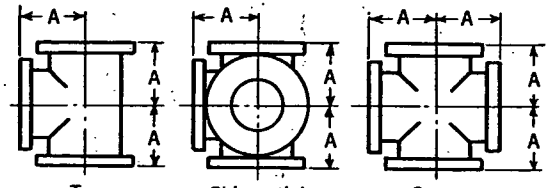
asbestos and metallic gaskets may be used for any pressure and temperature conditions, but preferably only with a relatively narrow recessed facing.

WELDING

Erection of piping in heating and ventilating installations by means of fusion welding has been commonly accepted in the past few years as a competitive method to the screwed and flanged joint. Since the question

TABLE 8. AMERICAN STANDARD DIMENSIONS OF TEES AND CROSSES[a] (STRAIGHT SIZES) FOR CLASS 125 CAST-IRON FLANGED FITTINGS, *A.S.A.* B16a-1939



Nominal Pipe Size[b-c]	A Center to Face Tees and Crosses[c-d]	AA Face to Face Tees and Crosses[c-d]	Diameter of Flange	Thickness of Flange, Min.	Metal[e] Thickness of Body
1	3½	7	4¼	7/16	5/16
1¼	3¾	7½	4⅝	½	5/16
1½	4	8	5	9/16	5/16
2	4½	9	6	⅝	5/16
2½	5	10	7	11/16	5/16
3	5½	11	7½	¾	⅜
3½	6	12	8½	13/16	7/16
4	6½	13	9	15/16	½
5	7½	15	10	15/16	½
6	8	16	11	1	9/16
8	9	18	13½	1⅛	⅝
10	11	22	16	1 3/16	¾
12	12	24	19	1¼	13/16
14 O.D.	14	28	21	1⅜	⅞
16 O.D.	15	30	23½	1 7/16	1
18 O.D.	16½	33	25	1 9/16	1 1/16
20 O.D.	18	36	27½	1 11/16	1⅛
24 O.D.	22	44	32	1⅞	1¼
30 O.D.	25	50	38¾	2⅛	1 7/16
36 O.D.	28	56	46	2⅜	1⅝
42 O.D.	31	62	53	2⅝	1 13/16
48 O.D.	34	68	59½	2¾	2

All dimensions given in inches.

[a]Crosses both straight and reducing sizes 18 in. and larger shall be reinforced to compensate for the inherent weakness in the casting design.

[b]Size of all fittings listed indicates nominal inside diameter of port.

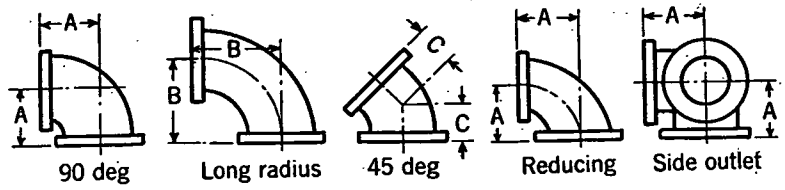
[c]Tees, side outlet tees, and crosses, 16 in. and smaller, reducing on the outlet, have the same dimensions center to face, and face to face as straight size fittings corresponding to the size of the larger opening. Sizes 18 in. and larger, reducing on the outlet, are made in two lengths, depending on the size of the outlet.

[d]Tees and crosses, reducing on run only, carry same dimensions center to face and face to face as a straight size fitting of the larger opening.

[e]Body thickness at no point shall be less than 87½ per cent of the dimensions given in the table.

of economy of welding as against the use of screwed and flanged fittings is dependent on the individual job, the use of welding is generally recommended on the basis of a greatly reduced cost of maintenance and repair, of less weight resulting from the use of a lighter-weight pipe, and of increased economy in pipe insulation, hangers, and supports rather than on the basis of any economy that might be effected in actual erection by welding on low to medium pressure heating jobs.

TABLE 9. AMERICAN STANDARD DIMENSIONS OF ELBOWS FOR CLASS 125 CAST-IRON FLANGED FITTINGS, *A.S.A.* B16a-1939



Nominal Pipe Size[a]	A Center to Face Elbow b-c-d	B Center to Face Long Radius Elbow b-c-d	C Center to Face 45 Deg Elbow c	Diameter of Flange	Thickness of Flange, Min.	Metal[e] Thickness of Body
1	3½	5	1¾	4¼	7/16	5/16
1¼	3¾	5½	2	4⅝	½	5/16
1½	4	6	2¼	5	9/16	5/16
2	4½	6½	2½	6	⅝	5/16
2½	5	7	3	7	11/16	5/16
3	5½	7¾	3	7½	¾	⅜
3½	6	8½	3½	8½	13/16	7/16
4	6½	9	4	9	15/16	½
5	7½	10¼	4½	10	15/16	½
6	8	11½	5	11	1	9/16
8	9	14	5½	13½	1⅛	⅝
10	11	16½	6½	16	1 3/16	¾
12	12	19	7½	19	1¼	13/16
14 O.D.	14	21½	7½	21	1⅜	⅞
16 O.D.	15	24	8	23½	1 7/16	1
18 O.D.	16½	26½	8½	25	1 9/16	1 1/16
20 O.D.	18	29	9½	27½	1 11/16	1⅛
24 O.D.	22	34	11	32	1⅞	1¼
30 O.D.	25	41½	15	38¾	2⅛	1 7/16
36 O.D.	28	49	18	46	2⅜	1⅝
42 O.D.	31	56½	21	53	2⅝	1 13/16
48 O.D.	34	64	24	59½	2¾	2

All dimensions given in inches.

[a]Size of all fittings listed indicates nominal inside diameter of port.

[b]Reducing elbows and side outlet elbows carry same dimensions center to face as straight size elbows corresponding to the size of the larger opening.

[c]Special degree elbows, ranging from 1 to 45 deg, inclusive, have the same center to face dimensions as given for 45-deg elbows and those over 45 deg and up to 90 deg, inclusive, shall have the same center to face dimensions as given for 90-deg elbows. The angle designation of an elbow is its deflection from straight line flow and is the angle between the flange faces.

[d]Side outlet elbows shall have all openings on intersecting center-lines.

[e]Body thickness at no point shall be less than 87½ per cent of the dimensions given in the table.