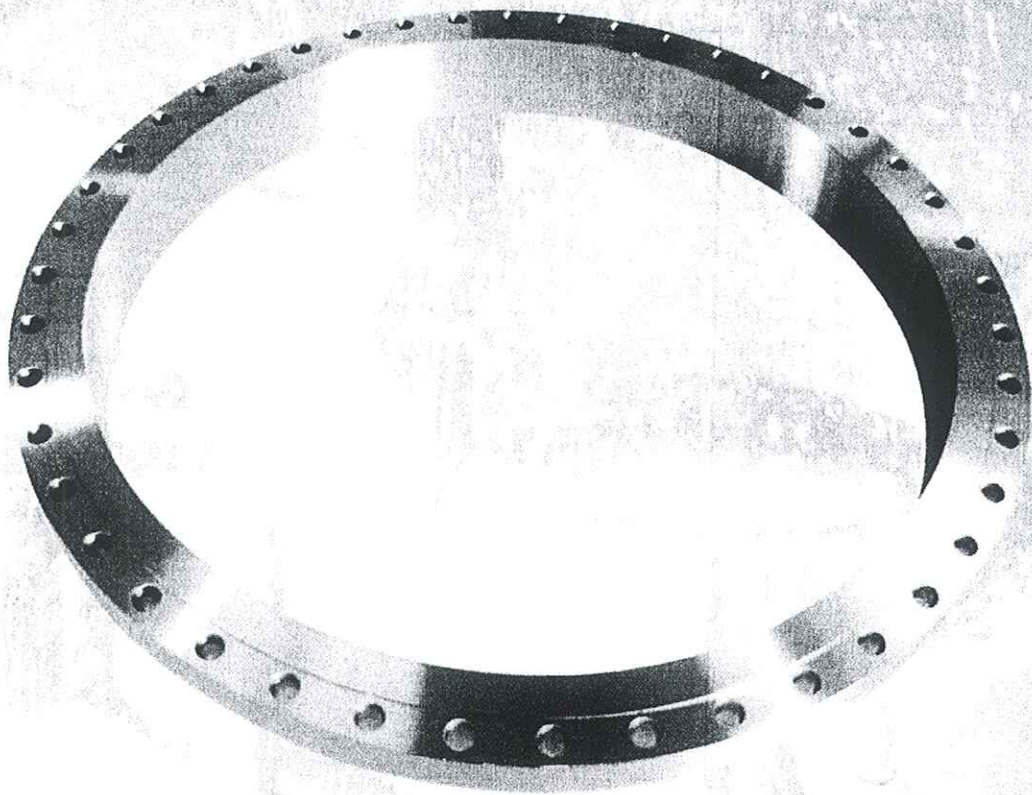




# AWWA C207 FLANGES



# GENERAL SPECIFICATIONS

## 1. Standard Finishes for Contact Face of AWWA Flange

Flanges of all classes shall be flat faced-that is, without projection or raised face. The dimensions given for thickness are minimum. The flanges shall be faced smooth or may have a serrated finish of approximately 32 serrations per inch, approximately  $\frac{1}{64}$  in. deep. Serrations may be either spiral or concentric.

## 2. Dimensional Tolerances for AWWA Flanges

Dimension		Tolerance in.
Bore		$+\frac{1}{16} - 0$
Outside diameter		$+\frac{1}{16}$
Thickness	18 in. and smaller	$+\frac{1}{8} - 0$
	20 in. and larger	$+\frac{3}{16} - 0$
Length through Hub		$+\frac{3}{16} - \frac{1}{16}$
Bolt Circle Diameter		$+\frac{1}{16}$

Note : For other dimensional tolerances, see ANSI B16.5, page 113

## 3. Bolting

Bolts and nuts shall be carbon steel ASTM A307 Grades A or B. Bolts shall have regular unfinished square or hexagonal heads, and nuts shall have regular square or hexagonal dimensions in accordance with ASNI B18.21 for wrench head bolts and nuts and wrench openings.

All bolts and nuts shall be threaded in accordance with ANSI B1.1 for screw threads, coarse-thread series, Class 2A and 2B fit.

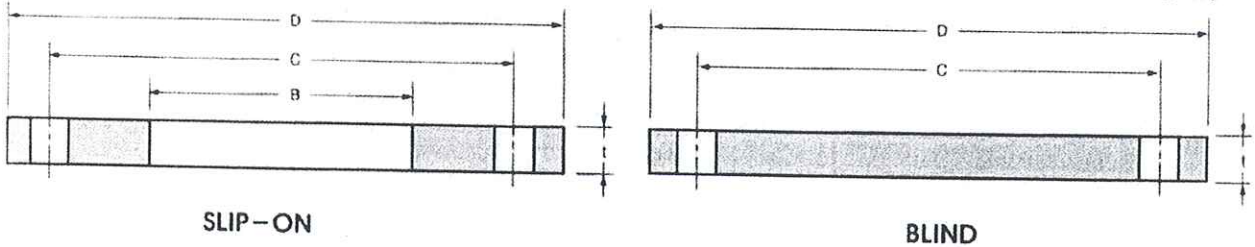
## 4. Gaskets

These standards are predicated on the user of either a cloth-inerted rubber gasket  $\frac{1}{16}$  in. thick or an absestos ring gasket that is either  $\frac{1}{16}$  in. or  $\frac{1}{8}$  in. thick, at the purchaser's option : The gasket shall extend from the inside diameter of the flange to at least the inside edge of bolt holes, or it may.

# CLASS B&D FLANGES

## TABLE 1

AWWA Standard Steel Ring Flange, Class B (86 psi) and Class D (175-150 psi)



### AWWA C207

Dimensions in inches

Nominal Pipe Size	Outside Diam	Bore	Thickness		DRILLING			
					Bolt Circle Diam.	Number of Holes	Diam. of Bolt Holes	
							Class B	Class D
D	B	Class B (t)	Class D (t)	C				
4	9	4.57	3/8	3/8	7 1/2	8	3/8	3/8
5	10	5.66	3/8	3/8	8 1/2	8	3/8	3/8
6	11	6.72	1/2	3/8	9 1/2	8	3/8	3/8
8	13 1/2	8.72	1/2	3/8	11 1/2	8	3/8	3/8
10	16	10.88	3/4	3/8	14 1/2	12	3/8	1
12	19	12.88	3/4	3/8	17	12	3/8	1
14	21	14.19	3/4	3/8	18 1/2	12	3/8	1 1/2
16	23 1/2	16.19	3/4	1	21 1/2	16	3/8	1 1/2
18	25	18.19	3/4	1 1/8	22 1/2	16	3/8	1 1/2
20	27 1/2	20.19	3/4	1 1/8	25	20	3/8	1 1/2
22	29 1/2	22.19	3/4	1 1/8	27 1/2	20	3/8	1 1/2
24	32	24.19	3/4	1 1/8	29 1/2	20	3/8	1 1/2
26	34 1/4	26.19	3/4	1 1/8	31 1/2	24	3/8	1 1/2
28	36 1/2	28.19	3/4	1 1/8	34	28	3/8	1 1/2
30	38 3/4	30.19	3/4	1 1/8	36	28	1	1 1/2
32	41 3/4	32.19	3/4	1 1/8	38 1/2	28	1	1 1/2
34	43 1/4	34.19	3/4	1 1/8	40 1/2	32	1	1 1/2
36	46	36.19	1	1 1/8	42 1/2	32	1	1 1/2
38	48 1/2	38.19	1	1 1/8	45 1/2	32	1	1 1/2
40	50 3/4	40.19	1	1 1/8	47 1/2	36	1	1 1/2
42	53	42.19	1 1/8	1 1/2	49 1/2	36	1 1/8	1 1/2
44	55 1/4	44.19	1 1/8	1 1/2	51 1/2	40	1 1/8	1 1/2
46	57 1/4	46.19	1 1/8	1 1/2	53 1/2	40	1 1/8	1 1/2
48	59 1/2	48.19	1 1/8	1 1/2	56	44	1 1/8	1 1/2
50	61 3/4	50.19	1 1/8	2	58 1/2	44	1 1/8	1 1/2
52	64	52.19	1 1/8	2	60 1/2	44	1 1/8	1 1/2
54	66 1/4	54.19	1 1/8	2 1/8	62 1/2	44	1 1/8	1 1/2
56	73	60.19	1 1/8	2 1/8	69 1/2	52	1 1/8	1 1/2
66	80	66.19	1 1/8	2 1/8	76	52	1 1/8	1 1/2
72	86 1/2	72.19	1 1/8	2 1/8	82 1/2	60	1 1/8	1 1/2
78	93	78.19	2	2 1/8	89	64	1 1/8	2 1/2
84	99 1/4	84.19	2	2 1/8	95 1/2	64	1 1/8	2 1/2
90	106 1/2	90.19	2 1/2	3	102	68	1 1/8	2 1/2
96	113 1/2	96.19	2 1/2	3	108 1/2	68	1 1/8	2 1/2
102	120	102.19	2 1/2	3 1/2	114 1/2	72	2 1/8	2 1/2
108	126 3/4	108.19	2 1/2	3 1/2	120 1/2	72	2 1/8	2 1/2
114	133 1/2	114.19	2 1/2	3 1/2	126 1/2	76	2 1/8	2 1/2
120	140 1/4	120.19	2 1/2	3 1/2	132 1/2	76	2 1/8	2 1/2

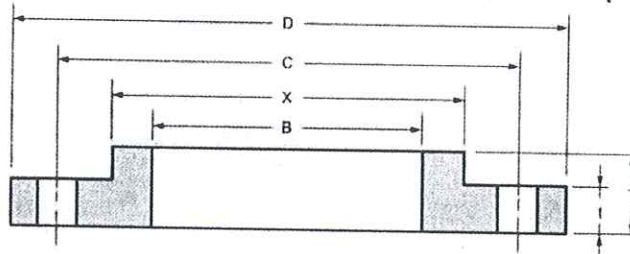
**Notes:**

- (1) For standard finishes for contact face refer to page 112.
- (2) The 'Bore' (B) shall be 1/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.

# CLASS B&D FLANGES

## TABLE 2

AWWA Standard Steel Hub Flanges, Class B (86 psi) and Class D (175-150 psi)



AWWA C207

SLIP-ON

Dimensions in inches

Nominal Pipe Size	Outside Diam.	Bore	Thickness	Length Through Hue	Diam. of Hub of Base	DRILLING			
						Bolt Circle Diam.	Number of Holes	Diam. of Bolt Holes	
								Class B	Class D
D	B	t	T	X	C				
4	9	4.57	1/8	7/8	5 1/2	7 1/2	8	7/8	7/8
5	10	5.66	7/16	1 1/2	6 7/8	8 1/2	8	7/8	7/8
6	11	6.72	7/16	1 1/2	7 7/8	9 1/2	8	7/8	7/8
8	13	8.72	7/16	1 1/2	9 7/8	11 1/2	8	7/8	7/8
10	16	10.88	11/16	1 1/2	12	14 1/2	12	7/8	1
12	19	12.88	7/8	1 1/2	14 1/2	17	12	7/8	1
14	21	14.19	7/8	1 1/2	15 1/2	18 1/2	12	7/8	1 1/2
16	23 1/2	16.19	7/8	1 1/2	18	21 1/2	16	7/8	1 1/2
18	25	18.19	7/8	1 1/2	19 1/2	22 1/2	16	7/8	1 1/2
20	27 1/2	20.19	7/8	1 1/2	22	25	20	7/8	1 1/2
22	29 1/2	22.19	1	1 1/2	24 1/2	27 1/2	20	7/8	1 1/2
24	32	24.19	1	1 1/2	26 1/2	29 1/2	20	7/8	1 1/2
26	34 1/2	26.19	1	1 1/2	28 1/2	31 1/2	24	7/8	1 1/2
28	36 1/2	28.19	1	1 1/2	30 1/2	34	28	7/8	1 1/2
30	38 1/2	30.19	1	1 1/2	32 1/2	36	28	1	1 1/2
32	41 1/2	32.19	1 1/8	1 1/2	34 1/2	38 1/2	28	1	1 1/2
34	43 1/2	34.19	1 1/8	1 1/2	36 1/2	40 1/2	32	1	1 1/2
36	46	36.19	1 1/8	1 1/2	38 1/2	42 1/2	32	1	1 1/2
38	48 1/2	38.19	1 1/8	1 1/2	40 1/2	45 1/2	32	1	1 1/2
40	50 1/2	40.19	1 1/8	1 1/2	43	47 1/2	36	1	1 1/2
42	53	42.19	1 1/8	1 1/2	45	49 1/2	36	1 1/2	1 1/2
44	55 1/2	44.19	1 1/8	2 1/2	47	51 1/2	40	1 1/2	1 1/2
46	57 1/2	46.19	1 1/8	2 1/2	49	53 1/2	40	1 1/2	1 1/2
48	59 1/2	48.19	1 1/8	2 1/2	51	56	44	1 1/2	1 1/2
50	61 1/2	50.19	1 1/8	2 1/2	53	58 1/2	44	1 1/2	1 1/2
52	64	52.19	1 1/8	2 1/2	55	60 1/2	44	1 1/2	1 1/2
54	66 1/2	54.19	1 1/8	2 1/2	57	62 1/2	44	1 1/2	1 1/2
60	73	60.19	1 1/8	2 1/2	63	69 1/2	52	1 1/2	1 1/2
66	80	66.19	1 1/8	2 1/2	69	76	52	1 1/2	1 1/2
72	86 1/2	72.19	1 1/8	2 1/2	75	82 1/2	60	1 1/2	1 1/2
78	93	78.19	1 1/8	3	81 1/2	89	64	1 1/2	2 1/2
84	99 1/2	84.19	1 1/8	3	87 1/2	95 1/2	64	1 1/2	2 1/2
90	106	90.19	2	3 1/2	93 1/2	102	68	1 1/2	2 1/2
96	113	96.19	2	3 1/2	100	108 1/2	68	1 1/2	2 1/2
102	120	102.19	2 1/2	3 1/2	105 1/2	114 1/2	72	2 1/2	2 1/2
108	126	108.19	2 1/2	3 1/2	111 1/2	120 1/2	72	2 1/2	2 1/2
114	133 1/2	114.19	2 1/2	3 1/2	117 1/2	126 1/2	76	2 1/2	2 1/2
120	140 1/2	120.19	2 1/2	3 1/2	124	132 1/2	76	2 1/2	2 1/2

Notes:

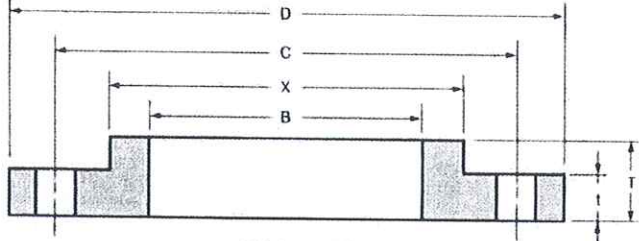
- (1) For standard finishes for contact face, refer to page 112.
- (2) For Slip-on Flanges (Hub Type Flanges), the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.
- (3) The 'Bore' (B) shall be 1/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.



# CLASS E FLANGES

## TABLE 3

**AWWA Standard Steel Hub Flanges, Class E (275 psi)**



**AWWA C207**

**SLIP-ON**

Dimensions in inches

Nominal Pipe Size	Outside Diam. D	Bore B	Thickness t	Length Through Hub T	Diam. of Hub of Base X	DRILLING		
						Bolt Circle Diam. C	Number of Holes	Diam. of Bolt Holes
4	9	4.57	3/8	1 1/2	5 1/2	7 1/2	8	3/8
5	10	5.66	3/8	1 1/2	6 1/2	8 1/2	8	3/8
6	11	6.72	1	1 1/2	7 1/2	9 1/2	8	3/8
8	13	8.72	1 1/2	1 1/2	9 1/2	11 1/2	8	3/8
10	16	10.88	1 1/2	1 3/4	12	14 1/2	12	1
12	19	12.88	1 1/2	2 1/4	14 1/2	17	12	1
14	21	14.19	1 1/2	2 1/2	15 1/2	18 1/2	12	1 1/2
16	23 1/2	16.19	1 1/2	2 1/2	18	21 1/2	16	1 1/2
18	25	18.19	1 1/2	2 1/2	19 1/2	22 1/2	16	1 1/2
20	27 1/2	20.19	1 1/2	2 1/2	22	25	20	1 1/2
22	29	22.19	1 1/2	3 1/2	24	27 1/2	20	1 1/2
24	32	24.19	1 1/2	3 1/2	26 1/2	29 1/2	20	1 1/2
26	34 1/2	26.19	2	3 1/2	28 1/2	31 1/2	24	1 1/2
28	36 1/2	28.19	2 1/2	3 1/2	30 1/2	34	28	1 1/2
30	38 1/2	30.19	2 1/2	3 1/2	32 1/2	36	28	1 1/2
32	41 1/2	32.19	2 1/2	3 1/2	35	38 1/2	28	1 1/2
34	43 1/2	34.19	2 1/2	3 1/2	37	40 1/2	32	1 1/2
36	46	36.19	2 1/2	3 1/2	39 1/2	42 1/2	32	1 1/2
38	48 1/2	38.19	2 1/2	3 1/2	41 1/2	45 1/2	32	1 1/2
40	50 1/2	40.19	2 1/2	3 1/2	43 1/2	47 1/2	36	1 1/2
42	53	42.19	2 1/2	4	46	49 1/2	36	1 1/2
44	55 1/2	44.19	2 1/2	4	48	51 1/2	40	1 1/2
46	57 1/2	46.19	2 1/2	4 1/2	50	53 1/2	40	1 1/2
48	59 1/2	48.19	2 1/2	4 1/2	52 1/2	56	44	1 1/2
50	61 1/2	50.19	2 1/2	4 1/2	54 1/2	58 1/2	44	1 1/2
52	64	52.19	2 1/2	4 1/2	56 1/2	60 1/2	44	1 1/2
54	66 1/2	54.19	3	4 1/2	58 1/2	62 1/2	44	1 1/2
60	73	60.19	3 1/2	4 1/2	65 1/2	69 1/2	52	1 1/2
66	80	66.19	3 1/2	4 1/2	71 1/2	76	52	1 1/2
72	86 1/2	72.19	3 1/2	5	78 1/2	82 1/2	60	1 1/2
78	93	78.19	3 1/2	5 1/2	84 1/2	89	64	2 1/2
84	99 1/2	84.19	3 1/2	5 1/2	90 1/2	95 1/2	64	2 1/2
90	106	90.19	4 1/2	5 1/2	96 1/2	102	68	2 1/2
96	113	96.19	4 1/2	5 1/2	102 1/2	108 1/2	68	2 1/2
102	120	102.19	4 1/2	3 1/2	108 1/2	114 1/2	72	2 1/2
108	126	108.19	4 1/2	6 1/2	114 1/2	120 1/2	72	2 1/2
114	133 1/2	114.19	5	6 1/2	121 1/2	126 1/2	76	2 1/2
120	140 1/2	120.19	5	6 1/2	128	132 1/2	76	2 1/2

Notes:

- (1) For standard finishes for contact face, refer to page 112.
- (2) For Slip-on Flanges (Hub Type Flanges), the hubs can be shaped either vertical from base to top or tapered within the limits of 7 degrees.
- (3) The 'Bore' (B) shall be 1/16 in. larger than the nominal outside diameter of the pipe, unless otherwise specified.