

**USP2 RESILIENT WEDGE GATE VALVES  
FULL WALL 350psi, 2"-12"****VALVE &  
HYDRANT**

1. The resilient seat gate valves shall fully comply with the latest revision of AWWA C509\*, and shall also be UL 262 listed and FM 1120/1130 approved. The valves shall be tested and certified to ANSI/NSF 61 & 372.
2. The valve shall have a 350 psig working pressure.
3. The valve type shall be NRS (non-rising stem) or OS&Y (outside screw & yoke) as specified.
4. The valve shall have an arrow cast on the operating nut or handwheel showing opening direction. The direction of opening shall be as specified.
5. The NRS valves shall be provided with a 2" square operating nut and OS&Y valves shall be provided with a handwheel. 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.
6. The valves shall have Type 316 stainless steel bolts and nuts for the stuffing box.
7. The valve stem shall be made of bronze ASTM B-138 alloy C67600 H04 hard bar stock material. The stem shall have at least one "anti-friction" thrust washer above and below the stem collar to reduce operating torque. The design of the NRS valve stem 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. The stem material shall provide a minimum 73,000psi tensile strength with 8% elongation and yield strength of 48,000psi. Valves with cast stems or two-piece stem collars are not acceptable. Optional bronze stems materials may be ASTM B98 alloy C66100 H02 (half hard). Optional stainless-steel stems may be hot forge upset or machined from bar stock in the following grades:
  - a. 304 Stainless steel
  - b. 316 Stainless steel
8. The NRS valves shall have a stuffing box that is O-ring sealed. Stuffing box shall have two integrally cast lifting lugs. 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.
9. The valve body, bonnet, and stuffing box shall be composed of ASTM A536 ductile iron. The body and bonnet shall also adhere to the minimum wall thickness as set forth in Table 3, section 4.4.1.2 of AWWA C509. Wall thickness less than those in table 2 are not acceptable.
10. The valve disc and guide lugs must be fully (100%) encapsulated in SBR ASTM D2000 rubber material. Guide caps of an acetal bearing material shall be placed over solid guide lugs to prevent abrasion and to reduce the operating torque.
11. The 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.
12. The tapping valves shall have an inlet flange conforming to ANSI B16.1 Class 125 for attachment to a tapping sleeve or cross. In addition, the valve inlet flange shall have a machined projection or raised face complying with MSS SP-60 for accurate alignment to the mating recess in the tapping sleeve flange. The seat opening of the tapping valves shall be at least .30" larger than the nominal pipe size to permit full diameter cuts.

## SUGGESTED SPECIFICATIONS

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13. The valves shall 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.
14. The NRS valves shall be U.S. Pipe Valve & Hydrant A USP2 Series or approved equal.
15. The OS&Y valves shall be U.S. Pipe Valve & Hydrant R USP2 (4"-12") and USP1 (2"-3") Series or approved equal.
16. The NRS tapping valves shall be U.S. Pipe Valve & Hydrant T USP2 Series or approved equal.

*\*NOTE: Valves 2' and 2 & 1/2" are not covered under AWWA C509.*



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