



Standard Guide for Design and Installation of Plastic Siphonic Roof Drainage Systems¹

This standard is issued under the fixed designation F2021; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope*

1.1 This guide covers design and installation considerations for plastic siphonic roof drain systems for industrial, commercial, public, and residential buildings. Requirements for materials, pipe, and fittings are included.

1.2 The interchangeability of pipe and fittings made by different manufacturers is not addressed in this guide. Transition fittings for joining pipe and fittings of different manufacturers is provided for in the referenced pipe and fitting specification.

1.3 In referee decisions, the SI units shall be used for metric-sized pipe and inch-pound units for pipe sized in the IPS system (ANSI B36.10). In all cases, the values given in parentheses are for information only.

1.4 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Referenced Documents

2.1 ASTM Standards:²

- D696 Test Method for Coefficient of Linear Thermal Expansion of Plastics Between –30°C and 30°C with a Vitreous Silica Dilatometer
- D1600 Terminology for Abbreviated Terms Relating to Plastics
- D1785 Specification for Poly(Vinyl Chloride) (PVC) Plastic Pipe, Schedules 40, 80, and 120
- D2661 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe and Fittings

- D2665 Specification for Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
- D2949 Specification for 3.25-in. Outside Diameter Poly(Vinyl Chloride) (PVC) Plastic Drain, Waste, and Vent Pipe and Fittings
- D3034 Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings
- D3350 Specification for Polyethylene Plastics Pipe and Fittings Materials
- E84 Test Method for Surface Burning Characteristics of Building Materials
- E814 Test Method for Fire Tests of Penetration Firestop Systems
- E1966 Test Method for Fire-Resistive Joint Systems
- E2393 Practice for On-Site Inspection of Installed Fire Resistive Joint Systems and Perimeter Fire Barriers
- F412 Terminology Relating to Plastic Piping Systems
- F628 Specification for Acrylonitrile-Butadiene-Styrene (ABS) Schedule 40 Plastic Drain, Waste, and Vent Pipe With a Cellular Core (Withdrawn 2021)³
- F714 Specification for Polyethylene (PE) Plastic Pipe (DR-PR) Based on Outside Diameter
- F891 Specification for Coextruded Poly(Vinyl Chloride) (PVC) Plastic Pipe With a Cellular Core
- F1901 Specification for Polyethylene (PE) Pipe and Fittings for Roof Drain Systems

2.2 ANSI/ASME Standards:⁴

- A112.20.2 Qualification of Installers of Firestop Systems and Devices for Piping Systems
- A112.6.4 Roof, Deck and Balcony Drains
- A112.6.9 Siphonic Roof Drains
- B36.10 Standard Dimensions of Steel Pipe (IPS)

2.3 ANSI/UL Standard:

- UL-1479 (see Test Method E814)⁴

2.4 Other References:

- International Building Code (IBC)⁵
- International Plumbing Code (IPC)⁵

¹ This guide is under the jurisdiction of ASTM Committee F17 on Plastic Piping Systems and is the direct responsibility of Subcommittee F17.63 on DWV.

Current edition approved Feb. 1, 2022. Published March 2022. Originally approved in 2000. Last previous edition approved in 2017 as F2021 – 17. DOI: 10.1520/F2021-17R22.

² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from American National Standards Institute (ANSI), 25 W. 43rd St., 4th Floor, New York, NY 10036, <http://www.ansi.org>.

⁵ Available from International Code Council (ICC), 500 New Jersey Ave., NW, 6th Floor, Washington, DC 20001, <http://www.iccsafe.org>.