-Styrene) or PVC (Poly Vinyl Chloride)
Housings
IGC 157-2009a  Ball Valves
IGC 166-2001e1  Plastic DWV to Sewer Adapter Fittings
IGC 176-2002  Compression Fittings for PEX-AL-PEX Tubing
IGC 188-2009  Removable and Non-Removable Push Fit Fittings
             (Recognized in Canada)
IGC 192-2004  Plastic Acrylontrile-Butadiene Styrene (ABS) and Poly (Vinyl
             Chloride) (PVC) Drain, Waste and Vent (DWV) Pressure
             Test Fittings for Use in ABS, PVC or Cast Iron DWV Piping
             Systems
IGC 212-2009a Factory Applied Aluminum and Polyethylene or Crosslinked
             Polyethylene Coated SDR 9 PEX Tubing
IGC 223-2007  Polypropylene-Aluminum-Polypropylene Multilayer Piping
             Systems for Hot and Cold Water
IGC 224-2009  ABS, PVC and Cast Iron DWV Test Fitting with Integral
             Cleanout
IGC 228-2006  Polyethylene of Raised Temperature (PE-RT) Tubing
IGC 232-2006  PVC Valve with Integral Ball and Spring-Check or Swing-
             Check Features
IGC 239-2007  Aluminum-Polypropylene Multilayer Piping Systems for Hot-
             and Cold- Water
IGC 243-2007  Chlorinated Poly (Vinyl Chloride)-Aluminum-Chlorinated Poly
             (Vinyl Chloride) (CPVC-AL-CPVC) Tubing and Fittings
IGC 251-2008  Structural Adhesive Fitting Systems for Joining PVC, CPVC,
             ABS, PP, PE, PEX, and Copper Tubing
IGC 265-2008  PVC Reinforcement Ring for PVC DWV Joints
IGC 266-2010  Polyethylene of Raised Temperature (PE-RT) Multilayer
             Piping Systems for Hot- and Cold- Water
IGC 269-2009  PVC or ABS Cover for Use with Unshielded Flexible
             Transition Couplings for Underground Piping Systems

ISO

International Organization for Standardization (ISO)
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CH-1211 Geneva 20, Switzerland
+41-22-749-01-1
Internet Address: www.iso.ch

USA Secretariat:

American National Standards Institute
1430 Broadway
New York, NY 10019
(212) 354-3300
<table>
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<td>2505:2005</td>
<td>Thermoplastics Pipes – Longitudinal Reversion – Test Method and Parameters</td>
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<td>Polyethylene (PE) Pipes – Pressure Drop in Mechanical Pipe-Joining Systems – Method of Test and Requirements</td>
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7246:1984 Pipes and Fittings of Acrylonitrile/Styrene/Acrylester (ASA) –

7686:2005 Plastics Pipes and Fittings – Determination of Opacity


9967:2007 Thermoplastics Pipes – Determination of Creep Ratio

9969:2007 Thermoplastics Pipes – Determination of Ring Stiffness

10146:2007 Crosslinked Polyethylene (PE-X) Pipes - Effect of Time and Temperature on the Expected Strength


TR 10358:1993 Plastics Pipes and Fittings – Combined Chemical-Resistance Classification Table

TR 10501:1993 Thermoplastics Pipes for the Transport of Liquids Under Pressure – Calculation of Head Losses


12091:1995 Structured-Wall Thermoplastics Pipes – Oven Test
12162:1995 Thermoplastics Materials for Pipes and Fittings for Pressure Applications – Classification and Designation – Overall Service (Design) Coefficient

12230.1996 Polybutene (PB) Pipes - Effect of Time and Temperature on the Expected Strength

13760.1998 Plastics Pipes for the Conveyance of Fluids under Pressure – Miner’s Rule Calculation Method for Cumulative Damage

11295:2010 Classification and information on design of plastics piping systems used for renovation

11296-1:2009 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks -- Part 1: General

11296-3:2009 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks -- Part 3: Lining with close-fit pipes

11296-4:2009 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks -- Part 4: Lining with cured-in-place pipes

ISO/DIS 11296-7 Plastics piping systems for renovation of underground non-pressure drainage and sewerage networks -- Part 7: Lining with spirally-wound pipes

ISO 11298-1:2010 Plastics piping systems for renovation of underground water supply networks -- Part 1: General

ISO 11298-3:2010 Plastics piping systems for renovation of underground water supply networks -- Part 3: Lining with close-fit pipes

ISO/DIS 11299-1 Plastics piping systems for renovation of underground gas supply networks -- Part 1: General

ISO/DIS 11299-3 Plastics piping systems for renovation of underground gas supply networks -- Part 3: Lining with close-fit pipes

ISO 11922-1:1997 Thermoplastics pipes for the conveyance of fluids -- Dimensions and tolerances -- Part 1: Metric series


ISO 13966:1998 Thermoplastics pipes and fittings -- Nominal ring stiffnesses
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<td>ISO 4427-3:2007</td>
<td>Plastics piping systems -- Polyethylene (PE) pipes and fittings for water supply -- Part 3: Fittings</td>
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<td>Plastics piping systems for hot and cold water installations -- Guidance for classification and design</td>
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<tr>
<td>ISO 21003-5:2008</td>
<td>Multilayer piping systems for hot and cold water installations inside buildings -- Part 5: Fitness for purpose of the system</td>
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<td>ISO/TS 21003-7:2008</td>
<td>Multilayer piping systems for hot and cold water installations inside buildings -- Part 7: Guidance for the assessment of conformity</td>
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<td>Plastics piping systems -- Multilayer pipes and their joints, based on thermoplastics, for water supply</td>
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ISO 22391-5:2009  Plastics piping systems for hot and cold water installations -- Polyethylene of raised temperature resistance (PE-RT) -- Part 5: Fitness for purpose of the system

ISO/PRF TR 22391-7  Plastics piping systems for hot and cold water installations -- Polyethylene of raised temperature resistance (PE-RT) -- Part 7: Guidance for the assessment of conformity

Gas Piping

ISO 4437:2007  Buried polyethylene (PE) pipes for the supply of gaseous fuels -- Metric series -- Specifications


ISO 8085-2:2001  Polyethylene fittings for use with polyethylene pipes for the supply of gaseous fuels -- Metric series -- Specifications -- Part 2: Spigot fittings for butt fusion, for socket fusion using heated tools and for use with electrofusion fittings


ISO 10838-1:2000  Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels -- Part 1: Metal fittings for pipes of nominal outside diameter less than or equal to 63 mm

ISO 10838-2:2000  Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels -- Part 2: Metal fittings for pipes of nominal outside diameter greater than 63 mm

ISO 10838-3:2001  Mechanical fittings for polyethylene piping systems for the supply of gaseous fuels -- Part 3: Thermoplastics fittings for pipes of nominal outside diameter less than or equal to 63 mm

ISO/TS 10839:2000  Polyethylene pipes and fittings and for the supply of gaseous fuels -- Code of practice for design, handling and installation

ISO 12176-1:2006  Plastics pipes and fittings -- Equipment for fusion jointing polyethylene systems -- Part 1: Butt fusion


ISO 12176-4:2003  Plastics pipes and fittings -- Equipment for fusion jointing polyethylene systems -- Part 4: Traceability coding

ISO 13950:2007  Plastics pipes and fittings -- Automatic recognition systems for electrofusion joints

ISO 14531-1:2002  Plastics pipes and fittings -- Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels -- Metric
series -- Specifications -- Part 1: Pipes


ISO 15439-1:2007 Plastics piping systems for the supply of gaseous fuels for maximum operating pressure up to and including 0,4 MPa (4 bar) -- Polyamide (PA) -- Part 1: General

ISO 15439-2:2007 Plastics piping systems for the supply of gaseous fuels for maximum operating pressure up to and including 0,4 MPa (4 bar) -- Polyamide (PA) -- Part 2: Pipes

ISO 15439-3:2007 Plastics piping systems for the supply of gaseous fuels for maximum operating pressure up to and including 0,4 MPa (4 bar) -- Polyamide (PA) -- Part 3: Fittings

ISO 21307:2009 Plastics pipes and fittings -- Butt fusion jointing procedures for polyethylene (PE) pipes and fittings used in the construction of gas and water distribution systems

Test Methods

ISO 9080:2003 Plastics piping and ducting systems -- Determination of the long-term hydrostatic strength of thermoplastics materials in pipe form by extrapolation

ISO 13477:2008 Thermoplastics pipes for the conveyance of fluids -- Determination of resistance to rapid crack propagation (RCP) -- Small-scale steady-state test (S4 test)

ISO 13478:2007 Thermoplastics pipes for the conveyance of fluids -- Determination of resistance to rapid crack propagation (RCP) -- Full-scale test (FST)

ISO 13479:2009 Polyolefin pipes for the conveyance of fluids -- Determination of resistance to crack propagation -- Test method for slow crack growth on notched pipes

ISO 16241:2005 Notch tensile test to measure the resistance to slow crack growth of polyethylene materials for pipe and fitting products (PENT)
ISO 16871:2003  Plastics piping and ducting systems -- Plastics pipes and fittings -- Method for exposure to direct (natural) weathering

ISO 18553:2002  Method for the assessment of the degree of pigment or carbon black dispersion in polyolefin pipes, fittings and compounds

ISO 24033:2009  Polyethylene of raised temperature resistance (PE-RT) pipes -- Effect of time and temperature on the expected strength

ISO/PRF TR 26873  Plastics pipes and fittings -- Definition and construction procedures for reference lines

**Flanges, Couplings and Other Pipe Connections**

2535:2001  Plastics -- Unsaturated-polyester resins -- Measurement of gel time at ambient temperature

**Pipelines in General**

3459:1976  Polyethylene (PE) Pressure Pipes – Joints Assembled with Mechanical Fittings – Internal Under-Pressure Test Method and Requirement

3501:1976  Assembled Joints Between Fittings and polyethylene (PE) pressure pipes – Test of resistance to pull out

3503:1976  Assembled joints between fittings and polyethylene (PE) pressure pipes – Test of leakproofness under internal pressure when subjected to bending

**Irrigation Equipment**

8779:2001  Polyethylene (PE) Pipes for Irrigation Laterals – Specifications

8796:2004  Polyethylene PE 32 and PE 40 pipes for irrigation laterals – Susceptibility to Environmental Stress-Cracking Induced by Insert-Type Fittings – Test Method and requirements

**Petroleum Products and Natural Gas Handling Equipment**

6993:2006  Buried, High-Impact Poly (vinyl chloride) (PVC-HI) Piping Systems for the Supply of Gaseous Fuels – Part 1: Pipes for a maximum operating pressure of 1 bar (100 kPa)

**Materials**


1872-2:2007 Plastics – Polyethylene (PE) moulding and extrusion materials – Part 2: Preparation of Test Specimens and Determination of Properties


1873-2:2007 Plastics – Polypropylene (PP) moulding and extrusion materials – Part 2: Preparation of Test Specimens and Determination of Properties


4894-1:1997 Plastics – Styrene/Acrylonitrile (SAN) Moulding and Extrusion Materials – Part 1: Designation system and basis for specifications


8986-1:1993 Plastics – Polybutene (PB) moulding and extrusion materials – Part 1: Designation system and basis for specifications
Reinforced Plastics

8659:1989  Thermoplastics Valves – Fatigue Strength – Test Method
8770:2003  Plastics Piping Systems for Soil and Waste Discharge (Low and High Temperature) Inside Buildings – Polyethylene (PE)
8772:2006  Plastics Piping Systems for non-pressure underground drainage and sewerage - Polyethylene (PE)
8773:2006  Plastics piping systems for non-pressure underground drainage and sewerage--Polypropylene(PP)
8779:2001  Polyethylene (PE) Pipes for Irrigation Laterals – Specifications
8795:2001  Plastics Piping Systems for the Transport of Water Intended for Human Consumption – Migration assessment – Determination of migration values of plastics pipes and fittings and their joints

NEMA  National Electrical Manufacturers Association
1300 North 17th Street
Suite 1752
Rosslyn, VA  22209
(703) 841-3200
Internet Address:  www.nema.org

NEMA RN 1-2005  Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit (IMC)
NEMA TC 2-2003  Electrical Polyvinyl Chloride (PVC) Tubing and Conduit
NEMA TC 3-2004  Polyvinyl Chloride (PVC) Fittings for Use with Rigid PVC Conduit and Tubing
NEMA TC 6 & 8-2003  Polyvinyl Chloride (PVC) Plastic Utilities Duct for Underground Installations
NEMA TC 7-2005  Smooth Wall Coilable Electrical Polyethylene Conduit
NEMA TC 9-2004  Fittings for Polyvinyl Chloride (PVC) Plastic Utilities
Duct for Underground Installation
NEMA TC 13-2005  Electrical Nonmetallic Tubing (ENT)
NEMA TC 14-2002  Reinforced Thermosetting Resin Conduit (RTRC) and
Fittings
NEMA TC 18-2004  Packaging of Master Bundles for EPC-40 Polyvinyl
Chloride (PVC) Conduit
NEMA TC 19-2001  Nonmetallic Riser U-Type Guards
NEMA TCB 2-2000  NEMA Guidelines for the Selection and Installation of
Underground Nonmetallic Duct

NFPA  National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02169
(617) 770-3000
Internet Address: www.nfpa.org

NFPA 13  Standard for the Installation of Sprinkler Systems
NFPA 13D  Standard for the Installation of Sprinkler Systems in One-
and Two-Family Dwellings and Manufactured Homes
NFPA 13R  Standard for the Installation of Sprinkler Systems in
Residential Occupancies Up to and Including Four Stories in
Height
NFPA 30  Flammable and Combustible Liquids Code
NFPA 54  National Fuel Gas Code
NFPA 70  National Electrical Code
NFPA 70A  National Electrical Code Requirements for One- and Two-
Family Dwellings and Mobile Homes
NFPA 79  Electrical Standard for Industrial Machinery
NFPA 90A  Standard for the Installation of Air-Conditioning and
Ventilating Systems
NFPA 90B  Standard for the Installation of Warm Air Heating and Air-
Conditioning Systems
NFPA 414  Standard for Aircraft Rescue and Fire-Fighting Vehicles

NSF  NSF International
789 N Dixboro Rd.
Ann Arbor, MI 48105
(734) 769-8010
www.nsf.org

NSF/ANSI 14  Plastics Piping Components and Related Materials (2009)
NSF Listing of Plastic Materials, Pipe, Fittings and Appurtenances for Potable Water and Waste Water
NSF Listing of Drinking Water Additives – Health Effects

UL
Underwriters Laboratories, Inc.
2600 N.W. Lake Rd.
Camas, WA 98607
(877) 854-3577
www.ul.com

UL 94 Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
UL 514 B Conduit, Tubing, and Cable Fittings
UL 514 C Standard for Nonmetallic Outlet Boxes, Flush-Device Boxes and Covers
UL 651 Standard for Schedule 40 and 80 Rigid PVC Conduit and Fittings
UL 651 A Type EB and A Rigid PVC Conduit and HDPE Conduit
UL 651 B Standard for Continuous Length HDPE Conduit
UL 746 A Standard for Polymeric Material – Short Term Property Evaluations
UL 746 B Standard for Polymeric Materials – Long Term Property Evaluations
UL 1285 Standard for Pipe and Couplings, Polyvinyl Chloride (PVC), and Oriented Polyvinyl Chloride (PVCO) for Underground Fire Service
UL 1660 Liquid-Tight Flexible Nonmetallic Conduit
UL 1713 Standard for Safety for Pressure Pipe and Couplings, Glass-Fiber Reinforced, for Underground Fire Service
UL 1821 Standard for Safety for Thermoplastic Sprinkler Pipe and Fittings for Fire Protection Service
UL 1887 Standard for Fire Test of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics

UNI-Bell
Uni-Bell PVC Pipe Association
2711 LBJ Freeway, Suite 1000
Dallas, TX 75234
(972) 243-3902
www.uni-bell.org

UNI-B-1 Recommended Standard Specification for Thermoplastic Pipe Joints, Pressure and Non-Pressure Applications
UNI-B-6 Recommended Practice for Low-Pressure Air Testing of Installed Sewer Pipe
UNI-B-8   Recommended Practice for the Direct Tapping of Polyvinyl Chloride (PVC) Pressure Water Pipe (Nominal Diameters 6-12 Inch)

UNI-B-9   Recommended Performance Specification for Polyvinyl Chloride (PVC) Profile Wall Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter (Normal Pipe Sizes 4-48 Inches)

Model Codes

ICC

International Code Council
500 New Jersey Avenue, NW,
6th Floor,
Washington, DC 20001-2070
1-888-ICC-SAFE (422-7233)
(202) 783-2348
webmaster@icc.org
2009 International Building Code
2009 International Residential Code
2009 International Fire Code
2009 International Fuel Gas Code
2009 International Plumbing Code
2009 International Mechanical Code
2009 International Private Sewage Disposal Code

IAPMO

International Association of Plumbing and Mechanical Officials
5001 E. Philadelphia St.
Ontario, CA 91761
1-909-472-4100
iapmo@iapmo.org
2009 Uniform Plumbing Code
2009 Uniform Mechanical Code
UNI-BELL PVC PIPE ASSOCIATION

This association limits membership to producers of PVC pipe with elastomeric gasketed bell ends. This type of pipe is used extensively in buried water, sewer and irrigation systems. Uni-Bell was formed in 1971 to service the technical, education and research needs of this large and important segment of the plastic pipe industry. Uni-Bell has responded to the engineering, regulatory, public health and standardization communities by sponsoring research projects, providing technical assistance, and publishing the Uni-Bell Handbook of PVC Pipe Design and Construction.

For more information contact: Uni-Bell PVC Pipe Association
2655 Villa Creek Drive, Suite 155
Dallas, TX 75234
(972) 243-3902
www.members.aol.com/unibell

PLASTIC PIPE AND FITTINGS ASSOCIATION

PPFA is the national trade association of manufacturers of plastics piping products used for plumbing applications. Its membership includes pipe and fittings manufacturers and suppliers of materials, equipment and solvent cements. It was formed in 1978 to promote the use and code acceptance of plastics piping and plumbing applications. These applications include, but are not limited to, water service, water distribution, DWV, building drain, sewer and fire sprinkler systems.

For more information contact: Plastic Pipe and Fittings Association
800 Roosevelt Road
Bldg. C, Suite 20
Glen Ellyn, IL 60137-5833
(703) 858-6540
Sources of Other Information

Various organizations issue manuals, guides, and reports dealing with selection, design, installation and maintenance of plastics piping systems. Some of the more commonly referenced publications and the issuing organizations are as follows:

♦ **American Gas Association**  
  400 North Capitol Street NW  
  Washington, DC 20001  
  (202) 824-9091  
  www.aga.com  
  
  *Plastic Pipe Manual for Gas Service*  
  *Guide for Gas Transmission and Distribution Systems*

♦ **U.S. Army**  
  

♦ **American Water Works Association** (address given earlier)  
  
  *AWWA M23 – PVC Pipe – Design and Installation*  
  *AWWA Committee Report on the Design and Installation of Polyethylene Pipe made in Accordance with AWWA C906*

♦ **American Association of State and Highway Transportation Officials** (address given earlier)  
  
  *Section 18, Soil-Thermoplastic Pipe Interaction Systems, Standard Specifications for Highway Bridges*

♦ **Plastics Pipe Institute**  
  
  *A listing of the currently issued reports can be obtained from PPI at www.plasticpipe.org.*