

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

**Milwaukee Water Works**

**Material Specifications for**  
**End Ring Couplings – Extended Range**  
**2" through 16"**



**City of Milwaukee Specification No. 30-D-15**  
**Issued October 17, 2025**

## **STATEMENT OF GENERAL SPECIFICATION TERMS AND CONDITIONS**

**NOTE: THIS SPECIFICATION AND ANY ACCOMPANYING SPECIFICATION CAN BE APPEALED.**

FORMAL SPECIFICATION APPEALS MUST BE SUBMITTED IN WRITING TO THE CITY PURCHASING DIRECTOR FOR ALL BIDS NO LATER THAN FIVE (5) BUSINESS DAYS PRIOR TO BID OPENING. **REQUESTS RECEIVED AFTER THIS TIMEFRAME WILL NOT BE CONSIDERED.**

FORMAL SPECIFICATION APPEALS MUST NOT ONLY IDENTIFY THE PROVISION THAT IS OF CONCERN, BUT ALSO IDENTIFY A PROPOSED ALTERNATE SOLUTION SUPPORTED BY TECHNICAL DATA AND/OR, TEST RESULTS FOR CONSIDERATION.

### **NOTICE**

***AN APPEAL FEE (CHECK OR MONEY ORDER) OF 1.25% OF THE ESTIMATED DOLLAR AMOUNT OF THE ANTICIPATED CONTRACT IS REQUIRED WITH A BID SPECIFICATION APPEAL. THIS FEE IS A PREREQUISITE FOR PURSUING A FORMAL SPECIFICATION APPEAL AND MUST ACCOMPANY THE APPEAL. THE APPEAL FEE WILL BE RETURNED IF THE APPEAL IS UPHELD.***

CONTACT THE APPROPRIATE PURCHASING AGENT OR THE PROCUREMENT SPECIALIST IDENTIFIED IN THE BID SOLICITATION FOR THE APPEAL FEE AMOUNT AND FILING INSTRUCTIONS.

### **CAUTION**

A BID THAT DOES NOT FULLY COMPLY WITH ALL OF THE PROVISIONS, TERMS, AND CONDITIONS OF THIS OR ANY ACCOMPANYING SPECIFICATION AND BID, MAY BE DETERMINED AS A COUNTEROFFER AND MAY RESULT IN THE BID BEING REJECTED FOR NON-RESPONSIVENESS.

- 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 COMPLY WITH AND BE CERTIFIED WITH THE PROVISIONS OF THE CITY OF MILWAUKEE ORDINANCE 310-18.9 AND THE AMERICAN IRON AND STEEL REQUIREMENT (AIS) OF THE DRINKING WATER STATE REVOLVING FUND (DWSRF).**

**\*MATERIALS FURNISHED UNDER THIS SPECIFICATION SHALL COMPLY WITH AND BE CERTIFIED WITH THE PROVISIONS OF BUILD AMERICA, BUY AMERICA (BABA) PROVISIONS UNLESS A WAIVER OF REQUIREMENTS HAS BEEN APPROVED BY THE USEPA.**

**ADDITIONAL INFORMATION REGARDING BUILD AMERICA, BUY AMERICA (BABA) CAN BE FOUND AT THE FOLLOWING LINK: [HTTPS://WWW.EPA.GOV/CWSRF/BUILD-AMERICA-BUY-AMERICA-BABA](https://www.epa.gov/cwsrf/build-america-buy-america-baba)**

\*Note: AIS/BABA requirements do not apply to 16" Diameter End Ring Couplings.

## II. **TECHNICAL REQUIREMENTS**

- A. **Description:** Couplings as described herein consist of one (1) ductile iron middle ring, two (2) rubber compound gaskets, two (2) ductile iron end compression rings and stainless steel nuts and bolts. Couplings are to be used to connect equivalent outside diameter ductile iron and/or cast-iron pipe.
- B. **Standards:** All couplings shall conform to the latest revision of the following American Water Works Association Standards (AWWA) and NSF 61:
1. AWWA C219 Bolted, Sleeve-Type Couplings for Plain-End Pipe
  2. NSF 61 Drinking Water System Components – Health Effects
- C. **Material:**
1. Middle ring shall be made of ductile iron conforming to ASTM A536, 65-45-12.
  2. Rubber gaskets shall be virgin EPDM or Nitrile (Buna-N) NSF 61 listed, and in accordance with ASTM D2000.
  3. Compression End Rings shall be made of ductile iron conforming to ASTM A536, 65-45-12.
  4. Bolts, nuts and washers used to join the compression rings and compress the rubber gaskets shall be a minimum of ½" diameter for 2" and 3" sizes and ⅝" diameter for sizes over 3" and made of 300 Series 18-8 Stainless Steel. Nuts or bolts shall be coated with an anti-seizing material to prevent galling during tightening.

5. Gasket armor shall be 300 Series 18-8 Stainless Steel.

## **II. TECHNICAL REQUIREMENTS: (Continued)**

### **D. Design Features:**

1. Nominal Sizes: The nominal water main sizes are 2" - 16" diameter.
  - a. The couplings in each size shall be suitable to connect pipe having the following outside diameters. All dimensions are in inches:

| Nominal Size | Class 55 D.I. Pipe, Nominal O.D. | Class C-D Pit Cast, Minimum O.D. |
|--------------|----------------------------------|----------------------------------|
| 2"           | 2.15" K copper                   | 2.50"                            |
| 3"           | 3.96"                            | 4.06"                            |
| 4"           | 4.80"                            | 5.10"                            |
| 6"           | 6.90"                            | 7.20"                            |
| 8"           | 9.05"                            | 9.40"                            |
| 10"          | 11.10"                           | 11.50"                           |
| 12"          | 13.20"                           | 13.60"                           |
| 16"          | 17.40"                           | 17.80"                           |

- b. The middle ring shall have a minimum length of 4-inch for 2-inch coupling, 6-inch for 3-inch coupling, and 8-inch for sizes over 3-inch.
2. Accessories: The coupling shall be furnished complete with all compression rings, gaskets, bolts, nuts and washers.
3. Pressure: Couplings shall be designed for water working pressure of 150 psi and a test pressure of 250 psi.
4. Gaskets shall have a stainless steel protective guard located at the compression ring closure.

**E. Coating:** Interior and exterior of middle ring and followers shall be coated with fusion bonded epoxy in accordance with NSF 61.

**F. Instructions:** Installation instructions, including torque requirements, shall be furnished with each coupling.

**G. Certification by Manufacturer:** Upon request, the contractor shall submit to the Superintendent of Milwaukee Water Works the manufacturer's certification verifying the conformance of the couplings to the AIS requirements of this specification.

**III. ACCEPTABLE BRANDS:**

The following brands and model numbers are acceptable to the City of Milwaukee:

Romac Macro HP

Manufacturers may request approval from the City of Milwaukee in accordance with City of Milwaukee Specification No. 70b-D-7.

**IV. INSPECTION BY THE CITY**

- A.** The Superintendent of Milwaukee Water Works or a duly authorized representative shall inspect the materials furnished under this specification.
- B.** Any coupling found not conforming to this specification will be rejected and must be replaced at no cost to the City including all freight costs. Replacements for couplings that have failed the inspection shall conform to all the requirements of this specification.