



**PURCHASING SPECIFICATIONS
FOR**

**AWWA C515 Resilient Wedge Gate Valves
AWWA C504 Rubber Seated Butterfly Valves
AWWA C512 Combination Air Release Valves**

Updated February 11, 2014

RESILIENT WEDGE GATE VALVES (AWWA C515)

- A. Gate valves shall be manufactured in accordance with the latest revision of AWWA C515. Valves shall be certified to NSF Standard 61 and be manufactured to meet the following:
 - 1. All valves shall be of the inside screw, non-rising stem type, with O-ring stem seal.
 - 2. The valve actuators shall have counter-clockwise opening stems.
 - 3. Valves shall be resilient wedge type rated for 250 psi working pressure.
 - 4. Bubble-tight with rated pressure applied from either side.
 - 5. Body flanged end, flange drilling in accordance with ANSI B16.1, Class 125.

- B. Materials:
 - 1. Valve body/cover: ASTM A536 Grade 65-45-12 ductile iron.
 - 2. Valve wedge: ASTM A536 Grade 65-45-12 ductile iron totally encapsulated with rubber.
 - 3. Stem, stem nut: Bronze or stainless steel.
 - 4. Nuts and Bolts: Type 304, stainless steel to ASTM F593/A193 for bolts and F594/A194 for nuts.
 - 5. Coating System: Fusion bonded epoxy in accordance with AWWA C550.

- C. Other:
 - 1. 2-inch square AWWA operating nut.
 - 2. Valves 12-inch and larger shall be equipped with gear actuator.

3.

RUBBER SEATED BUTTERFLY VALVES (AWWA C504)

- A. Butterfly valves shall be manufactured in accordance with the latest revision of AWWA C504 Class 250B (working pressures up to 250 psi) Valves shall be certified to NSF Standard 61 and be manufactured to meet the following:
1. Suitable for throttling operations and infrequent operations after periods of inactivity.
 2. All seats shall be of a synthetic rubber compound. Seats shall be applied to either the body or the disc by mechanical means without retaining rings, segments, screws, or hardware of any kind in the flow stream. Seats shall be a full 360 degrees without interruption.
 3. Bubble-tight with rated pressure applied from either side.
 4. No travel stops for the disc or interior of the body.
 5. Self-adjusting V-type or O-ring shaft seals.
 6. Isolate metal-to-metal thrust bearing surfaces from flowstream.
 7. Working Pressure: Rated for 250 psi cold water at 16 fps flow velocity, nonshock, watertight shutoff.
 8. Body Type: Short body flange.
 9. Body flanged end, flange drilling in accordance with ANSI B16.1, Class 125.
- B. Materials:
1. Valve bodies: ASTM A536 Grade 65-45-12 ductile iron.
 2. Valve shafts: Stainless steel, ASTM A564, Type 632, Condition H-1100.
 3. Valve discs: ASTM A536, Grade 65-45-12 ductile iron.
 4. Valve seats: Buna-N or EPDM rubber.
 5. Internal Parts: Internal parts and valve trim shall be Type 316, stainless steel.
 6. Nuts and Bolts: Type 304, stainless steel to ASTM F593/A193 for bolts and F594/A194 for nuts.
 7. Mating surfaces: Type 316, stainless steel.
 8. Coating System: Fusion bonded epoxy in accordance with AWWA C550.
 9. Brass and bronze valve components and accessories that have surfaces in contact with water shall be alloys containing less than 16 percent zinc and 2 percent aluminum.
 10. Approved alloys are of the following ASTM designations:
 - a. B61, B62, B98 (Alloy UNS No. C65100, C65500, or C66100), B139 (Alloy UNS No. C51000), B584 (Alloy UNS No. C90300 or C94700), B164, B194, and B127.
- C. Other:
1. Operator force not to exceed 40 pounds under any operating condition, including initial breakaway. Gear reduction operator required when force exceeds 40 pounds.
 2. Operator self-locking type or equipped with self-locking device.
 3. Position indicator on quarter-turn valves.
 4. Worm and gear operators one-piece design worm-gears of gear bronze material. Worm hardened alloy steel with thread ground and polished. Traveling nut type operators threaded steel reach rods with internally threaded bronze or ductile iron nut. Valves 30-inch and larger shall be equipped with worm gear actuators lubricated and sealed to prevent entry of dirt or water into the housing.
 5. 2-inch AWWA operating nuts.
 6. Valve handles to take a padlock, and wheels a chain and padlock

COMBINATION AIR RELEASE VALVES (AWWA C512)

- A. Combination Air Release Valves (AVAR) shall be manufactured in accordance with the latest revision of AWWA C512. Valves shall be manufactured to meet the following:
1. Combine the characteristics of air and vacuum valves and air-release valves by exhausting accumulated air in systems under pressure and releasing or re-admitting large quantities of air while a system is being filled or drained, respectively.
 2. The cross sectional area of the discharge orifice must be equal to the cross sectional area of the valve inlet size.
 3. Working pressure of 300 psi.
 4. Release 10 cfm at 10 psi differential at 250 psi line pressure.
 5. Air vacuum capacity 9 scfm at 5 psi differential from atmospheric.
 6. Valves shall be combination body.
 7. All flanges shall match an ANSI/ASME B16.5 Class 150 drilling pattern.
- B. Materials
1. Body and cover: ASTM A126 Gr. B cast iron
 2. Needle and Seat: Buna-N
 3. Float, linkage and hardware: Type 316 or 304 Stainless steel
 4. Plug: Brass
 5. Coating: Paint exterior with corrosion resistant primer