

SECTION 2

Extra Heavy Malleable Pipe Fittings Class 300 - (A.A.R.)

Ward Class 300 Malleable Iron Fittings are designed to handle higher pressures and more rugged service than our Class 150 fittings. Like all of Ward's fittings, Class 300 fittings are made with the most sophisticated metallurgical and processing controls available. Ward's quality assurance program ensures that the iron is made with high quality raw materials and processed according to rigorous standards. Iron samples are continuously analyzed to ensure that a close grained, high strength, non-porous iron is produced.

Ward starts with high quality iron, then accurately machines threads that comply with the precise standards developed by the American Society of Mechanical Engineers (ASME) and published as an American National Standard. The threads have an accurate form, thread length and straightness to allow them to easily engage thread pipe. In addition, Ward fittings have a chamfered opening to allow faster and easier pipe engagement. This feature also protects the fitting threads from damage during handling.



Table A
Pressure-Temperature Ratings
SIZES

General Dimensions In Inches

These dimensions apply to both straight and reducing fittings.

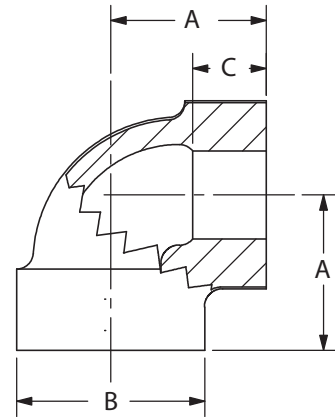
NPS	O.D. of Bands	Thread Length (min)
1/4	0.93	0.43
3/8	1.12	0.48
1/2	1.34	0.56
3/4	1.62	0.62
1	1.93	0.75
1 1/4	2.37	0.84
1 1/2	2.68	0.87
2	3.28	1.00
3	4.62	1.93

Temp. F°	PSI		
	Size 1/4 - 1	Size 1 1/4 - 2	Size 2 1/2 - 3
-20 TO 150	2000	1500	1000
200	1785	1350	910
250	1575	1200	825
300	1360	1050	735
350	1150	900	650
400	935	750	560
450	725	600	475
500	510	450	385
550	300	300	300

Material:	ASTM A197
Dimensions:	ASME B16.3 ANSI/ASME B1.20.1
Pressure Ratings:	ASME B16.3
Coatings:	ASTM A153 ASTM B633
Additional Specifications:	UL, ULC, FM NSF 61 and NSF 61 Annex G where applicable

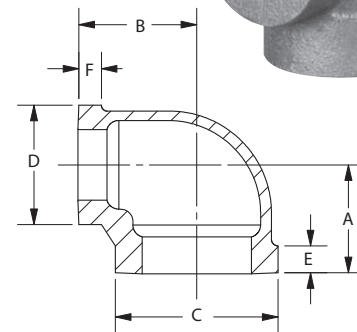
MALLEABLE IRON 90° STRAIGHT ELL CLASS 300

NPS	Center to End A	Outside Dia. of Band B (min)	Length of Threads C (min)	Take Out
1/4	0.94	0.93	0.43	0.53
3/8	1.06	1.12	0.47	0.65
1/2	1.25	1.34	0.57	0.71
3/4	1.44	1.63	0.64	0.89
1	1.63	1.95	0.75	0.94
1 1/4	1.94	2.39	0.84	1.23
1 1/2	2.13	2.68	0.87	1.40
2	2.50	3.28	1.00	1.74
2 1/2	2.94	3.86	1.17	1.80
3	3.38	4.62	1.23	2.18
4	—	—	—	—



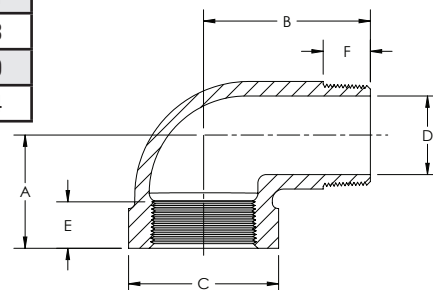
MALLEABLE IRON REDUCING 90° ELL CLASS 300

NPS	Center to End A	Center to End B	Outside Dia. of Band C (min)	Outside Dia. of Band D (min)	Length of Threads E (min)	Length of Threads F (min)	Take Out	Take Out
3/8 x 1/4	—	—	—	—	—	—	—	—
1/2 x 3/8	1.19	1.19	1.34	1.12	0.57	0.47	0.65	0.78
3/4 x 1/2	1.31	1.38	1.63	1.34	0.64	0.57	0.76	0.84
1 x 3/4	1.50	1.56	1.95	1.63	0.75	0.64	0.81	1.01
1 x 1/2	—	—	—	—	—	—	—	—
1 1/4 x 1	—	—	—	—	—	—	—	—
1 1/4 x 3/4	—	—	—	—	—	—	—	—
1 1/2 x 1 1/4	—	—	—	—	—	—	—	—
1 1/2 x 1	—	—	—	—	—	—	—	—
2 x 1 1/2	—	—	—	—	—	—	—	—
2 x 1 1/4	—	—	—	—	—	—	—	—



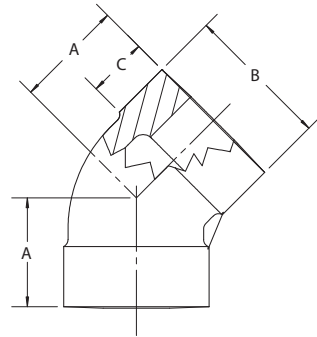
MALLEABLE IRON 90° STREET ELL CLASS 300

NPS	Center to End A	Center to Male End B	Outside Dia. of Band C (min)	Port Dia. Male End D (max)	Length of Internal Threads E (min)	Length of External Threads F (min)	Take Out Male End	Take Out Female End
1/4	0.94	1.44	0.93	0.26	0.43	0.40	1.03	0.53
3/8	1.06	1.63	1.12	0.36	0.47	0.41	1.22	0.65
1/2	1.25	2.00	1.34	0.49	0.57	0.53	1.46	0.71
3/4	1.44	2.19	1.63	0.67	0.64	0.55	1.64	0.89
1	1.63	2.25	1.95	0.88	0.75	0.68	1.81	0.94
1 1/4	1.94	2.88	2.39	1.16	0.84	0.71	2.17	1.23
1 1/2	2.13	3.13	2.68	1.35	0.87	0.72	2.40	1.40
2	2.50	3.69	3.28	1.75	1.00	0.76	2.93	1.74



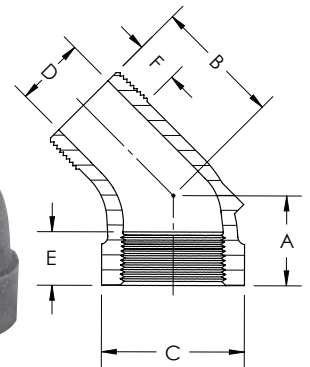
MALLEABLE IRON 45° ELL CLASS 300

NPS	Center to End A	Outside Dia. of Band B (min)	Length of Threads C (min)	Take Out
1/4	0.81	0.93	0.43	0.40
3/8	0.88	1.12	0.47	0.47
1/2	1.00	1.34	0.57	0.46
3/4	1.13	1.63	0.64	0.58
1	1.31	1.95	0.75	0.62
1 1/4	1.50	2.39	0.84	0.79
1 1/2	1.69	2.68	0.87	0.96
2	2.00	3.28	1.00	1.24
2 1/2	—	—	—	—
3	—	—	—	—
4	—	—	—	—



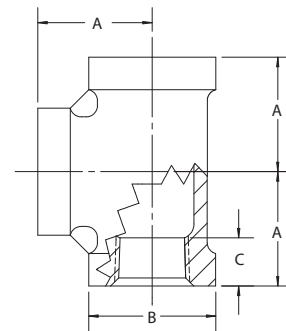
MALLEABLE IRON 45° STREET ELL CLASS 300

NPS	Center to End A	Center to End B	Outside Dia. of Band C (min)	Port Dia. Male D (max)	Internal Length of Threads E (min)	External Length of Threads F (min)	Take Out	Take Out
1/2	—	—	—	—	—	—	—	—
3/4	—	—	—	—	—	—	—	—
1	—	—	—	—	—	—	—	—
1 1/4	1.50	2.13	2.39	1.16	0.84	0.71	1.42	0.79
1 1/2	—	—	—	—	—	—	—	—
2	—	—	—	—	—	—	—	—



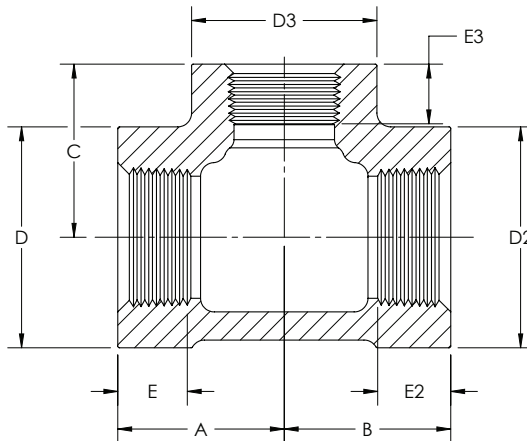
MALLEABLE IRON STRAIGHT TEE CLASS 300

NPS	Center to End A	Outside Dia. of Band B (min)	Length of Threads C (min)	Take Out
1/4	0.94	0.93	0.43	0.53
3/8	1.06	1.12	0.47	0.65
1/2	1.25	1.34	0.57	0.71
3/4	1.44	1.63	0.64	0.89
1	1.63	1.95	0.75	0.94
1 1/4	1.94	2.39	0.84	1.23
1 1/2	2.13	2.68	0.87	1.40
2	2.50	3.28	1.00	1.74
2 1/2	—	—	—	—
3	3.38	4.62	1.23	2.18
4	—	—	—	—



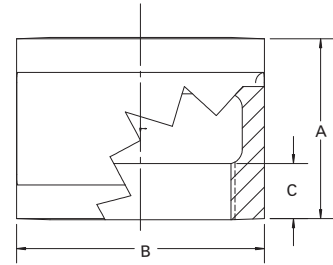
MALLEABLE IRON REDUCING TEES CLASS 300

NPS	Center to End A	Center to End B	Center to End C	Outside Dia. of Band D (min)	Outside Dia. of Band D2 (min)	Outside Dia. of Band D3 (min)	Length of Threads E (min)	Length of Threads E2 (min)	Length of Threads E3 (min)	Take Out	Take Out	Take Out
3/4 x 3/4 x 1/2	1.31	1.31	1.38	1.63	1.63	1.34	0.64	0.64	0.57	0.76	0.76	0.84
3/4 x 3/4 x 3/8	—	—	—	—	—	—	—	—	—	—	—	—
3/4 x 3/4 x 1/4	—	—	—	—	—	—	—	—	—	—	—	—
3/4 x 1/2 x 3/4	—	—	—	—	—	—	—	—	—	—	—	—
3/4 x 1/2 x 1/2	—	—	—	—	—	—	—	—	—	—	—	—
1 x 1 x 3/4	1.50	1.50	1.56	1.95	1.95	1.63	0.75	0.75	0.64	0.81	0.81	1.01
1 x 1 x 1/2	1.44	1.44	1.50	1.95	1.95	1.34	0.75	0.75	0.57	0.75	0.75	0.96
1 x 1 x 1/4	—	—	—	—	—	—	—	—	—	—	—	—
1 x 3/4 x 1	—	—	—	—	—	—	—	—	—	—	—	—
1 x 3/4 x 3/4	—	—	—	—	—	—	—	—	—	—	—	—
1 x 1/2 x 1	—	—	—	—	—	—	—	—	—	—	—	—
1 1/4 x 1 1/4 x 1	1.75	1.75	1.81	2.39	2.39	1.95	0.84	0.84	0.75	1.04	1.04	1.12
1 1/4 x 1 1/4 x 3/4	1.63	1.63	1.75	2.39	2.39	1.63	0.84	0.84	0.64	0.92	0.92	1.20
1 1/4 x 1 1/4 x 1/2	—	—	—	—	—	—	—	—	—	—	—	—
1 1/4 x 1 x 1	—	—	—	—	—	—	—	—	—	—	—	—
1 1/2 x 1 1/2 x 1 1/4	—	—	—	—	—	—	—	—	—	—	—	—
1 1/2 x 1 1/2 x 1	1.81	1.81	2.00	2.68	2.68	1.95	0.87	0.87	0.75	1.08	1.08	1.31
1 1/2 x 1 1/2 x 3/4	1.69	1.69	1.88	2.68	2.68	1.63	0.87	0.87	0.64	0.96	0.96	1.33
1 1/2 x 1 1/2 x 1/2	1.63	1.63	1.81	2.68	2.68	1.34	0.87	0.87	0.57	0.90	0.90	1.27
2 x 2 x 1 1/2	2.25	2.25	2.38	3.28	3.28	2.68	1.00	1.00	0.87	1.49	1.49	1.65
2 x 2 x 1 1/4	—	—	—	—	—	—	—	—	—	—	—	—
2 x 2 x 1	2.00	2.00	2.25	3.28	3.28	1.95	1.00	1.00	0.75	1.24	1.24	1.56
2 x 2 x 3/4	1.81	1.81	2.13	3.28	3.28	1.63	1.00	1.00	0.64	1.05	1.05	1.58
2 x 2 x 1/2	1.75	1.75	2.06	3.28	3.28	1.34	1.00	1.00	0.57	0.99	0.99	1.52
2 x 1 1/2 x 2	—	—	—	—	—	—	—	—	—	—	—	—
2 1/2 x 2 1/2 x 2	—	—	—	—	—	—	—	—	—	—	—	—
2 1/2 x 2 1/2 x 1 1/2	—	—	—	—	—	—	—	—	—	—	—	—
3 x 3 x 2	2.81	2.81	3.13	4.62	4.62	3.28	1.23	1.23	1.00	1.61	1.61	2.37



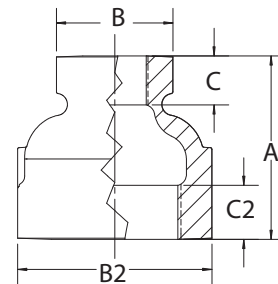
MALLEABLE IRON STRAIGHT COUPLING CLASS 300

NPS	Length of Coupling A (min)	Outside Dia. of Band B (min)	Length of Threads C (min)	Take Out
1/4	1.37	0.93	0.43	0.28
3/8	1.62	1.12	0.47	0.40
1/2	1.87	1.34	0.57	0.40
3/4	2.12	1.63	0.64	0.51
1	2.37	1.95	0.75	0.50
1 1/4	2.87	2.39	0.84	0.73
1 1/2	2.87	2.68	0.87	0.71
2	3.62	3.28	1.00	1.05
2 1/2	—	—	—	—
3	—	—	—	—



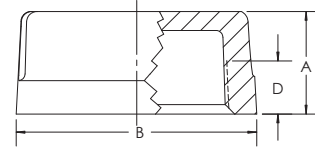
MALLEABLE IRON REDUCING COUPLING CLASS 300

NPS	Length of Coupling A	Outside Dia. of Band Small End B (min)	Outside Dia. of Large End B2 (min)	Length of Threads Small End C (min)	Length of Threads Large End C2 (min)	Take Out	Take Out
3/8 x 1/4	1.44	0.93	1.20	0.43	0.47	0.31	0.32
1/2 x 3/8	1.69	1.12	1.34	0.47	0.57	0.31	0.44
1/2 x 1/4	1.69	0.93	1.34	0.43	0.57	0.31	0.44
3/4 x 1/2	1.75	1.34	1.63	0.57	0.64	0.33	0.34
3/4 x 3/8	—	—	—	—	—	—	—
3/4 x 1/4	—	—	—	—	—	—	—
1 x 3/4	2.00	1.63	1.95	0.64	0.75	0.32	0.45
1 x 1/2	2.00	1.34	1.95	0.57	0.75	0.32	0.47
1 x 3/8	—	—	—	—	—	—	—
1 x 1/4	—	—	—	—	—	—	—
1 1/4 x 1	2.38	1.95	2.39	0.75	0.84	0.48	0.51
1 1/4 x 3/4	2.38	1.63	2.39	0.64	0.84	0.48	0.64
1 1/4 x 1/2	—	—	—	—	—	—	—
1 1/2 x 1 1/4	2.69	2.39	2.68	0.84	0.87	0.62	0.64
1 1/2 x 1	2.69	1.95	2.68	0.75	0.87	0.62	0.66
1 1/2 x 3/4	2.69	1.63	2.68	0.64	0.87	0.62	0.80
1 1/2 x 1/2	—	—	—	—	—	—	—
2 x 1 1/2	3.19	2.68	3.28	0.87	1.00	0.84	0.87
2 x 1 1/4	3.19	2.39	3.28	0.84	1.00	0.84	0.89
2 x 1	3.19	1.95	3.28	0.75	1.00	0.84	0.91
2 x 3/4	—	—	—	—	—	—	—
2 x 1/2	—	—	—	—	—	—	—
2 1/2 x 2	—	—	—	—	—	—	—
2 1/2 x 1 1/2	—	—	—	—	—	—	—
3 x 2 1/2	—	—	—	—	—	—	—
3 x 2	—	—	—	—	—	—	—
3 x 1 1/2	—	—	—	—	—	—	—
4 x 3	—	—	—	—	—	—	—
4 x 2	—	—	—	—	—	—	—



MALLEABLE IRON PIPE CAPS CLASS 300

NPS	Overall Height A	Outside Dia. of Band B (min)	Length of Threads C (min)
1/4	0.78	0.93	0.43
3/8	0.83	1.12	0.47
1/2	0.98	1.34	0.57
3/4	1.08	1.63	0.64
1	1.26	1.95	0.75
1 1/4	1.38	2.39	0.84
1 1/2	1.43	2.68	0.87
2	1.68	3.28	1.00
2 1/2	—	—	—
3	—	—	—



MALLEABLE IRON CROSS CLASS 300

NPS	Center to End A (min)	Outside Dia. of Band B (min)	Length of Threads C (min)	Take Out
1/4	—	—	—	—
1/2	1.25	1.34	0.57	0.71
3/4	1.44	1.63	0.64	0.89
1	1.63	1.95	0.75	0.94
1 1/4	1.94	2.39	0.84	1.23
1 1/2	2.13	2.68	0.87	1.40
2	2.50	3.28	1.00	1.74

