

**City of Duluth, Minnesota Public Works and Utilities Department –  
Engineering Division  
Standard Construction Specifications 2011 Edition**

c. Steel Transition Couplings

Steel transition couplings (18" CI through 48" CI) shall be rated for 150 PSI working pressure. Components shall consist of a steel sleeve and follower coated with 12 mils of 3M epoxy #206N. Bolts shall be stainless steel. Gasket shall be Grade 30 rubber. The couplings shall be designed to connect ductile iron pipes to old cast iron pipes, sizes as follows:

Nominal Pipe Size	Ductile Iron O.D.	Cast Iron O.D. (Range)
18"	19.50" to	19.50" – 19.92"
20"	21.60" to	21.60" – 22.06"
24"	25.80" to	25.80" – 26.32"
36"	38.30" to	37.96" – 38.70"
42"	44.50" to	44.20" – 44.50"
48"	50.80" to	50.50" – 50.80"

More than one gasket shall be furnished if necessary to allow connection over the entire cast iron O.D. range. If the gaskets furnished are not interchangeable for all the connection pipe size, then each gasket must be clearly labeled or its container labeled to indicate its applicable pipe O.D. range.

Couplings shall be JCM 203, Rockwell #413 or approved equal.

8. Bell Joint Leak Clamps (3" through 36")

Clamps shall fit AWWA sand cast pipe classes A, B, C, and D and centrifugally cast pipe diameters. Bell and spigot rings shall be ductile iron, Cor-Ten or similar low corrosion type bolts, with gaskets suitable for water service.

9. Band Type Repair Clamps

Clamps shall be single band full circle type with a gridded, tapered, overlapping Buna-N Grade 60 gasket designed for repair of water mains. Clamp shall have a stainless steel band and bridge plate, ductile iron glands, and stainless steel bolts spaced not more than 2.5 inches c-c. Provisions shall be provided for electrical continuity which will withstand a 10 minute-400 amp current (water filled pipe condition) with no harmful effects. This specification is for band clamps ranging in size from 2" through 16" and widths approximately 7-1/2" to 15". Clamp shall be Rockwell #225, #238 or approved. Band Type Repair Clamps must fit the following O.D. range:

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<b>Pipe Size</b>	<b>Steel OD (In.)</b>	<b>Ductile or Cast Iron OD (In.)</b>
2"	2.35 – 2.63	-
3"	3.36 – 3.60	3.73 – 4.00
4"	4.45 – 4.73	4.80 – 5.10
6"	6.56 – 6.96	6.90 – 7.20
8"	8.54 – 8.94	9.05 – 9.45
10"	10.64 – 11.04	11.10 – 11.40
12"	12.60 – 13.00	13.20 – 13.50
16"	-	17.13 – 17.90

**10. Tapping Sleeves**

(4" though 10" tap on 6" through 30" cast iron, ductile iron or steel mains.) Sleeves shall consist of two sections of heavy welded steel which bolt together on a main pipe and seal against a gasket around the top opening. Flange shall be AWWA C207 Class D, ANSI 150 pound and have recess cavity for mating to a standard tapping valve. Outlet body shall have a 3/4 inch NST test plug. Fitting shall be coated with 12 mil fusion bonded epoxy. Bolts and nuts shall be Type 304 stainless steel. Fitting shall be similar or equal to Rockwell 622 or Ford FTSC Tapping Sleeve, and in the sizes and O.D. ranges specified.

An approved alternate tapping sleeve shall consist of two sections of heavy welded stainless steel which bolt together on a main pipe and seal against a full encirclement gasket. Flange shall be AWWA C207 Class D, ANSI 150 pound suitable for mating to a standard mechanical joint gate valve. Outlet body shall have a 3/4 inch NST test plug. Fitting shall be stainless steel. Bolts and nuts shall be Type 304 stainless steel. Fitting shall be similar or equal to PowerSeal 3490MJ Tapping Sleeve and in the sizes and O.D. ranges specified.

**11. Fire Hydrants**

Fire Hydrants shall be Waterous Pacer Traffic Model WB67-250 or Mueller Super Centurion 250 conforming to the requirements of AWWA C502 and the following supplemental requirements:

- a. Main Valve Opening – 5 1/4 inches nominal diameter.
- b. Bury Depth – 7 1/2 feet measured from the bottom of the branch pipe connection to the finished ground line at the hydrant.
- c. Upper Standpipe Length – 22 inches or 16 inches with an extension
- d. Nozzles – One steamer connection, 4 1/2 inch (ID), City of Duluth Standard threads, 7 threads per inch and two hose nozzles, 2 1/2 inch (ID), with National Standard Fire Hose Coupling Screw Threads.