

## SECTION 22 05 23

### GENERAL DUTY VALVES FOR PLUMBING PIPING

This document is intended to note the Owners Design Requirements (ODR) for the titled specification section. Design professional to review and integrate ODR into the project's technical specifications. This ODR document should not be viewed as a standalone technical specification.

#### PART 1 - GENERAL REQUIREMENTS

##### ◆ Definitions

- Lead Free: Refers to the wetted surface of pipe, fittings and fixtures in potable water systems that have a weighted average lead content  $\leq 0.25\%$  per Safe Drinking Water Act as amended January 4th 2011 Section 1417.

#### PART 2 - PRODUCTS AND MATERIALS

##### ◆ Valve features, general

- End Connections: As indicated in the valve specifications.
  - Threads: Comply with ANSI B1.20.1.
  - Flanges: Comply with ANSI B16.1 for cast iron, ANSI B16.5 for steel, and ANSI B16.24 for bronze valves.
  - Solder-Joint: Comply with ANSI B16.18.
    - Caution: Where soldered end connections are used, use solder having a melting point below 840 deg F for gate, globe, and check valves; below 421 deg F for ball valves.

##### ◆ Gate valves

- Gate Valves, 4-Inch and Larger: MSS SP-70; Class 125, 200-psi CWP, iron body, bronze mounted, with body and bonnet conforming to ASTM A 126 Class B; with flanged ends, "non-asbestos composition packing, and two-piece packing gland assembly.

##### ◆ Ball valves

- Lead Free Ball Valves, 1-1/4 Inch and Smaller: Meeting MSS SP-110, Class 150, 600-psi CWP; two-piece construction; with ASTM B 584 cast lead free bronze, full port, blowout-proof stem and chrome-plated lead free brass ball, with replaceable "Teflon" or "TFE" seats and seals, solder ends and vinyl-covered steel handle.
- Lead Free Ball Valves, 1-1/2 Inch and Larger: Meeting MSS SP-110, Class 150, 600-psi CWP; three-piece construction; with ASTM B 584 cast lead free bronze, full port, blowout-proof stem and chrome-plated lead free brass ball, with replaceable "Teflon" or "TFE" seats and seals, solder ends and vinyl-covered steel handle.

##### ◆ Butterfly valves

- Butterfly Valves, 2-1/2-Inch and Larger: MSS SP-67; 200-psi CWP; lug-type body constructed of cast-iron conforming to ASTM A 126, Class B or ductile iron conforming to ASTM A 536. Provide valves with field replaceable EPDM sleeve/seat, aluminum-bronze disc, 416 stainless steel stem, and EPDM O-ring stem seals. Provide lever operators, (10 position minimum), with lock and stops with locks for sizes 2-1/2 through 6 inches and gear operators with position indicator for sizes 8 inch and larger. Drill and tap valves on dead-end service or requiring additional body strength. Valves must be rated for dead end service at 150 psi with no downstream flange required.

##### ◆ Check valves

- Lead Free Swing Check Valves, 2-Inch and Smaller: Meeting MSS SP-80; Class 125, 200-psi CWP, body and cap of ASTM B 584 cast lead free bronze; with horizontal swing, Y-pattern, disc and disc holder of ASTM B 283 alloy C46400 naval brass; solder ends. Provide valves capable of being reground while the valve remains in the line.

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- Lead Free Lift Check Valves, 2-Inch and Smaller: Meeting MSS SP-80; Class 125, 300-psi CWP, body, disc holder and cap of ASTM B 584 cast lead free bronze; horizontal or angle pattern, lift-type valve, with stainless steel spring, renewable "Teflon" disc and solder ends. Provide valves capable of being refitted and ground while the valve remains in the line.

#### PART 3 - EXECUTION

- ◆ Valve ends selection
  - Select valves with the following ends or types of pipe/tube connections:
    - Copper Tube Size, 2-Inch and Smaller: Solder ends.
    - Copper Tube Sizes 2-1/2 Inch and Larger: flanged end.
- ◆ Domestic Hot and Cold Water Valves

Use gate, ball, and butterfly valves for shutoff duty; ball, and butterfly for throttling duty. Refer to piping system Specification Sections for specific valve applications and arrangements.
- ◆ Valve installations
  - Provide 3-piece ball valve to isolate each restroom. Provide an access panel at each isolation valve.
- ◆ Field quality control
  - Tests: Test the domestic water system by pressurizing piping with 10psig compressed air for 3 hrs without a drop in pressure of more than 5%. If the air test is approved, test the system by filling it with water and then isolating the system from its source. Keep the system closed for a period of twenty-four hours with no fixture being used. The pressure differential for this test period shall not exceed 10 psig. Test water piping to a 125 PSI hydrostatic pressure.

END OF SECTION 22 05 23