



**Note:** The PROV published in November 2018 replaces OPSS 1841 COMMON, November 2015 with no technical content changes.

## **MATERIAL SPECIFICATION FOR NON-PRESSURE POLYVINYL CHLORIDE PIPE PRODUCTS**

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This specification covers the requirements for non-pressure polyvinyl chloride (PVC) plastic pipe products to be used for sanitary and storm sewers, service connections, and pipe culverts.

#### **1841.02 REFERENCES**

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

##### **CSA Standards**

B182.1-11	Plastic Drain and Sewer Pipe and Pipe Fittings [Part of B1800-11, Plastic Nonpressure Pipe Compendium]
B182.2-11	PSM Type Polyvinylchloride (PVC) Sewer Pipe and Fittings [Part of B1800-11, Plastic Nonpressure Pipe Compendium]
B182.4-11	Profile Polyvinylchloride (PVC) Sewer Pipe and Fittings [Part of B1800-11, Plastic Nonpressure Pipe Compendium]

##### **ASTM International**

D 3034-14	Type PSM Poly (Vinyl Chloride) (PVC) Sewer Pipe and Fittings
F 679-13a	Poly (Vinyl Chloride) (PVC) Large-Diameter Plastic Gravity Sewer Pipe and Fittings

F 794-03 (2009)	Poly (Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter
F 949-10	Poly (Vinyl Chloride) (PVC) Corrugated Sewer Pipe with a Smooth Interior and Fittings
F 1760-01(2011)	Coextruded Poly (Vinyl Chloride) (PVC) Non-Pressure Plastic Pipe Having Reprocessed-Recycled Content
F 1803-06	Poly (Vinyl Chloride) (PVC) Closed Profile Gravity Pipe and Fittings Based on Controlled Inside Diameter

### **Uni-Bell PVC Pipe Association**

UNI-B-9-90	Polyvinyl Chloride (PVC) Profile Wall Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter (Nominal Pipe Sizes 4 - 48-inch)
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### **1841.03 DEFINITIONS**

For the purpose of this specification, the following definitions apply:

**Certification Body** means an independent 3<sup>rd</sup> party agency, accredited by the Standards Council of Canada that has the qualifications, skills, and expertise required to confirm that a pipe manufacturer produces pipe products to the quality and requirements of an accepted standard and that has the mandate to certify the pipe products produced.

**Certified** means pipe products that have been marked with a certification body's logo confirming that the production of the pipe product is in accordance with the quality and requirements of CSA B182.1, CSA B182.2, or CSA B182.4.

**Delivered Quality** means the pipe products' physical condition upon arrival at the construction site in terms of the extent and degree of dents, scratches, cracks, pipe coating integrity, etc., that appear on the pipe products delivered.

**Pipe Products** means pipe lengths and associated pipe fittings that are needed to construct a pipe sewer run or a pipe culvert.

### **1841.05 MATERIAL**

#### **1841.05.01 Polyvinyl Chloride Pipe Products**

The extruded, moulded, and fabricated material shall be polyvinyl chloride plastic according to CSA B182.1, CSA B182.2, CSA B182.4, ASTM D 3034, ASTM F 679, ASTM F 794, ASTM F 949, ASTM F 1760, ASTM F 1803, or UNI-B-9, as applicable, for the appropriate type of polyvinyl chloride plastic pipe products.

### **1841.07 PRODUCTION**

#### **1841.07.01 Requirements**

The pipe diameter, stiffness, material, and type of all polyvinyl chloride plastic pipe products shall be as specified in the Contract Documents.

The requirements for profile polyvinyl chloride plastic pipes and associated fittings shall be according to CSA B182.4, ASTM F 794, ASTM F 949, ASTM F 1803, or UNI-B-9, as applicable.

The requirements for smooth interior and exterior walled polyvinyl chloride plastic pipe and associated fittings shall be according to either:

- a) ASTM D 3034 or ASTM F 679 for pipes manufactured without reprocessed-recycled material.
- b) CSA B182.2 for pipes manufactured that may have multilayer construction and the middle layer may have reprocessed-recycled material.
- c) CSA B182.2 or ASTM F 1760 for pipes manufactured having reprocessed-recycled material.

Polyvinyl chloride service connection pipe shall be according to CSA B182.1 and have bell and spigot joints with elastomeric gaskets.

All polyvinyl chloride plastic pipe products used on the Contract shall be certified and supplied from a manufacturer that produces the polyvinyl chloride plastic pipe products according to CSA B182.1, CSA B182.2, CSA B182.4, ASTM D 3034, ASTM F 679, ASTM F 794, ASTM F 949, ASTM F 1760, ASTM F 1803, or UNI-B-9, as applicable, for the appropriate type of polyvinyl chloride plastic pipe products.

#### **1841.07.02                      Testing**

Testing of polyvinyl chloride plastic pipe products shall be according to the appropriate standard for which the product was produced.

### **1841.08                              QUALITY ASSURANCE**

#### **1841.08.01                      Inspection and Testing**

The Owner reserves the right to make inspections and tests at such times as the Owner may consider necessary to ensure that the materials supplied are in accordance with this specification.

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

#### **1841.08.02                      Markings**

Markings for certified polyvinyl chloride plastic pipe products shall be according to the appropriate standard for which the product was produced.

As a minimum, the following markings shall be placed, notwithstanding any other required markings, in accordance with the applicable standard:

- a) Pipe diameter.
- b) Pipe stiffness.
- c) Standard designation (e.g., CSA B182.2).
- d) Manufacturer.
- e) Accredited certification body's logo.

Accepted certification body logos confirming certified polyvinyl chloride plastic pipe products shall be as shown in Figures 1, 2 and 3.

**1841.08.03**

**Certificate of Compliance**

When requested by the Owner, the Contractor shall provide a copy of the certificate of compliance from the manufacturer for sanitary and storm sewers, service connections, and pipe culverts. The manufacturer's certificate of compliance shall be issued by the certification body confirming that the manufacturer produces certified polyvinyl chloride plastic pipe products.



**FIGURE 1  
CSA Standards Certification Logo**



**FIGURE 2  
Warnock Hersey - Intertek Certification Logo**



**FIGURE 3  
NSF International Certification Logo**  
(Note: Different variations of the NSF logo will also be accepted)