



## **H-2361 PERMASEAL™ RESILIENT WEDGE INSERTION GATE VALVE – 350/250PSI, 4”-12”**

### **Suggested Specifications**

1. MUELLER PermaSeal™ Resilient Wedge Insertion Gate Valves shall meet or exceed all pertinent requirements of ANSI/AWWA C515-15 gate valve standard. They shall be ANSI/NSF 61 & 372 certified for drinking water components.
2. Valves shall have an AWWA working pressure rating 4”-12” 350PSIG (250PSIG for 4”-12” asbestos cement and 10”-12” cast iron class C,D). After manufacture, each gate valve shall be subjected to operation and hydrostatic tests at the manufacturer’s facility. Each valve shall be operated through a complete cycle and production seat tested to 350PSIG (250PSIG for asbestos cement and 10”-12” cast iron class C,D) drip-tight from each direction, also shell tested to 700PSIG (500PSIG for asbestos cement and 10”-12” cast iron class C,D).
3. The valve body, bonnet, stuffing box and operating nut shall be made of ASTM A536 ductile iron. The body and bonnet shall adhere to the minimum wall thickness as set forth in AWWA C515-15 Table 3, section 4.4.1.2. Wall thicknesses that do not meet AWWA minimums are not acceptable.
4. Valve type shall be NRS (Non-Rising Stem) with the MJ x MJ (Mechanical Joint) end connection. Bury depth (waterway centerline to top of the operating nut) of the insertion valve shall be same as NRS A-2300 series Mueller resilient wedge gate valve of an equivalent nominal valve size.
5. The stem diameter and number of turns to open shall be as set forth in AWWA C515-15 Table 8, section 4.4.5.7.
6. Valve stems shall be made of bronze ASTM B98 alloy C66100 Ho2 bar stock material. The bronze stem collar is to be hot forge upset; collars not integral with the stem are not acceptable. The stem material shall provide a minimum 70,000psi tensile strength, yield strength of 38,000psi and 20% minimum elongation. Optional bronze stems material may be ASTM B138 alloy C67600 Ho4. Optional stainless-steel stems may be hot forge upset or machined from bar stock in the following grades: 304 or 316.
7. Removing a full section of pipe allows for the valve gate to seat on the precision cast surface that is an integral part of the removable valve body (not on host pipe or sleeve assembly) that is clean and unobstructed of buildup/tuberculation to provide for reliable watertight shutoff. To assure for service with long-term capability of repeat watertight shutoff no recess/pocket is allowed in bottom of seat area to trap sediment or debris.
8. Design shall accommodate the removal of either the valve bonnet, or the entire valve body assembly from the sleeve body, allowing for the inspection, maintenance, and replacement of the components, including the precision cast seat.

9. Valve stems shall have “anti-friction” thrust washers, one above and one below the stem thrust collar to reduce operating torque. Valve stem design shall be such that if excessive input torque is applied, stem failure shall occur above the stuffing box at such a point as to enable the operation of the valve with a pipe wrench or other readily available tool.
10. The NRS valves shall be provided with a 2” square operating nut or handwheel with the cast arrow showing operating direction. The bolt that attaches the operating nut to the stem shall be recessed into the operating nut so as not to interfere with valve wrench operation. Bolt (operating nut) shall be 316 stainless steel.
11. Valves shall have a stuffing box with bolts in line with flow and be O-ring sealed. Two O-rings shall be placed above and one O-ring below the stem thrust collar. The thrust collar shall be factory lubricated. The thrust collar and its lubrication shall be isolated by the O-rings from the waterway and from outside contamination providing permanent lubrication for long term ease of operation. Valves without a stuffing box are unacceptable. Valves without at least three stem O-rings are also unacceptable.
12. The valve disc and guide lugs shall be composed of ASTM A536 ductile iron and fully encapsulated in EPDM ASTM D2000 rubber. Guide caps of an acetal bearing material shall be placed over solid guide lugs to prevent abrasion and to reduce the operating torque. Guide lugs placed over bare metal are not acceptable.
13. Valves shall have all internal and external ferrous surfaces coated with a fusion bonded thermosetting powder epoxy coating of 10 mils nominal thickness. The coating shall conform to AWWA C550.
14. Valves shall have Type 316 stainless steel bolts and nuts for the stuffing box, bonnet, and body.
15. Valves shall be cast, machined, assembled, and tested in the USA and be warranted by the manufacturer against defects in materials or workmanship for a period of ten (10) years from the date of manufacture. The manufacturing facility for the valves must have current ISO certification.
16. Insertion valves shall be MUELLER® PERMASEAL™ H-2361 series.

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