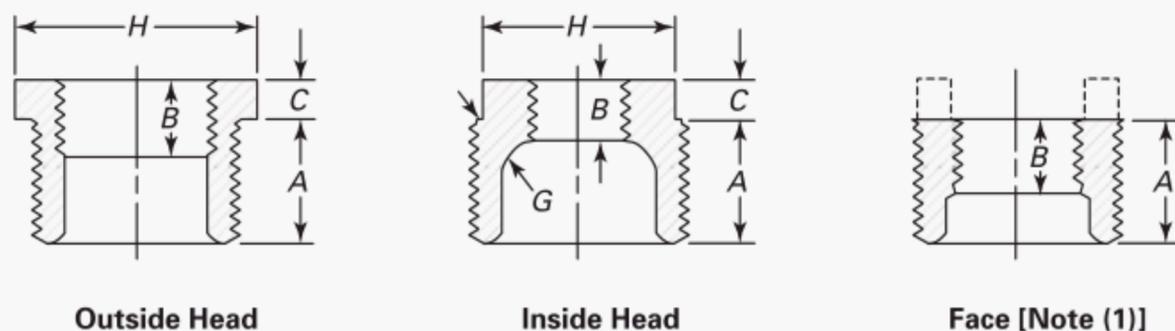


Table 4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250



NPS	Minimum Length of External Thread, A	Minimum Length of Internal Thread, B	Minimum Height of Head, C	Minimum Width of Head, H [Note (2)]		Metal Thickness, G [Note (3)]
				Outside	Inside	
1/4 x 1/8	11	7 [Note (4)]	4	16 [Note (5)]	...	...
3/8 x 1/4	12	10 [Note (4)]	4	17 [Note (5)]	...	...
3/8 x 1/8	12	6	4	17 [Note (5)]	...	...
1/2 x 3/8	14	10 [Note (4)]	5	22 [Note (5)]	...	...
1/2 x 1/4	14	8	5	22 [Note (5)]	...	...
1/2 x 1/8	14	6	5	22 [Note (5)]	...	...
3/4 x 1/2	16	13 [Note (4)]	6	29 [Note (5)]	...	...
3/4 x 3/8	16	9	6	29 [Note (5)]	...	...
3/4 x 1/4	16	8	6	29 [Note (5)]	...	...
1 x 3/4	19	13	6	36 [Note (5)]	...	...
1 x 1/2	19	11	6	36 [Note (5)]	...	...
1 x 3/8	19	9	8	...	28	...
1 x 1/4	19	8	8	...	28	...
1 1/4 x 1	20	15	7	45	...	...
1 1/4 x 3/4	20	13	7	45	...	...
1 1/4 x 1/2	20	11	9	...	34	4.7
1 1/4 x 3/8	20	9	9	...	28	4.7
1 1/2 x 1 1/4	21	18 [Note (4)]	8	51	...	...
1 1/2 x 1	21	15	8	51	...	...
1 1/2 x 3/4	21	13	9	...	41	5.1
1 1/2 x 1/2	21	11	9	...	34	5.1
2 x 1 1/2	22	18	9	63	...	...
2 x 1 1/4	22	17	9	63	...	...
2 x 1	22	15	10	...	50	5.6
2 x 3/4	22	13	10	...	41	5.6
2 x 1/2	22	11	10	...	34	5.6
2 1/2 x 2	27	19	9	76	...	...
2 1/2 x 1 1/2	27	18	11	68	...	...
2 1/2 x 1 1/4	27	17	11	...	61	6.1
2 1/2 x 1	27	15	11	...	50	6.1
3 x 2 1/2	29	23	10	98	...	...
3 x 2	29	19	12	83	...	...
3 x 1 1/2	29	18	12	...	68	6.6
3 x 1 1/4	29	17	12	...	61	6.6

Table 4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

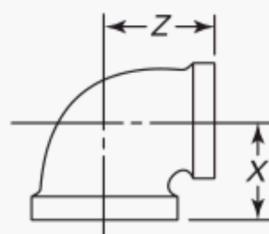
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	31	25	13	117	...	...
4 × 2½	31	23	15	...	98	7.9
4 × 2	31	19	15	...	83	7.9
4 × 1½	31	18	15	...	68	7.9

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table 5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	17	15	1¼ × ¾	35	38
⅜ × ¼	19	20	1½ × 1¼	44	46
½ × ⅜	24	23	1½ × 1	39	44
¾ × ½	27	28	2 × 1½	48	53
1 × ¾	33	33	2½ × 2 [Note (1)]	61	66
1 × ½	30	31	3 × 2½	72	76
1¼ × 1	39	41	4 × 3	84	91

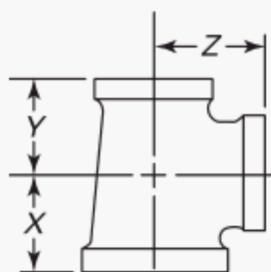
GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table 2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table 6 Dimensions of Tees (Reducing Sizes) — Class 125



Tee, Reducing

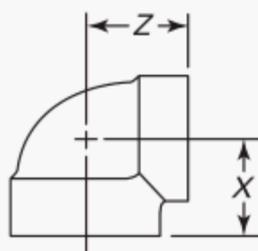
NPS	Center-to-End			NPS	Center-to-End		
	X	Y	Z		X	Y	Z
$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{8}$	17	17	15	$\frac{1}{4} \times 1 \times \frac{3}{4}$	35	33	38
$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{4}$	19	19	20	$\frac{1}{4} \times \frac{3}{4} \times \frac{1}{4}$	43	38	43
$\frac{3}{8} \times \frac{1}{4} \times \frac{3}{8}$	21	20	21	$\frac{1}{4} \times \frac{1}{2} \times \frac{1}{4}$	43	36	43
$\frac{3}{8} \times \frac{1}{4} \times \frac{1}{4}$	19	18	20	$1 \times 1 \times \frac{1}{4}$	41	41	39
$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{8}$	24	24	23	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$	44	44	46
$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{4}$	22	22	22	$\frac{1}{2} \times \frac{1}{2} \times 1$	39	39	44
$\frac{1}{2} \times \frac{3}{8} \times \frac{1}{2}$	26	23	26	$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{4}$	36	36	41
$\frac{1}{2} \times \frac{3}{8} \times \frac{3}{8}$	24	21	23	$\frac{1}{2} \times \frac{1}{2} \times \frac{1}{2}$	34	34	39
$\frac{3}{8} \times \frac{3}{8} \times \frac{1}{2}$	23	23	24	$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{2}$	47	46	47
$\frac{3}{4} \times \frac{3}{4} \times \frac{1}{2}$	27	27	28	$\frac{1}{2} \times \frac{1}{4} \times \frac{1}{4}$	44	43	46
$\frac{3}{4} \times \frac{3}{4} \times \frac{3}{8}$	25	25	25	$\frac{1}{2} \times \frac{1}{4} \times 1$	39	39	44
$\frac{3}{4} \times \frac{1}{2} \times \frac{3}{4}$	30	28	30	$\frac{1}{2} \times \frac{3}{4} \times \frac{1}{2}$	47	41	47
$\frac{3}{4} \times \frac{1}{2} \times \frac{1}{2}$	27	26	28	$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{2}$	46	46	44
$\frac{1}{2} \times \frac{1}{2} \times \frac{3}{4}$	28	28	27	$1 \times 1 \times \frac{1}{2}$	44	44	39
$1 \times 1 \times \frac{3}{4}$	33	33	33	$2 \times 2 \times \frac{1}{2}$	48	48	53
$1 \times 1 \times \frac{1}{2}$	30	30	31	$2 \times 2 \times \frac{1}{4}$	45	45	52
$1 \times 1 \times \frac{3}{8}$	28	28	29	$2 \times 2 \times 1$	40	40	50
$1 \times \frac{3}{4} \times 1$	36	33	36	$2 \times 2 \times \frac{3}{4}$	37	37	47
$1 \times \frac{3}{4} \times \frac{3}{4}$	33	30	33	$2 \times \frac{1}{2} \times 2$	54	53	54
$1 \times \frac{3}{4} \times \frac{1}{2}$	30	27	31	$2 \times \frac{1}{2} \times \frac{1}{2}$	48	47	53
$1 \times \frac{1}{2} \times 1$	36	31	36	$\frac{1}{2} \times \frac{1}{2} \times 2$	53	53	48
$1 \times \frac{1}{2} \times \frac{3}{4}$	33	28	33	$2\frac{1}{2} \times 2\frac{1}{2} \times 2$ [Note (1)]	61	61	66
$\frac{3}{4} \times \frac{3}{4} \times 1$	33	33	33	$2\frac{1}{2} \times 2 \times 2$	61	57	66
$\frac{1}{4} \times \frac{1}{4} \times 1$	39	39	41	$2 \times 2 \times 2\frac{1}{2}$	66	66	61
$\frac{1}{4} \times \frac{1}{4} \times \frac{3}{4}$	35	35	38	$3 \times 3 \times 2\frac{1}{2}$	72	72	76
$\frac{1}{4} \times \frac{1}{4} \times \frac{1}{2}$	33	33	36	$3 \times 3 \times 2$	64	64	73
$\frac{1}{4} \times 1 \times \frac{1}{4}$	43	41	43	$4 \times 4 \times 3$	84	84	91
$\frac{1}{4} \times 1 \times 1$	39	36	41	$4 \times 4 \times 2$	70	70	87

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table 2.

NOTE:

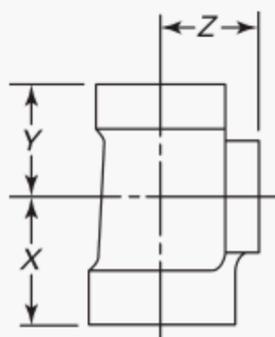
- (1) The dimensions for NPS $2\frac{1}{2}$ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table 7 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 250**90-deg Elbow,
Reducing**

NPS	Center-to-End	
	X	Z
$\frac{1}{2} \times \frac{3}{8}$	26	26
$\frac{3}{4} \times \frac{1}{2}$	30	31
$1 \times \frac{3}{4}$	35	37
$1 \times \frac{1}{2}$	32	35
$1\frac{1}{4} \times 1$	40	42
$1\frac{1}{4} \times \frac{3}{4}$	37	41
$1\frac{1}{2} \times 1\frac{1}{4}$	46	48
$1\frac{1}{2} \times 1$	42	46
$2 \times 1\frac{1}{2}$	51	55
$2 \times 1\frac{1}{4}$	48	53
$2\frac{1}{2} \times 2$	61	66
$3 \times 2\frac{1}{2}$	72	76
3×2	64	73
4×3	89	91

GENERAL NOTES:

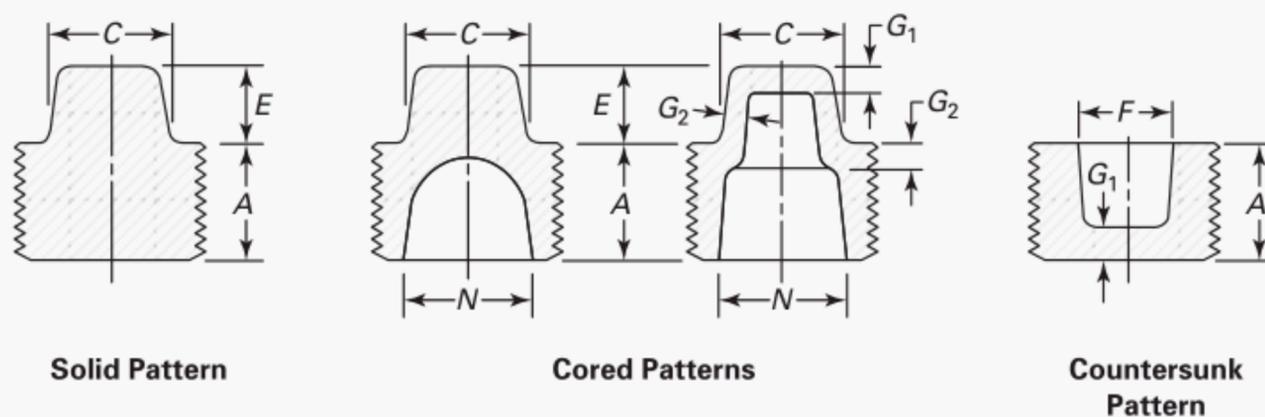
- Dimensions are in millimeters.
- For dimensions not given, see Table 12.
- All dimensions given in Table 7 are in accordance with ASME B16.4 for Class 125 cast iron threaded fittings.
- See para. 9(b) for requirements concerning patterns for reducing fittings.

Table 8 Dimensions of Tees (Reducing Sizes) — Class 250**Tee, Reducing**

NPS	Center-to-End			NPS	Center-to-End		
	X	Y	Z		X	Y	Z
$1/2 \times 1/2 \times 3/8$	26	26	26	$1 1/2 \times 1 1/2 \times 1$	42	42	46
$3/4 \times 3/4 \times 1/2$	30	30	31	$1 1/2 \times 1 1/2 \times 3/4$	39	39	44
$3/4 \times 3/4 \times 3/8$	28	28	29	$1 1/2 \times 1 1/2 \times 1/2$	36	36	42
$3/4 \times 1/2 \times 3/4$	33	31	33	$1 1/2 \times 1 1/4 \times 1 1/4$	46	44	48
$3/4 \times 1/2 \times 1/2$	30	28	31	$1 1/2 \times 1 1/4 \times 1$	42	40	46
$1/2 \times 1/2 \times 3/4$	31	31	30	$1 1/2 \times 1 \times 1 1/2$	49	46	49
$1 \times 1 \times 3/4$	35	35	37	$1 1/4 \times 1 1/4 \times 1 1/2$	48	48	46
$1 \times 1 \times 1/2$	32	32	34	$2 \times 2 \times 1 1/2$	51	51	55
$1 \times 3/4 \times 1$	38	37	38	$2 \times 2 \times 1 1/4$	48	48	53
$1 \times 3/4 \times 3/4$	34	33	37	$2 \times 2 \times 1$	44	44	51
$3/4 \times 3/4 \times 1$	37	37	34	$2 \times 2 \times 3/4$	41	41	50
$1 1/4 \times 1 1/4 \times 1$	40	40	42	$2 \times 2 \times 1/2$	38	38	48
$1 1/4 \times 1 1/4 \times 3/4$	37	37	41	$2 1/2 \times 2 1/2 \times 2$	61	61	66
$1 1/4 \times 1 1/4 \times 1/2$	34	34	39	$3 \times 3 \times 2$	64	64	73
$1 1/4 \times 1 \times 1 1/4$	44	42	44	$3 \times 2 1/2 \times 3$	78	76	78
$1 1/4 \times 1 \times 1$	40	38	42	$3 \times 2 \times 3$	78	73	78
$1 1/4 \times 3/4 \times 1 1/4$	44	41	44	$4 \times 4 \times 3$	84	84	91
$1 \times 1 \times 1 1/4$	42	42	40	$4 \times 4 \times 2$	70	70	87
$1 1/2 \times 1 1/2 \times 1 1/4$	46	46	48	$4 \times 3 \times 4$	96	91	96

GENERAL NOTES:

- Dimensions are in millimeters.
- For dimensions not given, see Table 12.
- All dimensions given in Table 8 are in accordance with ASME B16.4 for Class 125 cast iron threaded fittings.
- See para. 9(b) for requirements concerning patterns for reducing fittings.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

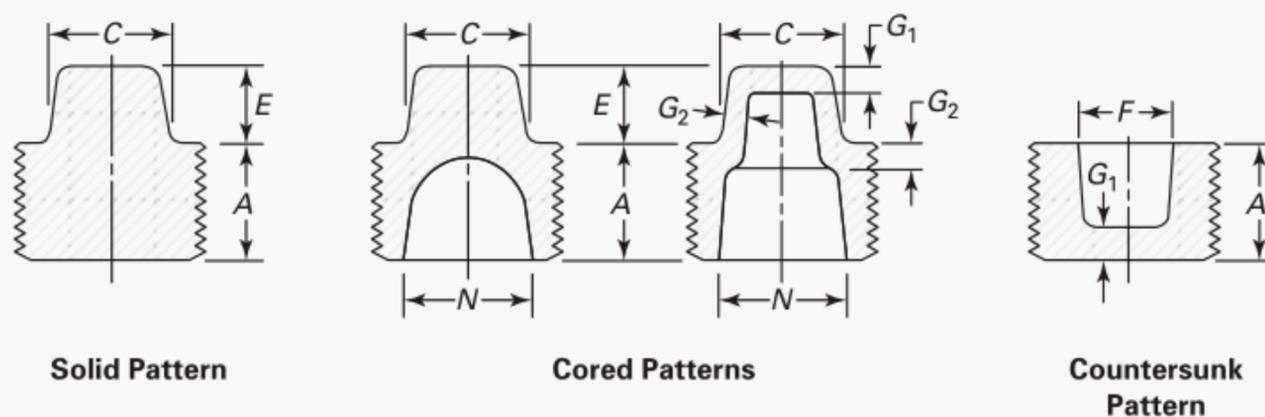
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

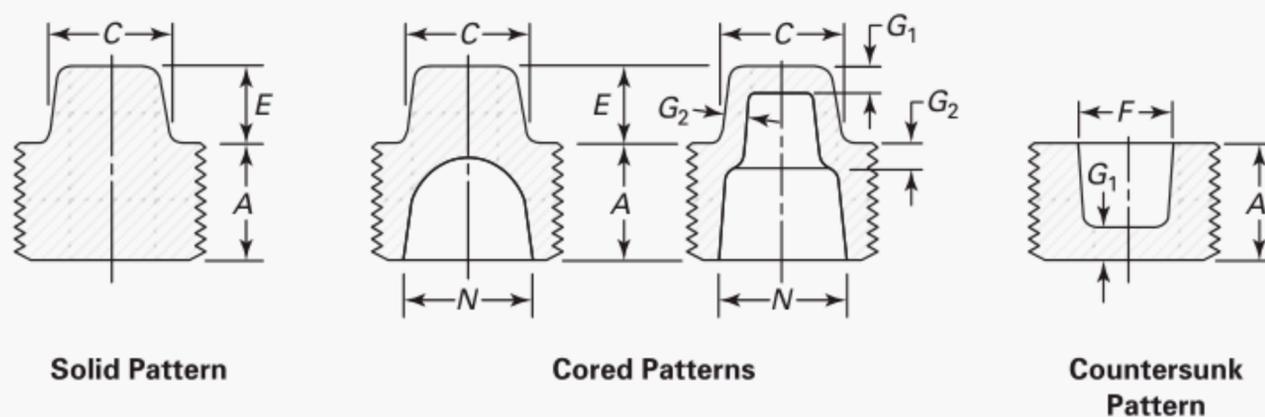
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

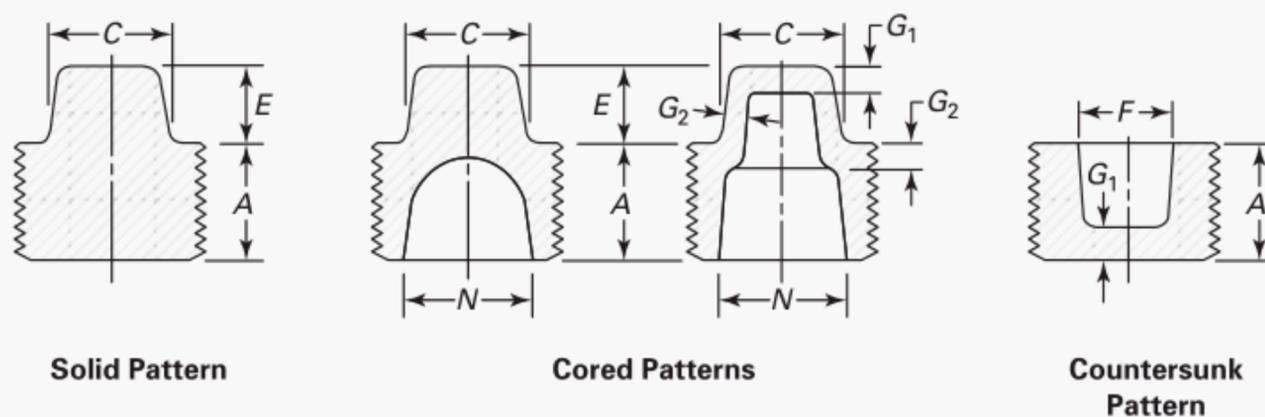
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

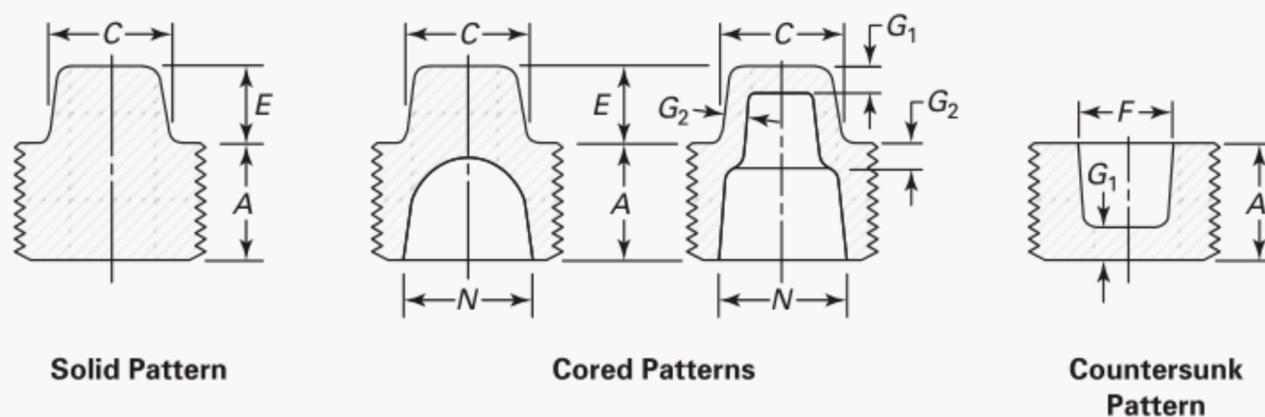
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

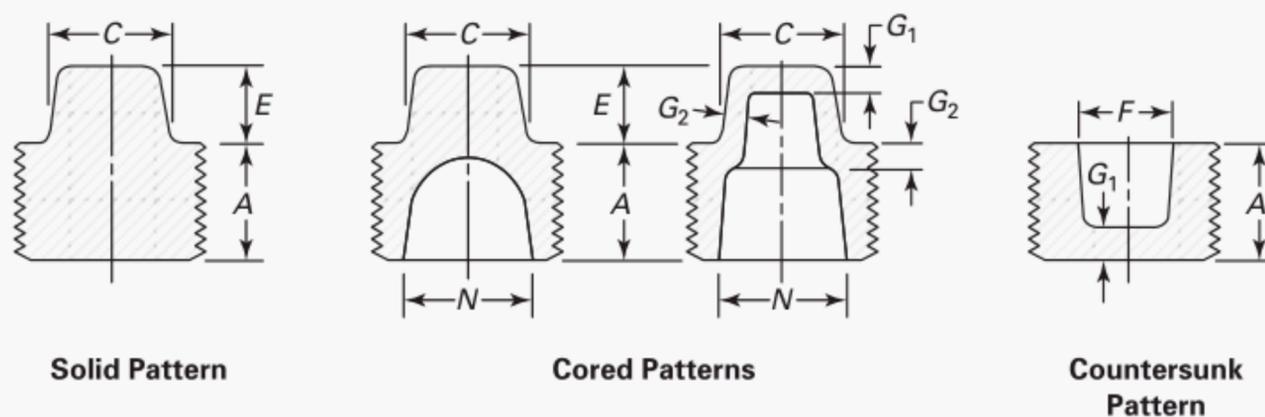
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

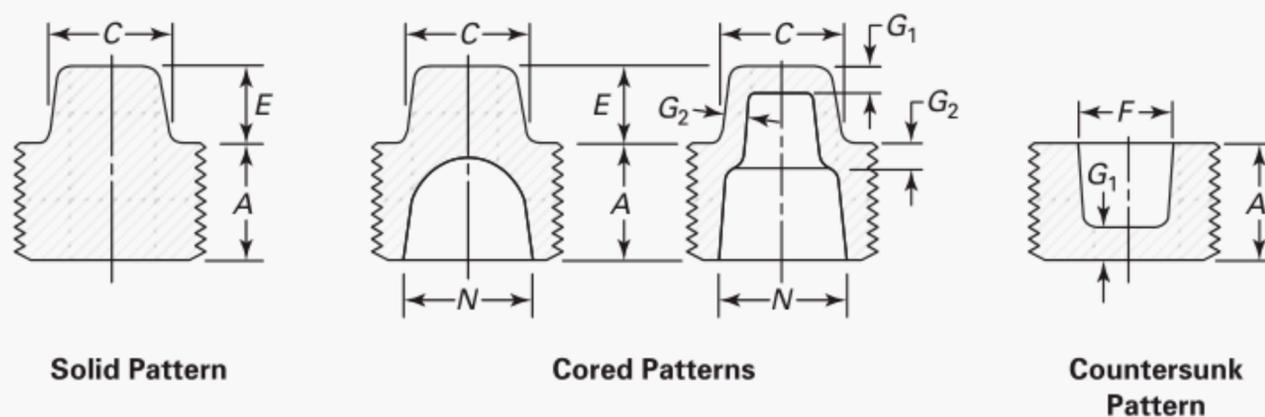
NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table 9 Dimensions of Square Head and Square Socket Plugs – Class 250

NPS	Minimum Thread Length, A	Nominal Width Across Flats, C [Note (1)]	Minimum Height of Plug Square, E	Metal Thickness [Note (2)]		Maximum Inside Diameter of Plug, N	Nominal Size of Square Socket, F [Note (3)]
				G ₁	G ₂		
1/8	7	7.1	6	...	...	...	...
1/4	10	9.5	7	...	...	...	...
3/8	10	11.1	8	...	...	...	...
1/2	14	14.3	10	2.3	3.0	13	9.5
3/4	14	15.8	11	2.5	3.3	19	12.7
1	18	20.6	13	2.8	3.6	24	12.7
1 1/4	18	23.8	14	3.0	3.8	32	19.1
1 1/2	19	28.5	16	3.3	4.1	37	19.1
2	19	33.3	17	3.8	4.3	49	22.2
2 1/2	27	38.1	19	4.3	4.6	59	28.6
3	29	42.8	20	4.8	4.8	74	34.9
4 [Note (4)]	31	57.1	23	5.6	5.6	97	50.8

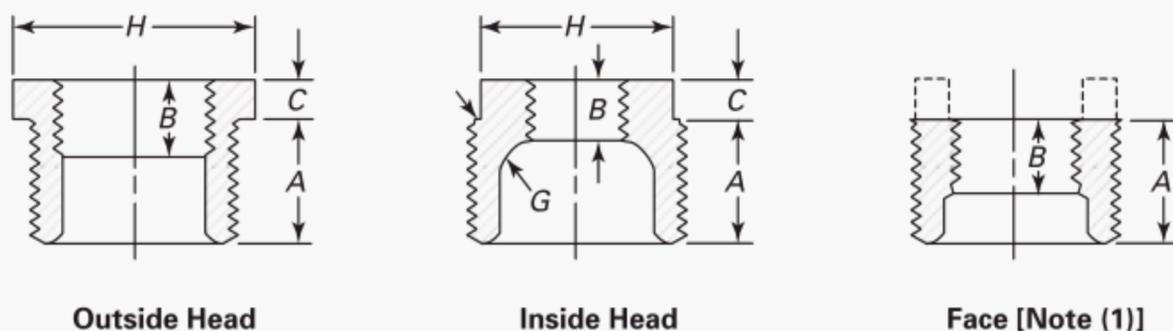
GENERAL NOTES:

- (a) Dimensions are in millimeters.
 (b) For pressure class recommendations, see para. 2.3.

NOTES:

- (1) These dimensions C are the nominal size of wrench as given in Appendix V, Wrench Openings of ASME B18.2.1 Square and Hex Bolts and Screws. Square head plugs are designed to fit these wrenches. Plug squares may have opposite sides tapered a maximum of 4 deg total.
 (2) For metal thickness tolerance, see para. 10.1.
 (3) Square socket of countersunk plugs shall have dimensions F to fit commercial square bars of sizes indicated. Countersunk square sockets may have opposite sides tapered a maximum of 4 deg total.
 (4) Solid pattern type having nominal pipe size greater than NPS 3 is not covered by this Standard.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250



NPS	Minimum Length of External Thread, A	Minimum Length of Internal Thread, B	Minimum Height of Head, C	Minimum Width of Head, H [Note (2)]		Metal Thickness, G [Note (3)]
				Outside	Inside	
1/4 x 1/8	0.44	0.26 [Note (4)]	0.14	0.64 [Note (5)]	...	...
3/8 x 1/4	0.48	0.40 [Note (4)]	0.16	0.68 [Note (5)]	...	...
3/8 x 1/8	0.48	0.25	0.16	0.68 [Note (5)]	...	...
1/2 x 3/8	0.56	0.41 [Note (4)]	0.19	0.87 [Note (5)]	...	...
1/2 x 1/4	0.56	0.32	0.19	0.87 [Note (5)]	...	...
1/2 x 1/8	0.56	0.25	0.19	0.87 [Note (5)]	...	...
3/4 x 1/2	0.63	0.53 [Note (4)]	0.22	1.15 [Note (5)]	...	...
3/4 x 3/8	0.63	0.36	0.22	1.15 [Note (5)]	...	...
3/4 x 1/4	0.63	0.32	0.22	1.15 [Note (5)]	...	...
1 x 3/4	0.75	0.50	0.25	1.42 [Note (5)]	...	...
1 x 1/2	0.75	0.43	0.25	1.42 [Note (5)]	...	...
1 x 3/8	0.75	0.36	0.30	...	1.12	...
1 x 1/4	0.75	0.32	0.30	...	1.12	...
1 1/4 x 1	0.80	0.58	0.28	1.76	...	...
1 1/4 x 3/4	0.80	0.50	0.28	1.76	...	...
1 1/4 x 1/2	0.80	0.43	0.34	...	1.34	0.185
1 1/4 x 3/8	0.80	0.36	0.34	...	1.12	0.185
1 1/2 x 1 1/4	0.83	0.71 [Note (4)]	0.31	2.00	...	...
1 1/2 x 1	0.83	0.58	0.31	2.00	...	...
1 1/2 x 3/4	0.83	0.50	0.37	...	1.63	0.200
1 1/2 x 1/2	0.83	0.43	0.37	...	1.34	0.200
2 x 1 1/2	0.88	0.70	0.34	2.48	...	...
2 x 1 1/4	0.88	0.67	0.34	2.48	...	...
2 x 1	0.88	0.58	0.41	...	1.95	0.220
2 x 3/4	0.88	0.50	0.41	...	1.63	0.220
2 x 1/2	0.88	0.43	0.41	...	1.34	0.220
2 1/2 x 2	1.07	0.75	0.37	2.98	...	...
2 1/2 x 1 1/2	1.07	0.70	0.44	2.68	...	...
2 1/2 x 1 1/4	1.07	0.67	0.44	...	2.39	0.240
2 1/2 x 1	1.07	0.58	0.44	...	1.95	0.240
3 x 2 1/2	1.13	0.92	0.40	3.86	...	...
3 x 2	1.13	0.75	0.48	3.28	...	...
3 x 1 1/2	1.13	0.70	0.48	...	2.68	0.260
3 x 1 1/4	1.13	0.67	0.48	...	2.39	0.260

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

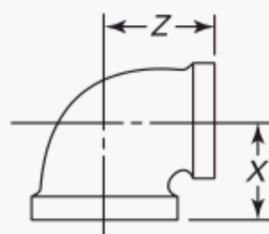
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

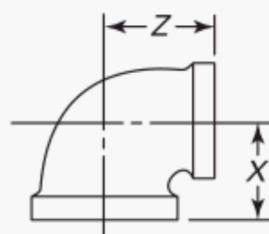
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

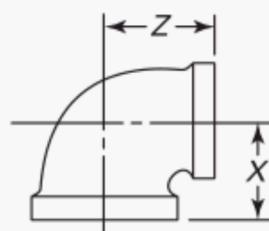
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

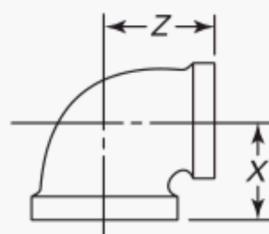
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

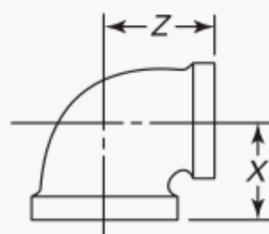
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

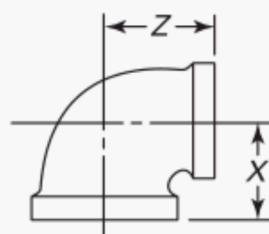
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

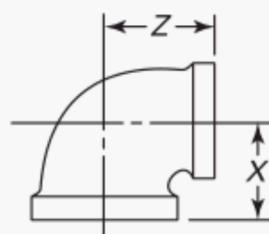
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

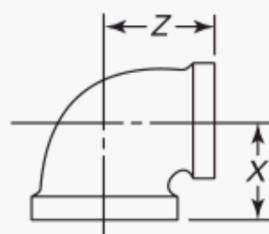
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

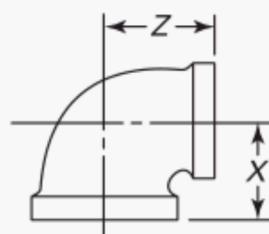
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
⅜ × ¼	0.75	0.78	1½ × 1¼	1.72	1.81
½ × ⅜	0.93	0.90	1½ × 1	1.55	1.72
¾ × ½	1.08	1.11	2 × 1½	1.89	2.07
1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
1 × ½	1.20	1.24	3 × 2½	2.83	2.99
1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

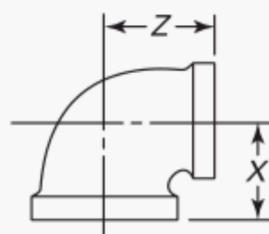
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62	...	...
4 × 2½	1.22	0.92	0.60	...	3.86	0.310
4 × 2	1.22	0.75	0.60	...	3.28	0.310
4 × 1½	1.22	0.70	0.60	...	2.68	0.310

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

- (1) The addition of lugs on face bushings is not prohibited.
 (2) Heads of bushings shall be hexagonal or octagonal.
 (3) Metal thickness *G* is the same as Class 125 cast iron threaded fittings of ASME B16.4. For tolerance, see para. 10.1.
 (4) To provide proper metal thickness, these sizes shall not be cored out to diameters greater than the root diameter of the internal thread. The length of the internal thread may be equal to the minimum dimension *B* or greater, up to the full length of bushing.
 (5) Bushings in these sizes may be made from regular hexagon or octagon bar stock sizes.

Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
¼ × ⅛	0.65	0.60	1¼ × ¾	1.39	1.48
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1 × ¾	1.30	1.31	2½ × 2 [Note (1)]	2.39	2.60
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1¼ × 1	1.52	1.60	4 × 3	3.30	3.60

GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) See para. 9(b) for requirements concerning patterns for reducing fittings.
 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

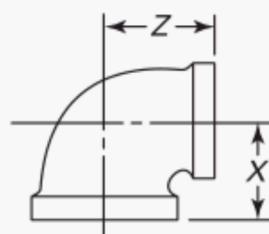
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
				Outside	Inside	
4 × 3	1.22	0.98	0.50	4.62
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GENERAL NOTES:

- (a) Dimensions are in inches.
 (b) For pressure class recommendations, see para. 2.3.
 (c) Bushings reducing to pipe sizes smaller than given are bushed from the smallest reduction appearing in the table.

NOTES:

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Table I-5 Dimensions of 90-deg Elbows (Reducing Sizes) — Class 125**90-deg Elbow,
Reducing**

NPS	Center-to-End		NPS	Center-to-End	
	<i>X</i>	<i>Z</i>		<i>X</i>	<i>Z</i>
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GENERAL NOTES:

- (a) Dimensions are in inches.
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 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

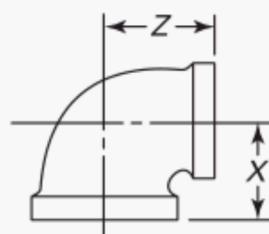
NPS	Minimum Length of External Thread, <i>A</i>	Minimum Length of Internal Thread, <i>B</i>	Minimum Height of Head, <i>C</i>	Minimum Width of Head, <i>H</i> [Note (2)]		Metal Thickness, <i>G</i> [Note (3)]
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Reducing**

NPS	Center-to-End		NPS	Center-to-End	
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- (a) Dimensions are in inches.
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 (c) For dimensions not given, see Table I-2.

NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.

Table I-4 Dimensions of Outside Head, Inside Head, and Face Bushings — Class 250 (Cont'd)

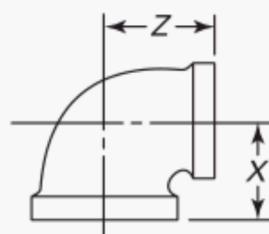
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NPS	Center-to-End		NPS	Center-to-End	
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- (a) Dimensions are in inches.
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NOTE:

- (1) The dimensions for NPS 2½ and larger are in accordance with ASME B16.3 for Class 150 malleable iron threaded fittings.