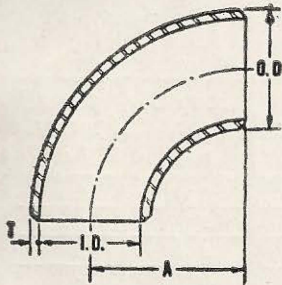




BUTTWELD FITTINGS



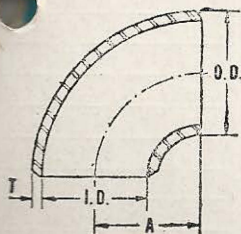
90° ELBOWS
LONG RADIUS

All sections are at least full pipe thickness.

There is no thinning of the Back wall.

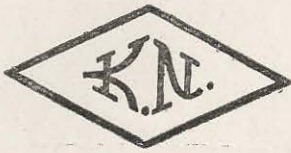
Seamless Buttwelded fittings are Specially recommended for chemical plants, Oil field, Air conditioning, high pressure service in refineries, Ship Construction and Fertilizer Plants.

NOMINAL PIPE SIZE	CENTER TO FACE A
1/2	1 1/2
3/4	1 1/2
1	1 1/2
1 1/4	1 7/8
1 1/2	2 1/4
2	3
2 1/2	3 3/4
3	4 1/2
3 1/2	5 1/4
4	6
5	7 1/2
6	9
8	12
10	15
12	18
14	21
16	24

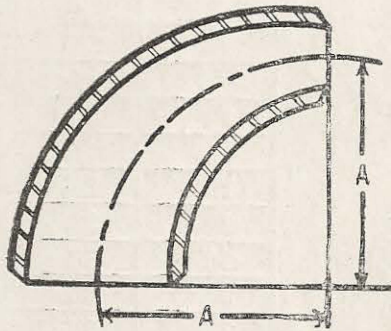


90° ELBOWS
SHORT RADIUS

NOMINAL PIPE SIZE	CENTER TO FACE A
1	1
1 1/4	1 1/4
1 1/2	1 1/2
2	2
2 1/2	2 1/2
3	3
3 1/2	3 1/2
4	4
5	5
6	6
8	8
10	10
12	12
14	14



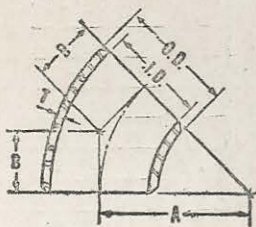
BUTTWELD FITTINGS



**REDUCING ELBOW
— LONG RADIUS**

NOMINAL PIPE SIZE	CENTER TO FACE A	NOMINAL PIPE SIZE	CENTER TO FACE A
2 × 1½	3	3½ × 2	5¼
2 × 1¼	3	4 × 3½	6
2 × 1	3	4 × 3	6
2½ × 2	3¾	4 × 2½	6
2½ × 1½	3¾	4 × 2	6
2½ × 1¼	3¾	5 × 4	7½
3 × 2½	4½	5 × 3½	7½
3 × 2	4½	5 × 3	7½
3 × 1½	4½	5 × 2½	7½
3½ × 3	5¼	6 × 5	9
3½ × 2½	5¼	6 × 4	9

Seamless Reducing Elbow meets A Long Standing piping need. This New fittings Climinates the necessity of using an Elbows and a reducer in installation where A 90° charge of direction is combind with A charge of pipes size

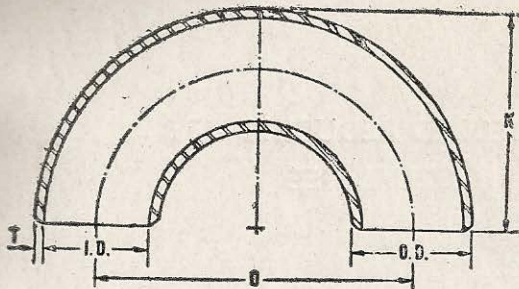


**45° LONG RADIUS
ELBOW BEND**

NOMINAL PIPE SIZE	CENTER TO FACE B
½	5/8
¾	7/16
1	7/8
1¼	1
1½	1 1/8
2	1 3/8
2½	1 3/4
3	2
3½	2 1/4
4	2 1/2
5	3 3/8
6	3 3/4
8	5
10	6 1/4
12	7 1/2
14	8 11/16

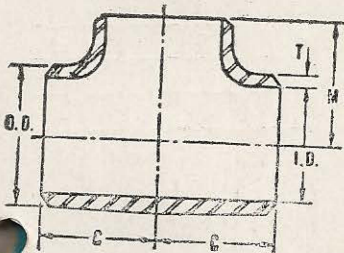


BUTTWELD FITTINGS



**180° RETURN
LONG RADIUS BEND
FROM ONE PIECE OF PIPE**

NOMINAL PIPE SIZE	CENTRE TO CENTRE O		BACK TO FACE K	
	SHORT RADIUS	LONG RADIUS	SHORT RADIUS	LONG RADIUS
IN	IN	IN	IN	IN
1/2				
3/4	1 1/2	2 1/4	1 5/8	1 11/8
1	2	3	1 5/8	2 3/8
1 1/4	2 1/2	3 3/4	2 1/8	2 3/4
1 1/2	3	4 1/2	2 7/8	3 1/4
2	4	6	3 1/4	4 3/8
2 1/2	5	7 1/2	3 13/8	5 3/8
3	6	9	4 1/2	6 1/4
3 1/2	7	10 1/2	5 1/2	7 1/2
4	8	12	6 1/4	8 1/2
5	10	15	7 3/4	10 1/8
6	12	18	9 1/8	12 3/8



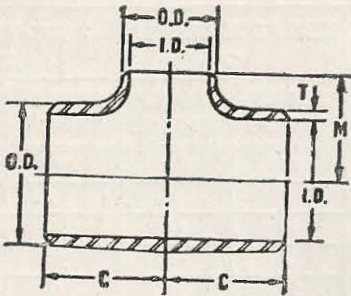
**BUTTWELDED
REDUCING TEE
& EQUAL TEE**

NOMINAL PIPE SIZE	CENTER TO END C	CENTER TO END M
1/2	1	1
3/4	1 1/8	1 1/8
1	1 1/2	1 1/2
1 1/4	1 7/8	1 7/8
1 1/2	2 1/4	2 1/4
2	2 1/2	2 1/2
2 1/2	3	3
3	3 3/8	3 3/8
3 1/2	3 3/4	3 3/4
4	4 1/8	4 1/8
5	4 7/8	4 7/8
6	5 5/8	5 5/8
8	7	7
10	8 1/2	8 1/2
12	10	10
14	11	11
16	12	12
18	13 1/2	13 1/2

These Tees are made from Seamless Pipe, Requiring the minimum Space they are capable of giving the maximum work. To eliminate the possibility of any Leakage, for flowless and smooth performance, Butt-welded fittings are used. Butt-welded Tee is manufactured from E.R.W. Pipe also



BUTTWELD FITTINGS



BUTTWELDED REDUCING TEE & EQUAL TEE

NOMINAL PIPE SIZE	CENTER TO END C	CENTER TO END OF BRANCH M
1/2 x 1/2 x 1/4	1	
1/2 x 1/2 x 3/8	1	1
3/4 x 3/4 x 1/2	1 1/8	1 1/8
3/4 x 3/4 x 5/8	1 1/8	1 1/8
1 x 1 x 3/8	1 1/8	1 1/8
1 x 1 x 1/2	1 1/2	1 1/2
1 x 1 x 3/4	1 1/2	1 1/2
1 1/4 x 1 1/4 x 1/2	1 7/8	1 7/8
1 1/4 x 1 1/4 x 3/4	1 7/8	1 7/8
1 1/4 x 1 1/4 x 1	1 7/8	1 7/8
1 1/2 x 1 1/2 x 1/2	2 1/4	2 1/4
1 1/2 x 1 1/2 x 3/4	2 1/4	2 1/4
1 1/2 x 1 1/2 x 1	2 1/4	2 1/4
1 1/2 x 1 1/2 x 1 1/4	2 1/4	2 1/4
2 x 2 x 3/4	2 1/2	1 3/4
2 x 2 x 1 1/4	2 1/2	2 1/4
2 x 2 x 1 1/2	2 1/2	2 3/8

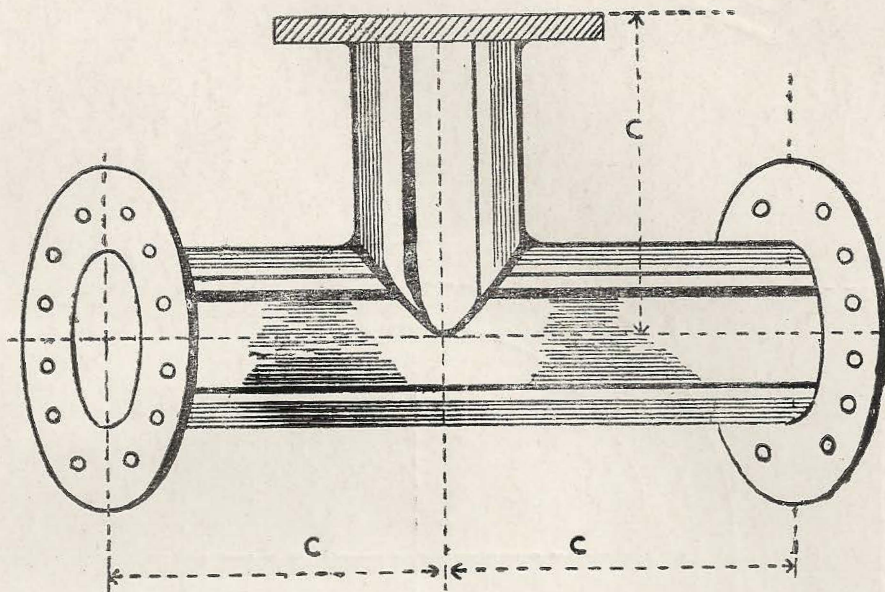
NOMINAL PIPE SIZE	CENTER TO END C	CENTER TO END OF BRANCH M
2 1/2 x 2 1/2 x 1	3	2 1/4
2 1/2 x 2 1/2 x 1 1/4	3	2 1/2
2 1/2 x 2 1/2 x 1 1/2	3	2 5/8
2 1/2 x 2 1/2 x 2	3	2 3/4
3 x 3 x 1	3 3/8	2 5/8
3 x 3 x 1 1/4	3 3/8	2 3/4
3 x 3 x 1 1/2	3 3/8	2 7/8
3 x 3 x 2	3 3/8	3
3 1/2 x 3 1/2 x 1 1/2	3 3/4	3 1/8
3 1/2 x 3 1/2 x 2	3 3/4	3 1/4
3 1/2 x 3 1/2 x 2 1/2	3 3/4	3 1/2
3 1/2 x 3 1/2 x 3	3 3/4	3 5/8
4 x 4 x 1 1/2	4 1/8	3 3/8
4 x 4 x 2	4 1/8	3 1/2
4 x 4 x 2 1/2	4 1/8	3 3/4
4 x 4 x 3	4 1/8	3 7/8
4 x 4 x 3 1/2	4 1/8	4
5 x 5 x 2	4 7/8	4 1/8
5 x 5 x 2 1/2	4 7/8	4 1/4
5 x 5 x 3	4 7/8	4 3/4
5 x 5 x 3 1/2	4 7/8	4 1/2
5 x 5 x 4	4 7/8	4 5/8

NOMINAL PIPE SIZE	CENTER TO END C	CENTER TO END OF BRANCH M
6 x 6 x 2	5 5/8	4 3/4
6 x 6 x 2 1/2	5 5/8	4 3/4
6 x 6 x 3	5 5/8	4 7/8
6 x 6 x 3 1/2	5 5/8	5
6 x 6 x 4	5 5/8	5 1/8
6 x 6 x 5	5 5/8	5 3/8
8 x 8 x 3	7	6
8 x 8 x 3 1/2	7	6
8 x 8 x 4	7	6 1/8
8 x 8 x 5	7	6 3/8
8 x 8 x 6	7	6 1/2

These Tees are made from Seamless Pipe, Requiring the minimum Space they are capable of giving the maximum work To eliminate the possibility of any Leakage, for flowless and smooth performance, Buttwelded fittings are used. Buttwelded Tee is manufactured from E. R. W. Pipe also.



BUTTWELD FITTINGS

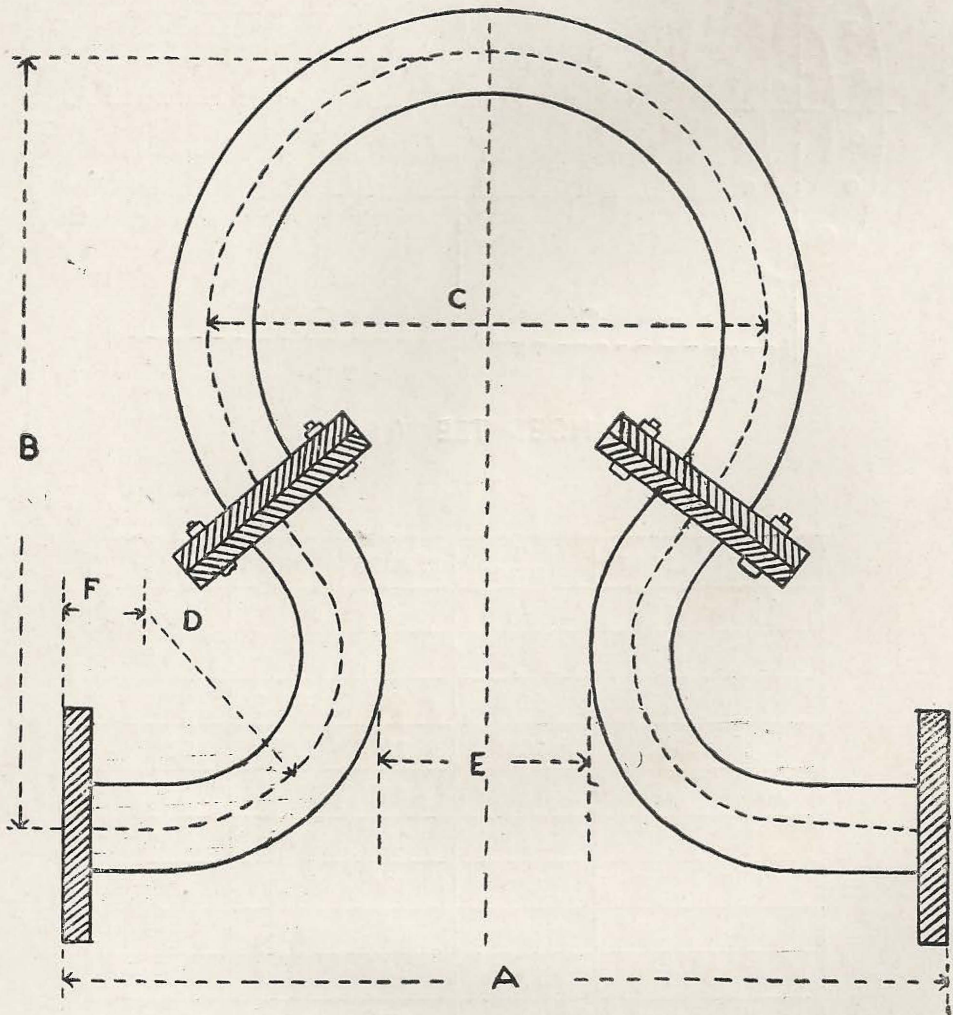


FLANGED TEE (EQUAL)

INCH	MM	C MM	INCH	MM	C MM
1/2"	15	89	8"	200	279.5
3/4"	20	96	9"	225	305
1"	25	102	10"	250.5	330.5
1 1/4"	32	109	11"	275	356
1 1/2"	40	115	12"	300	381
2"	50	128	13"	325	406.5
2 1/2"	65	140	14"	350	432
3"	80	153	15"	375	457.5
4"	100	178	16"	400	483
5"	125	204	17"	425	508
6"	150	229	18"	450	533.5
7"	175	254	20"	500	584.5



BUTTWELD FITTINGS

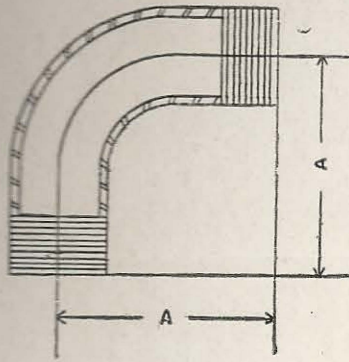


M. S. Expansion Bend (Plain End or Flanged)

NOM BORE M.M ★	A	B	C	D	E	F
25	381	343	229	77	45	77
30	470	470	305	115	54	89
50	610	610	381	153	67	89
65	750	737	457	191	89	102
80	864	864	534	229	115	102
88 100	1018	1043	711	305	166	115
125	1372	1448	889	381	216	127
150	1613	1727	1067	456	254	140
175	1867	1981	1219	531	302	153
200	2112	2490	1524	686	416	153
225	2692	2923	1828	762	565	178
250	3175	3404	2133	914	718	178
275	3708	3911	2438	1067	870	204
300	4143	4521	2743	1219	972	204



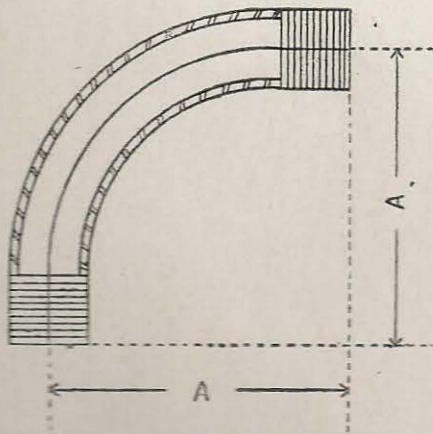
FITTINGS (PLAIN END OR SCREWED)



90° SHORT
BENDS

These Bends are made from M. S. pipe, Stainless steel pipe, Brass pipe, Copper pipe or from any other metal pipe required by the customers. These Bends are recommended for steam work, water line, oil field, high pressure service in refineries and other big plants.

NOMINAL PIPE SIZE	CENTER TO FACE A	RADIUS R
1/2	2 1/2	2 1/2
3/4	3 1/2	3 1/2
1	4	4"
1 1/4	4 1/2	4 1/2
1 1/2	4 1/2	4 1/2
2	5"	5"
2 1/2	6 1/2	6 1/2
3	7 1/2	7 1/2
3 1/2	8 1/2	8 1/2
4	10	10
5	12 1/2	12 1/2
6	15"	15"
8	20"	20"
10	25"	25"
12	30	30
14	35	35
16	40	40

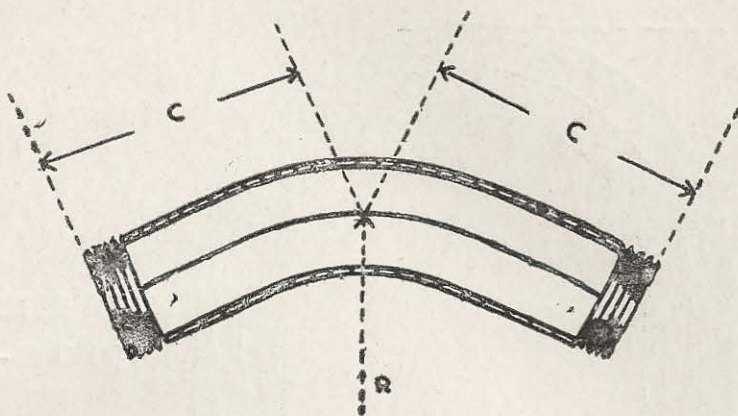


90° LONG
BENDS

NOMINAL 90° LONG BEND SIZE B. S. 1740	CENTER TO FACE A. LONG RADIUS	CENTER TO FACE A. SHORT RADIUS
1/2	2 1/2	1 1/2
3/4	2 1/2	1 1/2
1	2 1/2	2
1 1/4	3 1/2	2 1/2
1 1/2	4	3
1	4 1/2	3 1/2
1 1/4	5 1/2	4 1/2
1 1/2	6 1/2	5
2	8	6
2 1/2	9 1/2	7 1/2
3	11 1/2	9
3 1/2	13 1/2	10 1/2
4	15	12
5	21	15
6	24 1/2	18
8	36	28
10	45	35
12	52	42
14	74	63
16	93	80



FITTINGS (PLAIN END OR SCREWED)

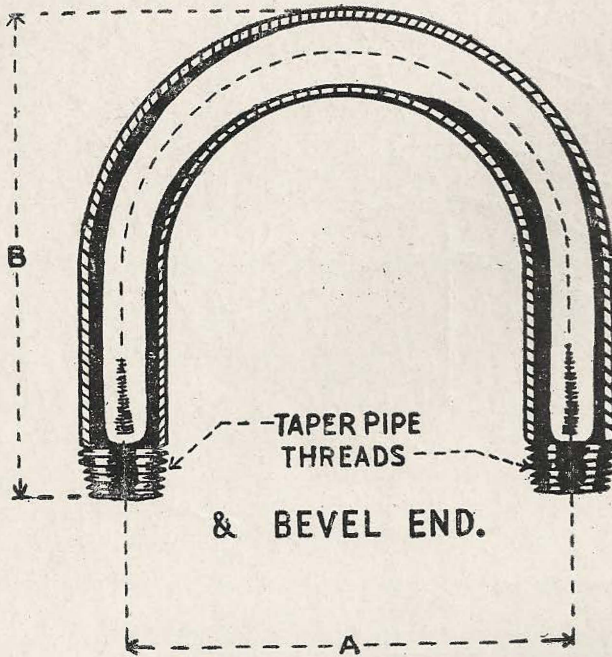


BEVAL & THREADED

NOMINAL BORE	C M.M.	R M.M.	C 120°	C 135°	C 157 1/2°
1/8"-6 M.M.	58	30	40	43	44
1/4"-8 M.M.	70	35	52	55	57
3/8"-10 M.M.	80	40	55	58	61
1/2"-15 M.M.	86	45	63	66	69
3/4"-20 M.M.	102	73	75	80	85
1"-25 M.M.	102	89	87	92	98
1 1/4"-32 M.M.	146	108	112	117	124
1 1/2"-40 M.M.	165	127	123	129	138
2"-50 M.M.	203	159	145	153	162
2 1/2"-65 M.M.	248	191	180	187	197
3"-80 M.M.	292	232	200	211	224
4"-100 M.M.	381	308	263	282	299
5"-125 M.M.	540	457	356	375	400
6"-150 M.M.	635	447	445	475	497
8"-200 M.M.	914	711	590	632	671
10"-250 M.M.	1245	1016	663	705	750
12"-300 M.M.	1473	1219	792	848	893
14"-350 M.M.	1880	1600	880	942	1000
16"-400 M.M.	2362	2032	1155	1235	1305
18"-450 M.M.	2602	2286	1325	1405	1495
20"-500 M.M.	3201	2798	1670	1765	1845



FITTINGS (PLAIN END OR SCREWED)



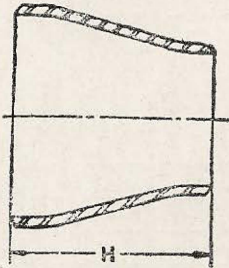
180° RETURN BEND
(I S S — 1239)

NOMINAL BORE M.M. (1) ★	APPROXIMATE CENTRE A M.M. (2)	APPROXIMATE BACK TO FACE B M.M. (3)
5	44	51
8	51	64
10	64	70
15	89	102
20	102	121
24	114	140
32	127	152
40	165	178
50	190	210
65	305	292
80	356	330
100	457	400
125	762	578
150	914	692

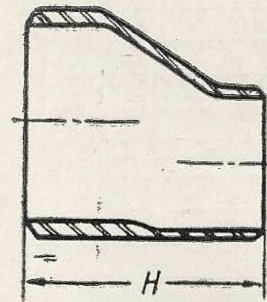


BUTTWELD FITTINGS

BUTTWELDED REDUCER Concentric & Eccentric



CONCENTRIC



ECCENTRIC

NOMINAL PIPE SIZE	LENGTH H
3/4 x 3/8	1 1/2
3/4 x 1/2	1 1/2
1 x 3/8	2
1 x 1/2	2
1 x 3/4	2
1 1/4 x 1/2	2
1 1/4 x 3/4	2
1 1/4 x 1	2
1 1/2 x 1/2	2 1/2
1 1/2 x 3/4	2 1/2
1 1/2 x 1	2 1/2
1 1/2 x 1 1/4	2 1/2
2 x 3/4	3
2 x 1	3

NOMINAL PIPE SIZE	LENGTH H
2 x 1 1/4	3
2 x 1 1/2	3
2 1/2 x 1	3 1/2
2 1/2 x 1 1/4	3 1/2
2 1/2 x 1 1/2	3 1/2
2 1/2 x 2	3 1/2
3 x 1	3 1/2
3 x 1 1/4	3 1/2
3 x 1 1/2	3 1/2
3 x 2	3 1/2
3 x 2 1/2	3 1/2
3 1/2 x 1 1/4	4
3 1/2 x 1 1/2	4
3 1/2 x 2	4
3 1/2 x 2 1/2	4

NOMINAL PIPE SIZE	LENGTH H
3 1/2 x 3	4
4 x 1	4
4 x 1 1/4	4
4 x 1 1/2	4
4 x 2	4
4 x 2 1/2	4
4 x 3	4
4 x 3 1/2	4
5 x 2	5
5 x 2 1/2	5
5 x 3	5
5 x 3 1/2	5
5 x 4	5
6 x 2	5 1/2
6 x 2 1/2	5 1/2

NOMINAL PIPE SIZE	LENGTH H
6 x 3	5 1/2
6 x 3 1/2	5 1/2
6 x 4	5 1/2
6 x 5	5 1/2
6 x 3 1/2	6
8 x 3 1/2	6
8 x 4	6
8 x 5	6
8 x 6	6
10 x 3	7
10 x 4	7
10 x 5	7
10 x 6	7
10 x 8	7
12 x 4	8

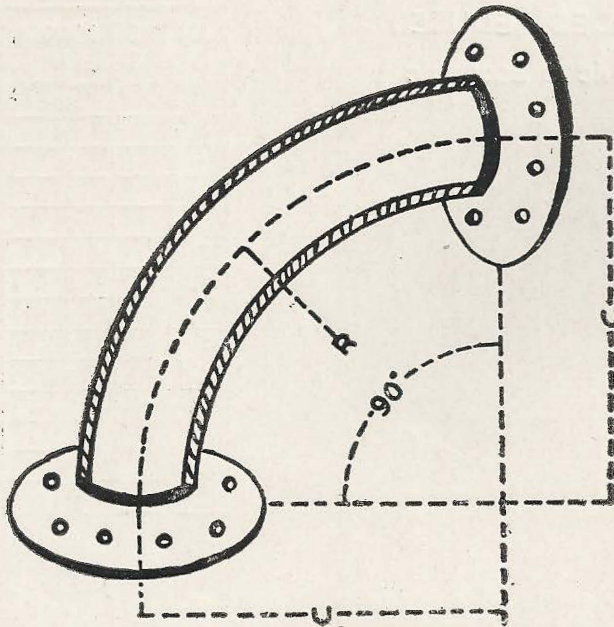
NOMINAL PIPE SIZE	LENGTH H
12 x 5	8
12 x 6	8
12 x 8	8
12 x 10	8
14 x 6	13
14 x 8	13
14 x 10	13
14 x 12	13
16 x 8	14
16 x 10	14
16 x 12	14
16 x 14	14
18 x 10	15
18 x 12	15
18 x 14	15
18 x 16	15

It is made by forging from Seamless Pipe. It is used to reduce the running pipe lines, For Convenience and expeditious work. Butt-welded fittings are performed in big plants.



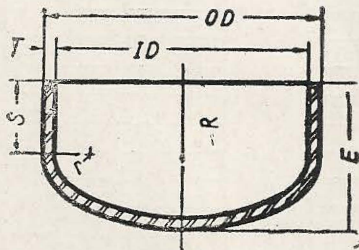
BUTTWELD FITTINGS

90° Black Seamless Heavy Long Bend with flange T. H.



These Bends are recommended for steam works, water line oil field high pressure service in refineries and other big plants.

NOMINAL 90° LONG BEND SIZE B.S.1740	CENTER TO FACE A
1/8	2 1/8
1/4	2 1/2
3/8	2 7/8
1/2	3 1/4
3/4	4
1	4 3/4
1 1/4	6
1 1/2	6 3/4
2	8
2 1/2	9 3/4
3	11 1/2
3 1/2	13 1/4
4	15
5	21
6	24 1/2
8	36
10	49
12	52



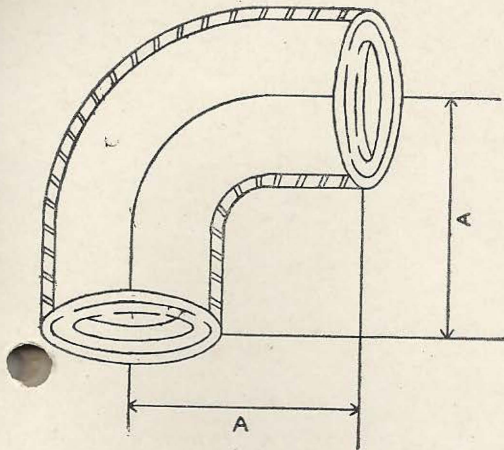
BUTTWELDED CAP

It is made out of one solid piece
It is used for closing extra piece line

NOMINAL PIPE SIZE	LENGTH E	
	T	E
1	4	1 1/2
1 1/4	4	1 1/2
1 1/2	4	1 1/2
2	4.6	1 1/2
2 1/2	5	1 1/2
3	5.5	2
3 1/2	5.5	2 1/2
4	5.5	2 1/2
5	6	3
6	7	3 1/2



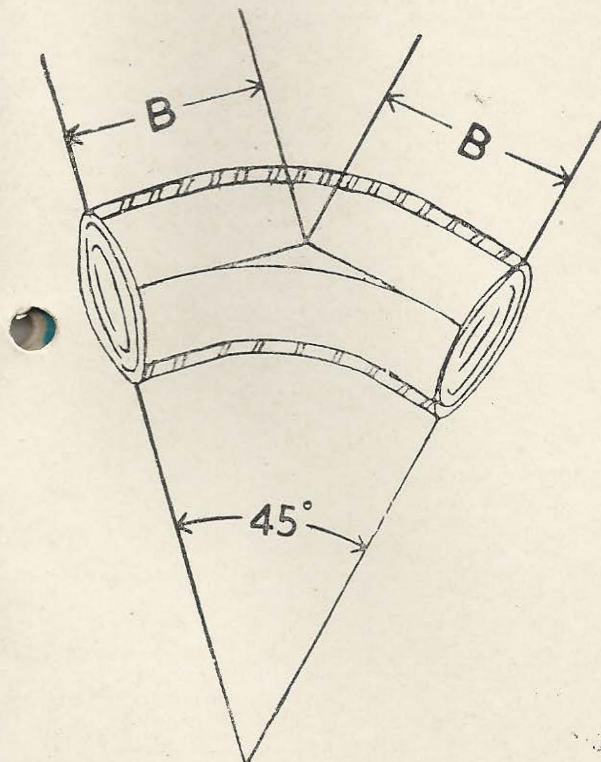
SCREWED FITTINGS



90° SCREWED
ELBOW

Screwed Elbows are made from seamless pipe Requiring the minimum Space. It is used for chemical plants, steam & other big plants. Screwed Elbow is manufactured from E. R. W. tube also.

NOMINAL 90° ELBOW SIZE B.S.1740	CENTRE TO FACE A
1/2	1 1/4
3/4	1 3/8
1	1 1/2
1 1/4	2
1 1/2	2 1/16
2	2 1/2
2 1/2	3
3	3 1/2
4	4 1/2
5	5 1/2
6	6 1/8



45° SCREWED ELBOW

NOMINAL 45° ELBOW B.S.1740	CENTER TO FACE B
1/2	7/8
3/4	1 1/16
1	1 5/16
1 1/4	1 1/2
1 1/2	1 3/4
2	2
2 1/2	2 3/8
3	2 7/8
4	4 1/8
5	4 1/2
6	4 5/8