

## Materials Specification – 5 for Resilient Seated Gate Valves

### 150 Pound Class – 3-Inch through 12-Inch Nominal Diameter

**1. GENERAL:**

Resilient seated gate valves shall be designed and manufactured in accordance with AWWA C509 or AWWA C515, as applicable, with the following additional requirements or exceptions.

**2. VALVE DESCRIPTION:**

Valves shall be iron body, resilient seated gate valves with non-rising stems. If the resilient seats are bonded to the gates, the gates shall be completely encapsulated with the material except for guide tabs or slots. Valve bodies shall be designed to allow for the lifting of the valves by the bonnet flange, gland flanges or other appurtenances.

**3. INSTALLATION:**

Valves will be installed with the stem positioned vertically in buried horizontal water lines without gearing, bypasses, rollers or tracks.

**4. SERVICE:**

Valves shall be suitable for frequent operation and for long periods of inactivity. Valves shall be capable of operating satisfactorily with flows in either direction and shall provide zero leakage past the seat; the operating pressure for all sizes shall be 200 psig.

**5. VALVE STEMS:**

Valve stems shall be made of bronze in accordance with ASTM B 763, Copper Alloy No. C99500; stainless steel in accordance with ASTM A 276, Type 304, Type 316 or AISI 420; or ASTM B98, Copper Alloy No. C66100/HO2.

Valves shall be supplied with 2-inch square wrench nuts. The stem seal shall consist of two O-rings. The valves shall open by turning to the right.

**6. BOLTING MATERIAL:**

Bonnet and gland bolts and nuts shall be either fabricated from a low alloy-steel for corrosion resistance or electro-plated with zinc or cadmium. The hot-dip process, in accordance with ASTM A 153, is NOT acceptable.

**7. END-CONNECTIONS:**

**A. Flanges:**

Flanges shall be sized and drilled in accordance with ANSI B16.1 Class 125. Flanges shall be machined to a flat surface with a serrated finish in accordance with AWWA C207.

**B. Mechanical Joint:**

Mechanical joint components shall be in accordance with AWWA C111 with tee-head bolts and hexagon nuts fabricated from a high-strength, low alloy steel known in the industry as Cor-Ten, Usalloy or Durabolt.

Accessories for the mechanical joint shall consist of the gasket, gland and fasteners and shall be furnished and packaged separately from the valves. Each package shall be labeled in such a manner as to provide for proper identification and the number of units listed per package or bundle.

**8. TESTING:**

Each valve, after shop assembly, shall be given the operation and hydrostatic tests in accordance with AWWA C509 or AWWA C515.

**9. COATING:**

Valves shall be coated in accordance with AWWA C509 or AWWA C515. Machined flange faces shall be shop coated with a rust preventive compound; they shall NOT be painted or coated with the same coating as the body.

**10. CERTIFICATION:**

The manufacturer shall furnish a sworn statement that the inspection and all the specified tests have been completed and that the results comply with the requirements of these Standards. A copy of the Certification, including compliance with ANSI/NSF 61, shall be sent to Denver Water.

**11. ACCEPTABLE MANUFACTURERS:**

	<u>C509</u>	<u>C515</u>
American AVK	X	X
American Flow Control	X	
Clow	X	
East Jordan Iron Works	X	X
Kennedy	X	
Mueller	X	
United States Pipe and Foundry Company	X	

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