



**MATERIAL SPECIFICATION FOR  
PRESSURE POLYETHYLENE PIPE PRODUCTS**

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**1842.01 SCOPE**

This specification covers the requirements for pressure polyethylene pipe products to be used for sewage forcemains, watermains, and associated service connections.

**1842.01.01 Specification Significance and Use**

This specification has been developed for use in municipal-oriented Contracts. The administration, testing, and payment policies, procedures, and practices reflected in this specification correspond to those used by many municipalities in Ontario.

Use of this specification or any other specification shall be according to the Contract Documents.

## **1842.01.02 Appendices Significance and Use**

Appendices are not for use in provincial contracts as they are developed for municipal use, and then, only when invoked by the Owner.

Appendices are developed for the Owner's use only.

Inclusion of an appendix as part of the Contract Documents is solely at the discretion of the Owner. Appendices are not a mandatory part of this specification and only become part of the Contract Documents as the Owner invokes them.

Invoking a particular appendix does not obligate an Owner to use all available appendices. Only invoked appendices form part of the Contract Documents.

The decision to use any appendix is determined by an Owner after considering their contract requirements and their administrative, payment, and testing procedures, policies, and practices. Depending on these considerations, an Owner may not wish to invoke some or any of the available appendices.

## **1842.02 REFERENCES**

When the Contract Documents indicate that municipal-oriented specifications are to be used and there is a municipal-oriented specification of the same number as those listed below, references within this specification to an OPSS shall be deemed to mean OPSS.MUNI, unless use of a provincial-oriented specification is specified in the Contract Documents. When there is not a corresponding municipal-oriented specification, the references below shall be considered to be the OPSS listed, unless use of a provincial-oriented specification is specified in the Contract Documents.

This specification refers to the following standards, specifications, or publications:

### **Canadian Standards Association (CSA)**

B137.1-13 Polyethylene (PE) Pipe, Tubing, and Fittings for Cold Water Pressure Services  
[Part of B137 Series-05, Thermoplastic Pressure Piping Compendium]

### **American Water Works Association (AWWA)**

C901-17 Polyethylene (PE) Pressure Pipe and Tubing, ½ In. (13 mm) Through 3 In. (76 mm), for Water Service

C906-15 Polyethylene (PE) Pressure Pipe and Fittings, 4 In. (100 mm) Through 63 In. (1,600 mm), for Water Distribution and Transmission

## **1842.05 MATERIALS**

### **1842.05.01 Polyethylene Pipe Products**

The moulding and extrusion material used to manufacture polyethylene pipe shall be polyethylene according to the requirements of AWWA C901 or AWWA C906.

The moulding and extrusion material used to manufacture polyethylene fittings shall be polyethylene according to the requirements of AWWA C906 for fittings 100 mm through 1,600 mm and CSA B137.1 for fittings less than 100 mm diameter.

**1842.07                      PRODUCTION**

**1842.07.01                  Requirements**

The requirements for the production of polyethylene pipe and tubing shall be according AWWA C901 or AWWA C906.

The requirements for the production of polyethylene pipe fittings shall be according to AWWA C906 for fittings 100 mm through 1,600 mm diameter and CSA B137.1 for fittings less than 100 mm diameter.

**1842.07.02                  Markings**

Markings for polyethylene pipe and tubing shall be placed so that the intervals between markings are no greater than 1.5 m.

For polyethylene pipe and tubing according to AWWA C901, minimum markings shall be as follows:

- a) Nominal size.
- b) Standard material code designation (e.g., PE 2406).
- c) On pipe, the dimension ratio and diameter base (e.g., DR 11).
- d) On tubing, the word "Tubing" and dimension ratio.
- e) Pressure class (e.g., PC 160).
- f) Standard designation (e.g., AWWA C901).
- g) Manufacturer's name or trademark.
- h) Production record code.

For polyethylene pipe according to AWWA C906, minimum markings shall be as follows:

- a) Nominal size and OD base.
- b) Standard material code designation (e.g., PE 3408).
- c) Dimension ratio (e.g., DR 17).
- d) Pressure class (e.g., PC 100).
- e) Standard designation (e.g., AWWA C906).
- f) Manufacturer's name or trademark.
- g) Production record code.

Markings shall be applied in a manner that will not reduce the strength or damage the pipe and shall remain legible during normal handling and storage.

**1842.08                      QUALITY ASSURANCE**

**1842.08.01                      Certificate**

Upon request, suppliers shall provide a certificate to indicate that the product was produced and tested according to the appropriate specification requirements.

**1842.08.02                      Inspection and Testing**

The Owner may make inspections and tests at such times as considered necessary to ensure that the material supplied is according to this specification.

All materials failing to comply with the requirements of this specification shall be rejected.

**1842.08.03                      Transporting, Unloading, Storing, and Handling**

Manufacturer's recommendations for transporting, unloading, storing, and handling of materials shall be followed.

**1842.09                      OWNER PURCHASE OF MATERIAL**

Measurement of pressure polyethylene pipe and tubing shall be by length in metres along the centreline of the pipe.

For measurement purposes, a count shall be made of the pressure polyethylene pipe fittings supplied and accepted as specified on the purchasing order.

Payment at the price specified in the purchasing order shall be for the supply of the pressure polyethylene pipe products delivered to the destination on the date and time specified.

The cost of all testing, except that performed in the Owner's laboratory, shall be included in the price.

**Appendix 1842-A, November 2020  
FOR USE WHILE DESIGNING MUNICIPAL CONTRACTS**

**Note:** This is a non-mandatory Commentary Appendix intended to provide information to a designer, during the design stage of a contract, on the use of the OPS specification in a municipal contract. This appendix does not form part of the standard specification. Actions and considerations discussed in this appendix are for information purposes only and do not supersede an Owner's design decisions and methodology.

**Designer Action/Considerations**

The designer should ensure that the General Conditions of Contract and the 100 Series General Specifications are included in the Contract Documents.

**Related Ontario Provincial Standard Drawings**

No information provided here.