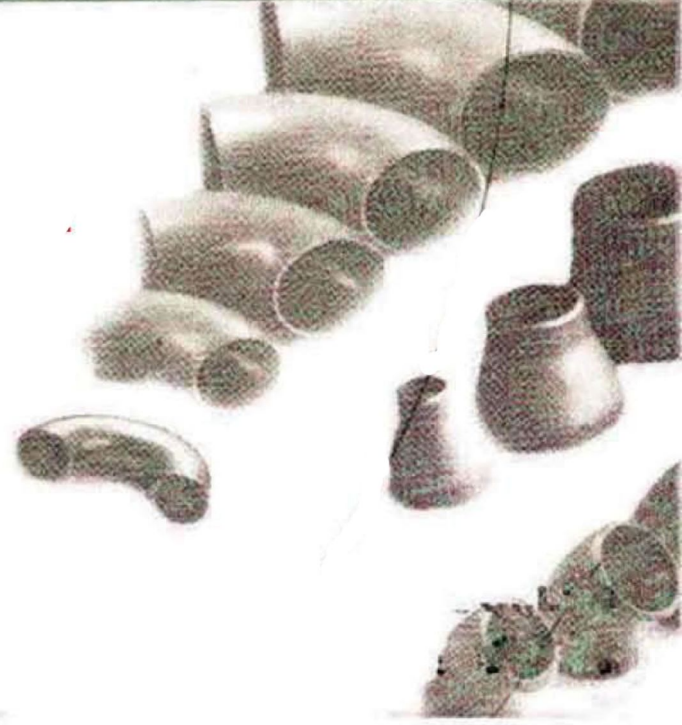


CARBON STEEL BUTTWELDING PIPE FITTINGS



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BRAND STEEL BUTTWELDING FITTINGS GO ROUND
THE WORLD.



Manufacturing Process of
Steel Buttwelding Fitting



Factory



Pipe Yard



Cutting



Bending



Bevel Cutting



4 STD WPB F 54094



BRAND STEEL BUTTWELDING FITTINGS

FIGURE

SECTION

90° ELBOWS

LONG

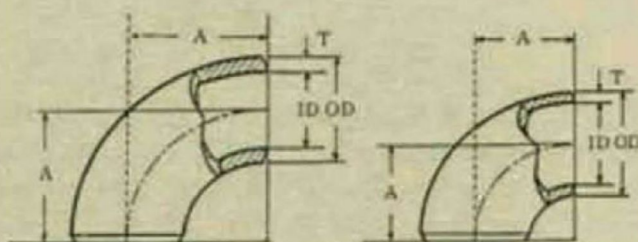
SHORT



90° ELBOWS

LONG

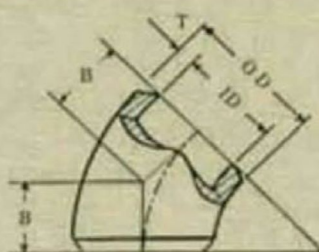
SHORT



45° ELBOWS



45° ELBOWS



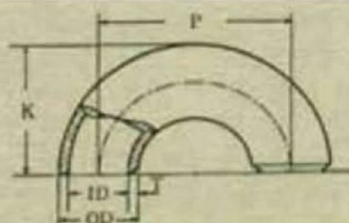
180° RETURNS

LONG

SHORT



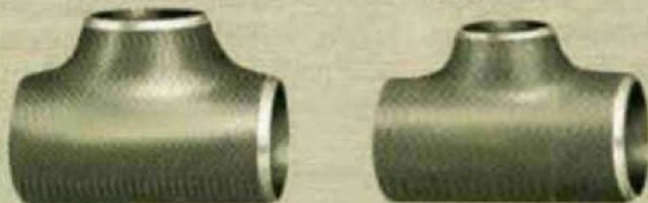
180° RETURN
LONG



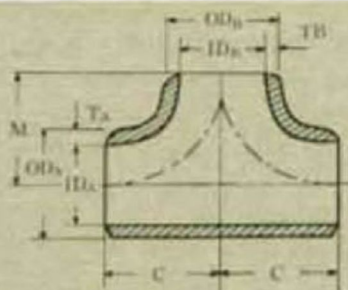
TEES

STRAIGHT

REDUCING



TEES



REDUCERS

CONCENTRIC

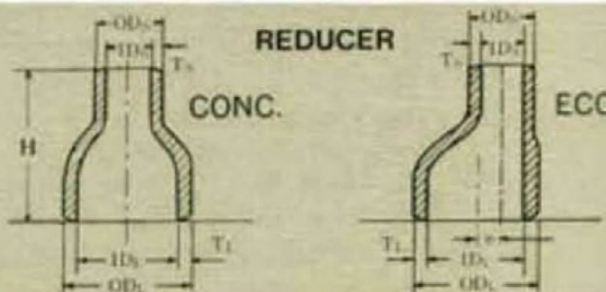
ECCENTRIC



REDUCER

CONC.

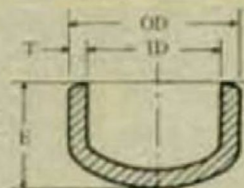
ECC.



CAPS



CAPS





BRAND STEEL BUTTWELDING FITTINGS

DIMENSION OF WELDING FITTINGS

ANSI B16.9 & B16.28

Nominal Pipe Size	Outside Diameter	Long				Short	TEES		CAPS	REDUCERS	Nominal Pipe Size
		90° ELBOWS	45° ELBOWS	180° RETURNS		90° ELBOWS	Center to End				
		Center to End	Center to End	Center to End	Back to Face	Center to End	Run	*1 Outlet	*2 Back to Face	End to End	
D	O.D.	A	B	P	K	A	C	M	E	H	D
1/2	0.84	1.50	0.62	3.00	1.88	—	1.00	1.00	1.00	—	0.84
3/4	1.05	1.12	0.44	2.25	1.69	—	1.12	1.12	1.00	1.50	1.05
1	1.32	1.50	0.88	3.00	2.19	1.00	1.50	1.50	1.50	2.00	1
1-1/4	1.66	1.88	1.00	3.75	2.75	1.25	1.88	1.88	1.50	2.00	1-1/4
1-1/2	1.90	2.25	1.12	4.50	3.25	1.50	2.25	2.25	1.50	2.50	1-1/2
2	2.38	3.00	1.38	6.00	4.19	2.00	2.50	2.50	1.50	3.00	2
2-1/2	2.88	3.75	1.75	7.50	5.19	2.50	3.00	3.00	1.50	2.00	2-1/2
3	3.50	4.50	2.00	9.00	6.25	3.00	3.38	3.38	2.00	3.50	3
3-1/2	4.00	5.25	2.25	10.50	7.25	3.50	3.75	3.75	2.50	4.00	3-1/2
4	4.50	6.00	2.50	12.00	8.25	4.00	4.12	4.12	2.50	4.00	4
5	5.56	7.50	3.12	15.00	10.31	5.00	4.88	4.88	3.00	5.00	5
6	6.62	9.00	3.75	18.00	12.31	6.00	5.62	5.62	3.50	5.50	6
8	8.62	12.00	5.00	24.00	16.31	8.00	7.00	7.00	4.00	6.00	8
10	10.75	15.00	6.25	30.00	20.38	10.00	8.50	8.50	5.00	7.00	10
12	12.75	18.00	7.50	36.00	24.38	12.00	10.00	10.00	6.00	8.00	12
14	14.00	21.00	8.75	42.00	28.00	14.00	11.00	11.00	6.50	13.00	14
16	12.00	24.00	10.00	48.00	32.00	16.00	12.00	12.00	7.00	14.00	16
18	18.00	27.00	11.25	54.00	36.00	18.00	13.50	13.50	8.00	15.00	18
20	20.00	30.00	12.50	60.00	40.00	20.00	15.00	15.00	9.00	20.00	20
24	24.00	36.00	15.00	72.00	48.00	24.00	17.00	17.00	10.50	20.00	24

*1. Straight Tees

*2. Applies for thickness not exceeding "Limiting Wall Thickness."

DIMENSION TOLERANCE

ANSI B16.9 & ANSI B16.28

Nominal Pipe Size	ALL FITTINGS			90°, 45° TEES	REDUCERS	180° ALIGNMENTS of Ends			REDUCERS	
	O.D. At Bevel	I.D. At End	Wall THICKNESS	Center to End	Overall Length	Center to Center	Back to Face	Alignments of Ends	Overall Length	
1/2-2-1/2	+0.06 -0.03	+0.03	Not Less Than 87.5 Percent of Nominal Thickness	+0.06	+0.06	+0.25	+0.25	+0.03	+0.12	
3 - 4	+0.06	+0.06								
5 - 8	+0.09 -0.06									
10 - 18	+0.16 -0.12									+0.09
20 - 24	+0.25 -0.19									

BRAND STEEL BUTTWELDING FITTINGS



WEIGHT

in kg

Nominal Pipe Size	Elbow (Long Radius)								
	STD			S40			S80		
	90 °	45 °	180 °	90 °	45 °	180 °	90 °	45 °	180 °
1/2	0.076	0.038	0.152	0.076	0.038	0.152	0.097	0.048	0.194
3/4	0.075	0.036	0.150	0.075	0.036	0.150	0.098	0.047	0.196
1	0.150	0.106	0.300	0.150	0.106	0.300	0.194	0.137	0.388
1-1/4	0.254	0.163	0.508	2.54	0.163	0.508	0.335	0.215	0.670
1-1/2	0.364	0.218	0.728	3.64	0.218	0.728	0.486	0.292	0.972
2	0.651	0.361	1.30	0.651	0.361	1.30	0.895	0.497	1.79
2-1/2	1.29	0.728	2.58	1.29	0.728	2.58	1.71	0.961	3.42
3	2.03	1.09	4.06	2.03	1.09	4.06	2.74	1.47	5.48
3-1/2	2.84	1.47	5.68	2.84	1.47	5.68	3.90	2.02	7.80
4	3.85	1.94	7.70	3.85	1.94	7.70	5.34	2.69	10.7
5	6.51	3.27	13.0	6.51	3.27	13.0	9.26	4.65	18.5
6	10.1	5.10	20.2	10.1	5.10	20.2	15.3	7.69	30.6
8	20.4	10.2	40.8	20.4	10.2	40.8	30.9	15.6	61.8
10	36.1	18.1	72.2	36.1	18.1	72.2	57.3	28.8	114.
12	53.1	26.7	106.	57.2	28.8	114.	94.7	47.6	189.
14	68.1	34.2	136.	79.1	39.8	158.	132.	66.6	264.
16	89.2	44.9	178.	118.	59.4	236.	195.	97.9	390.
18	113.	56.9	226.	168.	84.5	336.	274.	138.	548.
20	140.	70.5	280.	219.	110.	438.	372.	187.	744.
24	202.	102.	404.	36.6	184.	732.	634.	319.	

in kg

Nominal Pipe Size	Elbow (Short Radius)			Tees		Reducers		Caps	
	STD	S40	S80	STD	XS	STD	XS	STD	XS
	90 °	90 °	90 °						
1/2	—	—	—	0.085	0.107	—	—	0.036	0.044
3/4	—	—	—	0.125	0.162	0.059	0.075	0.049	0.062
1	0.100	0.100	0.129	0.250	0.318	0.116	0.147	0.109	0.144
1-1/4	0.169	0.169	0.223	0.421	0.554	0.157	0.206	0.145	0.197
1-1/2	0.242	0.242	0.324	0.603	0.805	0.243	0.324	0.171	0.236
2	0.434	0.434	0.597	0.872	1.19	0.372	0.508	0.234	0.330
2-1/2	0.861	0.861	1.14	1.74	2.28	0.723	0.945	0.420	0.565
3	1.35	1.35	1.83	2.41	3.25	0.933	1.25	0.664	0.917
3-1/2	1.89	1.89	2.60	3.17	4.39	1.28	1.77	0.958	1.36
4	2.57	2.57	3.56	4.12	5.76	1.53	2.14	1.17	1.68
5	4.34	4.34	6.17	6.53	9.20	2.50	3.51	1.90	2.73
6	6.77	6.77	10.2	9.58	14.5	3.57	5.38	2.83	4.38
8	13.6	13.6	20.6	17.9	27.1	5.70	8.61	5.11	7.91
10	24.1	24.1	38.2	30.4	41.0	9.58	12.9	8.92	12.2
12	35.3	38.2	63.1	43.6	57.7	13.6	18.0	13.0	17.4
14	45.4	52.8	88.3	53.5	70.9	25.4	33.6	15.9	21.2
16	59.5	78.7	130.	66.1	87.7	31.0	41.1	20.0	26.7
18	75.5	112.	183.	83.9	111.	37.8	50.1	25.5	34.1
20	93.4	146.	248.	104.	138.	56.4	74.9	31.8	42.5
24	135.	244.	423.	139.	185.	65.7	87.1	44.5	60.1

BRAND STEEL BUTTWELDING FITTINGS

FUNDAMENTAL DIMENSION OF WELDING FITTINGS

ANSI B36.10

in inches

Nominal Pipe Size	Outside Dia	Nominal Wall Thickness					
		Std. Wall	Sch. 40	Extra Strong	Sch. 80	Sch. 160	XX Strong
1/2	0.84	0.109	0.109	0.147	0.147	0.188	0.294
3/4	1.05	0.113	0.113	0.154	0.154	0.219	0.308
1	1.315	0.133	0.133	0.179	0.179	0.250	0.358
1-1/4	1.660	0.140	0.140	0.191	0.191	0.250	0.382
1-1/2	1.900	0.145	0.145	0.200	0.200	0.281	0.400
2	2.375	0.154	0.154	0.218	0.218	0.343	0.436
2-1/2	2.875	0.203	0.203	0.276	0.270	0.375	0.552
3	3.500	0.216	0.216	0.300	0.300	0.438	0.600
3-1/2	4.000	0.226	0.226	0.318	0.318	0.500	0.636
4	4.500	0.237	0.237	0.337	0.337	0.531	0.674
5	5.563	0.258	0.258	0.375	0.375	0.625	0.750
6	6.625	0.280	0.280	0.432	0.432	0.718	0.864
8	8.625	0.322	0.322	0.500	0.500	0.906	0.875
10	10.750	0.365	0.365	0.500	0.593	1.125	1.000
12	12.750	0.375	0.406	0.500	0.687	1.312	1.000
14	14.000	0.375	0.438	0.500	0.750	1.406	
16	16.000	0.375	0.500	0.500	0.843	1.593	
18	18.000	0.375	0.562	0.500	0.937	1.781	
20	20.000	0.375	0.593	0.500	1.031	1.968	
24	24.000	0.375	0.687	0.500	1.218		

in mm

Nominal Pipe Size	Outside Dia	Nominal Wall Thickness					
		Std. Wall	Sch. 40	Extra Strong	Sch. 80	Sch. 160	XX Strong
1/2	21.3	2.77	2.77	3.73	3.73	4.78	7.47
3/4	26.7	2.87	2.87	3.91	3.91	5.56	7.82
1	33.40	3.38	3.38	4.55	4.55	6.35	9.09
1-1/4	42.16	3.56	3.56	4.85	4.85	6.35	9.70
1-1/2	48.26	3.68	3.68	5.08	5.08	7.14	10.16
2	60.32	3.91	3.91	5.54	5.54	8.71	11.07
2-1/2	73.02	5.16	5.16	7.01	7.01	9.52	14.02
3	88.90	5.49	5.49	7.62	7.62	11.13	15.24
3-1/2	101.60	5.74	5.74	8.08	8.08	12.70	16.15
4	114.30	6.02	6.02	8.56	8.56	13.49	17.12
5	141.30	6.55	6.55	9.52	9.52	15.87	19.05
6	168.27	7.11	7.11	10.97	10.97	18.24	21.95
8	219.07	8.18	8.18	12.70	12.70	23.01	22.22
10	273.05	9.27	9.27	12.70	15.06	28.57	25.40
12	323.85	9.52	10.31	12.70	17.45	33.32	25.40
14	355.60	9.52	11.12	12.70	19.05	35.71	
18	406.40	9.52	12.70	12.70	21.41	40.46	
18	457.20	9.52	14.27	12.70	23.80	45.24	
20	508.00	9.52	15.06	12.70	26.19	49.99	
24	609.60	9.52	17.45	12.70	30.94		