

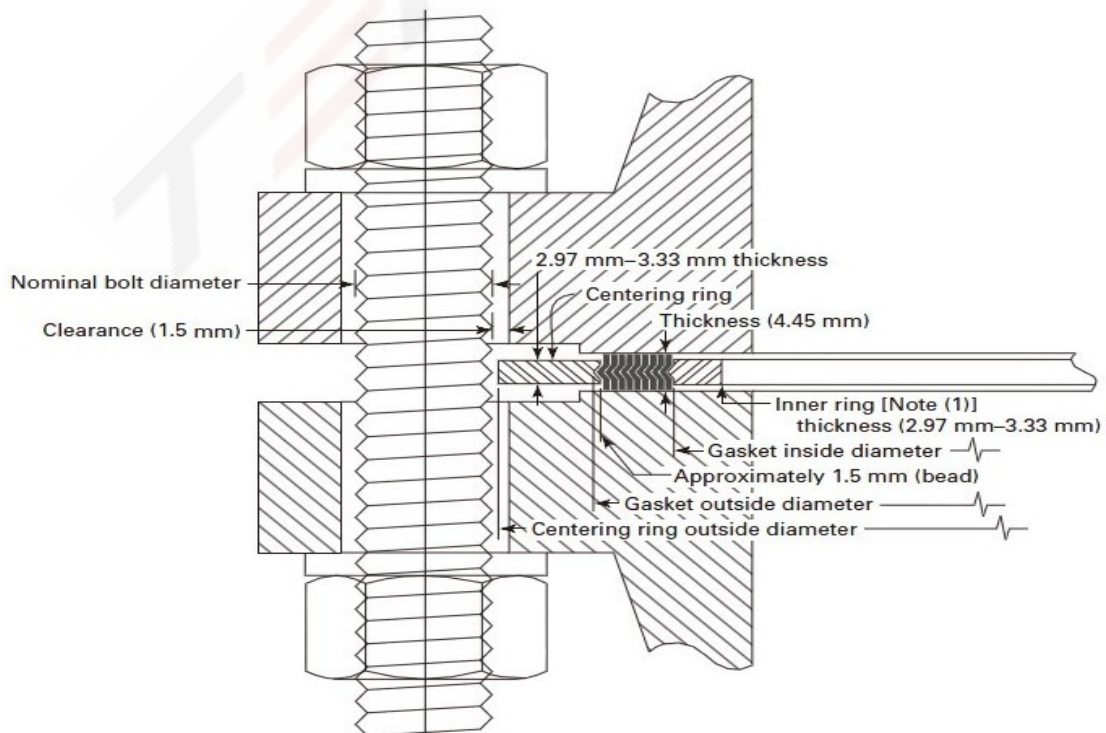
**SPIRAL WOUND GASKET**    Style No:TMS



**Spiral wound gaskets** have to recover under the action of fluctuating loads caused by process fluid pressure and temperature changes, flange face temperature variations, flange rotation, bolt stress relaxation and creep.

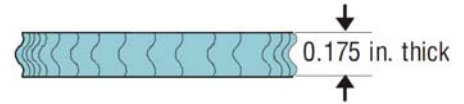
The gasket-sealing element consists of a pre-formed metallic winding strip with layers of a softer, more compressible sealing material which, during compression, is densified and flows to fill imperfections in the flange surfaces when the gasket is seated. The metal strip holds the filler giving the gasket mechanical resistance and resilience. Spiral wound gaskets can be manufactured from a range of filler materials according to different service conditions.

Filler Material	Maximum	ASME B16.20 Colour
Graphite	550 °C	Grey stripe
PTFE	260 °C	White stripe
Nonas	350 °C	Pink stripe
Mica	1000 °C	Light Green
Winding	Maximum	ASME B16.20 Colour
Carbon Steel	500 °C	Silver
SUHĒ	650 °C	Yellow
SUHĪ	800 °C	Green
Duplex	800 °C	N/A
SUH Ī	870 °C	Blue
SS321	870 °C	Turquoise
Monel 400	800 °C	Orange
Nickel 200	600 °C	Red
Titanium	540 °C	Purple
Hastelloy B-2	1000 °C	Brown
Hastelloy C-276	1000 °C	Beige
Inconel 600	1000 °C	Gold
Inconel 625	1000 °C	Gold
Inconel X-750	1000 °C	Light Grey
Incoloy 825	1000 °C	White



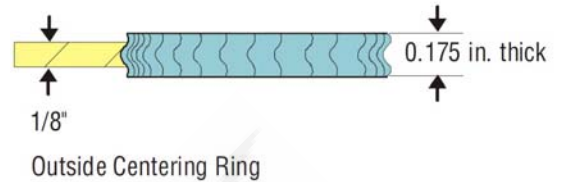
**Type CR**

TMS spiral wound sealing element  
Solid metal outer ring used as a centring device and compression stop  
Used mainly on raised face and flat face flanges  
General Duties



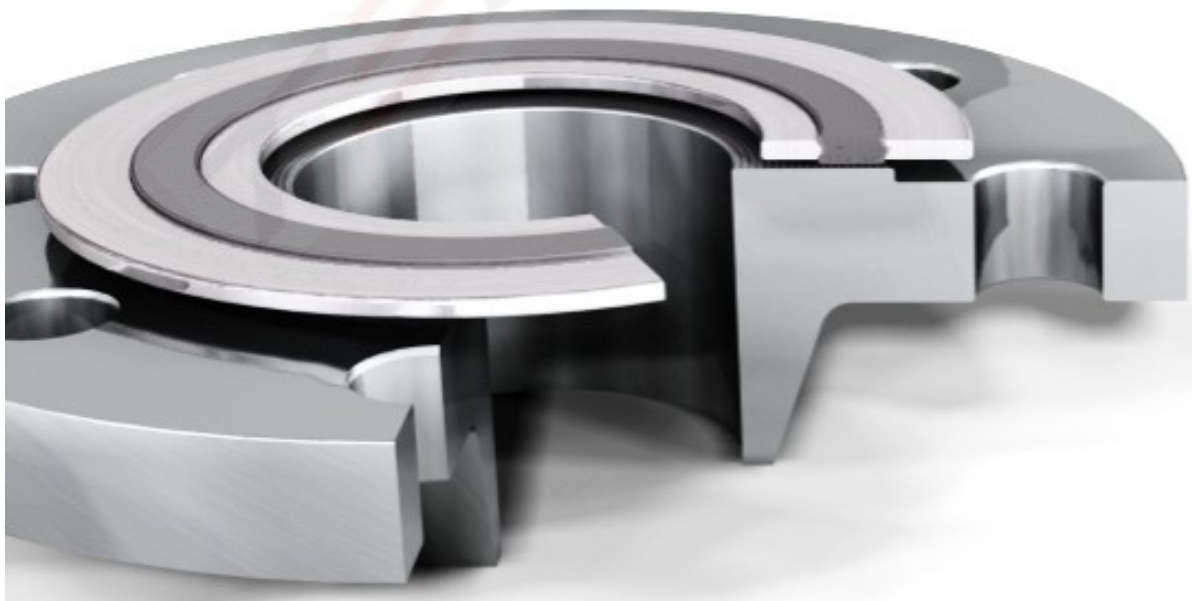
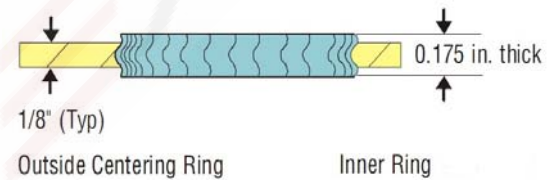
**Type RIR**

TMS spiral wound sealing element  
Solid metal outer ring  
High pressure temperature capability  
Male to female flanges  
General and critical duties



**Type CRIR**

TMS spiral wound sealing element  
Solid metal inner & outer ring suitable for high pressure and temperature applications  
Raised face or flat flanges  
Prevents turbulence and erosion damage to flange  
Prevents damage to the gasket bore and inner windings  
Acts as a heat shield  
Acts as a corrosion barrier  
General and Critical Duties



**Dimensions for Spiral Wound Gaskets according to ASME B16.20 for ASME/ANSI B16.5 flanges**

DN	d1					d2					d3		d4							
	150-300	400-600	900	1500	2500	150-300	400-600	900	1500	2500	150-600	900-2500	150	300	400	600	900	1500	2500	
1/2"	14.2	14.2	14.2	14.2	14.2	19.1	19.1	19.1	19.1	19.1	31.8	31.8	47.8	54.1	54.1	54.1	63.5	63.5	69.9	
3/4"	20.6	20.6	20.6	20.6	20.6	25.4	25.4	25.4	25.4	25.4	39.6	39.6	57.2	66.8	66.8	66.8	69.9	69.9	76.2	
1"	26.9	26.9	26.9	26.9	26.9	31.8	31.8	31.8	31.8	31.8	47.8	47.8	66.8	73.2	73.2	73.2	79.5	79.5	85.9	
1 1/4"	38.1	38.1	38.1	33.3	33.3	47.8	47.8	39.6	39.6	39.6	60.5	60.5	76.2	82.6	82.6	82.6	88.9	88.9	104.9	
1 1/2"	44.5	44.5	44.5	41.4	41.4	54.1	54.1	47.8	47.8	47.8	69.9	69.9	85.9	95.3	95.3	95.3	98.6	98.6	117.6	
2"	55.6	55.6	55.6	52.3	52.3	69.9	69.9	58.7	58.7	58.7	85.9	85.9	104.9	111.3	111.3	111.3	143	143	146.1	
2 1/2"	66.5	66.5	66.5	63.5	63.5	82.6	82.6	69.9	69.9	69.9	98.6	98.6	124	130.3	130.3	130.3	165.1	165.1	168.4	
3"	81	81	81	81	81	101.6	101.6	95.3	92.2	92.2	120.7	120.7	136.7	149.4	149.4	149.4	168.4	168.4	196.9	
4"	106.4	106.4	106.4	106.4	106.4	127	120.7	120.7	117.6	117.6	149.4	149.4	174.8	181.1	177.8	193.8	206.5	209.6	235	
5"	131.8	131.8	131.8	131.8	131.8	155.7	147.6	147.6	143.0	143.0	177.8	177.8	196.9	215.9	212.9	241.3	247.7	254	279.4	
6"	157.2	157.2	157.2	157.2	157.2	182.6	174.8	174.8	171.5	171.5	209.6	209.6	222.3	251	247.7	266.7	289.1	282.7	317.5	
8"	215.9	209.6	209.6	206.2	200.2	233.4	225.6	222.3	215.9	215.9	263.7	257.3	279.4	308.1	304.8	320.8	358.9	352.6	387.4	
10"	268.2	260.4	260.4	257.8	247.7	287.3	274.6	276.4	266.7	270	317.5	311.2	339.9	362	358.9	400.1	435.1	435.1	476.3	
12"	317.5	317.5	314.5	314.5	292.1	339.9	327.2	323.9	323.9	317.5	374.7	368.3	409.7	422.4	419.1	457.2	498.6	520.7	549.4	
14"	349.3	349.3	342.9	339.9	-	371.6	362	356.6	362	-	406.4	400.1	450.9	485.9	482.6	492.3	520.7	577.9	-	
16"	400.1	400.1	393.7	387.4	-	422.4	412.8	412.8	406.7	-	463.6	457.2	514.4	539.8	536.7	565.2	574.8	641.4	-	
18"	449.3	449.3	444.5	438.2	-	474.7	469.9	463.6	463.6	-	527.1	520.7	549.4	596.9	593.9	612.9	638.3	704.9	-	
20"	500.1	500.1	495.3	489	-	525.5	520.7	520.7	514.4	-	577.9	571.5	606.6	654.1	647.7	682.8	698.5	755.7	-	
24"	603.3	603.3	603.3	577.9	-	628.7	628.7	628.7	616	-	685.8	679.5	717.6	774.7	768.4	790.7	838.2	901.7	-	

**Spiral Wound Gasket Tolerances per ASME B16.20 Specifications**

- The winding thickness:  $\pm 0.005$ " (0.13 mm) measured across the metallic portion of the winding not including the filler.
- The winding outside diameter
  - o NPS 1/2 through NPS 8 is  $\pm 1/32$ " ( $\pm 0.8$  mm)
  - o NPS 10 through NPS 24 is  $+1/16$ ",  $- 1/32$ " (+1.5 mm, -0.8 mm)
- The winding inside diameter
  - o NPS 1/2 through NPS 8 is  $\pm 1/64$ " ( $\pm 0.4$  mm)
  - o NPS 10 through NPS 24 is  $\pm 1/32$ " ( $\pm 0.8$  mm)
- The guide ring outside diameter:  $\pm 1/32$ " ( $\pm 0.8$  mm)
- The guide ring and inner thickness shall be from 0.117" (2.97 mm) to 0.131" (3.33 mm)
- The inner ring inside diameter:
  - o NPS 1/2 through 3 is  $\pm 1/32$ " ( $\pm 0.8$  mm)
  - o NPS 4 through 24 is  $\pm 1/16$ " ( $\pm 1.5$  mm)

**Dimensions for Spiral Wound Gaskets according to ASME B16.20 for  
ASME/ANSI B16.47 series A flanges (API 601 for MSS SP-44 flanges )**

DN	d1					d2					d3					d4				
	150	300	400	600	900	150	300	400	600	900	150	300	400	600	900	150	300	400	600	900
26	654.1	654.1	660.4	647.7	666.8	673.1	685.8	685.8	685.8	685.8	704.9	736.6	736.6	736.6	736.6	774.7	835.2	831.9	866.9	882.7
28	704.9	704.9	711.2	698.5	711.2	723.9	736.6	736.6	736.6	736.6	755.7	787.4	787.4	787.4	787.4	831.9	898.7	892.3	914.4	946.2
30	755.7	755.7	755.7	755.7	774.7	774.7	793.8	793.8	793.8	793.8	806.5	844.6	844.6	844.6	844.6	882.7	952.5	946.2	971.6	1009.7
32	806.5	806.5	812.8	812.8	812.8	825.5	850.9	850.9	850.9	850.9	860.6	901.7	901.7	901.7	901.7	939.8	1006.6	1003.3	1022.4	1073.2
34	857.3	857.3	863.6	863.6	863.6	876.3	901.7	901.7	901.7	901.7	911.4	952.5	952.5	952.5	952.5	990.6	1057.4	1054.1	1073.2	1136.7
36	908.1	908.1	917.7	917.7	920.8	927.1	955.8	955.8	955.8	958.9	968.5	1006.6	1006.6	1006.6	1009.7	1047.8	1117.6	1117.6	1130.3	1200.2
38	958.9	952.5	952.5	952.5	1009.7	977.9	977.9	971.6	990.6	1035.1	1019.3	1016	1022.4	1041.4	1085.9	1111.3	1054.1	1073.2	1104.9	1200.2
40	1009.7	1003.3	1000.3	1009.7	1060.5	1028.7	1022.4	1025.7	1047.8	1098.6	1070.1	1070.1	1076.5	1098.6	1149.4	1162.1	1114.6	1127.3	1155.7	1251
42	1050.5	1054.1	1051.1	1066.8	1111.3	1079.5	1073.2	1076.5	1104.9	1149.4	1124	1120.9	1127.3	1155.7	1200.2	1219.2	1165.4	1178.1	1219.2	1301.8
44	1111.3	1104.9	1104.9	1111.3	1155.7	1130.3	1130.3	1130.3	1162.1	1206.5	1178.1	1181.1	1181.1	1212.9	1257.3	1276.4	1219.2	1231.9	1270	1368.6
46	1162.1	1152.7	1168.4	1162.1	1219.2	1181.1	1178.1	1193.8	1212.9	1270	1228.9	1228.9	1244.6	1263.7	1320.8	1327.2	1273.3	1289.1	1327.2	1435.1
48	1212.9	1209.8	1206.5	1219.2	1270	1231.9	1235.2	1244.6	1270	1320.8	1279.7	1286	1295.4	1320.8	1371.6	1384.3	1324.1	1346.2	1390.7	1485.9
50	1263.7	1244.6	1257.3	1270	-	1282.7	1295.4	1295.4	1320.8	-	1333.5	1346.2	1346.2	1371.6	-	1435.1	1378	1403.4	1447.8	-
52	1314.5	1320.8	1308.1	1320.8	-	1333.5	1346.2	1346.2	1371.6	-	1384.3	1397	1397	1422.4	-	1492.3	1428.8	1454.2	1498.6	-
54	1358.9	1352.6	1352.6	1378	-	1384.3	1403.4	1403.4	1428.8	-	1435.1	1454.2	1454.2	1479.6	-	1549.4	1492.3	1517.7	1555.8	-
56	1409.7	1403.4	1403.4	1428.8	-	1435.1	1454.2	1454.2	1479.6	-	1485.9	1505	1505	1530.4	-	1606.6	1543.1	1568.5	1612.9	-
58	1460.5	1447.8	1454.2	1473.2	-	1485.9	1511.3	1505	1536.7	-	1536.7	1562.1	1555.8	1587.5	-	1663.7	1593.9	1619.3	1663.7	-
60	1511.3	1524	1517.7	1530.4	-	1535.7	1562.1	1568.5	1593.9	-	1587.5	1612.9	1619.3	1644.7	-	1714.5	1644.7	1682.8	1733.6	-

**Large Spiral Wound Gasket Tolerances per ASME B16.20 to be used with  
ASME B16.47 Series A Flanges**

- The winding thickness is  $\pm 0.005"$  ( $\pm 0.13$  mm) measured across the metallic portion of the gasket not including the filler
- The winding inside diameter
  - o NPS 26 through NPS 34 is  $\pm 1/32"$  ( $\pm 0.8$  mm)
  - o NPS 36 through NPS 60 is  $\pm 3/64"$  ( $\pm 1.3$  mm)
- The winding outside diameter
  - o NPS 26 through 60 is  $\pm 1/16"$  (1.5 mm)
- The guide ring outside diameter tolerance is  $\pm 1/32"$  ( $\pm 0.8$  mm)
- The guide ring and inner thickness shall be from 0.117" (2.97 mm) to 0.131" (3.33 mm)
- The inner ring inside diameter is:  $\pm 1/8"$  ( $\pm 3.0$  mm)
- These inner rings are suitable for use with pipe walls 0.38" (9.53 mm) or thicker

**Dimensions for Spiral Wound Gaskets according to ASME B16.20 for  
ASME/ANSI B16.47 series B flanges (API 601 for MSS SP-44 flanges )**

DN	d1					d2					d3					d4				
	150	300	400	600	900	150	300	400	600	900	150	300	400	600	900	150	300	400	600	900
26	654.1	654.1	654.1	644.7	673.1	673.1	673.1	666.8	663.7	692.2	698.5	711.2	698.5	714.5	749.3	725.4	771.7	746.3	765.3	838.2
28	704.9	704.9	701.8	692.2	723.9	723.9	723.9	714.5	704.9	743	749.3	762	749.3	755.7	800.1	776.2	825.5	800.1	819.2	901.7
30	755.7	755.7	752.6	752.6	787.4	774.7	774.7	765.3	778	806.5	800.1	812.8	806.5	828.8	857.3	827	886	857.3	879.6	958.3
32	806.5	806.5	800.1	793.8	838.2	825.5	825.5	812.8	831.9	863.6	850.9	863.6	858.5	882.7	914.4	881.1	939.8	911.4	933.5	1016
34	857.3	857.3	850.9	850.9	895.4	876.3	876.3	866.9	889	920.8	908.1	914.4	911.4	939.8	971.6	935	993.9	962.2	997	1073.2
36	908.1	908.1	898.7	901.7	927.1	927.1	927.1	917.7	939.8	946.2	958.9	962.2	965.2	990.6	997	987.6	1047.8	1022.4	1047.8	1124
38	958.9	971.6	952.5	952.5	1009.7	974.6	1009.7	971.6	990.6	1035.1	1009.7	1047.8	1022.4	1041.4	1085.9	1044.7	1098.6	1073.2	1104.9	1200.2
40	1009.7	1003.3	1000.3	1009.7	1060.5	1022.4	1060.5	1025.7	1047.8	1098.6	1063.8	1098.6	1076.5	1098.6	1149.4	1095.5	1149.4	1127.3	1155.7	1251
42	1060.5	1054.1	1051.1	1066.8	1111.3	1079.5	1111.3	1076.5	1104.9	1149.4	1114.6	1149.4	1127.3	1155.7	1200.2	1146.3	1200.2	1178.1	1219.2	1301.8
44	1111.3	1124	1104.9	1111.3	1155.7	1124	1162.1	1130.3	1162.1	1206.5	1165.4	1200.2	1181.1	1212.9	1257.3	1197.1	1251	1231.9	1270	1368.6
46	1162.1	1178.1	1168.4	1162.1	1219.2	1181.1	1216.2	1193.8	1212.9	1270	1224	1254.3	1244.6	1263.7	1320.8	1255.7	1317.8	1289.1	1327.2	1435.1
48	1212.9	1231.9	1206.5	1219.2	1270	1231.9	1263.7	1244.6	1270	1320.8	1270	1311.4	1295.4	1320.8	1371.6	1306.6	1368.6	1346.2	1390.7	1485.9
50	1263.7	1267	1257.3	1270	-	1282.7	1317.8	1295.4	1320.8	-	1325.6	1355.9	1346.2	1371.6	-	1357.4	1419.4	1403.4	1447.8	-
52	1314.5	1317.8	1308.1	1320.8	-	1335.5	1368.6	1346.2	1371.6	-	1376.4	1406.7	1397	1422.4	-	1408.2	1470.2	1454.2	1498.6	-
54	1365.3	1365.3	1352.6	1378	-	1384.3	1403.4	1403.4	1428.8	-	1422.4	1454.2	1454.2	1479.6	-	1463.8	1530.4	1517.7	1555.8	-
56	1422.4	1428.8	1403.4	1428.8	-	1444.8	1479.6	1454.2	1479.6	-	1477.8	1524	1505	1530.4	-	1514.6	1593.8	1568.5	1612.9	-
58	1478	1484.4	1454.2	1473.2	-	1500.4	1535.2	1505	1536.7	-	1528.8	1573.3	1555.8	1587.5	-	1579.6	1655.8	1619.3	1663.7	-
60	1535.2	1557.3	1517.7	1530.4	-	1557.3	1589	1568.5	1593.9	-	1586	1630.4	1619.3	1644.7	-	1630.4	1706.6	1682.8	1733.6	-

**Large Spiral Wound Gasket Tolerances Per ASME B16.20 to Be Used With  
ASME B16.47 Series B Flanges**

- The winding thickness is  $\pm 0.005"$  ( $\pm 0.13$  mm) measured across the metallic portion of the gasket, not including the filler
- The winding inside diameter
  - o NPS 26 through NPS 34 NPS is  $\pm 1/32"$  ( $\pm 0.8$  mm)
  - o NPS 36 through NPS 60 NPS is  $\pm 3/64"$  ( $\pm 1.3$  mm)
- The winding outside diameter
  - o NPS 26 through 60 NPS is  $\pm 1/16"$  (1.5 mm)
- The guide ring outside diameter tolerance is  $\pm 1/32"$  ( $\pm 0.8$  mm)
- The guide and inner ring thickness shall be from 0.117" (2.97 mm) to 0.131" (3.33 mm)
- The inner ring inside diameter is:  $\pm 1/8"$  ( $\pm 3.0$  mm)
- These inner rings are suitable for use with pipe walls 0.38" (9.53 mm) or thicker

**Dimensions for Spiral Wound Gaskets according to DIN EN 1514-2**

DN	d1	d2	d3		d4									
	PN 10-320	PN 10-320	PN 10-40	PN 64-320	PN 10	PN 16	PN 25	PN 40	PN 64	PN 100	PN 160	PN 250	PN 320	PN 400
10	18	24	36	36	46	46	46	46	56	56	56	67	67	67
15	22	28	40	40	51	51	51	51	61	61	61	72	72	78
20	27	33	47	47	61	61	61	61	72	72	72	77	77	
25	34	40	54	54	71	71	71	71	82	82	82	83	92	104
32	43	49	65	65	82	82	82	82	90	90	90	100		
40	48	54	70	70	92	92	92	92	103	103	103	109	119	135
50	57	66	84	84	107	107	107	107	113	119	119	124	134	150
65	73	82	102	104	127	127	127	127	137	143	143	153	170	192
80	86	95	115	119	142	142	142	142	148	154	154	170	190	207
100	108	120	140	144	162	162	168	168	174	180	180	202	229	256
125	134	146	168	172	192	192	194	194	210	217	217	242	274	301
150	162	174	196	200	217	217	224	224	247	257	257	284	311	348
175	183	195	221	227	247	247	254	265	277	287	284	316	358	402
200	213	225	251	257	272	272	284	290	309	324	324	358	398	442
250	267	279	307	315	327	328	340	352	364	391	388	442	488	-
300	318	330	358	366	377	383	400	417	424	458	458	538	-	-
350	363	375	405	413	437	443	457	474	486	512	-	-	-	-
400	414	426	458	466	488	495	514	546	543	572	-	-	-	-
450	460	478	526	551	558	567	574	578	534	-	-	-	-	-
500	518	530	566	574	593	617	624	628	657	704	-	-	-	-
600	618	630	666	674	695	734	731	747	764	813	-	-	-	-
700	718	730	770	778	810	804	833	852	879	-	-	-	-	-
800	818	830	874	882	917	911	942	974	988	-	-	-	-	-
900	910	930	974	982	1017	1011	1042	1084	1108	-	-	-	-	-
1000	1010	1030	1078	1086	1124	1128	1154	1194	1220	-	-	-	-	-
1200	1210	1230	1280	1290	1341	1342	1364	1398	1452	-	-	-	-	-
1400	1420	1450	1510	-	1548	1542	1578	1618	-	-	-	-	-	-
1600	1630	1660	1720	-	1772	1764	1798	1830	-	-	-	-	-	-
1800	1830	1860	1920	-	1972	1964	2000	-	-	-	-	-	-	-
2000	2020	2050	2120	-	2182	2168	2230	-	-	-	-	-	-	-
2200	2230	2260	2330	-	2384	2376	-	-	-	-	-	-	-	-
2400	2430	2480	2530	-	2594	-	-	-	-	-	-	-	-	-
2600	2630	2660	2730	-	2794	-	-	-	-	-	-	-	-	-
2800	2830	2860	2930	-	3014	-	-	-	-	-	-	-	-	-
3000	3030	3060	3130	-	3228	-	-	-	-	-	-	-	-	-

**Spiral Wound Gasket Tolerances per DIN EN 1514-2**

D1	DN < 100	±0.4	D4	DN < 800	±0.8
	100 < DN < 400	±0.6		800 < DN < 1600	±1.5
	400 < DN < 800	±0.8		1600 < DN < 2000	±2.0
	800 < DN < 1600	±1.2			
	1600 < DN < 2000	±1.5			

**Dimensions for Spiral Wound Gasket to Suit Japanese (JIS) Flanges Pressure Rating**

DN	10 kgf/cm <sup>2</sup>			16-20 kgf/cm <sup>2</sup>				30 kgf/cm <sup>2</sup>				40 kgf/cm <sup>2</sup>				63 kgf/cm <sup>2</sup>			
	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4	D1	D2	D3	D4
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
10	24	37	52	18	24	37	52	18	24	37	59	15	21	34	59	15	21	34	64
15	28	41	57	22	28	41	57	22	28	41	64	18	24	37	64	18	24	37	69
20	34	47	62	28	34	47	62	28	34	47	69	23	29	42	69	23	29	42	75
25	40	53	74	34	40	53	74	34	40	53	79	29	35	48	79	29	35	48	80
32	51	67	84	43	51	67	84	43	51	67	89	38	44	60	89	38	44	60	90
40	57	73	89	49	57	73	89	49	57	73	100	43	51	67	100	43	51	67	107
50	69	89	104	61	69	89	104	61	69	89	114	55	63	79	114	55	63	79	125
65	87	107	124	77	87	107	124	68	78	98	140	68	78	98	140	68	78	98	152
80	98	118	134	89	99	119	140	80	90	110	150	80	90	110	150	80	90	110	162
90	110	130	144	102	114	139	150	92	102	127	162	92	102	127	162	92	102	127	179
100	123	143	159	115	127	152	165	104	116	141	172	104	116	141	182	104	116	141	194
125	148	173	190	140	152	177	202	128	140	165	207	128	140	165	224	128	140	165	235
150	174	199	220	166	182	214	237	153	165	197	249	153	165	197	265	153	165	197	275
175	201	226	245	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
200	227	252	170	217	233	265	282	202	218	250	294	202	218	250	315	202	218	250	328
225	252	277	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
250	278	310	332	268	288	328	354	251	271	311	360	251	271	311	378	251	271	311	394
300	329	361	377	319	339	379	404	300	320	360	418	300	320	360	434	300	320	360	446
350	366	406	422	356	376	416	450	336	356	396	463	336	356	396	479	336	356	396	488
400	417	457	484	407	432	482	508	383	403	453	524	383	403	453	531	383	403	453	545
450	468	518	539	458	483	533	573	-	-	-	-	-	-	-	-	-	-	-	-
500	518	568	594	508	533	583	628	-	-	-	-	-	-	-	-	-	-	-	-
550	569	619	650	559	584	634	684	-	-	-	-	-	-	-	-	-	-	-	-
600	620	670	700	610	635	685	734	-	-	-	-	-	-	-	-	-	-	-	-

**Inquiry / Order example**

: Size	Pressure	Material	Qty
1"	150#	Winding SS316L/ F.G, Outer ring CS	100pcs
DN20	PN16	Inner ring SS304, Winding SS304/ F.G, Outer ring CS	100pcs
DN40	30 kgf/cm2	Inner ring SS304, Winding SS304/ F.G, Outer ring CS	100pcs