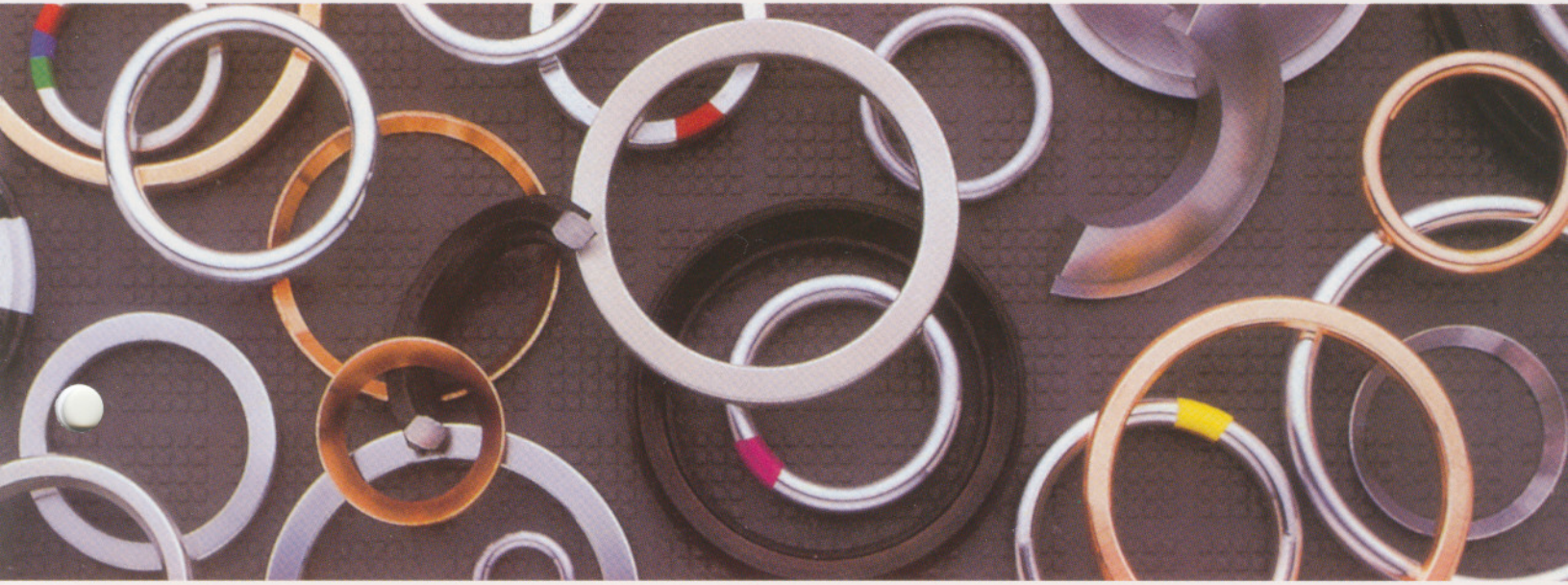


LAMONS[®]

LAMONS GASKET COMPANY

Web: www.lamonsgasket.com



THE GASKET COMPANY
ISO - 9002 CERTIFIED

LAMONS PHILOSOPHY



INTRODUCTION



Lamons Metal Gasket Company manufactures and supplies all types of metallic gaskets for use in heat exchangers, valves, pumps, compressors, boilers and many other types of industrial equipment. Our commitment to service and quality have made Lamons the leader in metallic gaskets in the United States and Canada.

We are committed to stocking the widest selection of gasket materials ready for immediate production of custom gaskets. Our complete in-house machining facilities enables us to make our own precision dies, ensuring fast turnaround and complete commitment to quality at every stage of manufacture.

On page two is a chart on cross-sectional views of our more common styles of machined ring gaskets.

HELP FROM LAMONS

Lamons has experienced gasket sales personnel and engineers ready to assist you on your special requirements. We want to help you. Additional technical literature as well as product literature on other types of gaskets we manufacture is available upon request. Lamons is a leader in the manufacturing of spiral wound gaskets as well as "soft" cut gaskets. With manufacturing plants throughout the United States and in Canada, Lamons can provide the service you need when you need it.



SOLID MACHINED RINGS (HEAVY CROSS-SECTIONED)

SPECIFICATIONS: Lamons RTJ standard size gaskets are manufactured in accordance with API-6A and ANSI B16.2 specifications. Lamons is approved by the American Petroleum Institute as a level 4 supplier.

API RING GASKETS



OVAL
Style 377



OCTAGONAL
Style 388

API ring joint gaskets come in two basic types, an oval cross section and an octagonal cross section. These basic shapes are used in pressures up to 10,000 psi. The dimensions are standardized and require specially grooved flanges. The octagonal cross section has a higher sealing efficiency than the oval and would be the preferred gasket. However, only the oval cross section can be used in the old type round bottom groove. The newer flat bottom groove design will accept either the oval or the octagonal cross section. The sealing surfaces on the ring joint grooves must be smoothly

finished to 63 microinches and be free of objectionable ridges, tool or chatter marks. They seal by an initial line contact or a wedging action as the compressive forces are applied. The hardness of the ring should always be less than the hardness of the flanges. Dimensions for API ring joint gaskets and grooves are covered in ANSI B16.20 and API 6A.

Lamons stocks a wide range of sizes and materials ready for immediate shipment from R11 to R105. Stock materials include soft iron, low carbon steel, 4-6 chrome (F5), 304 & 304L, 316 & 316L, 347, 410, Monel, Inconel and Incoloy.

SPECIAL APPLICATION OVALS



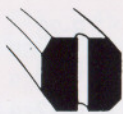
RUBBER COATED RINGS
Style 377R

Style 377R is a rubber coated oval ring gasket (usually steel) used in pressure testing to minimize damage to flanges. The rubber contact points provide additional seals while protecting the flange surfaces.



TRANSITION RINGS
Style 377T

Style 377T, combination rings combine two different sizes having the same pitch diameter permitting bolt up of differing size flanges.

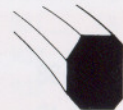


BX RINGS
Style 390

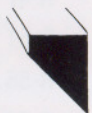
The BX ring gasket differs from the standard oval or octagonal shape in that it is square in cross section and tapers in each corner. They can only be used in API 6BX flanges. RX ring gaskets are similar in shape to the standard octagonal ring joint gasket but their cross section is designed to take advantage of the contained fluid pressure in effecting a seal. They are both

made to API 6A and interchangeable with standard octagonal rings for oil field drilling and production applications in API 6B flanges. RX and BX gaskets are used at pressures up to 15,000 psi.

Standard sizes are stocked in low carbon steel, 304 and 316.



RX RINGS
Style 391



BRIDGEMAN GASKET
Style 393

The Bridgeman gasket is a pressure activated gasket for use on pressure vessel heads and valve bonnets for pressures of 1500 psi and above. The cross section of the gasket is such that internal pressure acting against the ring

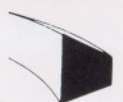
forces it against the containing surface making a self-energized seal. Bridgeman gaskets are frequently silver plated or lead plated to provide a softer surface and minimize the force required to flow the gasket metal into the flange surface.



DELTA GASKET
Style 392

A delta gasket is a pressure actuated gasket used primarily on pressure vessels and valve bonnets at very high pressures in excess of 5000 psi. As with the lens gasket, complete drawings and material specifications must be

supplied. Internal pressure forces the gasket material to expand when the pressure forces tend to separate the flanges. Extremely smooth surface finishes of 63 microinches or smoother are required when using this type of gasket.



LENS TYPE GASKET
Style 394

A lens type gasket is a line contact seal for use in high pressure piping systems and in pressure vessel heads. The lens cross section is a spherical gasket surface and requires special machining on the flanges. These gaskets will seat with a small bolt load since the contact

area is very small and gasket seating pressures are very high. Normally the gasket materials should be softer than the flange. In ordering lens gaskets, complete drawings and material specifications must be supplied.

SPECIFICATION TABLES

API RING JOINT GASKETS MATERIALS

Table 1

Material	Designation	Maximum Hardness Rockwell B	Maximum Hardness Brinell
Soft Iron	D	56	90
Low Carbon Steel	S	68	120
4-6 Chrome	F-5*	72	130
304 Stainless Steel	S304	83	160
316 Stainless Steel	S316	83	160
347 Stainless Steel	S347	83	160
410 Stainless Steel	S410	86	170

SIZE DESIGNATIONS FOR OVAL OR OCTAGONAL RINGS

Table 2

Nominal Pipe Size	Flange Pressure Rating				
	150#	300-600#	900#	1500#	2500#
1/2	—	R-11	R-12	R-12	R-13
3/4	—	R-13	R-14	R-14	R-16
1	R-15	R-16	R-16	R-16	R-18
1 1/4	R-17	R-18	R-18	R-18	R-21
1 1/2	R-19	R-20	R-20	R-20	R-23
2	R-22	R-23	R-24	R-24	R-26
2 1/2	R-25	R-26	R-27	R-27	R-28
3	R-29	R-31	R-31	R-35	R-32
3 1/2	R-33	R-34	R-34	—	—
4	R-36	R-37	R-37	R-39	R-38
5	R-40	R-41	R-41	R-44	R-42
6	R-43	R-45	R-45	R-46	R-47
8	R-48	R-49	R-49	R-50	R-51
10	R-52	R-53	R-53	R-54	R-55
12	R-56	R-57	R-57	R-58	R-60
14	R-59	R-61	R-62	R-63	—
16	R-64	R-65	R-66	R-67	—
18	R-68	R-69	R-70	R-71	—
20	R-72	R-73	R-74	R-75	—
22	R-80	R-81	—	—	—
24	R-76	R-77	R-78	R-79	—
26	—	R-93	R-100	—	—
28	—	R-94	R-101	—	—
30	—	R-95	R-102	—	—
32	—	R-96	R-103	—	—
34	—	R-97	R-104	—	—
36	—	R-98	R-105	—	—

*F5 identification designates ASTM Specification A-182 chemical composition requirements only.

DIMENSIONS FOR OVAL OR OCTAGONAL RINGS Table 3

A.S.A. and A.P.I. Ring Number	Gasket Dimensions, Inches						Gasket Weight lbs.	
	Center to Center	Inside Diameter	Outside Diameter	Width of Ring	Height of Ring		Oval Rings	Octagonal Rings
					Oval	Octagonal		
R11	1 1/32	1 3/32	1 8/32	1/4	7/16	3/8	.111	.104
R12	1 1/16	1 1/4	1 7/8	5/16	9/16	1/2	.216	.200
R13	1 1/16	1 3/8	2	5/16	9/16	1/2	.234	.216
R14	1 3/4	1 7/16	2 1/16	5/16	9/16	1/2	.242	.224
R15	1 7/8	1 9/16	2 3/16	5/16	9/16	1/2	.260	.240
R16	2	1 11/16	2 5/16	5/16	9/16	1/2	.278	.256
R17	2 1/4	1 5/8	2 7/16	5/16	9/16	1/2	.311	.288
R18	2 3/8	2 1/16	2 11/16	5/16	9/16	1/2	.328	.304
R19	2 9/16	2 1/4	2 7/8	5/16	9/16	1/2	.354	.328
R20	2 11/16	2 3/8	3	5/16	9/16	1/2	.372	.344
R21	2 27/32	2 13/32	3 3/32	7/16	1 1/16	5/8	.660	.643
R22	3 1/4	2 9/16	3 9/16	5/16	9/16	1/2	.450	.415
R23	3 1/4	2 3/16	3 1/16	7/16	1 1/16	5/8	.755	.734
R24	3 3/4	3 9/16	4 9/16	7/16	1 1/16	5/8	.870	.846
R25	4	3 1/16	4 9/16	5/16	9/16	1/2	.553	.510
R26	4	3 9/16	4 7/16	7/16	1 1/16	5/8	.930	.904
R27	4 1/4	3 3/16	4 1/16	7/16	1 1/16	5/8	1.050	.960
R28	4 3/8	3 7/8	4 7/8	1/2	3/4	1 1/16	1.255	1.230
R29	4 1/2	4 9/16	4 3/16	5/16	9/16	1/2	.622	.575
R30	4 5/8	4 9/16	5 1/16	7/16	1 1/16	5/8	1.075	1.047
R31	4 7/8	4 7/16	5 5/16	7/16	1 1/16	5/8	1.130	1.100
R32	5	4 1/2	5 1/2	1/2	3/4	1 1/16	1.435	1.405
R33	5 3/16	4 7/8	5 1/2	5/16	9/16	1/2	.718	.664
R34	5 3/16	4 3/4	5 5/8	7/16	1 1/16	5/8	1.200	1.170
R35	5 3/8	4 11/16	5 3/16	7/16	1 1/16	5/8	1.250	1.210
R36	5 7/8	5 9/16	6 3/16	5/16	9/16	1/2	.813	.735
R37	5 7/8	5 5/16	6 5/16	7/16	1 1/16	5/8	1.360	1.330
R38	6 3/16	5 9/16	6 3/16	5/8	7/8	1 3/16	2.56	2.52
R39	6 3/8	5 5/16	6 3/16	7/16	1 1/16	5/8	1.480	1.440
R40	6 3/4	6 7/16	7 1/16	5/16	9/16	1/2	.935	.865
R41	7 1/8	6 1/16	7 7/16	7/16	1 1/16	5/8	1.66	1.61
R42	7 1/2	6 3/4	8 1/4	3/4	1	1 9/16	4.21	4.16
R43	7 5/8	7 3/16	7 11/16	5/16	9/16	1/2	1.055	.975
R44	7 5/8	7 3/16	8 1/16	7/16	1 1/16	5/8	1.77	1.73
R45	8 9/16	7 7/8	8 3/4	7/16	1 1/16	5/8	1.93	1.88
R46	8 9/16	7 3/16	8 3/16	1/2	3/4	1 1/16	2.39	2.33
R47	9	8 1/4	9 3/4	3/4	1	1 9/16	5.06	4.99
R48	9 3/4	9 7/16	10 1/16	5/16	9/16	1/2	1.350	1.240
R49	10 3/8	10 3/16	11 1/16	7/16	1 1/16	5/8	2.47	2.40
R50	10 3/8	10	11 1/4	5/8	7/8	1 3/16	4.40	4.32
R51	11	10 3/8	11 3/8	7/8	1 1/8	1 1/16	8.05	8.17
R52	12	11 1/16	12 3/16	5/16	9/16	1/2	1.66	1.53
R53	12 3/4	12 3/16	13 3/16	7/16	1 1/16	5/8	3.00	2.88
R54	12 3/4	12 7/8	13 3/8	5/8	7/8	1 3/16	5.29	5.18
R55	13 1/2	12 3/8	14 3/8	1 1/8	1 7/16	1 3/8	16.23	17.04

A.S.A. and A.P.I. Ring Number	Gasket Dimensions, Inches						Gasket Weight lbs.	
	Center to Center	Inside Diameter	Outside Diameter	Width of Ring	Height of Ring		Oval Rings	Octagonal Rings
					Oval	Octagonal		
R56	15	14 1/16	15 5/16	5/16	9/16	1/2	2.07	1.92
R57	15	14 9/16	15 7/16	7/16	1 1/16	5/8	3.48	3.38
R58	15	14 1/8	15 7/8	7/8	1 1/8	1 1/16	11.00	11.13
R59	15 5/8	15 5/16	15 15/16	5/16	9/16	1/2	2.16	2.00
R60	16	14 3/4	17 1/4	1 1/4	1 9/16	1 1/2	23.10	23.50
R61	16 1/2	16 1/16	16 13/16	7/16	1 1/16	5/8	3.83	3.73
R62	16 1/2	15 5/8	17 7/8	5/8	7/8	1 3/16	6.84	6.71
R63	16 1/2	15 1/2	17 1/2	1	1 1/16	1 1/4	16.20	16.67
R64	17 7/8	17 9/16	18 3/16	5/16	9/16	1/2	2.47	2.29
R65	18 1/2	18 1/16	18 15/16	7/16	1 1/16	5/8	4.30	4.18
R66	18 1/2	17 7/8	19 9/16	5/8	7/8	1 3/16	7.67	7.53
R67	18 1/2	17 3/8	19 3/8	1 1/8	1 7/16	1 3/8	22.30	23.40
R68	20 3/8	20 1/16	20 15/16	5/16	9/16	1/2	2.82	2.60
R69	21	20 9/16	21 1/16	7/16	1 1/16	5/8	4.87	4.74
R70	21	20 1/4	21 3/4	3/4	1	1 5/16	11.80	11.64
R71	21	19 7/8	22 1/8	1 1/8	1 7/16	1 3/8	25.20	26.50
R72	22	21 1/16	22 5/16	5/16	9/16	1/2	3.04	2.81
R73	23	22 1/2	23 1/2	1/2	3/4	1 1/16	6.60	6.47
R74	23	22 1/4	23 3/4	3/4	1	1 5/16	12.95	12.75
R75	23	21 3/4	24 1/4	1 1/4	1 9/16	1 1/2	33.30	35.30
R76	26 1/2	26 3/16	26 13/16	5/16	9/16	1/2	3.66	3.38
R77	27 1/4	26 5/8	27 7/8	5/8	7/8	1 3/16	11.30	11.10
R78	27 1/4	26 1/4	28 1/4	1	1 1/16	1 1/4	27.10	27.58
R79	27 1/4	25 7/8	28 3/8	1 3/8	1 3/4	1 5/8	48.70	49.75
R80	24 1/4	23 1/16	24 9/16	5/16		1/2		3.11
R81	25	24 7/16	25 9/16	5/16		3/4		8.55
R82	2 1/4	1 13/16	2 1/16	7/16		5/8		.508
R83								
R84	2 1/2	2 1/16	2 15/16	7/16		5/8		.564
R85	3 1/8	2 5/8	3 5/8	1/2		1 1/16		.978
R86	3 3/16	2 15/16	4 1/16	5/8		1 3/16		1.447
R87	3 15/16	3 5/16	4 9/16	5/8		1 3/16		1.597
R88	4 7/8	4 1/8	5 5/8	3/4		1 5/16		2.735
R89	4 1/2	3 3/4	5 1/4	3/4		1 5/16		2.528
R90	6 1/8	5 1/4	7	7/8		1 1/16		4.55
R91	10 1/4	9	11 1/2	1 1/4		1 1/2		15.05
R92	9	8 9/16	9 7/16	7/16	1 1/16	5/8	2.07	2.02
R93	29 1/2	28 3/4	30 1/4	3/4		1 5/16		16.33
R94	31 1/2	30 3/4	32 1/4	3/4		1 5/16		17.44
R95	33 3/4	33	34 1/2	3/4		1 5/16		18.69
R96	36	35 5/8	36 7/8	7/8		1 1/16		26.65
R97	38	37 3/8	38 3/8	7/8		1 1/16		28.13
R98	40 1/4	39 3/8	41 1/8	7/8		1 1/16		29.79
R99	9 1/4	8 13/16	9 11/16	7/16		5/8		2.08
R100	R100 through R105. Information on request.							

SPECIFICATION TABLES (CONT'D)

RX GASKETS FOR API 6B FLANGES

Table 4

API Ring Number	Sizes of Flange, Inches			Gasket Weight lbs.	
	720-960 2000 lbs.	2900- lbs.	3000- lbs.		5000- lbs.
RX 20	1½		1½	1½	0.527
RX 23	2				1.15
RX 24			2	2	1.33
RX 26	2½				1.42
RX 27			2½	2½	1.50
RX 31	3		3		1.73
RX 35				3	1.91
RX 37	4		4		2.09
RX 39				4	2.27
RX 41	5		5		2.54
RX 44				5	2.72
RX 45	6		6		2.96
RX 46				6	3.66
RX 47				8*	8.56
RX 49	8		8		3.79
RX 50				8	5.36
RX 53	10		10		4.56
RX 54				10	6.45
RX 57	12		12		5.36
RX 63				14	26.40
RX 65	16				6.63
RX 66			16		9.39
RX 69	18				7.52
RX 70			18		20.14
RX 73	20				11.63
RX 74			20		22.10
RX 82		1			0.790
RX 84		1½			0.880
RX 85		2			0.880
RX 86		2½			1.79
RX 87		3			1.98
RX 88		4			3.22
RX 89		3½			2.98
RX 90		5			6.82
RX 91		10			17.10
RX 99	8*		8*		3.31
RX 201				1¼	.25
RX 205				1¾	.30
RX 210				2½	.75
RX 215				4	* 1.50

*Crossover flange connection.

SPECIFICATION TABLES (CONT'D)

BX GASKETS FOR API 6BX FLANGES

Table 5

API Ring Number	Nominal Flange Bore (in)					Gasket Weight lbs.	
	2,000 psi	3,000 psi	5,000 psi	10,000 psi	15,000 psi		20,000 psi
BX-150				1 ¹¹ / ₁₆	1 ¹¹ / ₁₆	0.295	
BX-151				1 ¹³ / ₁₆	1 ¹³ / ₁₆	1 ¹³ / ₁₆	0.337
BX-152				2 ⁷ / ₁₆	2 ⁷ / ₁₆	2 ⁷ / ₁₆	0.425
BX-153				2 ⁹ / ₁₆	2 ⁹ / ₁₆	2 ⁹ / ₁₆	0.632
BX-154				3 ⁷ / ₁₆	3 ⁷ / ₁₆	3 ⁷ / ₁₆	0.875
BX-155				4 ⁷ / ₁₆	4 ⁷ / ₁₆	4 ⁷ / ₁₆	1.22
BX-156				7 ⁷ / ₁₆	7 ⁷ / ₁₆	7 ⁷ / ₁₆	4.14
BX-157				9	9		6.55
BX-158				11	11		9.60
BX-159				13 ⁵ / ₈			14.41
BX-160			13 ³ / ₈				6.75
BX-161			16 ³ / ₄				10.437
BX-162			16 ³ / ₄	16 ³ / ₄			4.375
BX-163			18 ³ / ₄				14.375
BX-164				18 ³ / ₄			21.00
BX-165			21 ¹ / ₄				18.375
BX-166				21 ¹ / ₄			27.50
BX-167	26 ³ / ₄						18.00
BX-168		26 ³ / ₄					24.50

Additional Sizes	
Ring No.	Nominal Size
BX-169	5 ¹ / ₈
BX-170	6 ⁵ / ₈
BX-171	8 ⁹ / ₁₆
BX-172	11 ⁵ / ₃₂
BX-303	30