C153 DUCTILE IRON
MECHANICAL JOINT FITTINGS

Project Name: | Contractor: | Date:

Engineer: | Spec Section:

PRODUCT SPECIFICATIONS

Material:
Ductile Iron ASTM A536 Grade 60-42-10, 65-45-12 or 70-50-05.

Pressure Rating:
350 PSI rating for 2”-24” sizes, 250 PSI rating for 30”-48” sizes and 150 PSI rating for 54” - 64” sizes.

Testing:
In accordance with ANSI/AWWA 153/A21.53 & UL-FM Requirements. | Hydrostatically Tested in accordance with SIGMA Quality Management Standard.

Traceability:
All fittings are heat coded to ensure traceability and verification of metallurgicl properties in accordance with the prevailing standards and SIGMA Quality Management Standards.

Size Range:
2”- 64”

Laying Length:
Short body design - straight section of body deleted to provide a compact and lighter fitting without reducing strength or flow characteristics. In accordance with ANSI AWWA C153/A21.53. Non-Standard items will be as per SIGMA design.

Deflection:
Maximum allowable deflection for MJ Joint is as mentioned:
2”-4” =8° | 6” =7° | 8”-12”=5° |14”-48”=3° |54”-64”=2°

Approvals:
3”-16” Underwriters Laboratories listed and Factory Mutual Approved. UL/NSF61 & 372.

Standards:
ANSI/AWWA C111/A21.11 and ANSI/AWWA C110/A21.10 for Ductile Iron Fittings 2”-48” for water and other liquids. Certified to NSF/ANSI/CAN 61 and NSF/ANSI 372.

Installations:
Per ANSI/AWWA C600 and C111 using DIP conforming to C150/C151 and PVC pipe conforming to C900/905 and C909.

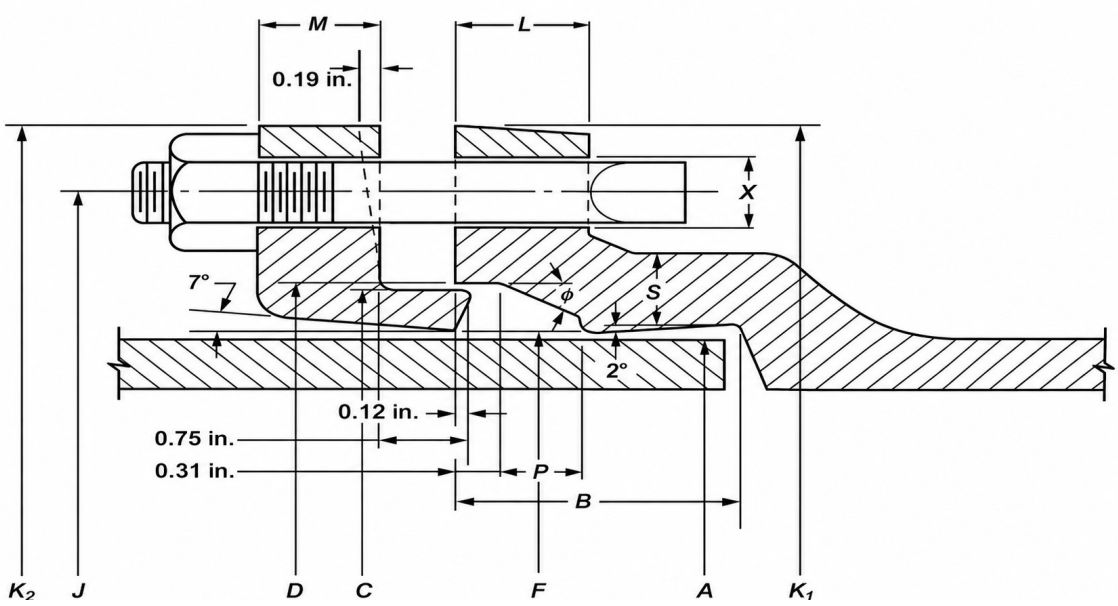
OPTIONAL SPECIFICATIONS

Gaskets	SBR (In accordance with ANSI/AWWA C111/A21.11)	☐
	EPDM	☐
	Neoprene	☐
	Nitrile	☐
	Other - Specify	☐
Coating	Asphaltic Seal Coat (In accordance with ANSI / AWWA C104/A21.04 and ANSI / AWWA C153/A21.10)	☐
	Fusion Bonded Epoxy (FBE) *Interior and exterior (In accordance with ANSI / AWWA C116/A21.16)	☐
	Zinc (In accordance with ISO 8179-2)	☐
	Others- Specify	☐
Lining	Cement-Mortar *Double thickness with asphaltic coating (In accordance with ANSI/AWWA C104/A21.4)	☐
	Fusion Bonded Epoxy (FBE)*Interior and exterior (In accordance with ANSI/AWWA C116/A21.16)	☐
	Protecto 401 Ceramic Epoxy	☐
	Others- Specify	☐
	Refer to: Lining Technical Bulletin and Guideline for more information	
Bolts & Nuts	High Strength Low Alloy Steel (HSLA) (In accordance with ANSI/AWWA C111/A21.11)	☐
	Stainless Steel ☐ Type 304 ☐ Type 316	☐
	Blue Fluoropolymer	☐
	Others- Specify	☐

SIGMA WATERWORKS

C153 DUCTILE IRON

MECHANICAL JOINT FITTINGS



Mechanical Joint Details

Size	A	B	C	D	F	J	K1	K2	L	M	P	S	Ø	X	Bolts		
															No.	Size	Length
*2	2.50	2.50	3.39	3.50	2.61	4.75	6.19	6.25	0.58	0.62	0.63	0.36	28°	3/4	2	5/8	3.00
3	3.96	2.50	4.84	4.94	4.06	6.19	7.62	7.69	0.58	0.62	0.63	0.39	28°	3/4	4	5/8	3.00
4	4.80	2.50	5.92	6.02	4.90	7.50	9.06	9.12	0.60	0.75	0.75	0.39	28°	7/8	4	3/4	3.50
6	6.90	2.50	8.02	8.12	7.00	9.50	11.06	11.12	0.63	0.88	0.75	0.43	28°	7/8	6	3/4	3.50
8	9.05	2.50	10.17	10.27	9.15	11.75	13.31	13.37	0.66	1.00	0.75	0.45	28°	7/8	6	3/4	3.50
10	11.10	2.50	12.22	12.34	11.20	14.00	15.62	15.62	0.70	1.00	0.75	0.47	28°	7/8	8	3/4	3.50
12	13.20	2.50	14.32	14.44	13.30	16.25	17.88	17.88	0.73	1.00	0.75	0.49	28°	7/8	8	3/4	3.50
14	15.30	3.50	16.40	16.54	15.44	18.75	20.25	20.25	0.79	1.25	0.75	0.55	28°	7/8	10	3/4	4.00
16	17.40	3.50	18.50	18.64	17.54	21.00	22.50	22.50	0.85	1.31	0.75	0.58	28°	7/8	12	3/4	4.00
18	19.50	3.50	20.60	20.74	19.64	23.25	24.83	24.75	1.00	1.38	0.75	0.68	28°	7/8	12	3/4	4.00
20	21.60	3.50	22.70	22.84	21.74	25.50	27.08	27.00	1.02	1.44	0.75	0.69	28°	7/8	14	3/4	4.00
24	25.80	3.50	26.90	27.04	25.94	30.00	31.58	31.50	1.02	1.56	0.75	0.75	28°	7/8	16	3/4	4.50
30	32.00	4.00	33.29	33.46	32.17	36.88	39.12	39.12	1.31	2.00	1.00	0.82	20°	1 1/8	20	1.00	5.50
36	38.30	4.00	39.59	39.76	38.47	43.75	46.00	46.00	1.45	2.00	1.00	1.00	20°	1 1/8	24	1.00	5.50
42	44.50	4.00	45.79	45.96	44.67	50.62	53.12	53.12	1.45	2.00	1.00	1.25	20°	1 1/8	28	1 1/4	6.00
48	50.80	4.00	52.09	52.26	50.97	57.50	60.00	60.00	1.45	2.00	1.00	1.35	20°	1 3/8	32	1 1/4	6.00
54	57.56	4.00	58.82	59.02	57.73	63.20	65.70	65.70	1.55	2.50	1.00	1.45	20°	1 3/8	36	1 1/4	6.50
60	61.61	4.00	62.87	63.07	61.78	67.72	70.22	70.22	1.75	2.50	1.00	1.50	20°	1 3/8	36	1 1/4	6.50
64	65.67	4.00	66.96	67.13	65.84	71.86	74.36	74.36	1.75	2.50	1.00	1.57	20°	1 3/8	38	1 1/4	6.50

*Not included in AWWA C153

All dimensions are in inches

For sewer applications that require mandrel passage after installation, SIGMA recommends the end user check the fitting with the respective size mandrel BEFORE installing the fitting. SIGMA Corporation will NOT take responsibility for any back charges incurred due to the fitting not being checked with a mandrel prior to installation.