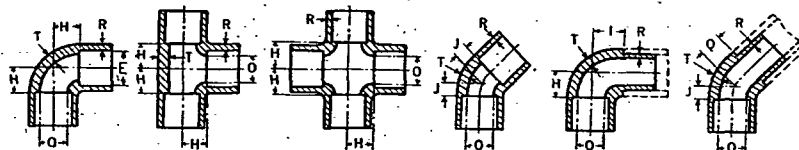


or may be machined with concentric or spiral grooves often referred to as serrated face or phonograph finish, respectively.

The dimensions of elbows, tees and crosses for 125 lb cast-iron screwed fittings are given in Table 6, whereas the dimensions for 125 lb cast-iron flanged fittings are given in Table 7.

For low temperature service not to exceed about 220 F, a number of paper or vegetable fiber gasket materials will prove satisfactory; for plain

TABLE 5. AMERICAN STANDARD DIMENSIONS OF ELBOWS, TEES, CROSSES, AND 45 DEG ELBOWS, SOLDERED-JOINT FITTINGS, A.S.A. A40.3-1941



NOMINAL SIZE*	CAST BRASS ^b					WROUGHT METAL			BORE OF FITTINGS
	Laying Length, Tee, Ell, and Cross ^c	Laying Length, Ell With External Shoulder	Laying Length, 45 Deg Ell	Laying Length, 45 Deg Ell External Shoulder	Inside Diameter of Fittings, Min.	Metal Thickness ^d		Metal Thickness ^e Min. ^f	
	H	I	J	Q	O	T	R	T and R	
1/4	1/4	3/8	3/8	1/4	0.31	0.08	0.048	0.030	0.378
3/8	3/8	1/2	1/2	3/8	0.43	0.08	0.048	0.035	0.503
1/2	1/2	3/4	3/4	1/2	0.54	0.09	0.054	0.040	0.628
3/4	3/4	7/8	7/8	3/4	0.78	0.10	0.060	0.045	0.878
1	1	1	1	1	1.02	0.11	0.066	0.050	1.1285
1 1/4	1 1/4	1 1/8	1 1/8	1 1/4	1.26	0.12	0.072	0.055	1.3785
1 1/2	1 1/2	1 3/8	1 3/8	1 1/2	1.50	0.13	0.078	0.060	1.629
2	2	2	2	2	1.98	0.15	0.090	0.070	2.129
2 1/2	2 1/2	2 1/8	2 1/8	2 1/2	2.46	0.17	0.102	0.080	2.629
3	3	3	3	3	2.94	0.19	0.114	0.090	3.129
3 1/2	3 1/2	3 1/8	3 1/8	3 1/2	3.42	0.20	0.120	0.100	3.629
4	4	4	4	4	3.90	0.22	0.132	0.110	4.129
5	5	5	5	5	4.87	0.28	0.168	0.125	5.129
6	6	6	6	6	5.84	0.34	0.204	0.140	6.129

All dimensions given in inches.

*This size is the nominal bore of the tube.

^bThese dimensions may be used for wrought-metal fittings as well as for cast-brass fittings at manufacturer's option.

^cThis dimension is the same as the inside diameter Class L tubing (American Standard Specifications for Copper Water Tube, A.S.A. H23.1-1939 (A.S.T.M. B88)).

^dPatterns shall be designed to produce body thicknesses given in the table. Metal thickness at no point shall be less than 90 per cent of the thicknesses given in the table.

^eThis dimension has the same thickness as Type L tubing.

^fThese dimensions are minimum, but in every case the thickness of wrought fittings should be at least as heavy as the tubing with which it is to be used.

NOTE 1:—Wrought fittings, as well as cast fittings, must be provided with a shoulder or stop at the bottom end of socket.

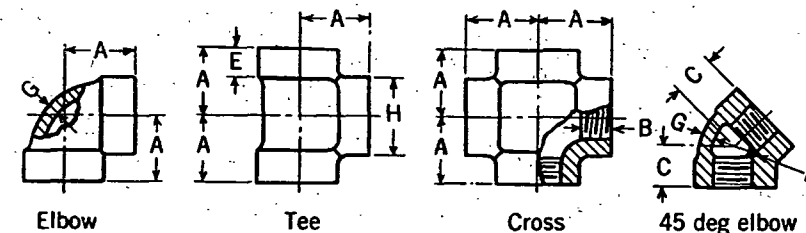
NOTE 2:—Street fittings with male ends are for use in connection with other fittings illustrated.

raised face flanges, rubber or rubber inserted gaskets are commonly employed. Asbestos composition gaskets are probably the most widely used, particularly where the temperature exceeds 250 F. Jacketed asbestos and metallic gaskets may be used for any pressure and temperature conditions, but preferably only with a 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 an alternate method to the screwed and flanged joint. Since the question of economy of welding as against the use of screwed and flanged fittings

TABLE 6. AMERICAN STANDARD DIMENSIONS OF ELBOWS, 45-DEG ELBOWS, TEES, AND CROSSES (STRAIGHT SIZES) FOR CLASS 125 CAST-IRON SCREWED FITTINGS, A.S.A. B16a-1939



NOMINAL PIPE SIZE	A	C	B	E	F		G	H
	CENTER TO END, ELBOWS, TEES AND CROSSES	CENTER TO END, 45 DEG ELBOWS	LENGTH OF THREAD, MIN.	WIDTH OF BAND, MIN.	INSIDE DIAMETER OF FITTING		METAL THICKNESS, MIN.	OUTSIDE DIAMETER OF BAND, MIN.
					Min.	Max.		
1/4	0.81	0.73	0.32	0.38	0.540	0.584	0.110	0.93
3/8	0.95	0.80	0.36	0.44	0.675	0.719	0.120	1.12
1/2	1.12	0.88	0.43	0.50	0.840	0.897	0.130	1.34
3/4	1.31	0.98	0.50	0.56	1.050	1.107	0.155	1.63
1	1.50	1.12	0.58	0.62	1.315	1.385	0.170	1.95
1 1/4	1.75	1.29	0.67	0.69	1.660	1.730	0.185	2.39
1 1/2	1.94	1.43	0.70	0.75	1.900	1.970	0.200	2.68
2	2.25	1.68	0.75	0.84	2.375	2.445	0.220	3.28
2 1/2	2.70	1.95	0.92	0.94	2.875	2.975	0.240	3.86
3	3.08	2.17	0.98	1.00	3.500	3.600	0.260	4.62
3 1/2	3.42	2.39	1.03	1.06	4.000	4.100	0.280	5.20
4	3.79	2.61	1.08	1.12	4.500	4.600	0.310	5.79
5	4.50	3.05	1.18	1.18	5.563	5.663	0.380	7.05
6	5.13	3.46	1.28	1.28	6.625	6.725	0.430	8.28
8	6.56	4.28	1.47	1.47	8.625	8.725	0.550	10.63
10	8.08 ^b	5.16	1.68	1.68	10.750	10.850	0.690	13.12
12	9.50 ^b	5.97	1.88	1.88	12.750	12.850	0.800	15.47

All dimensions given in inches.

*Patterns shall be designed to produce castings of metal thickness given in the table. Metal thickness at no point shall be less than 90 per cent of the thickness given in the table.

^bApplies to elbows and tees only.

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.

Fusion welding, commonly used in erection of piping, is defined as the process of joining metal parts in the molten, or molten and vapor states, without the application of mechanical pressure or blows. Fusion welding