



## Royal Pipe Systems

Great Ideas Taking Shape.

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## TECHNICAL SPECIFICATION

### Royal Seal™ CIOD Pressure Pipe AWWA C905 DR18

Cell classification 12454

### **SCOPE**

This specification covers the requirements for PVC (polyvinyl chloride) pressure pipe with bell and spigot joints utilizing a double seal locked in (DSL) gasket. The pipe is Cast Iron Outside Diameter (CIOD) in nominal sizes of 14", 16", 18", 20" and 24". This pipe meets the requirements of the American Water Works Association (AWWA) standard ANSI/AWWA C905 and is certified to the Canadian Standards Association (CSA) standard B137.3, The National Sanitation Foundation (NSF) Standard 61, Underwriters Laboratories of Canada (ULC), Factory Mutual (FM) and Bureau de Normalisation du Quebec (BNQ) NQ 3624-250.

### **MATERIALS**

The pipe is manufactured from virgin PVC compound meeting the cell classification requirements of 12454 as defined by the American Society of Testing and Materials (ASTM) Standard D1784: *Standard Specification for Rigid PVC Compounds and CPVC Compounds*. These compounds have a hydrostatic design basis rating of 4000 psi for water at 73.4 Deg F. The compound is certified to NSF standard 61.

### **MARKING**

Pipe markings are as specified by CSA, AWWA, NSF, FM, ULC and BNQ.

### **PIPE**

This pipe has a pressure rating of 235 psi. The pipe is listed with Underwriters Laboratories of Canada (ULC) and Factory Mutual (FM) for use in fire protection service.

### **GASKETS**

The pipe utilizes a double seal locked (DSL) gasket system that meets the requirements of ASTM D3139: *Standard Specification for Joints for Plastic Pressure Pipes Using Flexible Elastomeric Seals*. The gaskets are reinforced with a steel band and conform to the requirements of ASTM F477: *Standard Specification for Elastomeric Seals (Gaskets) for Joining Plastic Pipe*.

### **TEST REQUIREMENTS**

Quality testing is as per Royal's Quality Control program and in accordance with AWWA, NSF, FM, ULC and BNQ.

### **PIPE DIMENSIONS**

Nominal Size in (mm)	Outside Diameter in	Wall Thickness in	Average Bell Depth in	Pipe Length ft
14" (350mm)	15.285 – 15.314	0.850 – 0.952	11-1/4"	20 ft Plus Bell
16" (400mm)	17.382 – 17.420	0.968 – 1.082	11-1/2"	20 ft Plus Bell
18" (450mm)	19.480 – 19.520	1.083 – 1.212	11-1/2"	20 ft Plus Bell
20" (500mm)	21.575 – 21.622	1.201 – 1.342	11-3/4"	20 ft Plus Bell
24" (600mm)	25.770 – 25.829	1.433 – 1.594	12-3/4"	20 ft Plus Bell