

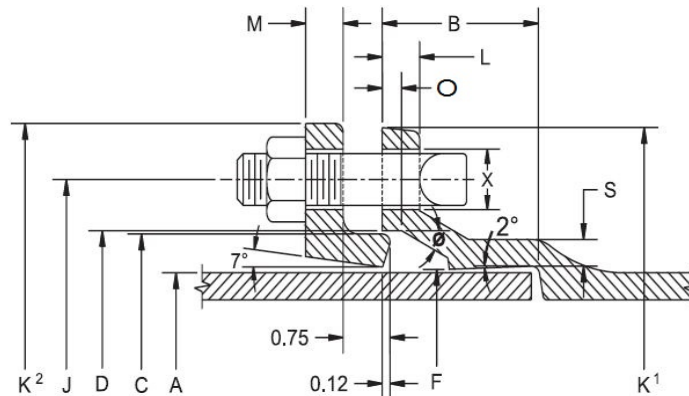
DOMESTIC

NON-DOMESTIC

## SUBMITTAL: C110 MECHANICAL JOINT PRODUCT

(Current revisions for the noted Standards apply)

- SIZES:** 2" - 48"
- STANDARDS:** ANSI/AWWA C110/A21.10, NFPA 13/24, 3" - 12" UL listed and approved (File - Tyler Union)
- MATERIAL:** Cast of ASTM A536 qualified ductile iron. Date code is cast on and required for traceability.
- PRESSURE RATING:** \*Flanged fittings rated at 250 psi. Mechanical joints 2" - 24" rated at 350 psi and 30" - 48" at 250 psi.  
\*Note: With rubber annular ring flange gasket, 2" - 24" Flanged fittings can be rated at 350 psi.  
Note: Wyes over 12" are not pressure rated. Contact Tyler Union for rating in your application.
- DEFLECTION:** Joint deflection 5° max for 2"- 12" and 3° max for 14"- 48". Reduces by 50% at nominal pipe & fitting diameters
- NSF-61 & NSF372:** Meets all requirements including Annex G, Tyler Union's Underwriters Laboratory listing MH16439.
- ASPHALT COATING:** Per ANSI/AWWA C104/A21.4 and ANSI/AWWA C110/A21.10.
- CEMENT LINING:** Per ANSI/AWWA C104/A21.4, with double cement lining available upon request.
- EPOXY COATING:** Fusion bonded epoxy per ANSI/AWWA C116/A21.16. Additional coatings available upon request.
- BARE FITTINGS:** Available upon request.
- FASTNERS:** High strength low alloy weathering steel per ANSI/AWWA C111/A21.11 and ASTM A242
- INSTALLATION:** Install per AWWA C600/C651 using pipe conforming to ANSI/AWWA C151/A21.51 or AWWA C900/905.



NOMINAL JOINT DIMENSIONS IN INCHES

Size Inches	A Dia. DI Pipe	B Hub Depth	C Dia. GLAND	D Dia.	F Dia.	Ø	X	J Dia. GLAND	K <sup>1</sup> Dia.	K <sup>2</sup> Dia. GLAND	L	M GLAND	O	S	Qty. BOLTS
2	2.51	2.50	3.39	3.50	2.61	28°	3/4	4.75	6.25	6.25	0.73	0.62	0.31	0.44	2
3	3.96	2.50	4.84	4.94	4.06	28°	3/4	6.19	7.69	7.69	0.94	0.62	0.31	0.52	4
4	4.80	2.50	5.92	6.02	4.90	28°	7/8	7.50	9.12	9.12	1.00	0.75	0.31	0.65	4
6	6.90	2.50	8.02	8.12	7.00	28°	7/8	9.50	11.12	11.12	1.06	0.88	0.31	0.70	6
8	9.05	2.50	10.17	10.27	9.15	28°	7/8	11.75	13.37	13.37	1.12	1.00	0.31	0.75	6
10	11.10	2.50	12.22	12.34	11.20	28°	7/8	14.00	15.69	15.62	1.19	1.00	0.31	0.80	8
12	13.20	2.50	14.32	14.44	13.30	28°	7/8	16.25	17.94	17.88	1.25	1.00	0.31	0.85	8
14	15.30	3.50	16.40	16.54	15.44	28°	7/8	18.75	20.31	20.25	1.31	1.25	0.31	0.89	10
16	17.40	3.50	18.50	18.64	17.54	28°	7/8	21.00	22.56	22.50	1.38	1.31	0.31	0.97	12
18	19.50	3.50	20.60	20.74	19.64	28°	7/8	23.25	24.83	24.75	1.44	1.38	0.31	1.05	12
20	21.60	3.50	22.70	22.84	21.74	28°	7/8	25.50	27.08	27.00	1.56	1.44	0.31	1.12	14
24	25.80	3.50	26.90	27.04	25.94	28°	7/8	30.00	31.58	31.50	1.62	1.56	0.31	1.22	16
30	32.00	4.00	33.29	33.46	32.17	20°	1-1/8	36.88	39.12	39.12	1.81	2.00	0.38	1.50	20
36	38.30	4.00	39.59	39.76	38.47	20°	1-1/8	43.75	46.00	46.00	2.00	2.00	0.38	1.80	24
42	44.50	4.00	45.79	45.96	44.67	20°	1-3/8	50.62	53.12	53.12	2.00	2.00	0.38	1.95	28
48	50.80	4.00	52.09	52.26	50.97	20°	1-3/8	57.50	60.00	60.00	2.00	2.00	0.38	2.20	32

C110 DUCTILE IRON FULL BODY FITTINGS

SAMPLE SPECIFICATIONS

(Current ANSI/AWWA revisions apply)

Mechanical joint watermain fittings with accessories 2" through 48" shall be manufactured from ductile iron in accordance with and meet all applicable terms and provisions of standards ANSI/AWWA C110/A21.10 and ANSI/AWWA C111/A21.11. Ductile iron mechanical joint fittings 2" through 24" shall be rated for 350 psi working pressure. All ductile iron mechanical joint fittings 30" through 48" shall be rated for 250 psi working pressure. Flanged ductile iron fittings in 24" (610 mm) and smaller sizes may be rated for 350 psi (2,413 kPa) with the use of special (annular ring or comparable) gaskets.

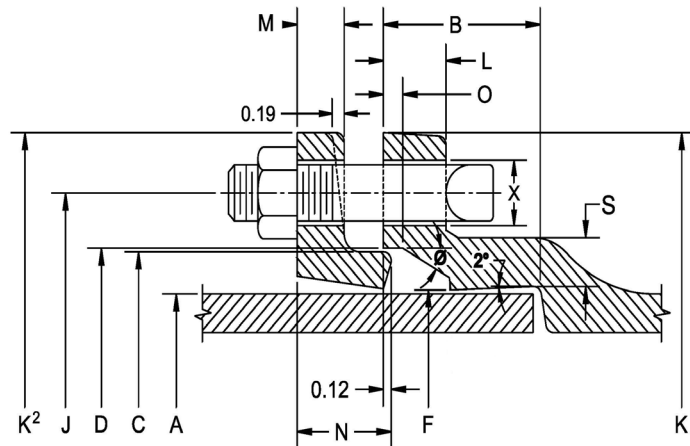
**NOTE:** EXCEPTIONS: Mechanical joint fittings with flanged branches and 14" and larger caps and plugs are rated for water pressure of 250 PSI.

**NOTE:** Installation per AWWA C600 and AWWA C651, current revision.

**NOTE:** Fittings are cement lined and seal coated in accordance with ANSI/AWWA C104/A21.4. Fittings are also available double cement lined, bare or epoxy coated. Coated and lined fittings meet requirements of NSF-61, NSF-372 & Annex G.

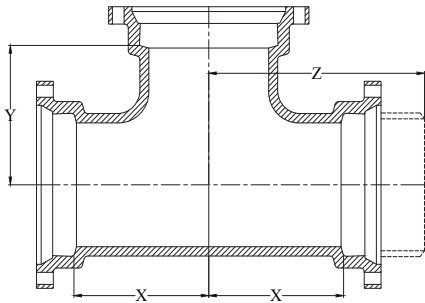
Nominal Joint Dimensions in Inches															
Size	A	B	C	D	F	$\theta$	X	J	K1	K2	L	M	N	O	S
*2	2.50	2.50	3.39	3.50	2.61	28°	3/4	4.75	6.25	6.25	0.75	0.62	1.12	0.31	0.44
3	3.96	2.50	4.84	4.94	4.06	28°	3/4	6.19	7.69	7.69	0.94	0.62	1.37	0.31	0.52
4	4.80	2.50	5.92	6.02	4.90	28°	7/8	7.50	9.12	9.12	1.00	0.75	1.50	0.31	0.65
6	6.90	2.50	8.02	8.12	7.00	28°	7/8	9.50	11.12	11.12	1.06	0.88	1.63	0.31	0.70
8	9.05	2.50	10.17	10.27	9.15	28°	7/8	11.75	13.37	13.37	1.12	1.00	1.75	0.31	0.75
10	11.10	2.50	12.22	12.34	11.20	28°	7/8	14.00	15.69	15.62	1.19	1.00	1.75	0.31	0.80
12	13.20	2.50	14.32	14.44	13.30	28°	7/8	16.25	17.94	17.88	1.25	1.00	1.75	0.31	0.85
14	15.30	3.50	16.40	16.54	15.44	28°	7/8	18.75	20.31	20.25	1.31	1.25	2.00	0.31	0.89
16	17.40	3.50	18.50	18.64	17.54	28°	7/8	21.00	22.56	22.50	1.38	1.31	2.06	0.31	0.97
18	19.50	3.50	20.60	20.74	19.64	28°	7/8	23.25	24.83	24.75	1.44	1.38	2.13	0.31	1.05
20	21.60	3.50	22.70	22.84	21.74	28°	7/8	25.50	27.08	27.00	1.50	1.44	2.19	0.31	1.12
24	25.80	3.50	26.90	27.04	25.94	28°	7/8	30.00	31.58	31.50	1.62	1.56	2.31	0.31	1.22
30	32.00	4.00	33.29	33.46	32.17	20°	1 1/8	36.88	39.12	39.12	1.81	2.00	2.75	0.38	1.50
36	38.30	4.00	39.59	39.76	38.47	20°	1 1/8	43.75	46.00	46.00	2.00	2.00	2.75	0.38	1.80
42	44.50	4.00	45.79	45.96	44.67	20°	1 3/8	50.62	53.12	53.12	2.00	2.00	2.75	0.38	1.95
48	50.80	4.00	52.09	52.26	50.97	20°	1 3/8	57.50	60.00	60.00	2.00	2.00	2.75	0.38	2.20

\*Not included in AWWA C110.

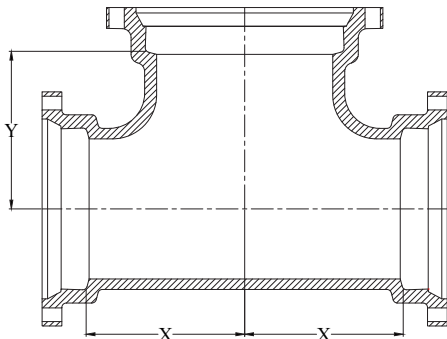


ANSI/AWWA C110 Mechanical Joint Fittings

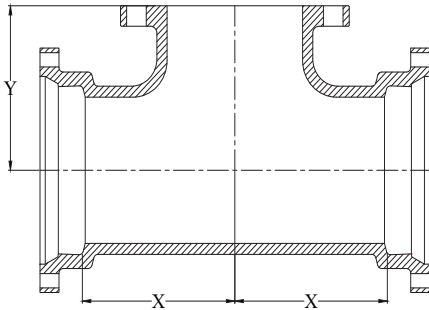
**C110 DUCTILE IRON FULL BODY FITTINGS**



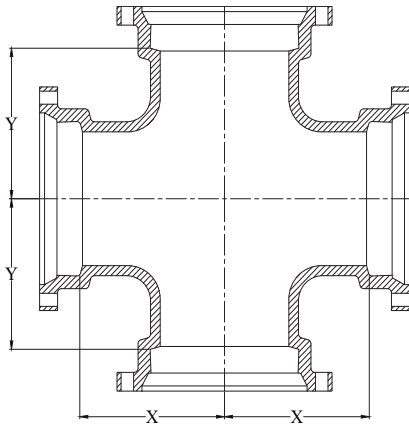
MJ Tees and MJxPExMJ Tees



MJ Bullhead Tees



MJxFE Tees



Cross

TEES AND CROSSES								
Size Run	Branch	X	Y	Z	MJ	Weight		
						MJXPEXMJ	MJXMJXFE	Cross
2	2	3.25	3.25	—	21	—	—	—
3	2	3.25	3.25	—	45	—	—	—
3	3	5.50	5.50	13.50	58	—	—	—
4	2	4.80	4.80	14.50	68	—	49	—
4	3	6.50	6.50	14.50	77	—	—	—
4	4	6.50	6.50	14.50	78	75	76	—
4	6	8.00	8.00	—	112	—	—	—
6	2	8.00	8.00	—	78	—	—	—
6	3	8.00	8.00	16.00	98	—	—	—
6	4	8.00	8.00	16.00	110	—	109	—
6	6	8.00	8.00	16.00	119	120	141	160
6	8	9.00	9.00	—	158	—	—	—
8	3	9.00	9.00	17.00	155	—	—	—
8	4	9.00	9.00	17.00	157	—	150	185
8	6	9.00	9.00	17.00	175	170	182	205
8	8	9.00	9.00	17.00	199	180	194	255
10	4	11.00	11.00	19.00	—	—	229	—
10	6	11.00	11.00	19.00	258	—	264	285
10	8	11.00	11.00	19.00	268	—	245	310
10	10	11.00	11.00	19.00	300	250	—	380
12	4	12.00	12.00	20.00	318	315	323	—
12	6	12.00	12.00	20.00	325	325	335	360
12	8	12.00	12.00	20.00	335	335	372	371
12	10	12.00	12.00	20.00	392	390	—	486
12	12	12.00	12.00	20.00	396	396	476	—
14	12	14.00	14.00	22.00	540	560	—	—
14	14	14.00	14.00	22.00	585	570	—	779
16	4	15.00	15.00	23.00	580	580	575	—
16	6	15.00	15.00	23.00	615	590	605	650
16	8	15.00	15.00	23.00	625	605	615	675
16	10	15.00	15.00	23.00	645	620	—	—
16	12	15.00	15.00	23.00	627	640	651	—
16	16	15.00	15.00	23.00	740	720	730	895
18	6	13.00	15.50	—	710	—	707	—
18	8	13.00	15.50	—	659	—	675	775
18	12	13.00	15.50	—	749	—	733	860
18	18	16.50	16.50	—	945	—	953	1140
20	6	14.00	17.00	—	849	—	—	—
20	8	14.00	17.00	—	892	—	859	951
20	12	14.00	17.00	—	896	—	—	977
20	16	18.00	18.00	—	1095	—	—	1245
20	20	18.00	18.00	—	1258	—	1168	1440
24	6	15.00	19.00	—	1233	—	1228	—
24	8	15.00	19.00	—	1234	—	1242	1244
24	12	15.00	19.00	—	1256	—	1165	1326
24	14	15.00	19.00	—	1220	—	—	—
24	16	15.00	19.00	—	1245	—	—	1479
24	18	22.00	22.00	—	1735	—	—	—
24	20	22.00	22.00	—	1720	—	1795	1965
24	24	22.00	22.00	—	1947	—	—	2192
30	6	18.00	23.00	—	2050	—	—	2085
30	8	18.00	23.00	—	2060	—	—	—
30	10	18.00	23.00	—	2075	—	—	—
30	12	18.00	23.00	—	2090	—	—	2165
30	16	18.00	23.00	—	2145	—	—	—
30	18	18.00	23.00	—	2170	—	—	—
30	20	18.00	23.00	—	2205	—	—	—
30	24	25.00	25.00	—	2880	—	3080	3180
30	30	25.00	25.00	—	2275	—	2430	3640

Tyler Union does not recommend the use of wedge action restraints on plain end fittings