

# 350PSI SOLID WEDGE GATE VALVES RESILIENT OR METAL SEATED

## 1. SCOPE

**1.01** This specification covers design, manufacture, and testing of 4-inch and larger, Resilient Seated Gate Valves, and Resilient Seated Tapping Valves suitable for water or wastewater service as set forth in American Water Works Association (AWWA) Standard C509 & C515 for resilient seated gate valves or C500 for metal seated gate valves, most recent published version.

## 2. STANDARDS

- 2.01** Valves 4-inch and larger shall have a minimum cold-water working pressure of 350psig. Any size valve larger than those covered by the AWWA standard shall be manufactured in compliance with the standard, as applicable.
- 2.02** Valves shall be designed and manufactured in accordance with the AWWA C509, C515 or C500, ANSI/NSF 61 and ANSI/NSF 372 Certified for use in drinking water, and UL and FM Listed for use in Fire Protection.
- 2.03** Valves shall be tested in accordance with Testing Section 5.1 AWWA C509, C515 or C500.

## 3. CONNECTIONS

- 3.01** Valve end-connections shall be:
- A.** Flange end-connections in accordance with ANSI B16.1, Class 125, rated for 250psig, or ANSI B16.42, Class 250 rated for 350psig.
  - B.** Mechanical Joint - ANSI/AWWA C110/A21.10, ANSI/AWWA C111/A21.11, or ANSI/AWWA C153/21.53.
  - C.** Or a combination with the flange connections.
- 3.02** Valves for Tapping, 4-inch and larger, shall be mechanical joints by tapping flange. The tapping valve shall have unobstructed waterway. The port area shall be large diameter to the permit entry of the full diameter tapping machine cutters. Flange end shall mate with the tapping sleeve and shall have an alignment lip to fit the recess in the tapping sleeve flange for proper alignment. The lip will be dimensioned in accordance with MSS SP-60.

## 4. DESIGN

- 4.01** Valve shall be non-rising stem (NRS) or outside screw and yoke (OS&Y) configurations, as specified.
- 4.02** Valve shall have full nominal port diameter; reduced port not acceptable; no venturi pattern.
- 4.03** Valve shall have a full-port, unobstructed, water way when in the full-open position.
- 4.04** Valves C509 or C515 shall have synthetic rubber seating area on the wedge to allow for zero leakage at rated pressure.
- 4.05** Valves 4-inch and larger C509 or C515 shall have solid wedge, totally encapsulated in rubber. Valves 4-inch and larger C500 shall be bronze to bronze seated.
- 4.06** OS&Y Valve shall have multiple rings of packing and a stuffing box.
- 4.07** Valve shall permit repacking under line pressure.
- 4.08** Valve stem shall have one-piece integral thrust collar. Valve stems shall rotate freely in the valve bonnet recess.
- 4.09** NRS Valve shall have triple elastomer o-ring seals.
- 4.10** Valve direction of open shall be counterclockwise, unless otherwise specified.
- 4.11** Valve 2-inch operating nut or handwheel shall have cast the word "OPEN" and an arrow indicating the direction to open.
- 4.13** Valve castings shall be marked as required in the AWWA C509, C515 or C500 Standards.

## 5. MATERIALS

- 5.01** Valve body, bonnet, wedge, 2-inch operating nut or handwheel shall be constructed of ductile iron, ASTM-A526 65-45-12.
- 5.02** Valve stem shall be Type 304 Stainless Steel, unless otherwise specified.
- 5.03** Valve body and bonnet bolting shall be Type 316 Stainless Steel, unless otherwise specified.
- 5.04** Valve elastomer gaskets and o-rings shall be constructed of EPDM, unless another elastomer is specified.
- 5.05** Valve wedges for C509 or C515 4-inch and larger, shall be ductile iron fully encapsulated in EPDM elastomer, unless another elastomer is specified. Valve wedges for C500 4-inch and larger, shall be ductile iron with ASTM B763 Alloy C95400 Aluminum Bronze seats.

## 6. COATINGS

- 6.01** C509 or C515 Valves shall be coated Inside and Out with ANSI/NSF 61 and 372 Certified Fusion Bonded Epoxy.
- 6.03** C500 Valves shall be coated Inside and out with 2-Part Thermal Set Liquid Epoxy.
- 6.03** Valve internal and external coatings shall be applied in accordance with AWWA C550.

## 7. MANUAL GEARING

- 7.01** Valves can have bevel gearing or spur gearing depending on the application requirements. Bevel Gears or Spur Gears can be adapted to any size valve upon request.
- 7.02** Valve gear case fully enclosed, unless otherwise specified

## 8. OPTIONS

- 8.01** Extension Stems.
- 8.02** Position Indicators.
- 8.03** Valve Boxes.
- 8.04** Indicator Posts.
- 8.05** Electric Motor Operators.
- 8.06** Limit Switches.

## 9. MANUFACTURER

- 9.01** Valves shall be hydrostatically, shell and leak tested per the applicable AWWA Standard. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.
- 9.02** Valves resilient seated shall be Series 6000HP. Valves metal seated shall be Series 3000HP as manufactured by J&S Valve, Inc. Huffman, TX, USA, or preapproved equal. (062120 jb sb)