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Standards For Plastics Piping

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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 you 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.

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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 – Soil Conservation Service (SCS)
U.S. Department of Transportation

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U.S. Federal Specifications
U.S. Department of Housing & Urban Development
International Association of Plumbing & Mechanical Officials (IAPMO)
International Standards Organization (ISO)
National Electrical Manufacturer's Association (NEMA)
National Fire Protection Association (NFPA)

National Sanitation Foundation (NSF)
Underwriters Laboratories (UL)
UniBell PVC Pipe Association (UniBell)
Building Officials and Code Administrators International (BOCA)
Council of American Building Officials (CABO)
International Conference of Building Officials (ICBO)
National Association of Plumbing-Heating-Cooling Contractors (PHCC)
Southern Building Code Congress International (SBCCI)
Plastic Pipe and Fittings Association (PPFA)
The Vinyl Institute (VI)

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SECTION I

ASTM American Society for Testing and Materials
100 Barr Harbor Drive
West Conshohocken, PA 19428
(610) 832-9500
Internet: www.astm.org

Plastic Pipe Specifications

D 1527 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80
D 1694 Threads 60° (Stub) for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D 1785 Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedule 40, 80, and 120
D 2104 Polyethylene (PE) Plastic Pipe, Schedule 40
D 2239 Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D 2241 Poly (Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series)
D 2282 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)
D 2310 Classification for Machine-Made Reinforced Thermosetting-Resin Pipe
D 2447 Polyethylene (PE) Plastic Pipe, Schedules 40 and 80 Based on Outside Diameter
D 2513 Thermoplastic Gas Pressure Piping Systems
D 2662 Polybutylene (PB) Plastic Pipe (SDR-PR) Based on Controlled Inside Diameter
D 2666 Polybutylene (PB) Plastic Tubing
D 2737 Polyethylene (PE) Plastic Tubing
D 2996 Filament-Wound "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D 2997 Centrifugally Cast Reinforced Thermosetting-Resin Pipe
D 3000 Polybutylene (PB) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter
D 3035 Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Controlled Outside Diameter

D 3262	"Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D 3517	"Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe
F 405	Corrugated Polyethylene (PE) Tubing and Fittings
F 441	Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe, Schedules 40 and 80
F 442	Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Underdrain Systems for Highway, Airport and Similar Drainage
F 714	Specification for Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F 809	Large Diameter Polybutylene Plastic Pipe
F 809M	Large Diameter Polybutylene Plastic Pipe (Metric)
F 810	Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields
F 876	Crosslinked Polyethylene (PEX) Tubing
F 878	Polybutylene (PB) Thermoplastic Thin-Wall Drip Irrigation Tubing
F 891	Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core
F 892	Polyethylene (PE) Corrugated Pipe with a Smooth Interior and Fittings
F 894	Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
F 949	Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
F 1281	Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene (PEX-AL-PEX) Pressure Pipe
F 1282	Polyethylene/Aluminum/Polyethylene (PE-AL-PE) Composite Pressure Pipe
F 1335	Pressure-Rated Composite Pipe and Fittings for Elevated Temperature Service
F 1483	Oriented Poly (Vinyl) Chloride PVCO, Pressure Pipe
F 1488	Coextruded Composite Pipe
F 1499	Coextruded Composite Drain, Waste and Vent Pipe (DWV)
F 1533	Specification for Deformed Polyethylene (PE) Liner

Plastic Fittings Specifications

D 2464	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings Schedule 80
D 2466	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D 2467	Socket-Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D 2468	Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 40
D 2609	Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe

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D 2683	Socket-Type Polyethylene (PE) Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D 3261	Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
D 3311	Drain, Waste and Vent (DWV) Plastic Fittings Patterns
D 3840	Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Non-Pressure Applications
F 409	Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
F 437	Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 438	Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
F 439	Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 845	Plastic Insert Fittings for Polybutylene (PB) Tubing
F 1055	Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
F 1336	Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings
F 1380	Metal Insert Fittings for Polybutylene (PB) Tubing
F 1733	Butt Heat Fusion Polyamide (PA) Plastic Fittings for Polyamide (PA) Plastic Pipe and Tubing
F 1807	Standard Specification for Metal Insert Fittings utilizing a Copper Crimp Ring for SDR9 Cross-Linked Polyethylene (PEX) Tubing

Plastic Pipe Joints and Joining Materials

D 2235	Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D 2564	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
D 3138	Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D 3139	Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
D 3212	Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
D 4161	“Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
D2672	Joints for IPS Piping Using Solvent Cement
D3122	Solvent Cement for Styrene-Rubber (SR) Plastic Pipe and Fittings
F 477	Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F 493	Solvent Cement for Chlorinated Polyvinyl Chloride (CPVC) Plastic Pipe and Fittings
F 545	PVC and ABS Injected Solvent Cemented Plastic Pipe Joints
F 656	Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings

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F 913 Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F 1056 Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings

Systems Specifications (Both Pipe and Fittings)

D 2513 Thermoplastic Gas Pressure Piping Systems
D 2517 Reinforced Epoxy resin Gas Pressure Piping Systems
D 2661 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe
D 2665 Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste and Vent Pipe and Fittings
D 2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D 2729 Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 2750 Acrylonitrile-Butadiene-Styrene (ABS) Plastics Utilities Conduit and Fittings
D 2751 Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D 2846 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
D 2852 Specification for Styrene-Rubber Plastic Drain and Building Sewer Pipe and Fittings
D 2949 3.25-In. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D 3034 Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 3309 Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems
D 3754 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
F 423 Polytetraflouroethylene (PTFE) Plastic-Lined Ferrous Metal Pipe, Fittings, and Flanges
F 480 Thermoplastic Water Well Casing Pipe and Couplings (SDR) Made in Standard Dimension Ratios (SDR)
F 491 Poly (Vinylidene Flouride) (PVDF) Plastic-Lined Ferrous Metal Pipe and Fittings
F 492 Propylene and Polypropylene (PP) Plastic-Lined Ferrous Metal Pipe and Fittings
F 512 Specification for Smooth-Wall Poly Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation
F 546 Specification for Perfluoro (Ethylene-Propylene) Copolymer (FEP) Plastic-Lined Ferrous Metal Pipe and Fittings
F 599 Specification for Poly (Vinylidene) (PVDC) Plastic-Lined Ferrous Metal Pipe and Fittings
F 667 Large Diameter Corrugated Polyethylene Tubing and Fittings
F 679 Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings

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F 714	Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F 771	Polyethylene (PE) Thermoplastic High-Pressure Irrigation Pipeline Systems
F 781	Perfluoro (Alkoxyalkane) Copolymer (PFA) Plastic-Lined Ferrous Metal Pipe and Fittings
F 789	Types PS-46 Poly (Vinyl Chloride) (PVC) Plastic Gravity Flow Sewer Pipe and Fittings
F 794	Poly (Vinyl Chloride) (PVC) Large Diameter Ribbed Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
F 877	Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
F 1412	Polyolefin Pipe and Fittings for Corrosive Waste Drainage Systems
F 1498	Taper Pipe Threads 60° for Thermoplastic Pipe and Fittings

Methods of Test

D 1598	Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
D 1599	Short-Time Rupture Strength of Plastic Pipe, Tubing and Fittings
D 2105	Longitudinal Tensile Properties of Reinforced Thermosetting Plastic Pipe and Tube
D 2143	Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D 2152	Degree of Fusion of Extruded Poly (Vinyl Chloride) Pipe and Molded Fittings by Acetone Immersion
D 2290	Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method
D 2412	Determination of Characteristics of Plastic Pipe by Parallel-Plate Loading
D 2444	Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
D 2837	Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
D 2924	External Pressure Resistance of Reinforced Thermosetting-Resin Plastic Pipe
D 2925	Beam Deflection of Reinforced Thermosetting Plastic Pipe Under Full Bore Flow
D 2992	Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass”(Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Fittings
D 3681	Chemical Resistance of Reinforced Thermosetting Resin Pipe in a Deflected Condition
D2122	Determining Dimensions of Thermoplastic Pipe and Fittings
F 610	Practice for Estimating the Quality of Molded PVC Plastic Pipe Fittings by the Heat Reversion Technique
F 699	Accelerated Conditioning of Polybutylene Pipe and Tubing for Subsequent Quality Control Testing

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F 948	Tim-to-Failure of Plastic Piping Systems and Components under Constant Internal Pressure with Flow
F 1057	Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique
F 1248	Determination of Environmental Stress Crack Resistance (ESCR) of Polyethylene Pipe
F 1365	Water Infiltration Resistance of Plastic Underground Joints Which Use Flexible Elastomeric Seals
F 1417	Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
F 1429	Assembly Force of Plastic Underground Conduit Joints that use Flexible Elastomeric Seals Located in the Bell
F 1473	Notch Tensile Test to Measure the Resistance to Slow Crack Growth of Polyethylene Pipes and Resins
F 1474	Slow Crack Growth Resistance of Notched Polyethylene Plastic Pipe
F 1588	Constant Tensile Load Joint Test (CTLJT)
F 1589	Determination of the Critical Pressure for Rapid Crack Propagation in Plastic Pipe

Recommended Practices

D 2321	Underground Installation of Flexible Thermoplastic Sewer Pipe
D 2488	Description and Identification of Soils (Visual-Manual Procedure)
D 2657	Heat-Joining Polyolefin Pipe and Fittings
D 2774	Underground Installation of Thermoplastic Pressure Piping
D 2855	Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
D 3140	Flaring Polyolefin Pipe and Tubing
D 3567	Determining Dimensions of Reinforced Thermosetting Resin Pipe (RTRP) and Fittings
D 3839	Underground Installation of Flexible Reinforced Thermosetting Resin Pipe and Reinforced Plastic Mortar Pipe
F 402	Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings
F 449	Subsurface Installation of Corrugated Thermoplastic Tubing for Agricultural Drainage or Water Table Control
F 481	Installation of Thermoplastic Pipe and Corrugated Tubing in Septic Tank Leach Fields
F 585	Insertion of Flexible Polyethylene Pipe into Existing Sewers
F 645	Selection, Design and Installation of Thermoplastic Water Pressure Piping Systems
F 689	Determination of the Temperature of Above-Ground Plastic Gas Pressure Pipe within Metallic Casings
F 690	Underground Installation of Thermoplastic Pressure Piping Irrigation Systems
F 905	Qualification of Polyethylene Saddle Fusion Joints

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F 1025	Selection and Use of Full-Encirclement-Type Band Clamps for Reinforcement or Repair of Punctures or Holes in Polyethylene Gas Pressure Pipe
F 1041	Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing
F 1176	Design and Installation of Thermoplastic Irrigation Systems with Maximum Working Pressure of 63 psi
F 1216	Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin-Impregnated Tube
F 1290	Electrofusion Joining Polyolefin Pipe and Fittings
F 1668	Construction Procedures for Buried Plastic Pipe
F 1734	Qualification of a Combination of Squeeze Tool, Pipe, and Squeeze-Off Procedures to Avoid Long-Term Damage in Polyethylene (PE) Gas Pipe

Terminology

D 1600	Abbreviations of Terms Relating to Plastics
D 2749	Standard Symbols for Dimensions of Plastic Pipe Fittings
D 883	Definitions of Terms Relating to Plastics
F 412	Definitions of Terms Relating to Plastic Piping Systems

Plastic Fittings Materials

D 1784	Rigid Poly) Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
D 2581	Polybutylene (PB) Plastics Molding and Extrusion Materials
D 3350	Polyethylene Plastics Pipe and Fittings Materials
D 3915	Poly (Vinyl Chloride) (PVC) and Related Plastic Pipe and Fittings Compounds
D 3965	Rigid Acrylonitrile-Butadiene-Styrene (ABS) Compounds for Pipe and Fittings
D 4066	Nylon Injection and Extrusion Materials (PA)
D 4396	Rigid Poly (Vinyl Chloride) (PVC) and Related Plastic Compounds for Non-Pressure Piping Products
D 4976	Standard Specification for Polyethylene Plastics Molding and Extrusion Materials
F 876	Standard Specification for PEX Tubing

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SECTION II

A. PLASTIC PIPE MATERIALS CLASSIFICATIONS

Materials

Specification for:

D 1784 Rigid Poly (Vinyl Chloride) (PVC) Compounds and Chlorinated Poly (Vinyl Chloride) (CPVC) Compounds
D 2581 Polybutylene (PB) Plastics Molding and Extrusion Materials
D 3350 Polyethylene Plastics Pipe and Fittings Materials
D 3915 Poly (Vinyl Chloride) (PVC) and Related Plastic Pipe and Fittings Compounds
D 3965 Rigid Acrylonitrile-Butadiene-Styrene (ABS) Compounds for Pipe and Fittings
D 4066 Nylon Injection and Extrusion Materials (PA)
D 4396 Rigid Poly (Vinyl Chloride) (PVC) and Related Plastic Compounds for Non-Pressure Piping Products
D 4976 Standard Specification for Polyethylene Plastics Molding and Extrusion Materials

Type of Plastics Piping

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

Specifications for:

D 1527 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe, Schedules 40 and 80
D 2235 Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D 2282 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe (SDR-PR)
D 2468 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 40
D 2661 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe
D 2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D 2750 Acrylonitrile-Butadiene-Styrene (ABS) Plastics Utilities Conduit and Fittings
D 2751 Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D 3138 Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D 3965 Rigid Acrylonitrile-Butadiene-Styrene (ABS) Compounds for Pipe and Fittings

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F 409 Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
F 628 Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste and Vent Pipe with a Cellular Core

Test Method for:

D 2444 Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

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

Specifications for:

D 2846 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot-and Cold-Water Distribution Systems
F 1336 Poly (Vinyl Chloride) (PVC) Gasketed Sewer Fittings
F 437 Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 438 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40
F 439 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 441 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 40 and 80
F 442 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe (SDR-PR)
F 493 Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings

Polyethylene Plastic Pipe, Tubing, and Fittings

Specifications for:

D 2104 Polyethylene (PE) Plastic Pipe, Schedule 40
D 2239 Polyethylene (PE) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D 2447 Polyethylene (PE) Plastic Pipe, Schedules 40 and 80, Based on Outside Diameter
D 2609 Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
D 2683 Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D 2737 Polyethylene) (PE) Plastic Tubing

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Specifications for:

D 3035	Polyethylene (PE) Plastic Pipe (DR-PR) Based on Controlled Outside Diameter
D 3261	Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
D 3350	Polyethylene Plastics Pipe and Fittings Materials
F 405	Corrugated Polyethylene (PE) Tubing and Fittings
F 667	Large Diameter Corrugated Polyethylene (PE) Tubing and Fittings

Specifications for:

F 714	Polyethylene (PE) Plastic Pipe (SDR-PR) Based on Outside Diameter
F 771	Polyethylene (PE) Thermoplastic High-Pressure Irrigation Pipeline Systems
F 810	Smoothwall Polyethylene (PE) Pipe for Use in Drainage and Waste Disposal Absorption Fields
F 876	Crosslinked Polyethylene (PEX) Tubing
F 876	Standard Specification for PEX Tubing
F 877	Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems
F 892	Polyethylene (PE) Corrugated Pipe with a Smooth Interior and Fittings
F 894	Polyethylene (PE) Large Diameter Profile Wall Sewer and Drain Pipe
F 1055	Electrofusion Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing
F 1533	Deformed Polyethylene (PE) Liner

Practice for:

F 905	Qualifications of Polyethylene Saddle Fusion Joints

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

Specifications for:

D 1785	Poly (Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
D 2464	Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D 2466	Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D 2467	Socket-Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80

Office Address:

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D 2564	Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
D 2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D 2672	Joints for IPS PVC Pipe Using Solvent Cement
D 2729	Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 2949	3.25-In. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D 3034	Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 3138	Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D 3915	Poly (Vinyl Chloride) (PVC) and Related Plastic Pipe and Fittings Compounds
D 4396	Rigid Poly (Vinyl Chloride) (PVC) and Related Plastic Compounds for Non-Pressure Piping Products
F 409	Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
F 512	Smooth-Wall Poly (Vinyl Chloride) (PVC) Conduit and Fittings for Underground Installation
F 656	Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
F 679	Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
F 758	Smooth-Wall Poly (Vinyl Chloride) (PVC) Plastics Underdrain Systems for Highway, Airport, and Similar Drainage
F 789	Type PS-46 Poly (Vinyl Chloride) (PVC) Plastic Gravity Flow Sewer Pipe and Fittings
F 794	Poly (Vinyl Chloride) (PVC) Ribbed Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
F 891	Coextruded Poly (Vinyl Chloride) (PVC) Plastic Pipe with a Cellular Core
F 949	Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
F 1483	Oriented Poly (Vinyl) Chloride PVCO, Pressure Pipe
F 1504	Folded Poly (Vinyl Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation
F 1674	Joint Restraint Products for Use with PVC Pipe
F 1697	Poly (vinyl chloride) (PVC) Profile Strip for Machine Spiral Wound Liner Pipe Rehabilitation of Existing Sewers and Conduits

Test Method for:

D 2152	Degree of Fusion of Extruded Poly (Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
D 2444	Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)

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Practice for:

D 2855	Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
F 610	Estimating the Quality of Molded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings by the Heat Reversion Technique
F 1741	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:

D 2662	Polybutylene (PB) Plastic Pipe (SIDR-PR) Based on Controlled Inside Diameter
D 2666	Polybutylene (PB) Plastic Tubing
D 3000	Polybutylene (PB) (SDR-PR) Based on Outside Diameter
F 809	Large Diameter Polybutylene Plastic Pipe
F 809M	Large Diameter Polybutylene Plastic Pipe (Metric)
F 845	Plastic Insert Fittings for Polybutylene (PB) Tubing
F 878	Polybutylene (PB) Thermoplastic Thin-Wall Drip Irrigation Tubing
F 1380	Metal Insert Fittings for Polybutylene (PB) Tubing

Practice for:

F 699	Accelerated Conditioning of Polybutylene Pipe and Tubing for Subsequent Quality Control Testing

Fiberglass Pipe and Fittings

Specification for:

D 1694	Threads 60ºc (Stub) for “Fiberglas -Fiber-Reinforced Thermosetting-Resin) Pipe
D 2517	Reinforced Epoxy Resin Gas Pressure Pipe and Fittings
D 2996	Filament-Wound “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D 2997	Centrifugally Cast Reinforced Thermosetting Resin Pipe
D 3262	“Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer Pipe
D 3517	“Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pressure Pipe

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D 3754 "Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
D 3840 "Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Non-Pressure Applications
D 4161 "Fiberglass (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals

Test Methods for:

D 2105 Longitudinal Tensile Properties of Reinforced Thermosetting Resin Pipe and Tube
D 2143 Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D 2924 External Pressure Resistance of Reinforced Thermosetting Resin Pipe
D 2925 Beam Deflection of Reinforced Thermosetting Plastic Pipe Under Full Bore Flow
D 3681 Chemical Resistance of "Fiberglass"(Glass-Fiber-Reinforced Thermosetting-Resin) Pipe in a Deflected Condition

Practice for:

D 2992 Obtaining Hydrostatic or Pressure Design Basis for "Fiberglass" (Glass-Fiber-Reinforced Thermosetting) Resin Pipe and Fittings
D 3567 Determining Dimensions of Reinforced Thermosetting-Resin) Pipe (RTRP) and Fittings
D 3839 Underground Installation of "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe and Reinforced Plastic Mortar Pipe

Classification for:

D 2310 Machine-Made Reinforced Thermosetting-Resin Pipe

Styrene-Rubber Plastic Pipe and Fittings

Specifications for:

D 2852 Styrene-Rubber (SR) Plastic Drain Pipe and Fittings
D 3122 Solvent Cements for Styrene-Rubber Plastic Pipe and Fittings

Plastic Lined Metal Pipe and Fittings

Specifications for:

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F 423	Polytetrafluoroethylene (PTFE) Plastic-Lined Ferrous Metal Pipe, Fittings, and Flanges
F 491	Poly (Vinyl Fluoride) (PVDF) Plastic-Lined Ferrous Metal Pipe and Fittings
F 492	Propylene and Polypropylene (PP) Plastic-Lined Ferrous Metal Pipe and Fittings
F 546	Perfluoro (Ethylene-Propylene) Copolymer (FEP) Plastic-Lined Ferrous Metal Pipe and Fittings
F 599	Poly (Vinylidene Chloride) (PVDC) Plastic-Lined Ferrous Metal Pipe and Fittings
F 781	Perfluoro (Alkoxyalkane) Copolymer (PFA) Plastic-Lined Ferrous Metal Pipe and Fittings
F 1545	Plastic-Lined Ferrous Metal Pipe, Fittings, and Flanges

B. PLASTICS PIPE SYSTEM CLASSIFICATIONS

Conduit and Fittings

Specifications for:

D 2750	Acrylonitrile-Butadiene-Styrene (ABS) Plastic Utilities Conduit and Fittings
D 2661	Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe
D 2665	Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D 2949	3.25-In. Outside Diameter Poly (Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
D 3311	Drain, Waste and Vent (DWV) Plastic Fittings Patterns
F 409	Thermoplastic Accessible and Replaceable Plastic Tube and Tubular Fittings
F 628	Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe with a Cellular Core
F 1499	Coextruded Composite Drain, Waste, and Vent Pipe (DWV)
F 1673	Polyvinylidene Fluoride (PVDF) Corrosive Waste Drainage Systems

Gas Pipe, Tubing, and Fittings

Specifications for:

D 2513	Thermoplastic Gas Pressure Pipe, Tubing, and Fittings
D 2517	Reinforced Epoxy Resin Gas Pressure Pipe and Fittings

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F 689 Determination of the Temperature of Above-Ground Plastic Gas Pressure Pipe within Metallic Casings

Guide for:

F 1025 Selection and Use of Full-Encirclement-Type Band Clamps for Reinforcement or Repair of Punctures or Holes in Polyethylene Gas Pressure Pipe
F 1041 Squeeze-Off of Polyolefin Gas Pressure Pipe and Tubing

Sewer Pipe and Fittings

Specification for:

D 2680 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping
D 2729 Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 2751 Acrylonitrile-Butadiene-Styrene (ABS) Sewer Pipe and Fittings
D 2852 Styrene-Rubber (SR) Plastic Drain Pipe and Fittings
D 3034 Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
D 3262 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
D 3754 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Sewer and Industrial Pressure Pipe
D 3840 “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Fittings for Non-Pressure Applications
F 679 Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings
F 789 Type PS-46 Poly (Vinyl Chloride) (PVC) Plastic Gravity Flow Sewer Pipe and Fittings
F 949 Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
F 1417 Installation Acceptance of Plastic Gravity Sewer Lines Using Low-Pressure Air
F 1504 Folded Poly (Vinyl Chloride) (PVC) Pipe for Existing Sewer and Conduit Rehabilitation
F 1697 Poly (Vinyl Chloride) (PVC) Profile Strip for Machine Spiral Wound Liner Pipe Rehabilitation of Existing Sewers and Conduits
F 1698 Installation of Poly (Vinyl Chloride) (PVC) Profile Strip Liner and Cementitious Grout for rehabilitation of Existing Man-Entry Sewers and Conduits

Practice for:

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D 2321 Underground Installation of Flexible Thermoplastic Sewer Pipe
F 1606 Rehabilitation of Existing Sewers and Conduits with Deformed Polyethylene (PE) Liner
F 1675 Life-Cycle Cost Analysis of Plastic Pipe used for Culverts, Storm Sewers and Other Buried Conduits
F 1759 Practice for Design of High Density Polyethylene (HDPE) Manholes for Subsurface Applications

Hot and Cold Water Distribution Pipe and Fittings

Specification for:

D 2846 Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Hot- and Cold-Water Distribution Systems
D 3309 Polybutylene (PB) Plastic Hot- and Cold-Water Distribution Systems
F 877 Crosslinked Polyethylene (PEX) Plastic Hot- and Cold-Water Distribution Systems

C. PLASTICS PIPE INSTALLATION AND COMPONENTS

Fittings

Specification for:

D 2464 Threaded Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D 2466 Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
D 2467 Socket-Type Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80
D 2468 Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe Fittings, Schedule 40
D 2609 Plastic Insert Fittings for Polyethylene (PE) Plastic Pipe
D 2683 Socket-Type Polyethylene Fittings for Outside Diameter-Controlled Polyethylene Pipe and Tubing
D 3261 Butt Heat Fusion Polyethylene (PE) Plastic Fittings for Polyethylene (PE) Plastic Pipe and Tubing
F 437 Threaded Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 438 Socket-Type Chlorinated Poly (Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 40
F 439 Socket-Type Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe Fittings, Schedule 80
F 1055 Electrofusion-Type Polyethylene Fittings for Outside Diameter Controlled Polyethylene Pipe and Tubing

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Practice for:

F 725 Drafting Impact Test Requirements in Thermoplastic Pipe and Fittings Standards

Joints, Seals, Solvent Cements and Primers

Specification for:

D 2235 Solvent Cement for Acrylonitrile-Butadiene-Styrene (ABS) Plastic Pipe and Fittings
D 2564 Solvent Cements for Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
D 3122 Solvent Cements for Styrene-Rubber (SR) Plastic Pipe and Fittings
D 3138 Solvent Cements for Transition Joints Between Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Non-Pressure Piping Components
D 3139 Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals
D 3212 Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals
D 4161 "Fiberglass" (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe Joints Using Flexible Elastomeric Seals
F 477 Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F 493 Solvent Cements for Chlorinated Poly (Vinyl Chloride) (CPVC) Plastic Pipe and Fittings
F 545 PVC and ABS Injected Solvent Cemented Plastic Pipe Joints
F 656 Primers for Use in Solvent Cement Joints of Poly (Vinyl Chloride) (PVC) Plastic Pipe and Fittings
F 913 Thermoplastic Elastomeric Seals (Gaskets) for Joining Plastic Pipe
F 1056 Socket Fusion Tools for Use in Socket Fusion Joining Polyethylene Pipe or Tubing and Fittings

Practice for:

D 2657 Heat-Joining of Polyolefin Pipe and Fittings
D 2855 Making Solvent-Cemented Joints with Poly (Vinyl Chloride) (PVC) Pipe and Fittings
D 3140 Flaring Polyolefin Pipe and Tubing
F 402 Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings

Underground Installation

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Practice for:

D 2321 Underground Installation of Flexible Thermoplastic Sewer Pipe
D 2774 Underground Installation of Thermoplastic Pressure Piping
D 3839 Underground Installation of Flexible Reinforced Thermosetting Resin Pipe and Reinforced Plastic Mortar Pipe
F 449 Subsurface Installation of Corrugated Thermoplastic Tubing for Agricultural Drainage or Water Table Control
F 481 Installation of Thermoplastic Pipe and Corrugated Tubing in Septic Tank Leach Fields
F 585 Insertion of Flexible Polyethylene Pipe into Existing Sewers
F 690 Underground Installation of Thermoplastic Pressure Piping Irrigation Systems
F 1176 Design and Installation of Thermoplastic Irrigation Systems with Maximum Working Pressure of 63 psi
F 1216 Rehabilitation of Existing Pipelines and Conduits by the Inversion and Curing of a Resin Impregnated Tube
F 1668 Construction Procedures for Buried Plastic Pipe

D. GENERAL TEST METHODS

Test Method for:

F 1248 Test Method for Determination of Environmental Stress Crack Resistance (ESCR) of Polyethylene Pipe
D 1598 Time-to-Failure of Plastic Pipe Under Constant Internal Pressure
D 1599 Short-Time hydraulic Failure Pressure of Plastic Pipe, Tubing, and Fittings
D 2105 Longitudinal Tensile Properties of Reinforced Thermosetting-Resin Pipe and Tube
D 2122 Determining Dimensions of Thermoplastic Pipe and Fittings
D 2143 Cyclic Pressure Strength of Reinforced, Thermosetting Plastic Pipe
D 2152 Degree of Fusion of Extruded Poly (Vinyl Chloride) (PVC) Pipe and Molded Fittings by Acetone Immersion
D 2290 Apparent Tensile Strength of Ring or Tubular Plastics and Reinforced Plastics by Split Disk Method
D 2412 Determination of External Loading Characteristics of Plastic Pipe by Parallel-Plat Loading
D 2444 Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup (Falling Weight)
D 2586 Hydrostatic Compressive Strength of Glass-Reinforced Plastic Cylinders
D 2837 Obtaining Hydrostatic Design Basis for Thermoplastic Pipe Materials
D 2924 External Pressure Resistance of Reinforced Thermosetting Resin Pipe

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D 2925	Beam Deflection of Reinforced Thermosetting Resin Pipe Under Full Bore Flow
D 3681	Chemical Resistance of “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe in a Deflected Condition
D 4166	Measurement of Thickness of Non-Magnetic Materials by Means of a Digital Magnetic Intensity Instrument
F 948	Time-to-Failure of Plastic Piping Systems and Components Under Constant Internal Pressure with Flow

Practice for:

D 2487	Classification of Soils for Engineering Purposes
D 2488	Description and Identification of Soils (Visual-Manual Procedure)
D 2992	Obtaining Hydrostatic or Pressure Design Basis for “Fiberglass” (Glass-Fiber-Reinforced Thermosetting-Resin) Pipe
D 3567	Determining Dimensions of Reinforced Thermosetting-Resin Pipe (RTRP) and Fittings
F 1057	Estimating the Quality of Extruded Poly (Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique

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SECTION III

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.aashto.org

M 252 Plastic and Polyethylene corrugated Drainage Tubing
M 252M-96 Corrugated Polyethylene Drainage Pipe
M 264-92 Acrylonitrile-Butadiene-Styrene (ABS) and Poly (Vinyl Chloride) (PVC) Composite Sewer Piping (Revised 1995)
M 278 Class P5 50 Polyvinyl Chloride (PVC) Pipe
M 278-94 Class PS46 Polyvinyl Chloride (PVC) Pipe (Revised 1995)
M 294 Corrugated Polyethylene Pipe, 12 to 24 in. Diameter
M 294-96 Corrugated Polyethylene Pipe, 300- to 900-mm (12- to 36-in.) Diameter
M 297-97 Corrugated Polyethylene Pipe, 12 to 48 in. Diameter, with a Smooth Interior Type S
M 304M-94 Poly (Vinyl Chloride) (PVC) Profile Wall Drain Pipe and Fittings Based on Controlled Inside Diameter (Revised 1995)
MP7-97 Corrugated Polyethylene Pipe, 54 and 60 in. Diameter, with a Smooth Interior

ANSI American National Standards Institute, Inc.
11 West 42nd St.
New York, NY 10036
(212) 642-4900
Internet Address: www.ansi.org

B16.40-1985 ASME B16.40-1996, Manually Operated Thermoplastic Gas Shut-Offs and Valves in Gas Distribution Systems (R1994)
B31.3-1996 ASME B31.3-1996, Process Piping
B31.4-1992 ASME B31.4-1992, Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous
B31.8-1989 ASME B31.8-1995, Gas Transmission and Distribution Piping Systems
B31.9-1996 ASME B31.9-1996, Building Services Piping Code for Pressure Piping
B31.11-1989 ASTE B31.11-1989, Slurry Transportation Piping Systems
UL 651-1996 UL 651-1996, Schedule 40 and 80 rigid PVC Conduit
UL 651A-1996 UL 651A-1996, Type EB and A Rigid PVC Conduit and HDPE Conduit

Z223.1-1996 ANSI Z223.1-1996, National Fuel Gas Code

API

American Petroleum Institute
Publications and Distribution Section
1220 L St., NW
Washington, DC 20005
(202) 682-8000
Internet Address: www.api.org

15HR High Pressure Fiberglass Line Pipe, Second Edition, April 1, 1995
15LE Polyethylene (PE) Line Pipe, Third Edition, April 1, 1995
15LR Low Pressure Fiberglass Line Pipe, Sixth Edition, September 1, 1990 (ANSI/API Spec 15LR-1992)
15LT PVC Lined Steel Tubular Goods, First Edition, January 1, 1993
RP 5L2 Internal Coating of Line Pipe for Non-Corrosive Gas Transmission Service, Third Edition, May 31, 1987 (ANSI/API RP 5L2-1992)
RP 15 TL4 Care and Use of Fiberglass Tubulars, First Edition, October 1, 1993

ASA**E**

American Society of Agricultural Engineers
2950 Niles Road
St. Joseph, MI 49085-9659
(616) 429-0300
Internet Address: www.asae.org

S376.2 JAN98 Design, Installation and Performance of Underground Thermoplastic Irrigation Pipelines
EP260.4 DEC97 Design and Construction of Subsurface Drains in Humid Areas
S435 DEC97 Polyethylene Pipe used for Microirrigation Laterals

AWWA

American Water Works Association
6666 West Quincy Ave.
Denver, CO 80235
Internet Address: www.awwa.org

C105-93 Polyethylene Encasement for Ductile Iron Pipe Systems
C215-94 Extruded Polyolefin Coatings for the Exterior of Steel Water Pipelines
C216-94 Heat Shrinkable Cross Linked Polyolefin Coatings for the Exterior of Special Sections, Connections and Fittings for Steel Water Pipelines

C900-97 PVC Pressure Pipe 4 inches through 12 inches for Water Distribution
C901-96 Polyethylene (PE) Pressure Pipe & Tubing ½ inch through 3 inches for Water Service
C905-97 PVC Pressure Pipe 14 inches through 48 inches for Water Distribution
C906-99 Polyethylene Pressure Pipe and Fittings 4 inches through 63 inches for Water Distribution
C907-91 Polyvinyl Chloride Pressure Fittings for Water
C908-97 PVC Self Tapping Saddle
C950-95 Fiberglass Pressure Pipe

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445 South Street
Morristown, NY 07960
Internet Address: www.bellcore.com

GR356-CORE Generic Requirements for Optical Cable Innerduct and Accessories

CGSB

Canadian Government Standards Board
Ottawa, Canada K1A 1G6
(819) 956-0400
Internet Address: www.pwgsc.gc.ca

41-GP-25M Pipe, Polyethylene for the Transport of Liquids, October, 1977
41-GP-29M Tubing, Drainage, Corrugated Plastic, November, 1983

CSA

Canadian Standards Association
178 Rexdale Blvd.
Etobicoke, Ontario
Canada M9W 1R3
(416) 747-4000
Internet Address: www. csa.ca

B 137.0 Definitions, General Requirements and Methods of Testing for Thermoplastic Pressure Pipe
B 137.1 Polyethylene Pipe, Tubing, and Fittings for Cold Water Pressure Services
B 137.2 PVC Injection Molded Gasketed Fittings for Pressure Applications
B 137.3 Rigid Polyvinyl Chloride (PVC) Pipe for Pressure Applications
B 137.4 Polyethylene Piping Systems for Gas Services (rp:04/74)
B 137.4.1 Electrofusion-Type Polyethylene Fittings for Gas Services

B 137.5 Cross-Linked Polyethylene (PEX) Tubing Systems for Pressure Applications
B 137.6 CPVC Pipe, Tubing, and Fittings for Hot and Cold Water Distribution Systems
B 137.7 Polybutylene (PB) Pipe for Cold Water Distribution Systems
B 137.8 Polybutylene (PB) Piping for Pressure Application (rp:07/92
B137.9 Polyethylene/Aluminum/Polyethylene Composite Pressure Pipe Systems
B137.10 Crosslinked Polyethylene/Aluminum/Crosslinked Polyethylene Composite Pressure Pipe Systems
B137.11 Polypropylene (PP-R) Pipe and Fitting for Pressure Applications (rp: 08/94)
B137.12 Polyamide Piping Systems for Gas Services
B 181.1 ABS Drain, Waste and Vent Pipe and Pipe Fittings
B 181.2 PVC Drain, Waste and Vent Pipe and Pipe Fittings
B 181.3 Polyolefin Laboratory Drainage Systems (rp:10/90)
B181.5 Coextruded ABS/PVC Drain, Waste and Pipe Fittings
B 182.1 Plastic Drain and Sewer Pipe and Pipe Fittings
B 182.2 PVC Sewer Pipe and Fittings (PSM Type)
B 182.4 Profile PVC Sewer Pipe and Pipe Fittings
B182.6 Profile Polyethylene Sewer Pipe and Fittings (rp: 05/94)
B 196.3 PVC Underground Telecommunication Cable Ducting and Fittings
C 22.2 General Requirements and Methods of Testing for Non-Metallic Conduit
No. 211.0 (rp:01/85, 08/91)
C 22.2 Rigid Types EB1and DB2/ES2 PVC Conduit (rp: 03/85, 10/86)
No. 211.1
C 22.2 Rigid PVC (Unplasticized) Conduit (rp: 07/85)
No. 211.2

Department of Agriculture

U.S. Department of Agriculture
Soil Conservation Service
P.O. Box 2890
Washington, DC 20013

SCS National Handbook of Conservation Practices:
SCS 378 Pond, October, 1987
SCS 410 Grade Stabilization Structure, October, 1987
SCS 430-DD Irrigation Water Conveyance, Pipeline (High Pressure Underground Plastic) December, 1988
SCS 430-EE Irrigation Water Conveyance, Pipeline (Low Pressure Underground Plastic) December, 1988
SCS 430-GG Reinforced Plastic Mortar, Pipeline, April, 1982
SCS 430-HH Rigid Gated Pipeline, October, 1985
SCS 441 Irrigation System, Trickle, April, 1982
SCS 442 Irrigation System, Sprinkler, October, 1987
SCS 516 Pipeline, October, 1985

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SCS 543	Land Reconstruction-Abandoned Mine Land, June 1984
SCS 606	Subsurface Drain, May, 1988
SCS 620	Underground Outlet, October, 1987
SCS 636	Water Harvesting Catchment, October, 1978
SCS 642	Well, April, 1980

Department of Transportation (DOT)

Department of Transportation, Research and Special Programs Administration, Office of
Pipeline Safety, Title 49, CFR Part 192. Transportation of Natural Gas and Other Gas by Pipeline: Minimum Federal Safety Standards. (Included in 49 CFR Parts 178 to 199) Available from:

Superintendent of Documents
U.S. Government Printing Office
Washington, DC 20402

Federal Specifications

Specification Sales (3FRI)
Building 197, Washington Navy Yard
General Services Administration
Washington, DC 20407

Federal Specifications and Commercial Item Descriptions

Specification and Consumer Information Distribution Systems (WFSLS)

W-C-1904A	Conduit and Conduit Fittings, Plastic, Rigid (July 3, 1975)
L-P-320B (1)	Pipe and Fittings, Plastic (Polyvinyl Chloride PVC, Drain, Waste and Vent (DWV) (March 8, 1973) Notice 1 (May 14, 1973) Amendment 1 (March 30, 1977)
L-P-509A (1)	Plastic Sheet, Rod and Tube, Laminated, Thermosetting (January 19, 1965) Amendment 1 (October 17, 1967)
L-P-1221A (1)	Pipe and Fittings, Plastic, Rigid (Styrene-Rubber, Drain (April 12, 1977)
L-P-1036A	Plastic Rod Solid, Plastic Tubes and Tubing, Heavy Walled, Polyvinyl Chloride, Rigid (May 22, 1974)
L-P-00315D	Pipe and Tubing, Non-Metallic (Plastic) (October 22, 1976)
A-A-996	Pipe, Non-Metallic (Plastic) (March 7, 1983)
01988	Potable Water Pipe
04726	Plastic Heating Pipe
04727	PB Heating Pipe
04729	PEX Heating Pipe
16831	PB Pressure Pipe
16873	PEX Pipe
16892	PEX Pressure Pipe
16968,969	PB Pipe

HUD U.S. Department of Housing & Urban
Development

Architectural Standards Division
Federal Housing Administration
Washington, DC 20412

UM-26b	Plastic Drain and Sewer Pipe and Fittings (May 15, 1967
UM-56	Polyethylene Plastic Drainage Waste and Vent Pipe and Fittings (May 5, 1970)
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-54	ABS (Acrylonitrile-Butadiene-Styrene) Plastic Drainage, Water and Vent Pipe and Fittings (March 2, 1970)
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
20001 E. Walnut Drive South
Walnut, CA 91789-2825
(909) 595-8449
Internet Address: www.iapmonet.org

IAPMO IS 1-85 Non-Metallic Building Sewers

IAPMO IS 5-87 ABS Drain, Waste and Vent Pipe and Fittings
IAPMO IS 7-83 Polyethylene (PE) Cold Water Building Supply and Yard Piping
IAPMO IS 8-86 PVC Cold Water Building Supply and Yard Piping
IAPMO IS 9-87 PVC Building Drain, Waste and Vent Pipe and Fittings
IAPMO IS 10-86 Polyvinyl Chloride (PVC) Natural Gas Yard Piping
IAPMO IS 11-87 ABS Sewer Pipe and Fittings
IAPMO IS 12-85 Polyethylene (PE) for Gas Yard Piping
IAPMO IS 17-82 Polybutylene (PB) Cold Water Building Supply and Yard Piping and Tubing
IAPMO IS 20-85 CPVC Solvent Cemented Hot and Cold Water Distribution Systems
IAPMO IS 22-84 Polybutylene Hot and Cold Water Distribution Piping, Tubing Systems Using Insert Fittings
IAPMO IS 23-84 Polybutylene Hot and Cold Water Distribution Pipe, Tubing and Fitting System Using Heat Fusion
IAPMO IS 24-85 Polybutylene Hot and Cold Water Distribution Pipe, Tubing and Fitting System Using Pressure-Lock Fittings
IAPMO IS 25-85 Polybutylene Hot and Cold Water Distribution Tubing Systems Using Compression Joint System
IAPMO IS 25-84 Fittings for Joining Polyethylene Pipe for Water Service and Yard Piping
PS 64-93 Pipe Flashing
IGC 109-97 Water Distribution Manifolds for Use with SDR 9 PEX Tubing
IGC 116-98a Fittings for PE-Al-PE and PEX-Al-PEX Tubing
IGC 121-98 PVC Plastic Valves for Cold Water Distribution Systems Outside a Building and CPVC Plastic Valves for Hot and Cold Water Distribution Systems
IGC 122-98 Test Caps with ABS (Acrylonitrile-Butadiene-Styrene) or PVC (Ploy Vinyl Chloride) Housings

ISO

International Standards Organization
1, Rue de Varemb´e
Case Postale 56
CH – 1211 Geneva 20
Switzerland
+41-22-749-01-11
Internet Address: www.iso.ch

USA Secretariat:

American National Standards Institute
1430 Broadway
New York, NY 10019
(212) 354-3300

Plastics Pipes

Office Address:

No.8 (Suit 6), Nour Alley, Africa St., Tehran/IRAN.....

Tel.: (+98 21) 88 67 79 65 , 88 67 79 66, 88 67 39 19 , 88 67 39 18 - Fax: (+98 21) 88 87 85 81

www.parsethylene-kish.com

161-1:1978	Thermoplastics Pipes for the Transport of Fluids – Nominal Outside Diameters and Nominal Pressures – Part 1: Metric Series
161-2:1977	Thermoplastic Pipes for the Transport of Fluids – Nominal Outside Diameters and Nominal Pressures – Part 2: Inch Series
1167:1973	Plastics Pipes for the Transport of Fluids – Determination of the Resistance to Internal Pressure
2505-1:1994	Thermoplastics Pipes – Longitudinal Reversion – Part 1: Determination Methods
2505-2:1994	Thermoplastics Pipes – Longitudinal Reversion – Part 2: Determination Parameters
2507-1:1995	Thermoplastics Pipes and Fittings – Vicat Softening Temperature – Part 1: General Test Method
2507-2:1995	Thermoplastics Pipes and Fittings – Vicat Softening Temperature – Part 2: Test Conditions for Unplasticized Poly (Vinyl Chloride) (PVC-U) or Chlorinated Poly (vinyl chloride) Pipes and Fittings and for High Impact Resistance Poly (vinyl chloride) (PVC-HI) Pipes
2507–3:1995	Thermoplastics Pipes and Fittings – Vicat Softening Temperature – Part 3: Test Conditions for Acrylonitrile/Butadiene/Styrene (ABS) and Acrylonitrile/Styrene/Acrylic Ester (ASA) Pipes and Fittings
2508:1981	Unplasticized Polyvinyl Chloride (PVC) Pipes – Water Absorption – Determination and Specification
3126:1974	Plastics Pipes – Measurement of Dimensions
3127:1994	Thermoplastics Pipes – Determination of Resistance to External Blow – Round-the-Clock Method
3212:1975	Polypropylene Pipes – Burst Test Requirements
3213:1975	Polypropylene Pipes – Reduction of Permissible Stress as a Function of Time and Temperature
3472:1975	Unplasticized Polyvinyl Chloride (PVC) Pipes – Specification and Determination of Resistance to Acetone
3473:1977	Unplasticized Polyvinyl Chloride (PVC) Pipes – Effect of Sulfuric Acid – Requirement and Test Method
3474:1976	Unplasticized Polyvinyl Chloride (PVC) Pipes – Specification and Measurement of Opacity
3477:1981	Polypropylene (PP) Pipes and Fittings – Density – Determination and Specification
3480:1976	Polypropylene (PP) Pipes – Minimum Permissible Longitudinal Reversion
3514:1976	Chlorinated Polyvinyl Chloride (CPVC) Pipes and Fittings – Specification and Determination of Density
3606:1976	Unplasticized Polyvinyl Chloride (PVC) Pipes – Tolerances on Outside Diameters and Wall Thicknesses
3607:1977	Polyethylene (PE) Pipes – Tolerances on Outside Diameters and Wall Thicknesses

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3608:1976	Chlorinated Polyvinyl Chloride (CPVC) Pipes – Tolerances on Outside Diameters and Wall Thicknesses
3609:1977	Polypropylene (PP) Pipes – Tolerances on Outside Diameters and Wall Thicknesses
4056:1978	Polyethylene (PE) Pipes and Fittings – Designation of Polyethylene Based on Nominal Density and Melt Flow Index
4059:1978	Polyethylene (PE) Pipes – Pressure Drop in Mechanical Pipe-Joining Systems – Method of Test and Requirements
4065:1978	Thermoplastic Pipes – Universal Wall Thickness Table
4433:1984	Polyolefin Pipes – Resistance to Chemical Fluids – Immersion Test Method – System for Preliminary Classification
4439:1979	Unplasticized Polyvinyl Chloride (PVC) Pipes and Fittings – Determination of Specification of Density
4440-1:1994	Thermoplastics Pipes and Fittings – Determination of Melt Mass-Flow Rate – Part 1: Test Method
4440-2:1994	Thermoplastics Pipes and Fittings – Determination of Melt Mass-Flow Rate – Part 2: Test Conditions
4451:1980	Polyethylene (PE) Pipes and Fittings – Determination of Reference Density of Uncoloured and Black Polyethylenes
6964:1986	Polyolefin Pipes and Fittings – Determination of Carbon Black Content by Calcination and Pyrolysis – Test Method and Basic Specification
7245:1984	Pipes and Fittings of Acrylonitrile/Butadiene/Styrene (ABS) – General Specification for Moulding and Extrusion Materials
7246:1984	Pipes and Fittings of Acrylonitrile/Styrene/Acrylester (ASA) – General Specification for Moulding and Extrusion Materials
BS7281 Part 2	Specification for PB Pipe and Associated Fittings
7370:1983	Glass Fibre Reinforced Thermosetting Plastics (GRP) Pipes and Fittings – Nominal Diameters, Specified Diameters and Standard Lengths
7676:1990	Unplasticized Poly (vinyl chloride) (PVC-U) Pipes – Dichloromethane Test
7686:1992	Plastics Pipes and Fittings – Opacity – Test Method
8361-1:1991	Thermoplastics Pipes and Fittings – Water Absorption – Part 1: General Test Method
8361-2:1991	Thermoplastics Pipes and Fittings – Water Absorption – Part 2: Test Conditions for Unplasticized Poly (vinyl chloride) (PVC-U) Pipes and Fittings
8361-3:1991	Thermoplastics Pipes and Fittings – Water Absorption – Part 3: Test Conditions for Acrylonitrile/Butadiene/Styrene (ABS) Pipes and Fittings
8584-1:1990	Thermoplastics Pipes for Industrial Applications Under Pressure – Determination of the Chemical Resistance Factor and of the Basic Stress – Part 1: Polyolefin Pipes
TR 9080:1992	Thermoplastics Pipes for the Transport of Fluids – Methods of Extrapolation of Hydrostatic Stress Rupture Data to

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	Determine the Long-Term Hydrostatic Strength of Thermoplastics Pipe Materials
9852:1995	Unplasticized Poly (vinyl chloride) (PVC-U) Pipes – Dichloromethane Resistance at Specified Temperature (DCMT) – Test Method
9854-1:1994	Thermoplastics Pipes for the Transport of Fluids – Determination of Pendulum Impact Strength by the Charpy Method – Part 1: General Test Method
9854-2:1994	Thermoplastics Pipes for the Transport of Fluids – Determination of Pendulum Impact Strength by the Charpy Method – Part 2: Test Conditions for Pipes of Various Materials
9967:1994	Thermoplastics Pipes – Determination of Creep Ratio
9969:1994	Thermoplastics Pipes – Determination of Ring Stiffness
DIS 10146	Effect of Time and Temperature on PEX Pipe
10147:1994	Pipes and Fittings Made of Crosslinked Polyethylene (PE-X) – Estimation of the Degree of Crosslinking by Determination of the Gel Count
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
11173:1994	Thermoplastics Pipes – Determination of Resistance to External Blows – Staircase Method
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
12230.2	Effect of Time and Temperature on the Strength of PB Pipe
13760.2	Plastic Pipe for the Transportation of Fluids under Pressure – Miner's Rule Calculation for Cumulative Damage

Flanges, Couplings and Other Pipe Connections

2535:1974	Unplasticized Polyvinyl Chloride (PVC) Pressure Pipes and Fittings, Metric Series – Dimensions of Flanges
3683:1976	Polyethylene (PE) Pressure Pipes and Fittings, Metric Series – Dimensions of Flanges

Pipelines in General

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

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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
9356:1989	Polyolefin Pipe Assemblies With or Without Jointed Fittings – Resistance to Internal Pressure – Test Method

Irrigation Equipment

8779:1992	Polyethylene (PE) Pipes for Irrigation Laterals – Specifications
8796:1989	Polyethylene (PE) 26 Pipes for Irrigation Laterals – Susceptibility to Environmental Stress-Cracking Induced by Insert-Type Fittings – Test Method and Specification

Petroleum Products and Natural Gas Handling Equipment

2703:1973	Buried Unplasticized Polyvinyl Chloride (PVC) Pipes for the Supply of Gaseous Fuels – Metric Series – Specification
4457:1988	Buried Polyethylene (PE) Pipes for the Supply of Gaseous Fuels – Metric Series – Specification
6993:1990	Buried, High-Impact Poly (vinyl chloride) (PVC-HI) Pipes for the Supply of Gaseous Fuels – Specification
TR 10837:1991	Determination of the Thermal Stability of Polyethylene (PE) for use in Gas Pipes and Fittings

Materials

1628-3:1991	Plastics – Determination of Viscosity Number and Limiting Viscosity Number – Part 3: Polyethylenes and Polypropylenes
1872-1:1993	Plastics – Polyethylene (PE) Moulding and Extrusion materials – Part 1: Designation System and Basis for Specifications
1872-2:1989	Plastics – Polyethylene (PE) and Ethylene Copolymer Thermoplastics – Part 2: Preparation of Test Specimens and Determination of Properties
1873-1:1995	Plastics – Polypropylene (PP) Moulding and Extrusion Materials – Part 1: Designation System and Basis for Specifications
1873-2:1995	Plastics – Polypropylene (PP) and Propylene-Copolymer Thermoplastics – Part 2: Preparation of Test Specimens and Determination of Properties

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1874-1:1992	Plastics – Polyamide (PA) Moulding and Extrusion Materials – Part 1: Designation
1874-2:1995	Plastics – Polyamide (PA) Moulding and Extrusion Materials – Part 2: Preparation of Test Specimens and Determination of Properties
2580-1:1990	Plastics – Acrylonitrile/Butadiene/Styrene (ABS) Moulding and Extrusion Materials – Part 1: Designation
2580-2:1994	Plastics – Acrylonitrile/Butadiene/Styrene (ABS) Moulding and Extrusion Materials – Part 2: Preparation of Test Specimens and Determination of Properties
3451-4:1986	Plastics – Determination of Ash – Part 4: Polyamides
3451-5:1989	Plastics – Determination of Ash – Part 5: Poly (vinyl chloride)
4577:1983	Plastics – Polypropylene and Propylene-Copolymers – Determination of Thermal Oxidative Stability in Air – Oven Method
4894-1:1990	Plastics – Styrene/Acrylonitrile (SAN) Copolymer Moulding and Extrusion Materials – Part 1: Designation
4894-2:1995	Plastics – Styrene/Acrylonitrile (SAN) Copolymer Moulding and Extrusion Materials – Part 2: Preparation of Test Specimens and Determination of Properties
8986 1.2.3	PB Pipe Materials

Reinforced Plastics

8283-1:1991	Plastics Pipes and Fittings – Dimensions of Sockets and Spigots for Discharge Systems Inside Buildings – Part 1: Unplasticized Poly (vinyl chloride) (PVC-U) and Chlorinated Poly (vinyl chloride) (PVC-C)
8283-2:1992	Plastics Pipes and Fittings – Dimensions of Sockets and Spigots for Discharge Systems Inside Buildings – Part 2: Polyethylene (PE)
8283-3:1992	Plastics Pipes and Fittings – Dimensions of Sockets and Spigots for Discharge Systems Inside Buildings – Part 2: Polypropylene (PP)
8283-4:1992	Plastics Pipes and Fittings – Dimensions of Sockets and Spigots for Discharge Systems Inside Buildings – Part 4: Acrylonitrile/Butadiene/Styrene (ABS)
8659:1989	Thermoplastics Valves – Fatigue Strength – Test Method
8770:1991	High-Density Polyethylene (PE-HD) Pipes and Fittings for Soil and Waste Discharge (Low and High Temperature) Systems Inside Buildings – Specifications
8772:1991	High-Density Polyethylene (PE-HD) Pipes and Fittings for Buried Drainage and Sewerage Systems – Specifications
8773:1991	Polypropylene (PP) Pipes and Fittings for Buried Drainage and Sewerage Systems – Specifications
8779:1992	Polyethylene (PE) Pipes for Irrigation Laterals – Specifications

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8795:1990	Plastics Pipes for the Transportation of Water Intended for Human Consumption – Extractability of Constituents – Test Method

NEMA

National Electrical Manufacturers Association
1300 North 17th Street
Suite 1847
Rosslyn, VA 22209
(703) 841-3200
Internet Address: www.nema.org

RN 1-1090	Polyvinyl-Chloride (PVC) Externally Coated Galvanized Rigid Steel Conduit and Intermediate Metal Conduit
No. TC2-1990	Electrical Plastic Tubing (EPT) and Conduit (EPC-40 and EPC-80)
No. TC3-1990	PVC Fittings for Use with Rigid PVC Conduit and Tubing
No. TC5-1990	Corrugated Polyolefin Coilable Plastics Utilities Duct
No. TC6-1990	PVC and ABS Plastic Utilities Duct for Underground Installation
No. TC7-1990	Smooth-Wall Coilable Polyethylene Electrical Plastic Duct
No. TC8-1990	Extra-Strength PVC Plastic Utilities Duct for Underground Installation
No. TC9-1990	Fittings for ABS and PVC Plastic Utilities Duct of Underground Installation
No. TC10-1993	PVC and ABS Plastic Communications Duct and Fittings for Underground Installation
No. TC12-1990	Corrugated Polyvinyl-Chloride (PVC) Coilable Plastic Utilities Duct
No. TC13-1993	Electrical Non-Metallic Tubing (ENT)
No. TC14-1986	Filament-Wound Reinforced Thermosetting Resin Conduit and Fittings
No. TC15-1993	Corrugated Polyvinyl Chloride (PVC) Fiber Optic Innerduct
No. TC18-1993	Packaging of Master Bundles for EPC40 (Polyvinyl Chloride) Conduit
NEMA Bulletin	No. TCB2-1986 – User's Manual for the Installation of Underground Plastic Duct

NFPA

National Fire Protection Association
1 Batterymarch Park
Quincy, MA 02269
(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 Mobile 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 (1996)
NFPA 54	National Fuel Gas Code (1996)
NFPA 70	National Electrical Code (1996 Edition)
NFPA 70A	Electrical Code for One- and Two-Family Dwellings and Mobile Homes (1993 Edition)
NFPA 79	Electrical Standard for Industrial Machinery (1997)
NFPA 90A	Standard for the Installation of Air Conditioning and Ventilation Systems (1986)
NFPA 90B	Standard for the Installation of Warm Air Heating and Air Conditioning Systems (1996)
NFPA 414	Standard for Aircraft Rescue and Fire Fighting Vehicles (1985)
NFPA 501C	Standard on Recreational Vehicles (ANSI A119.3) (1996)

NSF

National Sanitation Foundation
3475 Plymouth Rd.
Ann Arbor, MI 48106
(734) 769-8010
www.nsf.org

NSF Standard No. 14:	Plastics Piping Components and Related Materials (1996)
NSF Standard No. 61:	Drinking Water System Components – Health Effects (1997)
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.
333 Pfingsten Rd.
Northbrook, IL 60062-2096
(847) 272-8800
www.ul.com

UL 94	Plastic Materials for Parts in Device and Appliance, Tests for Flammability of
UL 514 B	Fittings for Conduit and Outlet Boxes (1997)
UL 514 C	Non-Metallic Outlet Boxes, Flush-Device Boxes and Covers (1996)
UL 651	Schedule 40 and 80 Rigid PVC Conduit (1997)

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UL 651 A	Type EB and A Rigid PVC Conduit and HDPE Conduit (1998)
UL 651 B	Continuous Length HDPE Conduit (1997)
UL 746 A	Polymeric Material – Short Term Property Evaluations (1998)
UL 746 B	Polymeric Materials – Long Term Property Evaluations (1997)
UL 1285	Pipe and Couplings, Polyvinyl Chloride (PVC) for Underground Fire Service (1996)
UL 1660	Liquid-Tight Flexible Non-Metallic Conduit (1998)
UL 1713	Pressure Pipe and Couplings, Glass Fiber Reinforced, for Underground Fire Service (1996)
UL 1887	Fire Test of Plastic Sprinkler Pipe for Visible Flame and Smoke Characteristics (1998)

UNI-Bell

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

UNI-B-1	Recommended Standard Specification for Thermoplastic Pipe Joints, Pressure and Non-Pressure Applications
UNI-B-3	Recommended Practice for the Installation of Polyvinyl Chloride (PVC) Pressure Pipe (Nominal Diameters 4-36 Inch)
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
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

BOCA

Building Officials and Code Administrators International, Inc.
4051 W. Flossmoor Rd.
Country Club Hills, IL 60478
(708) 799-2300
www.bocai.org

BOCA 1996 National Building Code

		BOCA 1996 National Mechanical Code BOCA 1997 International Plumbing Code
CABO		Council of American Building Officials 5203 Leesburg Pike Falls Church, VA 22041 (703) 931-4533 www.intlcode.org CABO One and Two Family Dwelling Code (1996/97)
IAPMO		International Association of Plumbing and Mechanical Officials 20001 E. Walnut Drive South Walnut, CA 91789-2825 (909) 595-8449 www.iapmonet.org Uniform Plumbing Code (1997)
ICBO		International Conference of Building Officials 5360 South Workman Mill Road Whittier, CA 90601 (562) 699-0541 www.cssinfo.com Uniform Building Code (1994 Edition) Uniform Mechanical Code (1997 Edition)
PHCC		National Association of Plumbing-Heating-Cooling Contractors P.O. Box 6808 180 S. Washington Street Falls Church, VA 22040-6808 (703) 237-8100 www.naphcc.org National Standard Plumbing Code
SBCCI		Southern Building Code Congress International 900 Montclair Road Birmingham, AL 35213 (205) 591-1853 www.sbcci.org SBCCI Southern Building Code SBCCI Southern Standard Plumbing Code SBCCI Southern Standard Mechanical Code

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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

- American Society of Mechanical Engineers International
  United Engineering Center
  345 East 47th Street
  New York, NY 10017
  (212) 705-7722

  ASME Guide for Gas Transportation and Distribution Piping Systems

- U.S. Army

  Maintenance and Operation of Gas Systems, Nov. 1970, Army TM 5-654

- 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
  .