

Materials Specification – 8 for TAPPING VALVES - MECHANICAL JOINT TYPE

1. GENERAL:

Tapping valves shall be designed and manufactured in accordance with AWWA C509 or AWWA C515, as applicable, with the following additional requirements or exceptions.

2. VALVE DESCRIPTION:

Valves shall be ductile iron body, resilient seated gate valve with non-rising stems. If the resilient seats are bonded to the gates, the gates shall be completely encapsulated with the material with the exception of any guide tabs or slots.

3. INSTALLATION:

Valves will be installed with the stem positioned vertically in buried horizontal water lines without gearing, by-passes, rollers or tracks.

4. SERVICE:

Valves shall be suitable for frequent operation in addition to service involving long periods of inactivity. Valves shall be capable of operating satisfactorily with flows in either direction; the operating pressure for all sizes shall be 200 psig.

5. VALVE STEM:

Valve stems shall be made of bronze in accordance with ASTM B 763, Copper Alloy No. C99500; stainless steel in accordance with ASTM A276, Type 304, Type 316 or AISI 420; or ASTM B98, Copper Alloy No. C66100/HO2.

Valves shall be furnished with 2-inch square wrench nuts. The stem seal shall consist of two O-rings. Valves shall open by turning to the right.

6. BOLTING MATERIAL:

Bonnet and gland bolts and nuts shall be either fabricated from a low alloy-steel for corrosion resistance or electro-plated with zinc or cadmium. The hot-dip process, in accordance with ASTM A 153, is NOT acceptable.

7. END CONNECTIONS:

A. Inlet End of Valve:

The inlet end of the valve shall be flanged. The dimensions and drilling of the flange shall conform to ANSI B16.1, Class 125. Flange faces shall be machined to a flat surface with a serrated finish in accordance with AWWA C207.

B. Outlet End of Valve:

The outlet end of the valve shall have a standard mechanical joint end that conforms to AWWA C111. The face of the mechanical joint shall have a sufficiently smooth and even surface to allow a tight O-ring seal with the tapping equipment. Accessories for the mechanical joint consist of the gasket, gland and fasteners and shall be furnished. The tee-head bolts and hexagon

nuts shall be fabricated from a high-strength low alloy steel known in the industry as Cor-Ten, Usalloy or Durabolt. Both ends of the valve shall be covered for shipment and the mechanical joint accessories shall be packed inside the body of the valve.

8. SEAT RING SIZE:

The body of the valve and the seat opening shall be sized large enough to accommodate the following sizes of shell cutters:

<u>Tapping Valve Nominal Diameter</u>	<u>Shell Cutter Diameter</u>
4"	3-7/8" ±1/32"
6"	5-13/16" ±1/32"
8"	7-7/8" ±1/32"
10"	9-3/4" ±1/32"
12"	11-7/8" ±1/32"

9. TESTING:

Each valve, after shop assembly, shall be given the operation and hydrostatic tests in accordance with AWWA C509 or AWWA C515.

10. COATING:

Valves shall be painted or coated in accordance with AWWA C509 or AWWA C515. Machined flange faces shall be evenly coated with a rust preventative compound; they shall NOT be painted or coated with the same coating as the body.

11. CERTIFICATION:

The manufacturer shall furnish a sworn statement that the inspection and all of the specified tests have been completed and that the results comply with the requirements of these Standards. A copy of the Certification, including compliance with ANSI/NSF 61, shall be sent to Denver Water.

12. ACCEPTABLE MANUFACTURERS:

American AVK
Mueller
Clow
Kennedy
United States Pipe and Foundry Company
American Flow Control Series 2500 RW

*Material Specification – 8
Tapping Valves – Mechanical Joint Type*