

PADDLE, SPECTACLE & PADDLE SPACER BLINDS

USA Industries is one of the largest manufacturers and suppliers of paddle blinds (line blanks, spades, isolation skillets, figure 8s, spectacle blind flanges, etc.) in both isolation and hydrotest thicknesses.

Manufactured and stocked in:

- Line sizes 1/2" to 96"
- Flange ratings 150# to 2500#
- Raised face, mill or serrated finishes
- Ring type joint (RTJ), male or female oval or octagonal configurations

Standard materials are SA516 Gr.70 carbon steel and 304 & 316 stainless steels; however, other alloys and ratings are available upon request.

For rental and purchase, each piece is ground to a smooth edge finish, stamped, freshly painted and color-coded for easy ratings identification. USA Industries' blinds are manufactured in strict accordance to ASME B16.47

Paddle Blinds

Paddle Blinds are used to isolate a section(s) of pipeline between two flanges, safely blocking flow for maintenance or repairs of the line. USA Industries manufactures our Paddle Blinds in three handle types, "7", "T", and Straight; however, as a custom manufacturer, we can machine our blinds with any handle type, thickness, or alloy that is required and available upon request.



HANDLE COLORS					
150#	RED	300#	BLUE	600#	YELLOW
900#	GREEN	1500#	WHITE	2500#	ORANGE

Spectacle Blind / Figure 8

Generally, Spectacle Blinds are installed as a permanent device between two pipe flanges in a piping system.

During normal operations the open end of the blind is installed as a Spacer to allow uninterrupted flow in a pipeline. To stop the flow, the blind is rotated into place between the two flanges, thereby positively isolating the downstream piping and equipment.



Paddle Spacer Blind

A Paddle Spacer is similar to the open half of a Spectacle Blind, and is fitted in the line between two flanges. The Spacer is used when the line is required open to allow flow, and the Paddle Blind or Spade is installed when the line is required closed to block flow. To change it from open to closed, only half the bolts need to be removed and the Paddle Blind or Spacer is swapped over. Spectacle Blinds can be very bulky and occupy a lot of space in larger sizes so Paddle Blinds and Spacers are often preferred.



For more information on USA Industries products, contact us at (713) 941-3797 or go to www.USAIndustries.com



LINE BLIND & SPACER DIMENSIONS WITH HYDRO TEST THICKNESS (THK) CHART

LINE SIZE (in.)	ISO.	150#			300#			600#			900#			1500#			2500#		
		THK	O.D.	I.D.	THK	O.D.	I.D.	THK	O.D.	I.D.	THK	O.D.	I.D.	THK	O.D.	I.D.	THK	O.D.	I.D.
1/2	5/16	1-3/4	5/8	5/16	2	5/8	5/16	2	5/8	5/16	2-3/8	5/8	5/16	2-3/8	5/8	5/16	2-5/8	5/8	3/8
3/4	5/16	2-1/8	7/8	5/16	2-1/2	7/8	5/16	2-1/2	7/8	5/16	2-5/8	7/8	5/16	2-5/8	7/8	3/8	2-7/8	7/8	3/8
1	5/16	2-1/2	1-1/8	5/16	2-3/4	1-1/8	5/16	2-3/4	1	5/16	3	1	5/16	3	1	3/8	3-1/4	1	3/8
1-1/4	5/16	2-7/8	1-5/8	5/16	3-1/8	1-5/8	5/16	3-1/8	1-3/8	3/8	3-3/8	1-3/8	3/8	3-3/8	1-3/8	3/8	4	1-3/8	1/2
1-1/2	5/16	3-1/4	1-7/8	5/16	3-5/8	1-7/8	5/16	3-5/8	1-5/8	3/8	3-3/4	1-5/8	3/8	3-3/4	1-5/8	1/2	4-1/2	1-5/8	5/8
2	5/16	4	2-3/8	5/16	4-1/4	2-3/8	3/8	4-1/4	2-1/8	3/8	5-1/2	2-1/8	1/2	5-1/2	2	1/2	5-5/8	2	5/8
2-1/2	5/16	4-3/4	2-7/8	5/16	5	2-7/8	3/8	5	2-5/8	1/2	6-3/8	2-5/8	1/2	6-3/8	2-1/2	5/8	6-1/2	2-3/8	3/4
3	5/16	5-1/4	3-1/2	5/16	5-3/4	3-1/2	3/8	5-3/4	3-1/4	1/2	6-1/2	3-1/4	5/8	6-3/4	3	3/4	7-5/8	3	7/8
3-1/2	5/16	6-1/4	4	3/8	6-3/8	4	3/8	6-1/4	3-3/4	5/8									
4	5/16	6-3/4	4-1/2	3/8	7	4-1/2	1/2	7-1/2	4-1/4	5/8	8	4-1/4	3/4	8-1/8	4	7/8	9-1/8	4	1-1/8
5	5/16	7-5/8	5-1/2	3/8	8-3/8	5-1/2	5/8	9-3/8	5-3/8	3/4	9-5/8	5-1/4	7/8	9-7/8	5	1-1/8	10-7/8	5	1-3/8
6	5/16	8-5/8	6-5/8	1/2	9-3/4	6-5/8	5/8	10-3/8	6-3/8	7/8	11	6-3/8	1	11	6	1-3/8	12-3/8	6	1-5/8
8	5/16	10-7/8	8-5/8	1/2	12	8-5/8	7/8	12-1/2	8-3/8	1-1/8	14	8-3/8	1-3/8	13-3/4	8	1-5/8	15-1/8	7-7/8	2-1/8
10	5/16	13-1/4	10-3/4	5/8	14-1/8	10-3/4	1	15-5/8	10-3/8	1-3/8	17	10-3/8	1-5/8	17	10	2	18-5/8	9-3/4	2-5/8
12	5/16	16	12-3/4	3/4	16-1/2	12-3/4	1-1/8	17-7/8	12-3/8	1-5/8	19-1/2	12-3/8	1-7/8	20-3/8	12	2-3/8	21-1/2	11-3/8	3-1/8
14	5/16	17-5/8	14	3/4	19	14	1-1/4	19-1/4	13-5/8	1-3/4	20-3/8	13-5/8	2-1/8	22-5/8	13-1/8	2-5/8			
16	5/16	20-1/8	16	7/8	21-1/8	16	1-1/2	22-1/8	15-5/8	2	22-1/2	15-5/8	2-3/8	25-1/8	15	3			
18	5/16	21-1/2	18	1	23-3/8	18	1-5/8	24	17-5/8	2-1/8	25	17-5/8	2-5/8	27-5/8	16-7/8	3-3/8			
20	5/16	23-3/4	20	1-1/8	25-5/8	20	1-3/4	26-3/4	19-1/2	2-1/2	27-3/8	19-1/2	2-7/8	29-5/8	18-7/8	3-3/4			
22	5/16	25-7/8	22	1-1/4	27-5/8	22	1-7/8	28-3/4	21-1/2	2-3/4									
24	5/16	28-1/8	24	1-1/4	30-3/8	24	2	31	23-1/2	2-7/8	32-7/8	23-1/2	3-1/2	35-3/8	22-5/8	4-3/8			
MSS SP-44 SERIES "A" SPECS														METHODOLOGY					
26	5/16	30-3/8	26	1-5/8	32-3/4	26	2-1/2	34	26	3-1/2	34-5/8	26	4-3/8						
28	5/16	32-5/8	28	1-3/4	35-1/4	28	2-3/4	35-7/8	28	3-3/4	37-1/8	28	4-5/8						
30	5/16	34-5/8	30	1-7/8	37-3/8	30	2-7/8	38-1/8	30	4-1/8	39-5/8	30	5						
32	5/16	36-7/8	32	2	39-1/2	32	3-1/8	40-1/8	32	4-3/8	42-1/8	32	5-3/8						
34	5/16	38-7/8	34	2-1/8	41-1/2	34	3-1/4	42-1/8	34	4-5/8	44-5/8	34	5-5/8						
36	5/16	41-1/8	36	2-1/4	43-7/8	36	3-1/2	44-3/8	36	4-7/8	47-1/8	36	6						
38	5/16	43-5/8	38	2-3/8	41-3/8	38	3-5/8	43-3/8	38	5-1/8	47-1/8	38	6-1/4						
40	5/16	45-5/8	40	2-1/2	43-3/4	40	3-7/8	45-3/8	40	5-3/8	49-1/8	40	6-5/8						
42	5/16	47-7/8	42	2-5/8	45-3/4	42	4	47-7/8	42	5-5/8	51-1/8	42	7						
44	5/16	50-1/8	44	2-3/4	47-7/8	44	4-1/4	49-7/8	44	6	53-3/4	44	7-1/4						
46	5/16	52-1/8	46	2-7/8	50	46	4-1/2	51-7/8	46	6-1/4	56-3/8	46	7-5/8						
48	5/16	54-3/8	48	3	52	48	4-5/8	54-5/8	48	6-1/2	58-3/8	48	8						
50	5/16	56-3/8	50	3-1/8	54-1/8	50	4-7/8	56-7/8	50	6-3/4									
52	5/16	58-5/8	52	3-1/4	56-1/8	52	5	58-7/8	52	7									
54	5/16	60-7/8	54	3-1/4	58-5/8	54	5-1/4	61-1/8	54	7-1/4									
56	5/16	63-1/8	56	3-3/8	60-5/8	56	5-3/8	63-3/8	56	7-1/2									
58	5/16	65-3/8	58	3-1/2	62-5/8	58	5-5/8	65-3/8	58	7-7/8									
60	5/16	67-3/8	60	3-5/8	64-5/8	60	5-3/4	68-1/8	60	8-1/8									
API-605 SERIES "B" SPECS																			
26	5/16	28-7/16	26	1-5/8	30-1/4	26	2-1/2	30	26	3-1/2	32-7/8	26	4-3/8						
28	5/16	30-7/16	28	1-3/4	32-3/8	28	2-3/4	32-1/8	28	3-3/4	35-3/8	28	4-5/8						
30	5/16	32-7/16	30	1-7/8	34-3/4	30	2-7/8	34-1/2	30	4-1/8	37-5/8	30	5						
32	5/16	34-9/16	32	2	36-7/8	32	3-1/8	36-5/8	32	4-3/8	39-7/8	32	5-3/8						
34	5/16	36-11/16	34	2-1/8	39	34	3-1/4	39-1/8	34	4-5/8	42-1/8	34	5-5/8						
36	5/16	38-3/4	36	2-1/4	41-1/8	36	3-1/2	41-1/8	36	4-7/8	44-1/8	36	6						
38	5/16	41	38	2-3/8	43-1/8	38	3-5/8												
40	5/16	43	40	2-1/2	45-1/8	40	3-7/8												
42	5/16	45	42	2-5/8	47-1/8	42	4												
44	5/16	47	44	2-3/4	49-1/8	44	4-1/4												
46	5/16	49-5/16	46	2-7/8	51-3/4	46	4-1/2												
48	5/16	51-5/16	48	3	53-3/4	48	4-5/8												
50	5/16	53-5/16	50	3-1/8	55-3/4	50	4-7/8												
52	5/16	55-5/16	52	3-1/4	57-3/4	52	5												
54	5/16	57-1/2	54	3-1/4	60-1/8	54	5-1/4												
56	5/16	59-1/2	56	3-3/8	62-5/8	56	5-3/8												
58	5/16	62-1/16	58	3-1/2	65-1/16	58	5-5/8												
60	5/16	64-1/16	60	3-5/8	67-1/16	60	5-3/4												

Line sizes up to 96" are available. Standard Isolation thickness is 5/16" (+/-1/16). Any thickness rating or alloy is available upon request.

Sizes and thicknesses meet the following specifications ASME 16.48, ASME 16.5, ASME B16.47

Blank thicknesses over 24 NPS were calculated using the equation for blanks in ASME B31.3 as follows:

$$T = d\sqrt{((3P) / (16SE))}$$

d = I.D. of ring gasket (in.)

T = Blank Thickness (in.)

S = 23,300psi

E = 1.00

P = Design Gauge Pressure psi.

S (Basic Allowable Stress) and E (Quality Factor) values were determined from tables A1 and A1-A from B31.3 for 516-Gr 70 material with the temperature range of -20 to 100° Fahrenheit. This calculation does not take into consideration any required corrosion allowance if needed.



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