

Ring Type Joint (RTJ) Gaskets

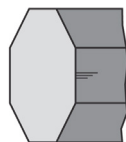
Ring Type Joint gaskets are precision machined metallic gaskets generally used in high pressure applications such as the Oil, Gas, Petrochemical and Offshore industries.

This type of gasket is designed to be used in RTJ groove flanges and are produced under license to dimensions as per API-6A and ASME B16.20.

Details:-

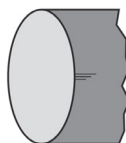
- Ring Type Joints concentrate the bolt load over a small area producing high sealing stresses.
- As the Ring Type Joint Material should always be softer than the mating flanges, the high seating stress causes "plasticflow" of the ring joint in the flange faces creating the seal.
- RTJ Gaskets can be produced from a variety of materials to suit the process application and flange grade.
- Used on high pressure lines up to 20,000 PSI, RTJ's are an extremely reliable and robust sealing mechanism.
- Standard R type available R11 (1/2") to R105 (36") in Oval or Octagonal Section.
- BX, SBX & RX type available for Sub Sea application.
- IX Seal Rings used in Norsok Compact flange assemblies
- RTJ Gasket

RTJ Gasket Profiles:-



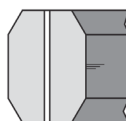
Oval and Octagonal

Oval and Octagonal section Ring type Joints are designed for flanges with standard ring type grooves. These standard shapes are used to seal pressures up to 5,000 psi in accordance with API 6A.



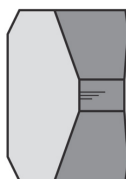
The Octagonal cross section has a higher sealing efficiency than the Oval cross section and is therefore preferred.

The oval section ring joints were originally designed for the now obsolete round bottom groove. Both the Oval and the Octagonal cross section are interchangeable on the flat bottom groove design.



BX RTJ

BX Ring Type Joints are designed for pressures up to 20,000 psi, suitable only for use with API type BX flanges and grooves. The gasket has a square cross section with bevelled corners. The average diameter of the ring joint is slightly greater than that of the flange groove. This way, when the ring joint is seated, it stays precompressed by the outside diameter, creating high seating stress.



BX RTJ

RX Ring Type Joints are designed for pressures up to 5,000 psi, they are pressure activated ring joints designed to use the fluid pressure to increase sealability. The outside sealing surface of the ring joint makes the initial contact with the flange. As the internal pressure rises the contact pressure between ring joint and flange also increases. This is sometimes referred to as a pressure activated ring joint due to the shape of the gasket. High seating pressures are created increasing the sealability. This design characteristic makes the RX more resistant to vibrations, pressure surges and shocks that occur during oil well drilling.



IX Seal Ring

IX Seal rings are designed to be used in Norsok Compact Flange Connections (CFC). Available in different materials, IX rings are supplied with colour coded PTFE coating to denote base material supplied. Unlike all of the other RTJ's supplied, markings are on the inside of the ring in accordance to Norsok L-005 standard.

RTJ Material Reference Chart

MATERIAL	RING IDENTIFICATION	ASTM	WERKSTOFF NO.	AISI/SAE	OTHER	MAX HARDNESS BHN
Soft Iron	D	-	1.1003 / 1.0335	-	-	90
LCS	S	-	1.1003 / 1.0335	-	-	120
4140	4140	UNS G41400	1.7225	4140	-	210
SS316	S316	S31600	1.4401	316	-	160/135
SS316L	S316L	S31603	1.4404	316L	-	160/135
SS316Ti	S316Ti	S31635	1.4571	316Ti	-	160
SS304	S304	S30400	1.4301	304	-	160
SS304L	S304L	S30403	1.4306	304L	-	160
SS321	S321	S32100	1.4541	321	-	160
SS347	S347	S34700	1.455	347	-	160
SS410	S410	S41000	1.4006	410	-	170
SS309	S309	S30900	1.4828	309	-	170
SS310	S310	S31088	1.4841	310	-	170
F5	F5	UNS K42544	1.7362	-	5Cr 1/2Mo	130
INCONEL 625	INC 625	NO6625	2.4856	-	-	200
INCONEL 600	INC 600	NO6600	2.4816	-	-	200
INCONEL 718	INC 718	NO7718	-	-	-	34-39 HRC*
INCOLOY 825	INC 825	NO8825	2.4858	-	-	160
INCOLOY 800	INC 800	NO8800	1.4958	-	-	180
MONEL 400	MONEL 400	NO4400	2.436	-	-	150
F51	F51	S31803	1.4462	-	2205/DUPLEX	230
F53	F53	S32750	1.441	-	SUPER DUPLEX	230
F55	F55	S32760	1.4501	-	ZERON 100/SUPER DUPLEX	230
F60	F60	S32205	-	-	DUPLEX	230
Titanium	Ti	R 50400	3.7035	-	-	215
S254	S254	S31254	1.4547	-	F44/6 Mo	180
C276	C276	N10276	2.4819	-	Hastelloy	210
Alloy 28	Alloy 28	NO8028	1.4563	-	Sanicro 28	190



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Type R Oval and Octagonal Ring Type Joint Gaskets -In accordance ASME B16.20 / API 6A*

RING NO	ASME B16.5 FLANGES / ASME B16.20					API 6B FLANGES / API 6A (psi)				PCD (mm)	WIDTH (mm)	RING HEIGHT		WEIGHT (kg)
	150	300-600	900	1500	2500	2000	3000	5000	10000			OVAL (mm)	OCT (mm)	
R11	-	1/2"	-	-	-	-	-	-	-	34.14	6.35	11.2	9.7	0.05
R12	-	-	1/2"	1/2"	-	-	-	-	-	39.7	7.95	14.2	12.7	0.1
R13	-	3/4"	-	-	1/2"	-	-	-	-	42.88	7.95	14.2	12.7	0.1
R14	-	-	3/4"	3/4"	-	-	-	-	-	44.45	7.95	14.2	12.7	0.11
R15	1"	-	-	-	-	-	-	-	-	47.63	7.95	14.2	12.7	0.12
R16	-	1"	1"	1"	3/4"	1"	1"	1"	-	50.8	7.95	14.2	12.7	0.12
R17	1.1/4"	-	-	-	-	-	-	-	-	57.15	7.95	14.2	12.7	0.14
R18	-	1.1/4"	1.1/4"	1.1/4"	1"	1.1/4"	1.1/4"	1.1/4"	-	60.33	7.95	14.2	12.7	0.15
R19	1.1/2"	-	-	-	-	-	-	-	-	65.1	7.95	14.2	12.7	0.16
R20*	-	1.1/2"	1.1/2"	-	1.1/2"	1.1/2"	1.1/2"	1.1/2"	-	68.28	7.95	14.2	12.7	0.17
R21	-	-	-	-	1.1/4"	-	-	-	-	72.24	11.13	17.5	16	0.3
R22	2"	-	-	-	-	-	-	-	-	82.55	7.95	14.2	12.7	0.2
R23*	-	2"	-	-	1.1/2"	2.1/16"	-	-	-	82.55	11.13	17.5	16	0.34
R24*	-	-	2"	2"	-	-	2.1/16"	2.1/16"	-	95.25	11.13	17.5	16	0.39
R25	2.1/2"	-	-	-	-	-	-	-	-	101.6	7.95	14.2	12.7	0.25
R26*	-	2.1/2"	-	-	2"	2.9/16"	-	-	-	101.6	11.13	17.5	16	0.42
R27	-	-	2.1/2"	2.1/2"	-	-	2.9/16"	2.9/19"	-	107.95	11.13	17.5	16	0.45
R28	-	-	-	-	2.1/2"	-	-	-	-	111.13	12.7	19.1	17.5	0.57
R29	3"	-	-	-	-	-	-	-	-	114.3	7.95	14.2	12.7	0.28
R30	-	3"	-	-	-	-	-	-	-	117.48	11.13	17.5	16	0.48
R31*	-	3"	3"	-	-	3.1/8"	3.1/8"	-	-	123.83	11.13	17.5	16	0.51
R32	-	-	-	-	3	-	-	-	-	127	12.7	19.1	17.5	0.65
R33	3.1/2"	-	-	-	-	-	-	-	-	131.78	7.95	14.2	12.7	0.32
R34	-	3.1/2"	-	-	-	-	-	-	-	131.78	11.13	17.5	16	0.54
R35*	-	-	-	3"	-	-	-	3.1/8"	-	136.53	11.13	17.5	16	0.56
R36	4"	-	-	-	-	-	-	-	-	149.23	7.95	14.2	12.7	0.37
R37*	-	4"	4"	-	-	4.1/16"	4.1/16"	3.1/2"	-	149.23	11.13	17.5	16	0.62
R38	-	-	-	-	4"	-	-	-	-	157.18	15.88	22.4	20.6	1.16
R39*	-	-	-	4"	-	-	-	4.1/16"	-	161.93	11.13	17.5	16	0.67
R40	5"	-	-	-	-	-	-	-	-	171.45	7.95	14.2	12.7	0.42
R41	-	5"	5"	-	-	5.1/8"	5.1/8"	-	-	180.98	11.13	17.5	16	0.75
R42	-	-	-	-	5	-	-	-	-	190.5	19.05	25.4	23.9	1.91
R43	6"	-	-	-	-	-	-	-	-	193.68	7.95	14.3	12.7	0.48
R44*	-	-	-	5"	-	-	-	5.1/8"	-	193.68	11.13	17.5	16	0.8
R45*	-	6"	6"	-	-	7.1/16"	7.1/16"	-	-	211.15	11.13	17.5	16	0.87
R46*	-	-	-	6"	-	-	-	7.1/16"	-	211.15	12.7	19.05	17.5	1.08
R47*	-	-	-	-	6"	-	-	-	-	228.6	19.05	25.4	23.9	2.3
R48	8"	-	-	-	-	-	-	-	-	247.65	7.95	14.3	12.7	0.61
R49*	-	8"	8"	-	-	9"	9"	-	-	269.88	11.13	17.5	16	1.11
R50*	-	-	-	8"	-	-	-	9"	-	269.88	15.88	22.22	20.6	1.99
R51	-	-	-	-	8"	-	-	-	-	279.4	22.23	28.6	26.9	3.69
R52	10"	-	-	-	-	-	-	-	-	304.8	7.95	14.3	12.7	0.75
R53*	-	10"	10"	-	-	11"	11"	-	-	323.85	11.13	17.5	16	1.34
R54*	-	-	-	10"	-	-	-	11"	-	323.85	15.88	22.22	20.6	2.39
R55	-	-	-	-	10"	-	-	-	-	342.9	28.58	36.51	35.1	7.68
R56	12"	-	-	-	-	-	-	-	-	381	7.95	14.3	12.7	0.93
R57	-	12"	12"	-	-	13.5/8"	13.5/8"	-	-	381	11.13	17.5	16	1.57
R58	-	-	-	12"	-	-	-	-	-	381	22.23	28.6	26.9	5.03
R59	14"	-	-	-	-	-	-	-	-	396.88	7.95	14.5	12.7	0.98
R60	-	-	-	-	12"	-	-	-	-	406.4	31.75	39.7	38.1	11.09
R61	-	14"	-	-	-	14"	14"	-	-	419.1	11.13	17.5	16	1.73
R62	-	-	14"	-	-	-	-	-	-	419.1	15.88	22.22	20.6	3.09
R63*	-	-	-	14"	-	-	-	-	-	419.1	25.4	33.33	31.8	7.54
R64	16"	-	-	-	-	-	-	-	-	454.03	7.95	14.2	12.7	1.12
R65*	-	16"	-	-	-	16.3/4"	16.3/4"	-	-	469.9	11.13	17.5	16	1.89
R66*	-	-	16"	-	-	-	-	-	-	469.9	15.88	22.4	20.6	3.4
R67	-	-	-	16"	-	-	-	-	-	469.9	28.58	36.6	35.1	10.53
R68	18"	-	-	-	-	-	-	-	-	517.53	7.95	14.2	12.7	1.28
R69*	-	18"	-	-	-	18"	-	-	-	533.4	11.13	17.5	16	2.2
R70*	-	-	18"	-	-	-	18"	-	-	533.4	19.05	25.4	23.9	5.35
R71	-	-	-	18"	-	-	-	-	-	533.4	28.58	36.6	35.1	11.95
R72	20"	-	-	-	-	-	-	-	-	558.8	7.95	14.2	12.7	1.38
R73*	-	20"	-	-	-	20.3/4"	-	-	-	584.2	12.7	19.1	17.5	2.99



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Type R Oval and Octagonal Ring Type Joint Gaskets -In accordance ASME B16.20 / API 6A*

RING NO	ASME B16.5 FLANGES / ASME B16.20					API 6B FLANGES / API 6A (psi)				PCD (mm)	WIDTH (mm)	RING HEIGHT		WEIGHT (kg)
	150	300-600	900	1500	2500	2000	3000	5000	10000			OVAL (mm)	OCT (mm)	
R74*			20"	-	-	-	20.3/4"	-	-	584.2	19.05	25.4	23.9	5.85
R75	-	-	-	20"	-	-	-	-	-	584.2	31.75	39.6	38.1	15.94
R76	24"	-	-	-	-	-	-	-	-	673.1	7.95	14.2	12.7	1.66
R77	-	24"	-	-	-	-	-	-	-	692.15	15.88	22.4	20.6	5.11
R78	-	-	24"	-	-	-	-	-	-	692.15	25.4	33.3	31.8	12.46
R79	-	-	-	24"	-	-	-	-	-	692.15	34.93	44.5	41.4	22.58
R80	22"	-	-	-	-	-	-	-	-	615.95	7.95	14.29	12.7	1.59
R81	-	22"	-	-	-	-	-	-	-	635	14.3	20.64	19.1	4.05
R82*	-	-	-	-	-	-	-	-	1"	57.15	11.13	17.46	16	0.23
R84*	-	-	-	-	-	-	-	-	1.1/2"	63.5	11.13	17.46	16	0.25
R85*	-	-	-	-	-	-	-	-	2"	79.38	12.7	19.05	17.5	0.4
R86*	-	-	-	-	-	-	-	-	2.1/2"	90.5	15.88	22.22	20.6	0.65
R87*	-	-	-	-	-	-	-	-	3"	100.03	15.88	22.22	20.6	0.72
R88*	-	-	-	-	-	-	-	-	4"	123.83	19.05	25.4	23.9	1.22
R89*	-	-	-	-	-	-	-	-	3.1/2"	114.3	19.05	25.4	23.9	1.13
R90*	-	-	-	-	-	-	-	-	5"	155.58	22.23	28.58	26.9	2.05
R91*	-	-	-	-	-	-	-	-	10"	260.35	31.75	39.68	38.1	7.1
R92	-	-	-	-	-	-	-	-	-	228.6	11.13	17.5	16	0.94
R93	-	26"	-	-	-	-	-	-	-	749.3	19.05	25.4	23.9	7.4
R94	-	28"	-	-	-	-	-	-	-	800.1	19.05	25.4	23.9	7.9
R95	-	30"	-	-	-	-	-	-	-	857.25	19.05	25.4	23.9	8.47
R96	-	32"	-	-	-	-	-	-	-	914.4	22.23	28.58	26.9	12.08
R97	-	34"	-	-	-	-	-	-	-	965.2	22.23	28.58	26.9	12.75
R98	-	36"	-	-	-	-	-	-	-	1022.35	22.23	28.58	26.9	13.51
R99*	-	-	-	-	-	8"	8"	-	-	234.95	11.13	17.46	16	0.95
R100	-	-	26"	-	-	-	-	-	-	749.3	28.58	36.51	35.1	16.79
R101	-	-	28"	-	-	-	-	-	-	800.1	31.75	39.68	38.1	21.83
R102	-	-	30"	-	-	-	-	-	-	857.25	31.75	39.68	38.1	23.39
R103	-	-	32"	-	-	-	-	-	-	914.4	31.75	39.68	38.1	24.95
R104	-	-	34"	-	-	-	-	-	-	965.2	34.93	44.45	41.4	31.49
R105	-	-	36"	-	-	-	-	-	-	1022.35	34.93	44.45	41.4	33.35

