



**Summary of Substantive Changes
between the 2018 and the 2021 editions of
CSA B1800 “Thermoplastic non-pressure piping compendium”**

Presented to the IAPMO Standards Review Committee on March 8, 2021

General: The changes to this standard may have an impact on currently listed products. The changes are as follows:

- Added a note to clarify the Standard scope to exclude covering requirements for venting of combustion gases, and to reference the applicable Standards for these requirements (see Section 1.1 in CSA B181.0, B181.1, B181.2)
- Reduced specimen requirements from six to three on piping and increased requirements from two to three on fittings when measuring dimensions (see Section 6.2.1 in CSA B181.1, and B181.2)

Note: *This summary of changes accounts for component standards of the CSA B1800 compendium currently used for listed products as follows:*

- *CSA B181.0 “Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping”*
- *CSA B181.1 “Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings” and,*
- *CSA B181.2 “Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings”*

The remaining standards in this compendium are not used for product listing at this time and have not been reviewed as part of this summary of changes.

CSA B181.0

Section 1, Scope: Added a note to clarify the Standard scope to exclude covering requirements for venting of combustion gases, and to reference the applicable Standards for these requirements:

1.1 Scope of the B1800 compendium

This Standard covers thermoplastic nonpressure piping, including drain, waste, and vent pipe and pipe fittings; sewer and storm pipe and pipe fittings; and accessories such as factory-assembled expansion joints, closet flanges, backwater valves, and cleanouts.

Note: *[This Standard does not specify requirements for venting of combustion gases. In Canada, ULC S636 specifies testing and marking requirements for pipe, fittings, and accessories intended for venting of combustion gases. In the United States, UL 1738 specifies testing and marking requirements for pipe, fittings, and accessories intended for venting of combustion gases.](#)*

Section 2, Reference publications: Referenced publications were added, removed, or updated as follows:

CSA Group

B602-~~1620~~ *“Mechanical couplings for drain, waste, and vent pipe and sewer pipe”*



AASHTO (American Association of State Highway and Transportation Officials)

LRFD Bridge Design Specifications, ~~7th Edition (2014, including the 2015 and 2016 Interim Revisions)~~ [9th Edition \(2020\)](#)

ASME (The American Society of Mechanical Engineers)

B1.20.1-2013 [\(R2018\)](#)

Pipe Threads, General Purpose (Inch)

ASTM International

A653/A653M-~~15e120~~ ["Standard Specification for Steel Sheet, Zinc-Coated \(Galvanized\) or Zinc-Iron Alloy-Coated \(Galvannealed\) by the Hot-Dip Process"](#)

A1008/A1008M-~~1618~~ ["Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable"](#)

A1011/A1011M-~~1718a~~ ["Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, and Ultra-High Strength"](#)

B117-~~1619~~ ["Standard Practice for Operating Salt Spray \(Fog\) Apparatus"](#)

D395-~~16e118~~ ["Standard Test Methods for Rubber Property — Compression Set"](#)

D471-~~16a~~ ["Standard Test Method for Rubber Property — Effect of Liquids"](#)

D638-~~1014~~ [Standard Test Method for Tensile Properties of Plastics](#)

D648-~~0718~~ [Standard Test Method for Deflection Temperature of Plastics Under Flexural Load in the Edgewise Position](#)

D695-~~1015~~ [Standard Test Method for Compressive Properties of Rigid Plastics](#)

D746-~~1314~~ [Standard Test Method for Brittleness Temperature of Plastics and Elastomers by Impact](#)

D883-~~1220a~~ [Standard Terminology Relating to Plastics](#)

D1149-~~07(2012)18~~ [Standard Test Method for Rubber Deterioration — Cracking in an Ozone Controlled Environment](#)

D1599-~~99(2011)18~~ [Standard Test Method for Resistance to Short-Time Hydraulic Pressure of Plastic Pipe, Tubing, and Fittings](#)

D1600-~~1418~~ [Standard Terminology for Abbreviated Terms Relating to Plastics](#)

D1603-~~1220~~ [Standard Test Method for Carbon Black Content in Olefin Plastics](#)

D1693-~~1315~~ [Standard Test Method for Environmental Stress-Cracking of Ethylene Plastics](#)

D1784-~~1120~~ [Standard Classification System and Basis for Specification for Rigid Poly\(Vinyl Chloride\) \(PVC\) Compounds and Chlorinated Poly\(Vinyl Chloride\) \(CPVC\) Compounds](#)

D2122-~~98(2010)16~~ [Standard Test Method for Determining Dimensions of Thermoplastic Pipe and Fittings](#)

D2152-~~1317~~ [Standard Test Method for Adequacy of Fusion of Extruded Poly\(Vinyl Chloride\) \(PVC\) Pipe and Molded Fittings by Acetone Immersion](#)

D2240-15^{e1} ["Standard Test Method for Rubber Property — Durometer Hardness"](#)

D2321-~~14^{es}20~~ ["Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity-Flow Applications"](#)

D2412-11(2018) [Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel- Plate Loading](#)

D2444-~~99(2010)19~~ [Standard Test Method for Determination of the Impact Resistance of Thermoplastic Pipe and Fittings by Means of a Tup \(Falling Weight\)](#)



D2487-~~11~~[17e1](#) Standard Practice for Classification of Soils for Engineering Purposes (Unified Soil Classification System)

D2564-12 ([2018](#)) Standard Specification for Solvent Cements for Poly(Vinyl Chloride) (PVC) Plastic Piping Systems

D3212-07 (~~2013~~[2020](#))
Standard Specification for Joints for Drain and Sewer Plastic Pipes Using Flexible Elastomeric Seals

D3222-~~05~~(~~2015~~) [18a](#) Standard Specification for Unmodified Poly(Vinylidene Fluoride) (PVDF) Molding Extrusion and Coating Materials

[D3418-15 Standard Test Method for Transition Temperatures and Enthalpies of Fusion and Crystallization of Polymers by Differential Scanning Calorimetry](#)

[D3895-19 Standard Test Method for Oxidative-Induction Time of Polyolefins by Differential Scanning Calorimetry](#)

D4101-~~14~~^{e2} [17](#)^{e1} Standard Specification for Propylene Injection and Extrusion Materials

D4218-~~15~~[20](#) Standard Test Method for Determination of Carbon Black Content in Polyethylene Compounds by the Muffle-Furnace Technique

D5575-~~07~~(~~2013~~)[18](#) Standard Classification System for Copolymers of Vinylidene Fluoride (VDF) with Other Fluorinated Monomers

[D5630-13 Standard Test Method for Ash Content in Plastics](#)

D6147-97 (~~2014~~[2020](#)) Standard Test Method for Vulcanized Rubber and Thermoplastic Elastomer — Determination of Force Decay (Stress Relaxation) in Compression

E4-~~16~~-[20](#) Standard Practices for Force Verification of Testing Machines

F402-~~05~~(~~2012~~)[18](#) Standard Practice for Safe Handling of Solvent Cements, Primers, and Cleaners Used for Joining Thermoplastic Pipe and Fittings

F412-~~17a~~[20](#) Standard Terminology Relating to Plastic Piping Systems

F1057-~~17~~ [19](#) Standard Practice for Estimating the Quality of Extruded Poly(Vinyl Chloride) (PVC) Pipe by the Heat Reversion Technique

F1417-11a ([2019](#))^{e1} Standard Practice for Installation Acceptance of Plastic Non-pressure Sewer Lines Using Low-Pressure Air

F2136-~~08~~(~~2015~~) [18](#) Standard Test Method for Notched, Constant Ligament-Stress (NCLS) Test to Determine Slow-Crack- Growth Resistance of HDPE Resins or HDPE Corrugated Pipe

F2764/F2764M-~~17e1~~[19](#) Standard Specification for 30 to 60 in. [750 to 1500 mm] Polypropylene (PP) Triple Wall Pipe and Fittings for Non-Pressure Sanitary Sewer Applications

NCHRP (The National Cooperative Highway Research Program)

Report 631 ([2009](#)) Updated Test and Design Methods for Thermoplastic Drainage Pipe

Report 870 ([2018](#))

[Field Performance of Corrugated Pipe Manufactured with Recycled Polyethylene Content](#)

UL (Underwriters Laboratories)

[UL 1738-10](#)

Standard for Venting Systems for Gas-Burning Appliances, Categories II, III, and IV

ULC (Underwriters Laboratories of Canada)

CAN/ULC-S115-[112018](#) Standard Method of Fire Test of Firestop Systems

[ULC S636-08 Standard for Type BH Gas Venting Systems](#)



CSA 181.1

Section 1, Scope: Added a note to clarify the Standard scope to exclude covering requirements for venting of combustion gases, and to reference the applicable Standards for these requirements as follows:

1.1 General

This Standard specifies requirements for acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent (DWV) pipe, pipe fittings, and accessories such as factory-assembled expansion joints, closet flanges, and backwater valves.

Notes:

- 1) Recommended installation practices for ABS-DWV pipe are specified in Annex A. Use of these recommended practices can help to ensure proper installation and optimum service life.*
- 2) The maximum pressure used to test DWV installations should be 100 kPa (see Clause A.5.2).*
- 3) [This Standard does not specify requirements for venting of combustion gases. In Canada, ULC S636 specifies testing and marking requirements for pipe, fittings and accessories intended for venting of combustion gases. In the United States, UL 1738 specifies testing and marking requirements for pipe, fittings, and accessories intended for venting of combustion gases.](#)*

Section 5.4, Carbon black dispersion: Clarified application of carbon black dispersion test as follows:

5.4.1 General

The dispersion of carbon black shall comply with the requirements for acceptability of Clause 6.18.2 of CSA B181.0 when tested in accordance with Clause 6.18.1 of CSA B181.0. [The carbon black dispersion test shall be applicable only to pipe.](#)

Section 6.2, Dimensions: Reduced specimen requirements from six to three on piping and increased requirements from two to three on fittings when measuring dimensions as follows:

6.2.1 General

Dimensions shall be measured on ~~six~~[three](#) cleanly cut specimens of pipe and on ~~two~~[three](#) fittings, in accordance with ASTM D2122.

CSA B181.2

Section 1, Scope: Added a note to clarify the Standard scope to exclude covering requirements for venting of combustion gases, and to reference the applicable Standards for these requirements as follows:

1.1 General

This Standard specifies requirements for polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent (DWV) pipe, pipe fittings, and accessories such as factory-assembled expansion joints, closet flanges, backwater valves, and fire-stop fittings.*

** The fire stop is for use in fire separations only. It can be subject to code requirements not covered in this Standard. See the definition of "Fire-stop fitting" in Clause 3.1 of CSA B181.0.*

Notes:

- 1) Recommended installation practices for PVC-DWV pipe are specified in Annex A. Following these practices will help ensure proper installation and optimum service life.*
- 2) The maximum pressure used to test DWV installations should be 100 kPa (see Clause A.5.2).*



3) This Standard does not specify requirements for venting of combustion gases. In Canada, ULC S636 specifies testing and marking requirements for pipe, fittings and accessories intended for venting of combustion gases. In the United States, UL 1738 specifies testing and marking requirements for pipe, fittings, and accessories intended for venting of combustion gases.

Section 6.2, Dimensions: Reduced specimen requirements from six to three on piping and increased requirements from two to three on fittings when measuring dimensions as follows:

6.2.1 General

Dimensions shall be measured on ~~six~~-three cleanly cut specimens of pipe and on ~~two~~-three fittings, in accordance with ASTM D2122.