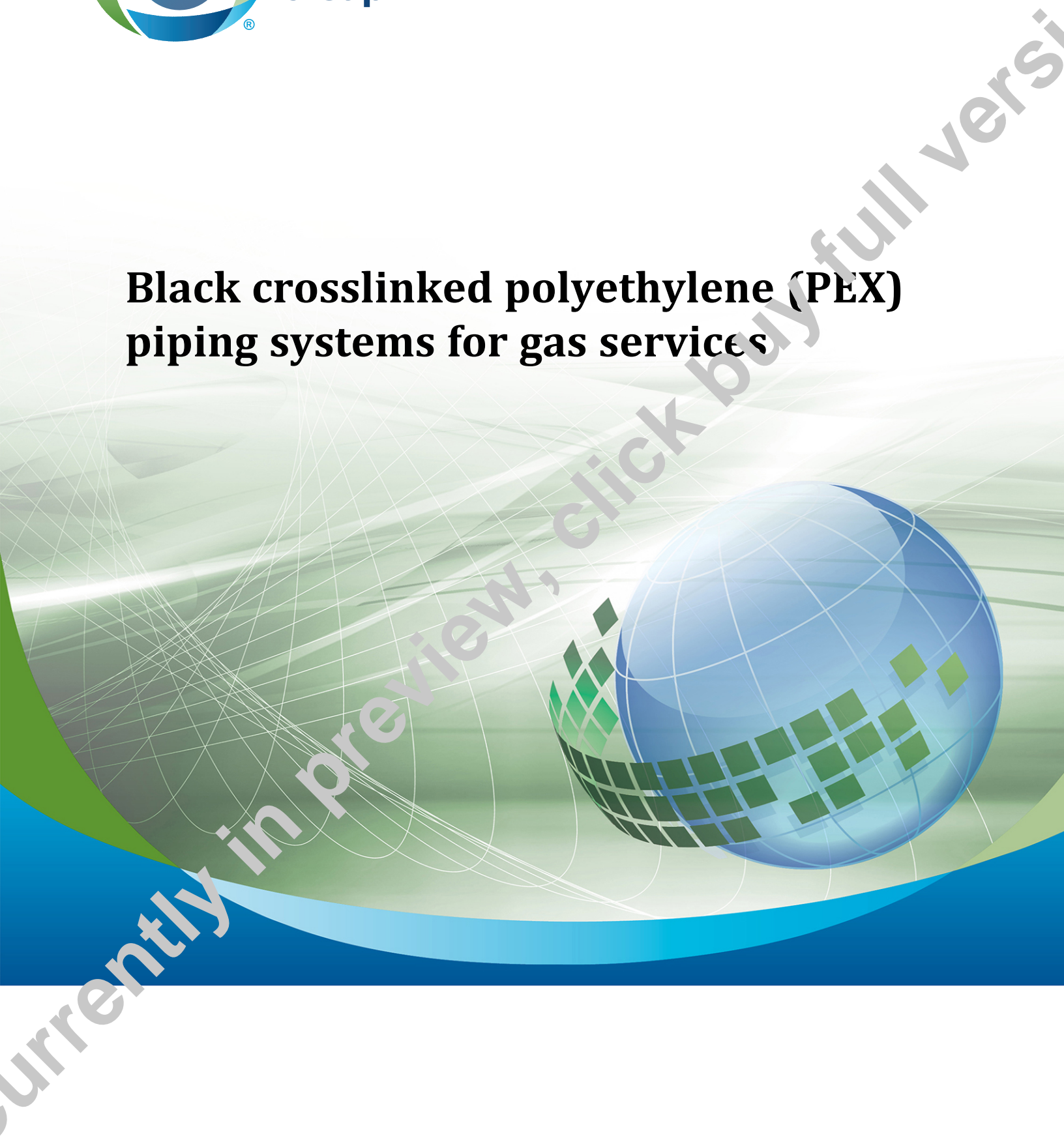




**CSA  
Group**

**B137.19-17**

# **Black crosslinked polyethylene (PEX) piping systems for gas services**



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# Contents

Technical Committee on Plastic Pressure Piping	3
Preface	7
<b>1 Scope</b>	<b>8</b>
<b>2 Reference publications</b>	<b>9</b>
<b>3 Definitions and abbreviations</b>	<b>10</b>
<b>4 PE compounds, PEX pipe, and PEX fittings</b>	<b>10</b>
4.1 PE Compounds	10
4.1.1 Pipe material designation code	10
4.1.2 Carbon black	11
4.1.3 UV protection	11
4.2 Pipe	11
4.2.1 General	11
4.2.2 Visual appearance	11
4.2.3 Dimensions	12
4.2.4 Performance requirements	12
4.3 Fittings and connectors	14
4.3.1 General	14
4.3.2 Dimensions	15
4.3.3 Performance requirements	15
4.3.4 Joint requirements	16
<b>5 Test methods</b>	<b>17</b>
5.1 General	17
5.1.1 Conditioning	17
5.1.2 Conditions for conducting tests	17
5.2 Single-point elevated temperature pressure test for PEX pipe	17
5.3 Leak test	18
5.4 Pullout strength test	18
5.5 Elevated temperature pressure test for fittings	19
5.5.1 Preparation of specimens	19
5.5.2 Sustained pressure test	19
5.6 Density	20
5.7 Degree of crosslinking	20
<b>6 In-line quality evaluation</b>	<b>21</b>
6.1 Compound quality evaluation	21
6.1.1 Preliminary requirements	21
6.1.2 Compound sampling	21
6.1.3 Compound testing	21
6.1.4 Acceptance/rejection criteria	21
6.2 Pipe quality evaluation	21
6.2.1 In-line monitoring	21

6.2.2	Coiling parameters	21
6.2.3	Pipe sampling and testing	22
6.2.4	Acceptance/rejection criteria	22
6.2.5	Shipping and storage	22
6.3	Fittings — Quality evaluation — Sampling and testing	22

<b>7</b>	<b>Markings</b>	<b>23</b>
7.1	Pipe	23
7.2	Fittings	23

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Annex A (informative)	— Long-term hydrostatic strength of plastic pipes	30
Annex B (informative)	— Categorized required strength (CRS)	31
Annex C (informative)	— Minimum operating temperature	32

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# Preface

This is the first edition of CSA B137.19, *Black crosslinked polyethylene (PEX) piping systems for gas services*.

This Standard is to be used with CSA B137.0. This Standard will be incorporated into the seventh edition of the CSA B137 Series. CSA B137.0 provides requirements and test methods that are common to some or all of the Standards of the CSA B137 Series.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Technical Committee on Plastic Pressure Piping, under the jurisdiction of the Strategic Steering Committee on Construction and Civil Infrastructure, and has been formally approved by the Technical Committee.

## 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](mailto: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](http://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](mailto: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.*

# B137.19-17

## ***Black crosslinked polyethylene (PEX) piping systems for gas services***

### **1 Scope**

#### **1.1**

This Standard covers black crosslinked polyethylene (PEX) pipe and fittings for use in gas mains and services, including gas gathering, gas transmission, and distribution of fuel gases containing not more than 1% aromatic hydrocarbons.

#### **1.2**

This Standard covers PEX pipes in metric nominal sizes DN 16 to DN 1000 or nominal pipe sizes NPS-3 to NPS-54 that are

- a) pressure-rated using the hydrostatic design basis (HDB) rating method specified in ASTM D2837 or the minimum required strength (MRS) rating method specified in ISO 9080 and ISO 12162;
- b) intended for operating temperatures between –50 and 110 °C; and
- c) joined by electrofusion or by mechanical fittings, but not by butt fusion.

#### **1.3**

This Standard does not cover pipes intended to be joined by butt fusion, socket fusion, or saddle fusion.

#### **1.4**

Fittings covered in this Standard include

- a) plastic-to-metal transition fittings;
- b) electrofusion fittings (e.g., couplings, elbows, tees, and end caps); and
- c) mechanical couplings.

#### **1.5**

This Standard specifies requirements for

- a) primary properties of the PE compound;
- b) physical properties of the finished PEX pipe;
- c) on-line monitoring during production;
- d) shipping and storage; and
- e) markings.

**Note:** See CSA Z662 for design and installation limitations of products covered by this Standard.

#### **1.6**

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.

## 2 Reference publications

In addition to the publications listed in Clause 2 of CSA B137.0, this Standard refers to the following publications, and where such reference is made, it shall be to the edition listed below.

### CSA Group

B137.0-17

*Definitions, general requirements, and methods of testing for thermoplastic pressure piping*

### ISO (International Organization for Standardization)

4427-3:2007

*Plastics piping systems — Polyethylene (PE) pipes and fittings for water supply — Part 3: Fittings*

10147:2011

*Pipes and fittings made of crosslinked polyethylene (PE-X) — Estimation of the degree of crosslinking by determination of the gel content*

14531-1:2002

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

14531-2:2004

*Plastics pipes and fittings — Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels — Metric series — Specifications — Part 2: Fittings for heat-fusion jointing*

14531-3:2010

*Plastics pipes and fittings — Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels — Metric series — Specifications — Part 3: Fittings for mechanical jointing (including PE-X/metal transitions)*

14531-4:2006

*Plastics pipes and fittings — Crosslinked polyethylene (PE-X) pipe systems for the conveyance of gaseous fuels — Metric series — Specifications — Part 4: System design and installation guidelines*

15875-3:2003

*Plastics piping systems for hot and cold water installations — Crosslinked polyethylene (PE-X) — Part 3: Fittings*