

**City of Milwaukee  
Department of Public Works**

**Milwaukee Water Works**

**Material Specifications for  
Bronze Service Fittings,  
Sizes 3/4" Through 2"**



City of Milwaukee Specification No. 30-D-7  
September 18, 2014

- I. **GENERAL REQUIREMENTS:** Vendors bidding through the Department of Administration - Business Operations Division, Procurement Services Section shall comply with the latest version of City of Milwaukee Specification No. 70b-D-7, except as modified herein. **MATERIALS FURNISHED UNDER THIS SPECIFICATION SHALL BE MANUFACTURED IN THE UNITED STATES.**
- II. **TECHNICAL REQUIREMENTS**
- A. **Description:** Service fittings, described herein, shall consist of couplings and fittings used to connect copper water service piping and adapt to other types of service piping.
- B. These units shall be, but not limited to, unions, reducers, couplings, service insulators, bushings, plugs, adaptors and lead packs.
- C. **Standards:** Bronze service fittings shall be NSF 61 and NSF 372 certified, and designed in accordance with the latest revisions of AWWA C800 Standard for Underground Service Line Valves and Fittings, as modified herein.
- D. **Material:** Bronze service fitting materials shall conform to the following requirements:
1. Material shall be "No Lead" meeting ASTM B584 UNS copper alloy C89833 or C89520 as specified in the latest revision of AWWA C800, Section 4.
  2. The seals and gaskets shall be made of high-grade rubber suitable for potable water.
  3. Compression fitting gripper rings and fasteners shall be 300 series, 18-8 stainless steel.
- E. **Workmanship:** Bronze service fittings shall be of high quality and all castings shall be free from defects of any kind. Completed fittings shall be free from metal chips.
- F. **Service Fitting Design:**
1. Outlet ends and coupling nuts shall comply with AWWA C800 for flared connection with Type "K" copper unless otherwise specified on the construction plan, bid or purchase documents.
  2. Service fittings shall be of straight-through/full port design.
  3. Service fittings shall be capable of withstanding a hydrostatic test pressure of 300 psi.
  4. Service fitting body shall be clearly and permanently marked by either casting or stamping to indicate a low lead casting.

**G. Tests by Manufacturer:**

1. A chemical analysis of the copper alloy, including lead content, shall be made.

**H. Certification by Manufacturer:** Upon request, the contractor shall submit manufacturer's certifications in duplicate to the Superintendent of Milwaukee Water Works attesting to the following:

1. Hydrostatic and leakage tests or the air under water tests.
2. Chemical analysis.

**III. ACCEPTABLE BRANDS**

**A.** The following manufacturers are acceptable to Milwaukee Water Works:

The Ford Meter Box Company  
A.Y. McDonald Mfg. Co.  
Mueller Co.  
Cambridge Brass

**B.** The above manufacturers are intended to be descriptive, but not restrictive. Other items of equal quality conforming to the requirements of this specification will be considered.

**IV. INSPECTION BY CITY**

- A.** All required drawings, manuals and certifications shall be furnished before any materials will be inspected and accepted.
- B.** The Superintendent of the Milwaukee Water Works or a duly authorized representative will inspect all materials furnished under this specification.
- C.** Testing will be done on ten (10) percent of the whole shipment and rejections will be based on the results of testing of these samples.
- D.** Any materials found not conforming to this specification will be rejected and must be replaced at no cost to the City including all freight costs.