

**CITY OF AKRON, OHIO
DEPARTMENT OF PUBLIC SERVICE
WATER SUPPLY BUREAU**

SPECIFICATIONS FOR SERVICE FITTINGS, LOW LEAD

DESCRIPTION

All brass service fittings described in the following specifications shall meet or exceed the latest revision of the AWWA Standard C-800, Underground Service Line Valves and Fittings, and all other requirements called for in these specifications. All stops and fittings shall comply with NSF 61-G and contain less than 0.25 percent lead.

Corporation Stops, 1-1/4 Inch and Under

All corporation stops shall be the round-way type for insertion into water mains under pressure. The inlet thread shall be Mueller (AWWA) and conform to Table Six (6) of AWWA C-800. Protect threads in shipment by a plastic coating or other satisfactory means. All corporation stops shall be designed to rotate about the axis of the flow passageway inside a minimum 2-7/8" circle of rotation.

Provide corporation stops plugs having integral cast tee heads 3/8 inches high by 3/8 inches wide for a shut-off key. All corporation stops must operate (open and close) with a fifty (50) foot-pound maximum torque at 40° F under a head of sixty (60) psi. Taper the key and body and accurately fit together by turning the key and reaming the body and lapping the seating surfaces using an abrasive suspension to insure an accurate fit. Secure in place the key with a 5/8 inch threaded brass nut and the bottom of the plug. Prestake the nut to distort the last thread and prevent accidental backing-off of the nut.

The outlet connection may be one of two types, as specified in the bid items description, flared or compression (see compression joint specification). Flared joints for copper tubing shall have threads which conform to Table Four (4) of AWWA C-800. Coupling nut threads shall conform to Table Five (5) of AWWA C-800. The length of the tube nut shall be of sufficient length to support pipe loading and shall be no less than the nominal diameter of the tube nut.

Corporation Stops, (1-1/2 Inch and 2 Inches)

All corporation stops must be the key style, ball style, or tapered plug style using rubber O-rings as pressure seals. The inlet threads shall be Mueller (AWWA) as listed above. The outlet shall be flared or compression type (see compression joint specification). All corporation stops must open and close with a fifty (50) foot-pound maximum torque at 40 degrees F under a head of sixty (60) psi.

Curb Valves, (1, 1-1/4, 1-1/2, and 2 inch)

All curb valves are to be of the sealed ball type with an integrally cast tee head drilled or cored to permit attachment of an operating rod for on-off operation with a 90 degree turn of the rod.

Ball type curb valves shall comply with NSF 61-G and contain less than 0.25 percent lead. The ball shall be Teflon® - coated brass, and shall be held in position by and seal off against seats of Buna N rubber that are held securely in place with an epoxy adhesive. Valves shall be watertight against flow in either direction. The waterway shall be no smaller than the nominal size of the valve and shall be smooth with no abrupt changes in size to create resistance to flow. The stem that turns the ball shall be held securely in place by a bronze ring. The minimum diameter of the stem at the point of attachment to the valve body shall be as follows:

<u>Valve Size</u>	<u>Minimum Diameter</u>
1"	9/16"
1-1/2"	7/8"
2"	1"

The seal around the stem shall consist of two "O" rings. Each valve shall have a substantial T-head for opening and closing with 90 degree turn of a standard slotted wrench. The stops or lugs for controlling the motion of the T-head shall be enclosed and properly positioned to align the waterway through the ball with the water passage through the valve body.

All valves must have zero (0) leakage through the top, bottom, and ports when in the closed position at a maximum rated working pressure of 175 psi.

All curb valves must be able to withstand a minimum torque requirement of 125 foot-pounds torque against the check in both the opening and closing directions.

The inlet and outlet connections may be one of three types, as specified in the bid item description, iron pipe threads, flared or compression (see compression joint specification). Flared joints for copper tubing shall have threads which conform to the Table Four (4) of AWWA C-800. Coupling nut threads shall conform to Table Five (5) of AWWA C-800. The length of the tube nut shall be of sufficient length to support pipe loading and shall be no less than the nominal diameter of the tube nut.

Service Fittings (3/4, 1, 1-1/4, 1-1/2, and 2 Inch)

All service fittings shall comply with the AWWA Standard C-800 and the following design requirements. All fittings shall comply with NSF 61-G and contain less than 0.25 percent lead.

The end connections shall be male iron pipe, female iron pipe, copper flare, or compression joint. Male iron pipe threads shall conform to Table Eight (8) of AWWA C-800.

Compression Joints for Curb Valves and Unions

Where specified on the order, some fittings shall have compression joints. All compression joints must include a bronze or stainless steel gripper band for restraint, be conductive type, and be designed with a stop so that the gasket cannot be overcompressed. The compression nut must have a baked-on coating to reduce friction and prevent the gasket from galling to the nut. The joint must permit a stab connection not requiring total disassembly of the joint. All 1-1/2 and 2 inch compression joints must be able to withstand a pull-out load of 3000 pounds in tension. All compression joints shall be adaptable to other standard service fittings with a minimum number of adapting fittings.

INSTRUCTIONS TO BIDDERS

Bidder shall state if the product(s) intended to be furnished meets NSF 61-G.

Bidder to specify the make and material, and provide descriptive literature and specifications for the service fittings they propose to furnish.

Upon request, bidder shall furnish test data as stated in the specifications for torque and pullout strength prior to shipment.