

**City of Milwaukee**  
**Department of Public Works**

**Milwaukee Water Works**

**Material Specifications for**  
**Service Saddles, 4" Through 16"**



City of Milwaukee Specification No. 30-B-9c  
Revised September 18, 2014

- I. **GENERAL REQUIREMENTS:** Vendors bidding through the Department of Administration – Business Operation 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 saddles described herein shall consist of a stainless steel or copper alloy body with rubber gasket and shall be designed to receive a corporation stop with AWWA threads for building service or with tapered Iron Pipe Threads, IPT (National Pipe Thread, NPT), for air vent and blow-off drain installations.
- B. **Standards** Unless otherwise stated, service saddles furnished shall conform to the latest revisions of the following American Water Works Standards:
1. AWWA C800 Standard for Underground Service Line Valves and Fittings
- C. **Service Saddle Design:**
1. All stainless steel saddle with double bolt on full-circle style or double band on semi-circle style with a rubber liner and a stainless steel tap.
    - a. Thickness of the band shall be 20-gauge minimum for 4” through 12” and 18-gauge minimum for 16” size.
    - b. The minimum saddle length shall be four inches.
    - c. Bolts shall be a minimum 5/8” diameter with heavy hex nuts.
    - d. A stainless steel repair clamp with tapped outlet in accordance with City of Milwaukee Specification No. 30-D-13 is an acceptable alternative for the service saddle.
  2. Bronze body with double stainless steel bands or silicon bronze U-bolts.
    - a. The part of the U-bolt that makes contact with the surface of the water main shall be flattened to within one-half of the diameter of the bolt.
    - b. Bolts shall be a minimum 5/8” diameter with heavy hex nuts.
    - c. The thread on the bolts shall be of sufficient length to provide for adequate adjustment when assembled to the water pipe.
- D. **Materials:** Service saddle materials shall be in accordance with the following requirements:

1. The saddle body and bands shall be 300 series stainless steel in accordance with the requirements of ASTM A703 Casting Designation CF8 (18-8) or copper alloy CDA No. C83600 in accordance with the requirements ASTM B-584.
  2. The straps, bolts and nuts, and the tap shall be of 300 series stainless steel material or silicon bronze.
  3. The gasket seal material shall be high-grade rubber, such as Buna N conforming to ASTM – D2000 or approved equal.
- E. Pressure Class:** Service saddles shall be *high pressure* capable of withstanding a hydraulic working pressure of 150 psi and a test pressure of 250 psi.
- F. Marking:** The name or trademark of the manufacturer and the size of the pipe and tap shall be marked on the saddle body.
- G. Range of Pipe Outside Diameters:** The assembled saddle shall fit the range of pipe OD's listed in the following tabulation:

Nominal Pipe Diameter Cast and Ductile Iron (in.)	Pipe O.D. Min (in.)	Pipe O.D. Max (in.)
4"	4.80	5.00
6"	6.90	7.10
8"	9.05	9.30
12"	13.20	13.50
16"	17.40	17.80

- H. Certifications:** Upon request, the manufacturer or the vendor shall submit certification that all service saddles are manufactured and tested in accordance with all applicable parts of AWWA C800 standard.

### III. INSPECTION BY THE CITY OF MILWAUKEE

- A. The Superintendent of Milwaukee Water Works or a duly authorized representative shall inspect the materials furnished under this specification.
- B. Water Engineering shall be notified at least five (5) working days prior to installation for material inspection.
- C. All service saddles furnished under this specification will be subject to inspection.
- D. Service saddles may be hydrostatically tested to 250 psi.
- E. Any service saddle found not conforming to this specification will be rejected and shall be replaced. Replacement of service saddles that failed the inspection shall conform to all the requirements of this specification.