



CSA B1800:21
National Standard of Canada



Thermoplastic nonpressure piping compendium



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CSA B1800:21, Thermoplastic nonpressure piping compendium

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Technical Committee on Plastic Nonpressure Piping

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C. F. Baker	Shell Chemical LP, Harmony, Pennsylvania, USA	<i>Non-voting</i>
M. Barrette	Armtec, Saint-Clet, Québec, Canada	<i>Non-voting</i>
B. Bishop	Township of Wilmot, Baden, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
R. Blundell	George Brown College, Toronto, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
K. Campbell	Canplas Industries, Barrie, Ontario, Canada	<i>Non-voting</i>
A. Ciechanowski	NSF International, Ann Arbor, Michigan, USA	<i>Non-voting</i>
R. Clarke	Ideal Pipe, Thorndale, Ontario, Canada	<i>Non-voting</i>
M. Conrad	NSF International, Ann Arbor, Michigan, USA	<i>Non-voting</i>

D. Currence	The Plastics Pipe Institute, Irving, Texas, USA <i>Category: General Interest</i>	
A. De Francesca	City of Toronto, Toronto, Ontario, Canada	<i>Non-voting</i>
J. DeRose	Intertek Testing Services, Ltd, Mississauga, Ontario, Canada	<i>Non-voting</i>
R. Detterman	OxyVinyls, LP, Avon Lake, Ohio, USA <i>Category: General Interest</i>	
C. Diez	Soleno Inc., St-Jean-sur-Richelieu, Québec, Canada <i>Category: Producer Interest</i>	
L. Douglas	NOVA Chemicals Corporation, Calgary, Alberta, Canada	<i>Non-voting</i>
D. Doyle	The Dow Chemical Company, Freeport, Texas, USA	<i>Non-voting</i>
W. Falcomer	The Corporation of the City of Ottawa, Ottawa, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
W. Fallow	Technical Inspection Services, Dept of Public Safety, Fredericton, New Brunswick, Canada <i>Category: User Interest/Regulatory Authority</i>	
C. Ferneyhough	Power Precast Solutions Ltd., Concord, Ontario, Canada	<i>Non-voting</i>
D. Flucker	Minesing, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
L. Gill	IPEX Management Inc, Oakville, Ontario, Canada	<i>Non-voting</i>
A. C. Granzow	NIBCO INC, Elkhart, Indiana, USA	<i>Non-voting</i>

G. L. Groen	Infra Pipe Solutions Ltd, Mississauga, Ontario, Canada	<i>Non-voting</i>
P. Guttilla	Bow Plumbing Group, Montréal, Québec, Canada <i>Category: Producer Interest</i>	
F. Hampton III	Lubrizol Advanced Materials, Inc., Cleveland, Ohio, USA <i>Category: General Interest</i>	
B. E. Hauger	Bryan Hauger Consulting, Inc., Boulder, Colorado, USA	<i>Non-voting</i>
E. Ho	IAPMO Group, Markham, Ontario, Canada	<i>Non-voting</i>
K. S. Hui	Ontario Ministry of Municipal Affairs, Toronto, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
M. P. Huynh	J-M Manufacturing Co., Inc. dba JM Eagle, Los Angeles, California, USA	<i>Non-voting</i>
N. Ketabi	NanoXplore Inc., Montréal, Québec, Canada	<i>Non-voting</i>
W. Korrall	Wayne Korrall Consulting, Edmonton, Alberta, Canada <i>Category: General Interest</i>	
J. Kurdziel	Advanced Drainage Systems, Inc., Fort Wayne, Indiana, USA	<i>Non-voting</i>
A. Lathia	CSA Group, Cleveland, Ohio, USA	<i>Non-voting</i>
S. Leroux	IPEX Management Inc., Verdun, Québec, Canada	<i>Non-voting</i>
A. Leroux	IPEX Management Inc, Verdun, Québec, Canada <i>Category: Producer Interest</i>	

R. Mata	American Society of Plumbing Engineers, Mentor, Ohio, USA	<i>Non-voting</i>
G. F. Mulhern	Ontario Concrete Pipe Association, Kitchener, Ontario, Canada	<i>Non-voting</i>
A. I. Murra	Abraham Murra Consulting, Oakville, Ontario, Canada	<i>Non-voting</i>
A. Navarro	Advanced Drainage Systems, Inc., Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
C. Neath	ADS Canada, Guelph, Ontario, Canada	<i>Non-voting</i>
H. Nurwadi	Charlotte Pipe and Foundry Company, Monroe, North Carolina, USA <i>Category: Producer Interest</i>	
E. F. Palermo	Palermo Plastics Pipe Consulting, Daufuskie Island, South Carolina, USA <i>Category: General Interest</i>	
D. Pavlovic	Infra Pipe Solutions Ltd, Mississauga, Ontario, Canada <i>Category: Producer Interest</i>	
F. P. Pozzebon	City of Sault Ste. Marie/Engineering Dept./Building Div, Sault Ste. Marie, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	
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D. Sanders	Contech Engineered Solutions LLC, West Chester, Ohio, USA <i>Category: Producer Interest</i>	
K. Sarrami	City of Toronto, Toronto, Ontario, Canada <i>Category: User Interest/Regulatory Authority</i>	

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P. Sharma	Hamilton Kent, Toronto, Ontario, Canada <i>Category: Producer Interest</i>	
A. Velasquez	Shell Chemical LP, Sewickley, Pennsylvania, USA <i>Category: General Interest</i>	
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S. Chung	CSA Group, Toronto, Ontario	<i>Project Manager</i>

Preface

This is the seventh edition in the form of a compendium of the CSA B181 and CSA B182 series of Standards, published as CSA B1800, *Thermoplastic nonpressure piping compendium*. It supersedes the previous editions of the compendium, published in 2018, 2015, 2011, 2006, 2002, and 1999. It consists of the following Standards:

- the fifth edition of CSA B181.0, *Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping*, which supersedes the previous editions published in 2018, 2015, 2011, and 2006;
- the twelfth edition of CSA B181.1, *Acrylonitrile-butadiene-styrene (ABS) drain, waste, and vent pipe and pipe fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1996, 1990, 1985, 1973, and 1967;
- the thirteenth edition of CSA B181.2, *Polyvinylchloride (PVC) and chlorinated polyvinylchloride (CPVC) drain, waste, and vent pipe and pipe fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1996, 1990, 1987, 1985, 1973, and 1967;
- the ninth edition of CSA B181.3, *Polyolefin and polyvinylidene fluoride (PVDF) laboratory drainage systems*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1986, and 1971;
- the ninth edition of CSA B181.5, *Coextruded acrylonitrile-butadiene-styrene/polyvinylchloride (ABS/PVC) drain, waste, and vent pipe*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1995, and 1994;
- the thirteenth edition of CSA B182.1, *Plastic drain and sewer pipe and pipe fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1996, 1992, 1987, 1983, 1977, and 1967;
- the tenth edition of CSA B182.2, *PSM type polyvinylchloride (PVC) sewer pipe and fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1995, 1990, and 1983;
- the eleventh edition of CSA B182.4, *Profile polyvinylchloride (PVC) sewer pipe and fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1997, 1992, 1990, and 1983;
- the eighth edition of CSA B182.6, *Profile polyethylene (PE) sewer pipe and fittings for leak-proof sewer applications*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, and 1992;
- the sixth edition of CSA B182.8, *Profile polyethylene (PE) storm sewer and drainage pipe and fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, and 2002;
- the ninth edition of CSA B182.11, *Standard practice for the installation of thermoplastic drain, storm, and sewer pipe and fittings*, which supersedes the previous editions published in 2018, 2015, 2011, 2006, 2002, 1999, 1995, and 1967;
- the fourth edition of CSA B182.13, *Profile polypropylene (PP) sewer pipe and fittings for leak-proof sewer applications*, which supersedes the previous editions published in 2018, 2015 and 2011;
- the third edition of CSA B182.14, *Profile steel reinforced polyethylene (SRPE) storm sewer pipe and fittings*, which supersedes the previous edition published in 2018 and 2015; and
- the third edition of CSA B182.15, *Profile steel reinforced polyethylene (SRPE) sewer pipe and fittings*, which supersedes the previous edition published in 2018 and 2015.

The major changes in this new edition are

- clarification that venting of combustion gases is not covered by CSA B181.0, CSA B181.1, and CSA B181.2;
- clarification that carbon black dispersion is applicable only to pipe in CSA B181.1;

- revision to the number of specimens to dimension in CSA B181.1, CSA B181.2, CSA B181.3, CSA B182.1, and CSA B182.2;
- revision to the weld integrity test in CSA B182.6, CSA B182.8, CSA B182.13, CSA B182.14, and CSA B182.15;
- removal of the airtightness test in CSA B182.6, CSA B182.8, CSA B182.13, CSA B182.14, and CSA B182.15;
- revision to the specimen requirements for the pipe stiffness and compression strength tests in CSA B182.6, CSA B182.8, and CSA B182.13;
- revision to the base inside diameter requirements in Table B.1 of CSA B182.6 and CSA B182.8 and Tables B.1 and B.2 in CSA B182.13;
- revision to the scope and additional requirements included for recycled materials in CSA B182.8; and
- revision to the PE compound requirements in CSA B182.8.

These Standards are considered suitable for use for conformity assessment within the stated scopes of the Standards.

These Standards were prepared by the Technical Committee on Plastic Nonpressure Piping, under the jurisdiction of the Strategic Steering Committee on Construction and Civil Infrastructure, and have been formally approved by the Technical Committee.

These Standards have been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. They have been published as National Standards of Canada by CSA Group.

Notes:

- 1) *Use of the singular does not exclude the plural (and vice versa) when the sense allows.*
- 2) *Although the intended primary application of this Standard is stated in its Scope, it is important to note that it remains the responsibility of the users of the Standard to judge its suitability for their particular purpose.*
- 3) *This Standard was developed by consensus, which is defined by CSA Policy governing standardization — Code of good practice for standardization as “substantial agreement. Consensus implies much more than a simple majority, but not necessarily unanimity”. It is consistent with this definition that a member may be included in the Technical Committee list and yet not be in full agreement with all clauses of this Standard.*
- 4) *To submit a request for interpretation of this Standard, please send the following information to inquiries@csagroup.org and include “Request for interpretation” in the subject line:*
 - a) *define the problem, making reference to the specific clause, and, where appropriate, include an illustrative sketch;*
 - b) *provide an explanation of circumstances surrounding the actual field condition; and*
 - c) *where possible, phrase the request in such a way that a specific “yes” or “no” answer will address the issue.*

Committee interpretations are processed in accordance with the CSA Directives and guidelines governing standardization and are available on the Current Standards Activities page at standardsactivities.csa.ca.
- 5) *This Standard is subject to review within five years from the date of publication. Suggestions for its improvement will be referred to the appropriate committee. To submit a proposal for change, please send the following information to inquiries@csagroup.org and include “Proposal for change” in the subject line:*
 - a) *Standard designation (number);*
 - b) *relevant clause, table, and/or figure number;*
 - c) *wording of the proposed change; and*
 - d) *rationale for the change.*

National Standard of Canada

CSA B181.0:21

Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping



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CSA B181.0:21

Definitions, general requirements, and methods of testing for thermoplastic nonpressure piping

1 Scope

1.1 Scope of the B1800 compendium

This Standard covers thermoplastic nonpressure piping, including

- a) drain, waste, and vent pipe and pipe fittings;
- b) sewer and storm pipe and pipe fittings; and
- c) 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.*

1.2 Scope of this Standard

This Standard specifies general requirements for compounds and for manufactured pipe and pipe fittings, the relevant test methods, and marking requirements.

1.3 Intent of this Standard

This Standard is intended to be used in conjunction with one of the other Standards in the CSA B181 or CSA B182 series to form a complete Standard for a particular product.

1.4 Terminology

In this Standard, “shall” is used to express a requirement, i.e., a provision that the user is obliged to satisfy in order to comply with the Standard; “should” is used to express a recommendation or that which is advised but not required; and “may” is used to express an option or that which is permissible within the limits of the Standard.

Notes accompanying clauses do not include requirements or alternative requirements; the purpose of a note accompanying a clause is to separate from the text explanatory or informative material.

Notes to tables and figures are considered part of the table or figure and may be written as requirements.

Annexes are designated normative (mandatory) or informative (non-mandatory) to define their application.