

Flexwound®

Metallic and semi metallic gasket



PLANICHEM
SICHEM SOLUTIONS



Planichem is an Italian manufacturing company specialised in the processing of PTFE, graphite and all the main asbestos-free materials used for the production of gasketing materials gaskets and semi finished products of high technical value.

The company's current structure has resulted from progressive developments over the years which have led to the engineering of unique processing and manufacturing methods.

Planichem manufactures leading-edge products and innovative solutions which are protected by international patents.

Planichem's underlying goal is to provide the best quality, as certified by all major independent examination institutes.

Our products are our best guarantee suitable for all types of customers and applications, both standard and critical.

For a detailed list of the approvals, please visit our dedicated area on www.planichem.com



Planichem metallic gaskets are specifically designed to withstand extreme temperatures and pressures, combined with chemical exposure. Available in unlimited combination of metals and filler materials and in a variety of different styles.

Planichem metallic gaskets are manufactured in accordance with international standards (Asme, Din, En, BS and many others) and can also be produced as a customized solution in order to meet customers demand.

APPLICATIONS

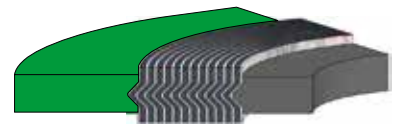
- Power Station
- Heat exchangers
- Boilers
- Chemical plants
- High pressure pipe lines

FLEXWOUND® SPIRAL WOUND GASKETS

TYPES

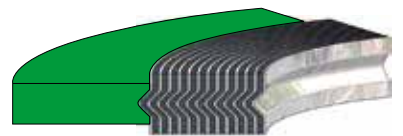
GRI

The standard version is the Style GRI spiral wound gasket with inner and outer ring. This gasket has the best sealing characteristics combined with the highest safety for flanged joints with flat face and raised face flanges.



GR

By means of suitable dimensioning of the centering ring, the sealing element is accurately centered on the flange face by the bolts. A general purpose gasket for use with flat face and raised face flanges.



RR

Style RR spiral wound gasket with no accessory ring is suitable for tongue and groove applications and for operation with a compression stop. Given a gasket thickness of 4.5 mm, a groove depth of 3.3 (\pm 0.1) mm is recommended to provide the compression stop.



RI

Style RI spiral wound gasket with inner ring is designed specifically for male and female flanges, the inner ring providing radial confinement to prevent blow-out of the spiral element.

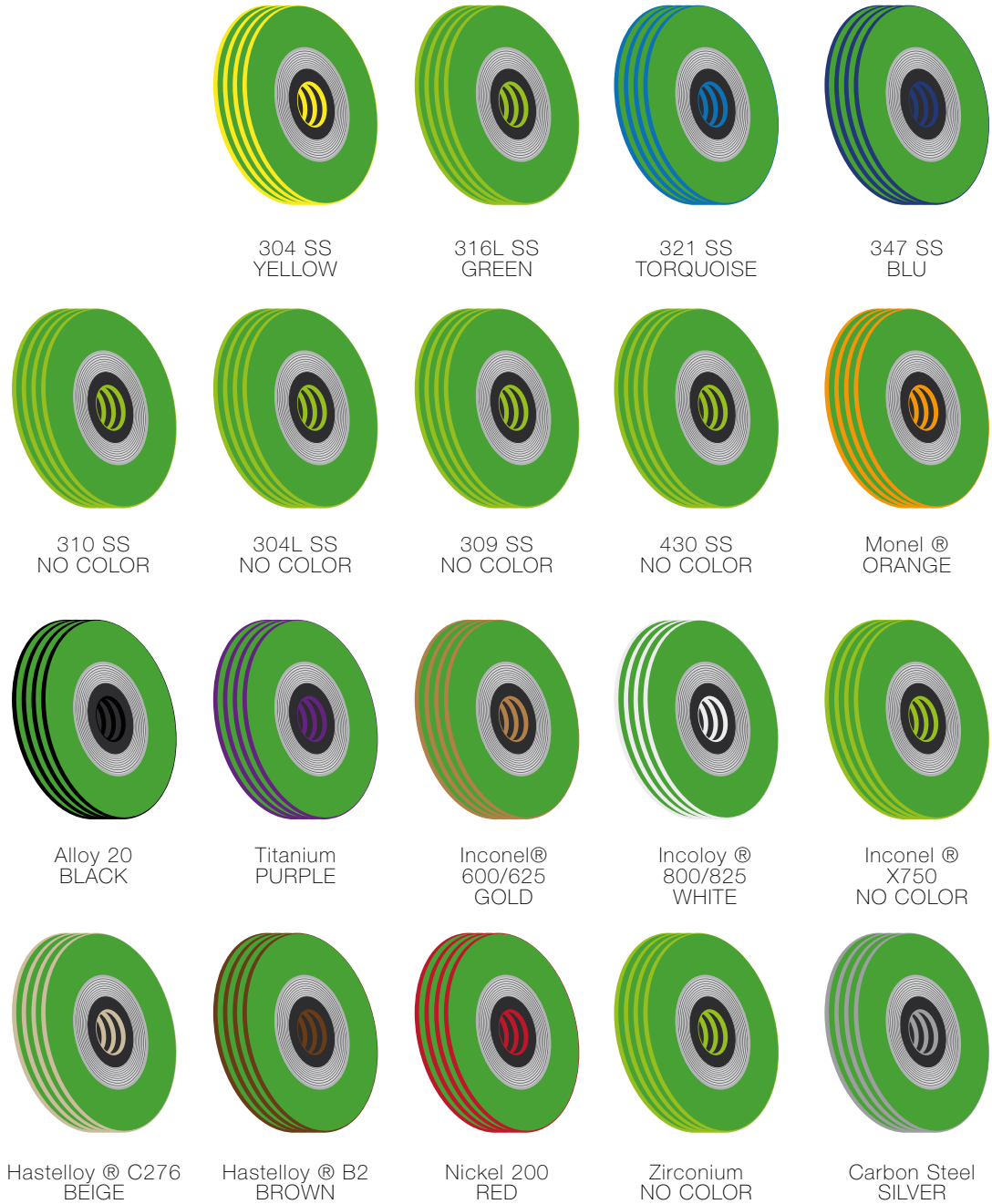


GUIDE RING COLOR CODING

PLANICHEM color coding meets the industry standard for metal and filler materials listed in ASME B16.20.

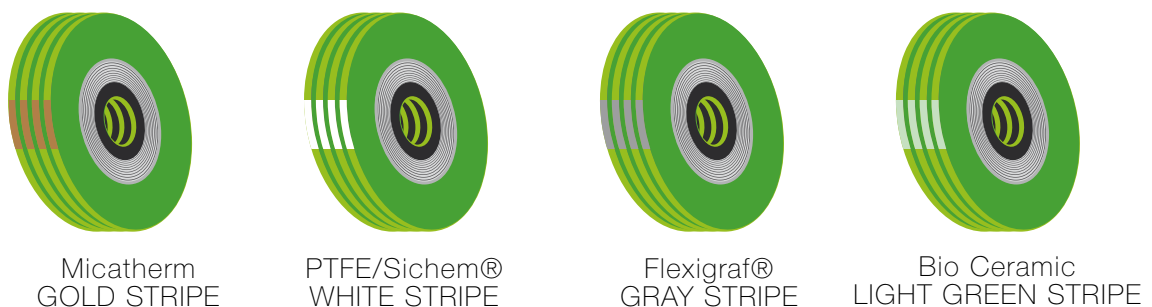
METALLIC WINDING MATERIALS

Solid color around the outside edge of the guide ring.



NON METALLIC FILLERS

Alternated color strips placed at equal intervals around the outside edge of the outside ring.



AVAILABLE GASKET MATERIALS

METAL WINDING STRIP

STANDARD

STAINLESS STEEL
TYPE 316 L
TYPE 304

OTHERS

STAINLESS STEEL
304 L
309
310
316 TI
321
347
430
410
ALLOY 20
MONEL®
TITANIUM®
NICKEL®
INCONEL® 600
INCONEL® 625
HASTELLOY® B2
HASTELLOY® C276
INCOLOY® 800
INCOLOY® 825
DUPLEX
SUPER DUPLEX
ZIRCONIUM®
TANTALUM®
COPPER
PHOS-BRONZE
CARBON STEEL

FILLER MATERIAL

STANDARD

FLEXIGRAF ®

OTHERS

MICATHERM
SICHEM®
PTFE
BIOCERAMIC

GUIDE RING MATERIAL

STANDARD

CARBON STEEL

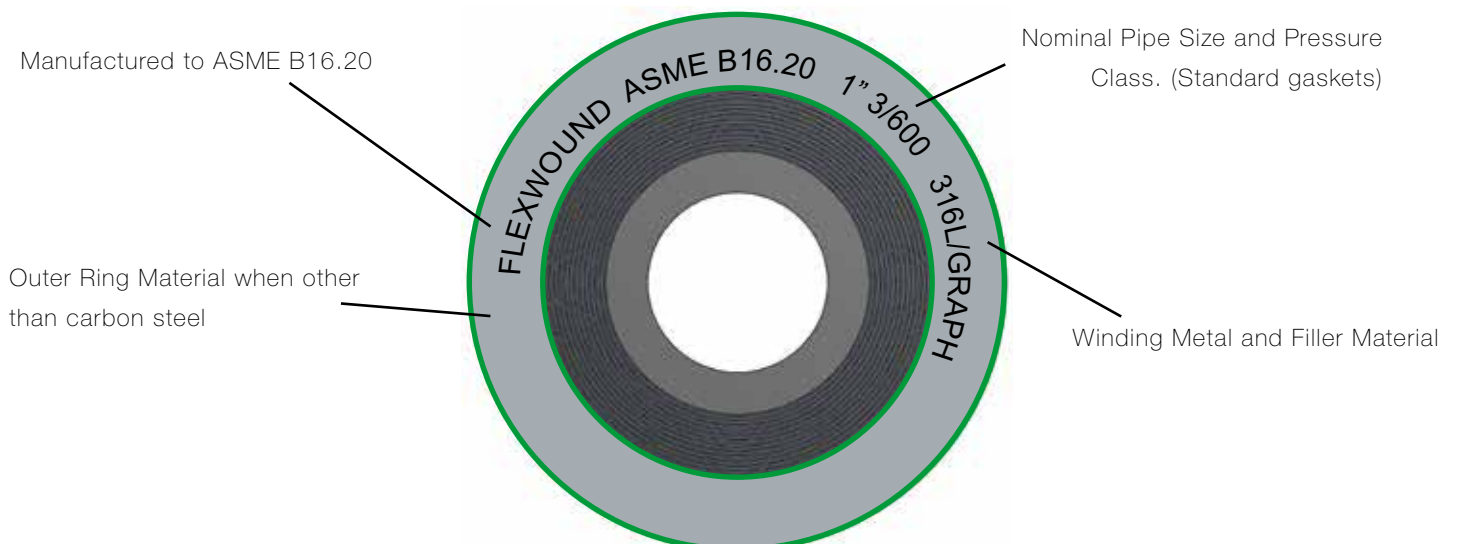
OTHERS

STAINLESS STEEL
TYPE 316 L
TYPE 304
304 L
309
310
316 TI
321
347
430
410
ALLOY 20
MONEL®
TITANIUM®
NICKEL®
INCONEL® 600
INCONEL® 625
INCONEL® X-750
HASTELLOY® B2
HASTELLOY® C276
INCOLOY® 800
INCOLOY® 825
DUPLEX
SUPER DUPLEX
ZIRCONIUM®
TANTALUM®
COPPER
PHOS-BRONZE

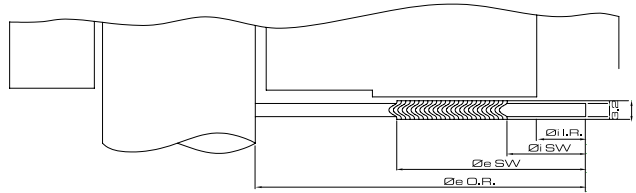
Materials should be selected with regard to operating temperature and chemical compatibility. If in doubt, contact

PLANICHEM Technical Department.

ASME B16.20 API STAMPING REQUIREMENTS



DIMENSIONAL DATA STYLE GR AND GRI TO ASME B16.20 TO SUIT ASME B16.5 FLANGES



		1/4"			1/2"				3/4"				1"											
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR								
150								47,8				57,2				66,8								
300	X	12,7	22,2	44,5	14,3	19,1	31,8	54,1	20,6	25,4	39,6	66,8	27	31,8	47,8	73,2								
400	X											63,5												
600	X																							
900			XXX																					
1500			XXX									69,9				79,5								
2500			XXX					69,9				76,2				85,9								

		1 1/4"				1 1/2"				2"				2 1/2"										
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR								
150				76,2	44,5	54,1		85,9	55,6	69,9		104,9	66,7	82,6		124								
300	38,1	47,8	60,5	82,6	41,3	47,8	69,9	95,3	52,4	58,7	85,9	111,3	63,5	69,9	98,6	130,3								
400																								
600								88,9										98,6				143		
900				104,9				117,6				146				168,4								
1500	33,4	39,6																						
2500																								

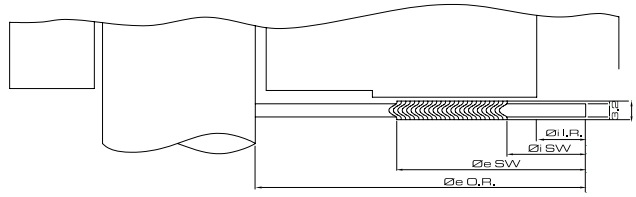
		3"				3 1/2"				4"				4 1/2"							
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR					
150	81,3			136,7	102,6*	114,3		161,9	106,5	127		174,8	128*	139,7		177,8					
300		101,6	120,7		92*	104,8	133,4	165,1	102,6	120,7	149,4	181,1	122*	134,9	165,1	196,9					
400				149,4													177,8				193,7
600																	193,8				209,6
900	78,74	95,3		168,4				190,5				206,5				238,1					
1500				174,8				187,5	97,8	117,6		209,6									
2500		93,2		196,9	XXX							235	XXX								

		5"				6"				8"				10"											
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR									
150	131,8	155,7		196,9	157,3	182,6		222,3	215,9	233,4		279,4	268,3	287,3		339,9									
300			177,8	215,9	154,9	174,8	209,6	251	205,8	225,6	263,7	308,1	255,3	274,6	317,5	362									
400				212,9													247,7				304,8				358,9
600	128,3	147,6		241,3													266,7				320,8				400,1
900			247,7					289,1		222,3		358,9		311,2											
1500			254	147,3	171,5			282,7	196,9		257,3	352,6	246,2	276,4	266,7	435,1									
2500	124,5	143	279,4					317,5		215,9		387,4		270		476,3									

		12"				14"				16"				18"											
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR									
150	317,5	339,9	374,7	409,7	349,3	371,6	406,4	450,9	400,1	422,4		514,4	449,3	474,7		549,4									
300			374,7	422,4	342,9	362	406,4	485,9	389,9	412,8	463,6	539,8	438,2	469,9	527,1	596,9									
400		327,2		419,1													482,6				536,7				593,9
600	307,4			457,2													492,6				564,2				612,9
900			323,9	498,6	320,8	355,6		520,7	374,7		457,2	574,8	425,5	463,6	520,7	638,3									
1500	292,1		368,3	520,7		362	400,1	577,9	368,3	406,4		641,4				704,9									
2500		317,5		549,4	XXX				XXX				XXX												

		20"				24"				
ASA	Øi I.R.	Øi SW	Øe SW	Øe OR	Øi I.R.	Øi SW	Øe SW	Øe OR		
150	500,1	525,5	577,9	606,6	603,3	628,7	685,8	717,6		
300			577,9	654,1	590,6	616	679,5	774,7		
400	489	520,7		647,7						768,4
600				682,8						790,7
900	482,6		571,5	698,8				832,2		
1500	476,3	514,4		755,7	577,9			901,7		

DIMENSIONAL DATA STYLE GR AND GRI TO ASME B16.20 TO SUIT ASME B16.47 SERIES A FLANGES



	22"				26"				28"				30"				
ASA	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	
150			610	660,4	654,1	673,1	704,9	774,7			723,9	755,6	831,9		774,7	806,5	882,6
300	X	577,9		704,8				830	704,9					755,7	793,8	844,5	952,5
400	X		628,7	701,7	660,4	685,8	736,5	831,9	711,2	736,6	787,4	892,2	911,4				946,1
600	X		733,4	647,7				866,8	698,5			946,1	774,7				1008,9
900		XXX			666,8			882,6	711,2								

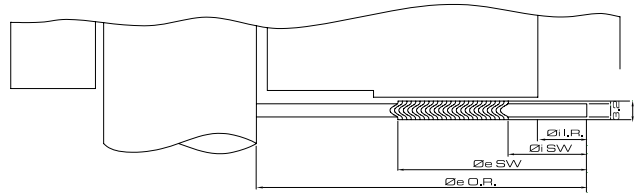
	32"				34"				36"				38"			
ASA	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR
150	806,5	825,5	860,6	939,8	857,3	876,3	911,3	990,6	908,1	927,1	968,3	1047,7	958,9	977,9	1019	1111,2
300				1000,1				1057,2				1117,6			1016	1054,1
400				1003				1054		955,7	1006,5		952,5	971,6	1022,3	1073,1
600	812,8	850,9	901,7	1022	863,6	901,7	952,5	1073	917,6			1130,3	990,6	1041,4	1104,9	
900				1028,6				1136,6	920,8	958,9	1010	1200,1	1009,7	1035	1086	1200,1

	40"				42"				44"				46"			
ASA	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR
150	1009,7	1028,7	1070	1162	1060,5	1079,5	1124	1219,2	1111,3		1180	1276,3	1162	1181	1229	1327
300	1003,3	1022,4		1114,4	1054,1	1073,2	1121	1165,2	1105	1130,3		1219,2	1153	1178		1273
400	1000,2	1025,5	1076,3	1127,1	1051	1076,4	1127	1177,9				1181,1	1231,9	1168,5	1194	1244,6
600	1009,7	1047,7	1098,5	1155,7	1066,8	1105	1155,7	1219,2	1111,3	1162	1212,8	1270	1162	1213	1263,7	1327
900	1060,5	1098,5	1149,3	1250,9	1111,3	1149,3	1200,1	1301,7	1155,7	1206,5	1257,3	1368,4	1219,2	1270	1321	1435

	48"				50"				52"				54"			
ASA	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR
150	1213	1232	1279,5	1384,3	1263,7	1283	1333,5	1435	1314,5	1333,5	1384,3	1492,3	1359	1384,3	1435	1549,4
300	1209,7	1235	1286	1324	1244,6			1378	1321			1428,8				1492,2
400	1206,5	1244,6	1295,4	1346,2	1257,3	1295,4	1346,2	1403	1308	1346	1397	1454,2	1352,6	1403,4	1454,2	1517,6
600	1219,2	1270	1321	1390,6	1270	1321	1371,6	1447,8	1321	1371,6	1422,4	1498,6	1378	1428,8	1479,6	1555,7
900	1270	1321	1371,6	1486	XXX				XXX				XXX			

	56"				58"				60"			
ASA	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR	ϕ_i I.R.	ϕ_i SW	ϕ_e SW	ϕ_e OR
150	1409,7	1435,1	1486	1606,5	1460,5	1486	1536,7	1663,7	1511,3	1536,7	1587,5	1714,5
300			1505	1543	1447,8	1511,3	1562	1593,9	1524	1562,1	1612,9	1644,6
400	1403,4	1454,2		1568,4	1454,1	1505	1555,7	1619,2	1517,6	1568,4	1619,2	1682,7
600	1428,8	1479,6	1530,3	1612,9	1473,2	1536,7	1587,5	1663,7	1530,3	1593,8	1644,6	1733,5
900	XXX				XXX				XXX			

DIMENSIONAL DATA STYLE GR AND GRI TO ASME B16.20 TO SUIT ASME B16.47 SERIES B FLANGES



	26"				28"				30"				32"			
ASA	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.
75	XXX	666,8	658,8	708,03	XXX	717,55	739,78	758,83	XXX	768,35	790,58	809,63	XXX	819,15	841,38	860,43
150	654,1	673,1	698,5	725,5	704,9	723,9	749,3	776,29	755,65	774,7	800,1	827,09	806,45	825,5	850,9	881,06
300			711,2	771,5			762	825,5			812,8	885,82			863,6	939,8
400			666,8	698,5			746,15	701,7			714,38	749,3			800,1	752,47
600	644,5	663,6	714,4	765,18	692,2	704,85	755,65	819,15	787,4	777,88	828,68	879,47	793,75	831,85	882,65	933,45
900	673,1	692,2	749,3	838,2	723,9	742,95	800,1	901,7		806,4	857,25	958,85	838,2	863,6	914,4	1016

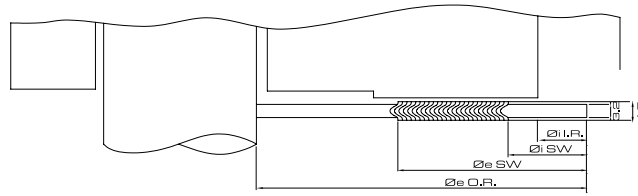
	34"				36"				38"				40"										
ASA	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.							
75	XXX	869,95	892,18	911,23	XXX	920,75	946,15	973,14	XXX				XXX										
150	857,25	876,3	908,05	935,04	908,05	927,1	958,85	987,43	958,85	974,74	1009,7	1044,6	1009,7	1022,4	1063,6	1095,4							
300		914,4	993,78	965,2			1047,8	971,55									1009,7	1047,8	1098,6	1022,3	1060,5	1098,6	1149,4
400		850,9	866,78	911,23			962,03	898,53									917,58	1022,4	952,5	971,55	1022,4	1073,2	1000,1
600	895,35	889	939,8	996,95	901,7	939,8	990,6	1047,8	1009,7	990,6	1041,4	1104,9	1009,7	1047,8	1098,6	1155,7							
900		920,08	968,38	1073,2	927,1	946,15	996,65	1124		1035,1	1085,9	1200,2	1060,5	1098,6	1149,4	1251							

	42"				44"				46"				48"			
ASA	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.
75	XXX	1073,2	1098,6	1125,5	XXX				XXX				XXX	1228,7	1257,3	1282,7
150	1060,4	1079,5	1114,4	1146,2	1111,2	1124	1165,2	1193,8	1162,1	1181,1	1224	1255,7	1212,9	1231,9	1270	1306,5
300	1054,1	1111,3	1149,4	1200,2	1124	1162,1	1200,2	1251	1177,9	1216	1254,1	1317,6	1231,9	1306,5	1311,3	1368,2
400	1050,9	1076,3	1127,1	1177,9	1104,9	1130,3	1181,1	1231,9	1168,4	1193,8	1244,6	1289,1	1206,5	1244,6	1295,4	1346,2
600	1066,8	1104,9	1155,7	1219,2	1111,2	1162,1	1212,9	1270	1162,1	1212,9	1263,7	1327,2	1219,2	1270	1320,8	1390,7
900	1111,2	1149,4	1200,2	1301,8	1155,7	1206,5	1257,3	1368,4	1219,2	1270	1320,8	1435,1	1270	1320,8	1371,6	1485,9

	50"				52"				54"				56"			
ASA	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.
75	XXX				XXX				XXX	1381,1	1412,9	1438,3	XXX			
150	1263,7	1282,7	1325,6	1357,3	1314,5	1333,5	1376,4	1408,1	1360	1384,3	1422,4	1463,7	1422,4	1444,6	1478	1514,5
300	1266,8	1317,6	1355,7	1419,2	1317,6	1368,4	1406,5	1470		1530,4	1428,8	1479,6	1524	1593,9		
400	1257,3	1295,4	1346,2	1403,4	1308,1	1346,2	1397	1454,2	1352,6	1403,4	1454,2	1517,7	1403,4	1454,2	1505	1568,5
600	1270	1320,8	1371,6	1447,8	1320,8	1371,6	1422,4	1498,6	1378	1428,8	1479,6	1555,8	1428,8	1479,6	1530,4	1612,9
900	XXX				XXX				XXX				XXX			

	58"				60"			
ASA	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.	\varnothing I.R.	\varnothing I.S.W.	\varnothing e S.W.	\varnothing e O.R.
75	XXX				XXX	1536,7	1568,5	1597
150	1478	1500,2	1528,8	1579,6	1535,1	1557,3	1585,9	1630,4
300	1484,3	1535,1	1573,2	1655,8	1557,3	1585,9	1630,4	1706,6
400	1454,2	1504,9	1555,8	1619,3	1517,7	1568,5	1619,3	1682,8
600	1473,2	1536,7	1587,5	1663,7	1530,4	1593,9	1644,7	1733,6
900	XXX				XXX			

DIMENSIONAL DATA STYLE GR AND GRI TO SUIT DIN FLANGES



PN	DN 10				DN 15				DN 20				DN 25			
	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	18	24	36	46	24	30	42	51	27	33	47	61	34	40	54	71
16				61												
25				72												
40				72												
64				72												
100				72												
160				72												
250	72															
320																

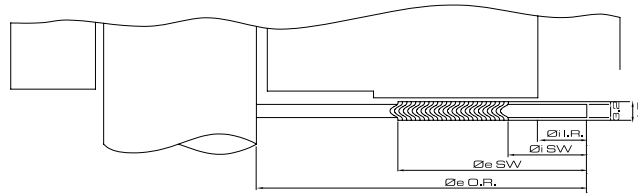
PN	DN 32				DN 40				DN 50				DN 65			
	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	44	50	66	82	51	57	73	92	59	69	87	107	73	83	103	127
16				113				138								
25				119				144								
40				124				154								
64				124				170								
100				124				184								
160				124				194								
250	124	204														
320															104	170

PN	DN 80				DN 100				DN 125				DN 150			
	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	87	97	121	117	114	124	148	142	140	150	176	162	168	178	200	217
16				168				224								
25				174				247								
40				180				257								
64				180				267								
100				180				277								
160				180				287								
250	180	297														
320			119	190												

PN	DN 175				DN 200				DN 250				DN 300			
	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	189	199	225	247	220	230	256	272	269	279	315	327	319	329	357	377
16				284				400								
25				290				417								
40				297				424								
64				309				431								
100				324				438								
160				331				445								
250	338	452														
			316				358				442				365	538

PN	DN 350				DN 400				DN 500				DN 600			
	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	365	375	405	437	416	426	458	488	520	530	566	593	615	630	666	695
16				443				734								
25				457				741								
40				474				747								
64				486				753								
100				486				759								
160				486				765								
250	486	771														
			512			466	572			574	704				674	813
	XXX				XXX				XXX				XXX			

DIMENSIONAL DATA STYLE GR AND GRI TO SUIT DIN FLANGES



	DN 700				DN 800				DN 900				DN 1000			
ASA	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	715	730	770	810	815	830	874	917	915	930	974	1017	1015	1030	1078	1124
16				804				911				1011				1128
25				833				942				1042				1154
40				852				974				1084				1194
64			778	879				882				988				982

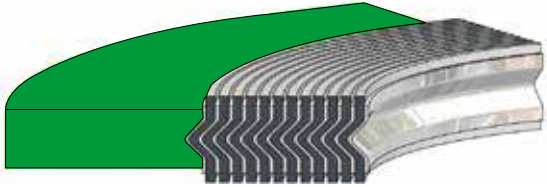
	DN 1200				DN 1400				DN 1600				DN 1800			
ASA	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR
10	1210	1230	1280	1341	1420	1450	1510		1630	1660	1720	1764	1830	1860	1920	1964
16				1342								1798				2000
25				1364								1830				
40				1398								R-RIR				
64			1290	1452			1548	R-RIR			1772	R-RIR			1972	R-RIR

	DN 2000				DN 2200				DN 2400				DN 2600					
ASA	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR		
10	2030	2060	2120	2168	2230	2260	2330	2378	2430	2460	2530	R-RIR	2630	2660	2730	R-RIR		
16				2230														
25																		
40																		
64			2182	R-RIR			2384	R-RIR			2594						2794	

	DN 2800				DN 3000						
ASA	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR	$\varnothing i$ I.R.	$\varnothing i$ SW	$\varnothing e$ SW	$\varnothing e$ OR			
10	2830	2860	2930	R-RIR	3030	3060	3130	R-RIR			
16											
25											
40											
64			3014						3228		

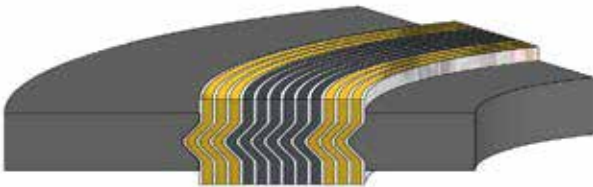
SPIRAL WOUND GASKET

FLEXWOUND® BS low stress spiral wound gaskets



The BS and BSI gaskets are specifically designed to be used in those applications where a low bolt torque is required. Traditional spiral wound gaskets have the steel winding protruding above the compression stop. BS and BSI gaskets instead have the filler material protruding above the metal winding and the guide ring. This results in a perfect sealability achieved with a lower loading stress compared to traditional spiral wound gaskets.

FLEXWOUND® HT high temperature spiral wound gaskets



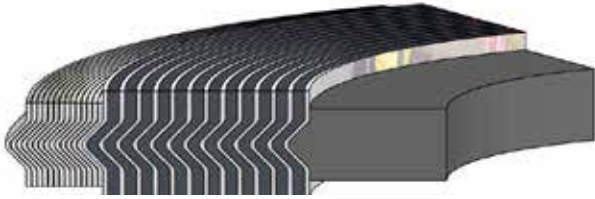
The HT gaskets are specifically designed to be used at extreme temperatures and in presence of oxidizing environments. The construction includes special HT Inconel X750 windings and rings combined with Flexigraf® filler protected on inside and outside diameter by a heat and oxidation resistant Micatherm filler.

up to

1.000°C

FOR SPECIAL APPLICATION

FLEXWOUND® NOSE-RI heat exchanger spiral wound gaskets



NOSE RI Gaskets with spiral wound outer ring are primarily designed for TEMA male and female flanges and are custom built to suit the design conditions of individual heat exchanger vessels. These gaskets are available in an extensive range of materials. The external nose ensures the correct location of the spiral wound sealing element which is protect by an internal ring, used also as a compression stop. Nose RI gaskets are available also with solid metal or metal jacketed pass bar configuration.

FLEXWOUND® CARRIER GASKETS



CARRIER gaskets consist of a solid steel ring with machined recess in each faces where spiral wound gaskets are located. This results in a higher recovery gasket which ensure that the bolt torque is maintained even in presence of hard pressure and temperature cycles. Typical applications are power genention, petrochemical and nuclear industries. Carrier gaskets can be used on flat face, raised face or tongue and groove type flange, as well as non standard flange configurations. They can be supplied for both small and large diameter nominal bores up to class 2500 pressure rating. Carrier gaskets are also tailor made to suit specific flange arrangements and design conditions.

MULTI-CLASS GASKET CONFIGURATION



One gasket accommodates both Class 150 and 300 flanges. Multi-Class Gasket features are as follows:

- One gasket accommodates both Class 150 and 300 flanges, available pipe size 1/2" – 24" (Class 150 to 600 in NPS 1/2 through NPS 3).
- Reduced inventory requirements.
- Easy to install: less than half the studs need to be removed to change the gasket.

FLEXCAMM® CAMMPROFILE GASKETS

Planichem Flexcamm® cammprofile gaskets are recognized as a new high quality sealing alternative. These gaskets are used as problem solver when there is a difficult sealing environment and performance are critical at low seating stresses. Flexcamm® gaskets consist of a metal core with concentric grooves with sealing layers made of flexible graphite Flexigraf®, expanded mica Micatherm, conventional ptfе or bidirectional ptfе Sicheм®. Metal core is usually selected based on metallurgy of the piping. Flexcamm® are manufactured in different materials and non-circular shapes with extreme accuracy. They can also be custom engineered to fit various applications.

STYLE FN

Manufactured without a guide ring for tongue and groove, or recessed flange applications such as male and female. It is typically used in heat exchanger applications and applied as an upgrade to double jacketed gaskets.



STYLE FG

Constructed with an integral guide ring for aligning purposes. It is suggested to be used in raised face flanges. The gasket is typically designed and sized per EN12560-6 spec for ASME B16.5 flanges, but can be manufactured to fit other standards.



STYLE FA

Constructed with a loose guide ring. This solution is recommended in application with excessive radial shear characteristics, thermal cycling, and expansions. The gasket is typically designed and sized per EN12560-6 spec for ASME B16.5 flanges, but can be manufactured to fit other standards.

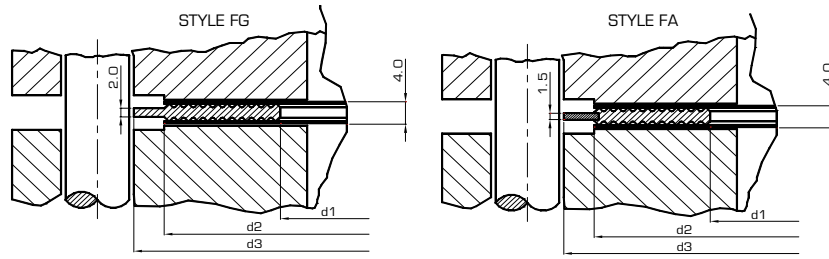


SRG GASKET (solid reinforced graphite)

SRG gasket is a solid gasket made by a rigid metal core with two expanded graphite layers bonded to each face. Solid core provide protection against blow out whilst soft graphite layers provide an excellent seal due its high conformability into the flange faces even under low applied seating stresses. It is possible to use a wide range of core materials, from carbon steel to exotic alloys. SRG gasket finds applications in chemical and petrolchemical plants for Low pressure heat exchangers, narrow land width, non circular shapes.



DIMENSIONAL DATA TO SUIT RAISED FACED EN 12560-6 FLANGES FROM DN 10 TO 1400 mm



SIZE mm			10	16	25	40	64	100	160	250	320	400
DN	d1	d2	d3	d3	d3	d3	d3	d3	d3	d3	d3	d3
10	22	36	46	46	46	46	56	56	56	67	67	67
15	26	42	51	51	51	51	61	61	61	72	72	78
20	31	47	61	61	61	61	-	-	-	-	-	-
25	36	52	71	71	71	71	82	82	82	82	92	104
32	46	66	82	82	82	82	-	-	-	-	-	-
40	53	73	92	92	92	92	103	103	103	109	119	135
50	65	87	107	107	107	107	113	119	119	124	134	150
65	81	103	127	127	127	127	137	143	143	153	170	192
80	95	121	142	142	142	142	148	154	154	170	190	207
100	118	144	162	162	168	168	174	180	180	202	229	256
125	142	176	192	192	194	194	210	217	217	242	274	301
150	170	204	217	217	224	224	247	257	257	284	311	348
175	195	229	247	247	254	265	277	287	284	316	358	402
200	224	258	272	272	284	290	309	324	324	358	398	442
250	275	315	327	328	340	352	364	391	388	442	488	-
300	325	365	377	383	400	417	424	458	458	536	-	-
350	375	420	437	443	457	474	486	512	-	-	-	-
400	426	474	489	495	514	546	543	572	-	-	-	-
450	480	528	539	555	-	571	-	-	-	-	-	-
500	530	578	594	617	624	628	657	704	-	-	-	-
600	630	680	695	734	731	747	764	813	-	-	-	-
700	730	780	810	804	833	852	879	950	-	-	-	-
800	830	880	917	911	942	974	988	-	-	-	-	-
900	930	980	1017	1011	1042	1084	1108	-	-	-	-	-
1000	1040	1090	1124	1128	1154	1194	1220	-	-	-	-	-
1200	1250	1310	1341	1342	1364	1398	1452	-	-	-	-	-
1400	1440	1510	1548	1542	1578	1618	-	-	-	-	-	-

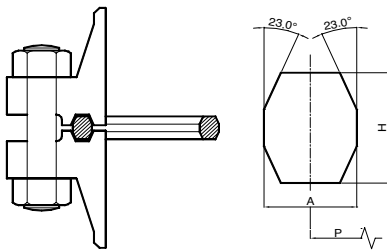
DIMENSIONAL DATA TO SUIT RAISED FACED ASME B16.5 AND MSS SP44 FLANGES

SIZE mm			150	300	400	600	900	1500	2500
DN	d1	d2	d3	d3	d3	d3	d3	d3	d3
1/2	23,0	33,3	44,4	50,8	50,8	50,8	60,3	60,3	66,7
3/4	28,6	39,7	53,9	63,5	63,5	63,5	66,7	6,7	73,0
1	36,5	47,6	63,5	69,8	69,8	69,8	76,2	76,2	82,5
1 1/4	44,4	60,3	73,0	79,4	79,4	79,4	85,7	85,7	101,6
1 1/2	52,4	69,8	82,5	92,1	92,1	92,1	95,2	95,2	114,3
2	69,8	88,9	101,6	108,0	108,0	108,0	139,7	139,7	142,8
2 1/2	82,5	101,6	120,6	127,0	127,0	127,0	161,9	161,9	165,1
3	98,4	123,8	133,4	146,1	146,1	146,1	165,1	171,5	193,7
3 1/2	111,1	136,5	158,8	161,9	158,7	158,7	-	-	-
4	123,8	154,0	171,5	177,8	174,6	190,5	203,2	206,4	231,7
5	150,8	182,6	193,7	212,7	209,5	238,1	244,5	250,8	276,2
6	177,8	212,7	219,1	247,7	244,5	263,5	285,8	279,4	314,3
8	228,6	267,7	276,2	304,8	301,6	317,5	355,6	349,3	384,1
10	282,6	320,7	336,5	358,8	355,6	396,9	431,8	431,8	473,0
12	339,7	377,8	406,4	419,1	415,9	454,0	495,3	517,5	546,1
14	371,5	409,6	447,7	482,6	479,4	488,9	517,5	574,7	-
16	422,3	466,7	511,2	536,6	533,4	561,9	571,5	638,1	-
18	479,4	530,2	546,1	593,7	590,5	609,6	635,0	701,7	-
20	530,2	581,0	603,2	650,9	644,5	679,5	695,3	752,4	-
22	581,0	631,8	657,2	701,7	698,5	730,3	-	-	-
24	631,8	682,6	714,4	771,5	765,2	787,4	835,0	898,5	-

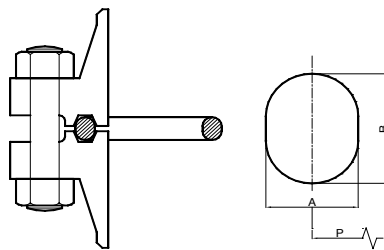
SIZE mm			150	300	400	600	900
DN	d1	d2	d3	d3	d3	d3	d3
26	690	740	772	832	829	889	864
28	740	790	829	895	889	943	911
30	800	850	880	949	943	968	968
32	845	905	937	1003	1000	1019	1019
34	895	955	987	1054	1051	1070	1070
36	950	1010	1045	1114	1114	1127	1127
38	960	1020	1108	1051	1070	1102	1102
40	1015	1075	1159	1111	1124	1153	1153
42	1065	1125	1216	1162	1175	1216	1216
44	1125	1185	1273	1216	1229	1267	1267
46	1175	1235	1324	1270	1286	1324	1324
48	1220	1290	1381	1321	1343	1388	1388
50	1270	1350	1432	1375	1400	1445	1445
52	1320	1400	1489	1426	1451	1495	1495
54	1375	1455	1546	1489	1515	1553	1553
56	1430	1510	1603	1540	1565	1610	1610
58	1485	1565	1661	1591	1616	1661	1661
60	1535	1615	1711	1742	1680	1730	1730

RING JOINT GASKETS

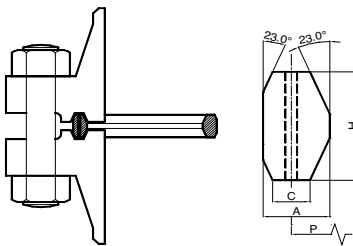
RTJ gaskets are produced in different solid metal types. They are used for high pressure (till 1300 bar) and for high temperature (till 1000°C) and are used where corrosive agents are presents. These gaskets are obtained by meccanical working from forged or laminated metals. RTJ find their mainly application in refining process in crude extraction and in high pressure applications. For their production we use the last edition of the API standard. Planichem can supply oval and octagonal ring joint, BX and RX for all applications to suite the flanges design with standard and special styles.



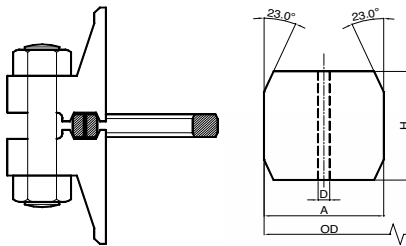
STYLE R - OCTAGONAL



STYLE R - OVAL



STYLE R X



STYLE BX



**DIMENSIONAL DATA TYPE R OCTAGONAL
AND OVAL RING GASKETS TO SUIT ASME B16.20 AND API 6A**

RING. NR.	PRESSURE CLASS RATINGS							PITCH DIAMET. OF RING P	WIDHT OF RING A	HEIGHT OF RING		APPROX. DISTANCE BETWEEN MADE UP FLANGES
	ANSI, BS & MSS					API (p-s.i.)				OVAL B	OCTAG. H	
	150	300/600	900	1500	2500	2000/3000	5000					
	NOMINAL PIPE SIZE											
R11	-	1/2	-	-	-	-	-	1,344	0,250	0,44	0,38	-
R12	-	-	1/2	1/2	-	-	-	1,563	0,313	0,56	0,50	-
R13	-	3/4	-	-	1/2	-	-	1,688	0,313	0,56	0,50	-
R14	-	-	3/4	3/4	-	-	-	1,750	0,313	0,56	0,50	-
R15	1	-	-	-	-	-	-	1,875	0,313	0,56	0,50	-
R16	-	1	1	1	3/4	-	-	2,000	0,313	0,56	0,50	-
R17	1 1/4	-	-	-	-	-	-	2,250	0,313	0,56	0,50	-
R18	-	1 1/4	11/4	11/4	1	-	-	2,375	0,313	0,56	0,50	-
R19	1 1/2	-	-	-	-	-	-	2,563	0,313	0,56	0,50	-
R20*	-	1 1/2	1 1/2	1 1/2	-	-	-	2,688	0,313	0,56	0,50	0,16
R21	-	-	-	-	1 1/4	-	-	2,844	0,438	0,69	0,63	-
R22	2	-	-	-	-	-	-	3,250	0,313	0,56	0,50	-
R23*	-	2	-	-	1 1/2	2 1/16**	-	3,250	0,438	0,69	0,63	0,19
R24*	-	-	2	2	-	2 1/6	2	3,750	0,438	0,69	0,63	0,19
R25	2 1/2	-	-	-	-	-	-	4,000	0,313	0,56	0,50	-
R26*	-	2 1/2	-	-	2	2 9/16	-	4,000	0,438	0,69	0,63	0,19
R27*	-	-	2 1/2	2 1/2	-	(2 9/16)	2 9/16	4,250	0,438	0,69	0,63	0,19
R28	-	-	-	-	2/1/2	-	-	4,375	0,500	0,75	0,69	-
R29	3	-	-	-	-	-	-	4,500	0,313	0,56	0,50	-
R30§	-	3	-	-	-	-	-	4,625	0,438	0,69	0,63	-
R31*	-	3	3	-	-	3 1/8	-	4,875	0,438	0,69	0,63	0,19
R32	-	-	-	-	3	-	-	5,000	0,500	0,75	0,69	-
R33	3 1/2	-	-	-	-	-	-	5,188	0,313	0,56	0,50	-
R34	-	3 1/2	-	-	-	-	-	5,188	0,438	0,69	0,63	-
R35*	-	-	-	3	-	-	3 1/8	5,375	0,438	0,69	0,63	0,19
R36	4	-	-	-	-	-	-	5,875	0,313	0,56	0,50	-
R37*	-	4	4	-	-	4 1/6	-	5,875	0,438	0,69	0,63	0,19
R38	-	-	-	-	4	-	-	6,188	0,625	0,88	0,81	-
R39*	-	-	-	4	-	-	4 1/6	6,375	0,438	0,69	0,63	0,19
R40	5	-	-	-	-	-	-	6,750	0,313	0,56	0,50	-
R41*	-	5	5	-	-	-	-	7,125	0,438	0,69	0,63	0,19
R42	-	-	-	-	5	-	-	7,500	0,750	1,00	0,94	-
R43	6	-	-	-	-	-	-	7,625	0,313	0,56	0,50	-
R44*	-	-	-	5	-	-	-	7,625	0,438	0,69	0,63	0,19
R45*	-	6	6	-	-	7 1/6	-	8,313	0,438	0,69	0,63	0,19
R46*	-	-	-	6	-	-	7 1/6	8,313	0,500	0,75	0,69	0,13
R47*	-	-	-	-	6	-	-	9,000	0,750	1,00	0,94	0,16
R48	8	-	-	-	-	-	-	9,750	0,313	0,56	0,50	-
R49*	-	8	8	-	-	9	-	10,625	0,438	0,69	0,63	0,19
R50*	-	-	-	8	-	-	9	10,625	0,625	0,88	0,81	0,16
R51	-	-	-	-	8	-	-	11,000	0,875	1,13	1,06	-
R52	10	-	-	-	-	-	-	12,000	0,313	0,56	0,50	-
R53*	-	10	10	-	-	11	-	12,750	0,438	0,69	0,63	0,19
R54*	-	-	-	10	-	-	11	12,750	0,625	0,88	0,81	0,16
R55	-	-	-	-	10	-	-	13,500	1,125	1,44	1,38	-
R56	12	-	-	-	-	-	-	15,000	0,313	0,56	0,69	-
R57*	-	12	12	-	-	13 5/8	-	15,000	0,438	0,69	0,63	0,19

**DIMENSIONAL DATA TYPE R OCTAGONAL
AND OVAL RING GASKETS TO SUIT ASME B16.20 AND API 6A**

RING. NR.	PRESSURE CLASS RATINGS							PITCH DIAMET. OF RING P	WIDHT OF RING A	HEIGHT OF RING		APPROX. DISTANCE BETWEEN MADE UP FLANGES
	ANSI, BS & MSS				API (p-s.i.)					OVAL B	OCTAG. H	
	150	300/600	900	1500	2500	2000/3000	5000					
	NOMINAL PIPE SIZE											
R58	-	-	-	12	-	-	-	15,000	0,875	1,13	1,06	-
R59	14	-	-	-	-	-	-	15,625	0,313	0,56	0,50	-
R60	-	-	-	-	12	-	-	16,000	1,250	1,56	1,50	-
R61	-	14	-	-	-	-	-	16,500	0,438	0,69	0,63	-
R62	-	-	14	-	-	-	-	16,500	0,625	0,88	0,81	-
R63*	-	-	-	14	-	-	-	16,500	1,000	1,31	1,25	0,22
R64	16	-	-	-	-	-	-	17,875	0,313	0,56	0,50	-
R65*	-	16	-	-	-	16	3/4**	18,500	0,438	0,69	0,63	0,19
R66*	-	-	16	-	-	(16)	-	18,500	0,625	0,88	0,81	0,16
R67	-	-	-	16	-	-	-	18,500	1,125	1,44	1,38	-
R68	18	-	-	-	-	-	-	20,375	0,313	0,56	0,50	-
R69*	-	18	-	-	-	-	-	21,000	0,438	0,69	0,63	0,19
R70*	-	-	18	-	-	(18)	-	21,000	0,750	1,00	0,94	0,19
R71	-	-	-	18	-	-	-	21,000	1,125	1,44	1,38	-
R72	20	-	-	-	-	-	-	22,000	0,313	0,56	0,50	-
R73*	-	20	-	-	-	21	1/4**	23,000	0,500	0,75	0,69	0,13
R74*	-	-	20	-	-	(20	3/4)	23,000	0,750	1,00	0,94	0,19
R75	-	-	-	20	-	-	-	23,000	1,250	1,56	1,50	-
R76	24	-	-	-	-	-	-	26,500	0,313	0,56	0,50	-
R77	-	24	-	-	-	-	-	27,250	0,625	0,88	0,81	-
R78	-	-	24	-	-	-	-	27,250	1,000	1,31	1,25	-
R79	-	-	-	24	-	-	-	27,250	1,375	1,75	1,63	0,19
R80	22	-	-	-	-	-	-	24,250	0,313	-	0,50	-
R81	-	22	-	-	-	-	-	25,000	0,563	-	0,75	-
R82*	-	-	-	-	-	-	-	2,250	0,438	-	0,63	0,19
R84*	-	-	-	-	-	-	-	2,500	0,438	-	0,63	0,19
R85*	-	-	-	-	-	-	-	3,125	0,500	-	0,69	0,13
R86*	-	-	-	-	-	-	-	3,563	0,625	-	0,81	0,16
R87*	-	-	-	-	-	-	-	3,938	0,625	-	0,81	0,16
R88*	-	-	-	-	-	-	-	4,875	0,750	-	0,94	0,19
R89*	-	-	-	-	-	-	-	4,500	0,750	-	0,94	0,19
R90*	-	-	-	-	-	-	-	6,125	0,875	-	1,06	0,19
R91*	-	-	-	-	-	-	-	10,250	1,250	-	1,50	0,16
R92	-	-	-	-	-	-	-	9,000	0,438	0,69	0,63	-
R93	-	26	-	-	-	-	-	29,500	0,750	-	0,94	-
R94	-	28	-	-	-	-	-	31,500	0,750	-	0,94	-
R95	-	30	-	-	-	-	-	33,750	0,750	-	0,94	-
R96	-	32	-	-	-	-	-	36,000	0,875	-	1,06	-
R97	-	34	-	-	-	-	-	38,000	0,875	-	1,06	-
R98	-	36	-	-	-	-	-	40,125	0,875	-	1,06	-
R99*	-	-	-	-	-	-	-	9,250	0,438	-	0,63	0,19
R100	-	-	26	-	-	-	-	29,500	1,125	-	1,38	-
R101	-	-	28	-	-	-	-	31,500	1,250	-	1,50	-
R102	-	-	30	-	-	-	-	33,750	1,250	-	1,50	-
R103	-	-	32	-	-	-	-	36,000	1,250	-	1,50	-
R104	-	-	34	-	-	-	-	38,000	1,375	-	1,63	-
R105	-	-	36	-	-	-	-	40,250	1,375	-	1,63	-



For a detailed list of the approvals,
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