

AUSP1 350-PSI RESILIENT WEDGE GATE VALVES



1. GENERAL CLASSIFICATION

- 1.1 Resilient Wedge Gate Valves comply with ANSI/AWWA C515.
- 1.2 Resilient Wedge Gate Valves are approved by Factory Mutual Research Corporation (FM).
- 1.3 Resilient Wedge Gate Valves are listed by Underwriters Laboratories, Inc. (UL). Valves with actuators are not listed.
- 1.4 Resilient Wedge Gate Valves are tested and certified to ANSI/NSF 61 & 372.
- 1.5 Resilient Wedge Gate Valves are suitable for potable water applications.
- 1.6 Resilient Wedge Gate Valves are iron body, fully encapsulated resilient wedge type.
- 1.7 Resilient Wedge Gate Valves are manufactured in the U.S.A. at an ISO9001 Certified factory.

2. SIZE RANGE, WORKING TEMPERATURE & WORKING PRESSURE

- 2.1 **Sizes:** 3" to 12".
- 2.2 **Working Temperature:** 33°F minimum to 170°F maximum working temperature.
- 2.3 **Working Pressure:** 350psi for AWWA, UL and FM.

3. TYPE OF VALVE

- 3.1 Resilient Wedge Gate Valves are non-rising stem type.
- 3.2 NRS Resilient Wedge Gate Valves feature O-ring stem seals.
- 3.3 Resilient Wedge Gate Valves are available either to open left or open right.
- 3.4 Resilient Wedge Gate Valves have a 2" square wrench nut complying with AWWA C515. Optional hand wheels are available.
- 3.5 **Resilient Wedge Gate Valves are offered with the following end connections:**
 - 3.5.1 **Flanged Ends** with flange drilling complying to ASME B16.1 Class 125 (ISO PN10/PN16 drilling optional). Per ANSI/AWWA C111, working pressure above 250psi requires the use of a special gasket rated for the higher pressure.
 - 3.5.2 **Flanged Ends (3" thru 12")** with flange drilling complying to ANSI B16.1 Class 250 (ISO PN25 drilling optional).
 - 3.5.3 **Mechanical Joint Ends** complying with ANSI/AWWA C111/A21.11.
 - 3.5.4 **Slip-on Joint Ends*** (4" thru 12") complete with Mueller Slip-on gasket, complying with ANSI/AWWA C111/A21.11. Fits plain end of classes 150, 200 and 250 cast iron; ductile iron, and classes 150 and 200 cast iron O.D. PVC**.

**Design and dimensions of the joint are manufactured under license of U.S. Pipe and Foundry Company.
 **When using DI O.D. PVC pipe, the gaskets supplied by Mueller Co. must be used with this valve connection.*

- 3.5.5 **Radical Compression Joint Ends (2" thru 8")** for I.P. size PVC pipe.
- 3.5.6 **Grooved Ends** complies with AWWA C606.
- 3.6 **Resilient Wedge Tapping valves are offered with the following end connections:**
 - 3.6.1 Inlet flange machined specifically for mating with Tapping Sleeves and Crosses. Raised ring on flange face complies with MSS SP-60. Drilling complies with ASME B16.1 Class 125 flange.
 - 3.6.2 Standard Mechanical Joint outlet connection complies with ANSI/AWWA C111/A21.11 and is precision machined for proper alignment of Mueller® Drilling Machines.

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4. MATERIAL SPECIFICATIONS

- 4.1 **Cap screw** – Stainless Steel Type 316.
- 4.2 **Wrench nut** – Ductile Iron, ASTM A-536.
- 4.3 **Handwheel** – Cast Iron, ASTM A-126, Class B.
- 4.4 **Stuffing box** – Ductile Iron, ASTM A-536.
- 4.5 **Stem O-rings** – Nitrile, ASTM D2000.
- 4.6 **Anti-friction washers** – Acetal.
- 4.7 **Stem** – Manganese Bronze, ASTM B138 Alloy C67600.
- 4.8 **Bonnet** – Ductile Iron, ASTM A-536.
- 4.9 **Bonnet seal** – O-ring, Nitrile, ASTM D2000.
- 4.10 **Stuffing box bolts & nuts** – Stainless Steel Type 316.
- 4.11 **Bonnet bolts & nuts** – Stainless Steel Type 316.
- 4.12 **Disc nut** – Bronze, ASTM B-584 Alloy C89833.
- 4.13 **Guide cap bearings** – Acetal.
- 4.14 **Disc** – Ductile Iron, ASTM A-536.
- 4.15 **Disc encapsulated** – SBR ASTM D2000.
- 4.16 **Body** – Ductile Iron, ASTM A-536.
- 4.17 **Coating** – inside and outside of valve fully coated Mueller PRO-GARD® Fusion Bonded Epoxy - coating complies with ANSI/AWWA C550 and valve is certified to ANSI/NSF Standard 61 & 372.

5. DESIGN FEATURES

- 5.1 **Flow Way** - fully unobstructed, oversized flow-way. The sealing mechanism is withdrawn from the flow-way in a full open position. No pockets in bottom of flow-way to trap sediment or debris. The flow-way will permit passage of full-sized shell cutters.
- 5.2 **Bronze Disc Nut.**
- 5.3 **Anti-Friction Washers** – Located above and below the thrust collar portion of the stem to reduce friction and provide more effective conversion of operating torques into seating loads.
- 5.4. **Stem with O-ring Seals** – One O-ring is located below the thrust collar of the stem and two are located above the thrust collar, the upper most serving as a dirt seal. The O-rings and thrust collar are factory lubricated. The two primary O-rings seal the thrust collar area from outside contaminants and water, and retain an ample amount of lubricant on the thrust collar and anti-friction washers to reduce operating torque and wear.
- 5.5. **Stem** – The threads on the bronze stem are Acme form threads for strength and efficiency. The stem thrust collar is made integral with the stem -- and is formed by a heat upset operation.
- 5.6. **Upper Stem O-ring Replacement** – The two O-rings above the thrust collar of all Resilient Wedge Gate Valves can be replaced with the valve in the fully open position, under pressure, with no leakage.
- 5.7. **Corrosion Resistance** – all inside and outside cast iron surfaces are coated with Mueller PRO-GARD Epoxy Coating, 10 mils nominal. Mueller PRO-GARD Epoxy Coating is non-toxic and imparts no taste to water. Valves comply with ANSI/AWWA C550 and are certified to ANSI/NSF 61 & 372.

6. OPTIONAL FEATURES

- 6.1 U.S. Pipe Valve & Hydrant A-USP1 350psi Series Resilient Wedge Gate Valves can be furnished with the following optional designs or features:
 - 6.1.1 **Gearing** – Bevel and Spur gearing available on valves 3" and larger. Bevel geared valves are for horizontal installations; spur geared for vertical. Geared valves provide an additional bearing to support the extreme end of the stem.

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- 6.1.2. **Position indicator** – Available for NRS valves 3” and larger.
- 6.1.3. **Stem** – Silicon bronze ASTM B98 C66100, 304 Stainless Steel and 316 Stainless Steel.
- 6.1.4. **Disc encapsulation and O-rings** – EPDM ASTM D2000.

7. TEST PRESSURE

- 7.1 The pressure test on each Resilient Wedge Gate Valve meets the requirements of AWWA Standard C515 for Resilient Seated Valves.
 - 7.1.1 Each Resilient Wedge Gate Valve is subjected to two pressure tests. The seat test is at the working pressure of AWWA valves and 1-1/2 times working pressure of UL Listed valves. Shell tests are at two times the working pressure.
 - 7.1.2. Pressure tests at the working pressure shall show NO leakage past the seat from either side of the wedge or at the flange joints. Pressure tests at twice the working pressure shall show NO leakage through the metal or flange joints.
 - 7.1.3. Test pressures are as follows: 525psi for Seat Test, 700psi for Shell Test.



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