

Torque Tables

For Spiral Wound Gaskets, ASME B16.5

Class 150

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Max. Gsk. Comp. Avail. (psi)	Prefer'd Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.50	60	7,560	38,503	10,000	16	30,000	47
0.75	1.00	1.56	1.13	4	0.50	60	7,560	26,712	10,000	22	26,712	60
1	1.25	1.88	1.53	4	0.50	60	7,560	19,713	10,000	30	19,713	60
1.25	1.88	2.38	1.67	4	0.50	60	7,560	18,119	10,000	33	18,119	60
1.5	2.13	2.75	2.39	4	0.50	60	7,560	12,637	10,000	47	12,637	60
2	2.75	3.38	3.01	4	0.63	120	12,120	16,125	10,000	74	16,125	120
2.5	3.25	3.88	3.50	4	0.63	120	12,120	13,861	10,000	87	13,861	120
3	4.00	4.75	5.15	4	0.63	120	12,120	9,406	9,406	120	9,406	120
4	5.00	5.88	7.47	8	0.63	120	12,120	12,974	10,000	92	12,974	120
5	6.13	7.00	9.02	8	0.75	200	18,120	16,071	10,000	124	16,071	200
6	7.19	8.25	12.88	8	0.75	200	18,120	11,253	10,000	178	11,253	200
8	9.19	10.38	18.25	8	0.75	200	18,120	7,945	7,945	200	7,945	200
10	11.31	12.50	22.21	12	0.88	320	25,140	13,584	10,000	236	13,584	320
12	13.38	14.75	30.37	12	0.88	320	25,140	9,933	9,933	320	9,933	320
14	14.63	16.00	33.07	12	1.00	490	33,060	11,995	10,000	408	11,995	490
16	16.63	18.25	44.51	16	1.00	490	33,060	11,884	10,000	412	11,884	490
18	18.69	20.75	63.88	16	1.13	710	43,680	10,940	10,000	649	10,940	710
20	20.69	22.75	70.36	20	1.13	710	43,680	12,415	10,000	572	12,415	710
24	24.75	27.00	91.45	20	1.25	1,000	55,740	12,190	10,000	820	12,190	1,000

Class 300

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Max. Gsk. Comp. Avail. (psi)	Prefer'd Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.50	60	7,560	38,522	10,000	16	30,000	47
0.75	1.00	1.56	1.13	4	0.63	120	12,120	43,079	10,000	28	30,000	84
1	1.25	1.88	1.55	4	0.63	120	12,120	31,319	10,000	38	30,000	115
1.25	1.88	2.38	1.67	4	0.63	120	12,120	28,994	10,000	41	28,994	120
1.5	2.13	2.75	2.38	4	0.75	200	18,120	30,517	10,000	66	30,000	197
2	2.75	3.38	3.03	8	0.63	120	12,120	31,983	10,000	38	30,000	113
2.5	3.25	3.88	3.53	8	0.75	200	18,120	41,110	10,000	49	30,000	146
3	4.00	4.75	5.15	8	0.75	200	18,120	28,139	10,000	71	28,139	200
4	5.00	5.88	7.52	8	0.75	200	18,120	19,287	10,000	104	19,287	200
5	6.13	7.00	8.97	8	0.75	200	18,120	16,166	10,000	124	16,166	200
6	7.19	8.25	12.85	12	0.75	200	18,120	16,925	10,000	118	16,925	200
8	9.19	10.38	18.28	12	0.88	320	25,140	16,502	10,000	194	16,502	320
10	11.31	12.50	22.24	16	1.00	490	33,060	23,782	10,000	206	23,782	490
12	13.38	14.75	30.25	16	1.13	710	43,680	23,102	10,000	307	23,102	710
14	14.63	16.00	32.94	20	1.13	710	43,680	26,520	10,000	268	26,520	710
16	16.63	18.25	44.36	20	1.25	1,000	55,740	25,133	10,000	398	25,133	1,000
18	18.69	20.75	63.78	24	1.25	1,000	55,740	20,975	10,000	477	20,975	1,000
20	20.69	22.75	70.25	24	1.25	1,000	55,740	19,044	10,000	525	19,044	1,000
24	24.75	27.00	91.40	24	1.50	1,600	84,300	22,135	10,000	723	22,135	1,600

Tables are based on the use of bolts with a yield strength of 100,000 psi.

Torque Tables

For Spiral Wound Gaskets, ASME B16.5

Class 400

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Max. Gsk. Comp. Recomm. Avail. (psi)	Prefer'd Torque (ft lb)
4	4.75	5.88	9.43	8	0.88	320	25,140	21,329	10,000	150	21,329	320
5	5.81	7.00	11.97	8	0.88	320	25,140	16,807	10,000	190	16,807	320
6	6.88	8.25	16.27	12	0.88	320	25,140	18,540	10,000	173	18,540	320
8	8.88	10.38	22.68	12	1.00	490	33,060	17,493	10,000	280	17,493	490
10	10.81	12.50	30.92	16	1.13	710	43,680	22,600	10,000	314	22,600	710
12	12.88	14.75	40.56	16	1.25	1,000	55,740	21,988	10,000	455	21,988	1,000
14	14.25	16.00	41.56	20	1.25	1,000	55,740	26,826	10,000	373	26,826	1,000
16	16.25	18.25	54.17	20	1.38	1,360	69,300	25,588	10,000	531	25,588	1,360
18	18.50	20.75	69.33	24	1.38	1,360	69,300	23,991	10,000	567	23,991	1,360
20	20.50	22.75	76.39	24	1.50	1,600	84,300	26,485	10,000	604	26,485	1,600
24	24.75	27.00	91.40	24	1.75	3,000	118,800	31,194	10,000	962	30,000	2,885

Class 600

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Max. Gsk. Comp. Recomm. Avail. (psi)	Prefer'd Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.50	60	7,560	38,522	10,000	16	30,000	47
0.75	1.00	1.56	1.13	4	0.63	120	12,120	43,079	10,000	28	30,000	84
1	1.25	1.88	1.55	4	0.63	120	12,120	31,319	10,000	38	30,000	115
1.25	1.88	2.38	1.67	4	0.63	120	12,120	28,994	10,000	41	28,994	120
1.5	2.13	2.75	2.38	4	0.75	200	18,120	30,517	10,000	66	30,000	197
2	2.75	3.38	3.03	8	0.63	120	12,120	31,983	10,000	38	30,000	113
2.5	3.25	3.88	3.53	8	0.75	200	18,120	41,110	10,000	49	30,000	146
3	4.00	4.75	5.15	8	0.75	200	18,120	28,139	10,000	71	28,139	200
4	4.75	5.88	9.43	8	0.88	320	25,140	21,329	10,000	150	21,329	320
5	5.81	7.00	11.97	8	1.00	490	33,060	22,102	10,000	222	22,102	490
6	6.88	8.25	16.27	12	1.00	490	33,060	24,381	10,000	201	24,381	490
8	8.88	10.38	22.68	12	1.13	710	43,680	23,112	10,000	307	23,112	710
10	10.81	12.50	30.92	16	1.25	1,000	55,740	28,840	10,000	347	28,840	1,000
12	12.88	14.75	40.56	20	1.25	1,000	55,740	27,486	10,000	364	27,486	1,000
14	14.25	16.00	41.56	20	1.38	1,360	69,300	33,353	10,000	408	30,000	1,223
16	16.25	18.25	54.17	20	1.50	1,600	84,300	31,127	10,000	514	30,000	1,542
18	18.50	20.75	69.33	20	1.63	2,200	100,800	29,080	10,000	757	29,080	2,200
20	20.50	22.75	76.39	24	1.63	2,200	100,800	31,669	10,000	695	30,000	2,084
24	24.75	27.00	91.40	24	1.88	4,000	138,240	36,298	10,000	1,102	30,000	3,306

Tables are based on the use of bolts with a yield strength of 100,000 psi.

Torque Tables

For Spiral Wound Gaskets, ASME B16.5

Class 900

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Preferred Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.75	200	18,120	92,284	10,000	22	100
0.75	1.00	1.56	1.13	4	0.75	200	18,120	64,024	10,000	31	100
1	1.25	1.88	1.53	4	0.88	320	25,140	65,555	10,000	49	160
1.25	1.88	2.38	1.67	4	0.88	320	25,140	60,253	10,000	53	160
1.5	1.13	2.75	2.39	4	1.00	490	33,060	55,261	10,000	89	266
2	2.75	3.38	3.01	8	0.88	320	25,140	66,893	10,000	48	160
2.5	3.25	3.88	3.50	8	1.00	490	33,060	75,620	10,000	65	245
3	3.75	4.75	6.68	8	0.88	320	25,140	30,126	10,000	106	319
4	4.75	5.88	9.39	8	1.13	710	43,680	37,222	10,000	191	572
5	5.81	7.00	11.95	8	1.25	1,000	55,740	37,316	10,000	268	804
6	6.88	8.25	16.33	12	1.13	710	43,680	32,090	10,000	221	664
8	8.75	10.13	20.38	12	1.38	1,360	69,300	40,798	10,000	333	1,000
10	10.88	12.25	24.97	16	1.38	1,360	69,300	44,400	10,000	306	919
12	12.75	14.50	37.45	20	1.38	1,360	69,300	37,006	10,000	368	1,103
14	14.00	15.75	40.89	20	1.50	1,600	84,300	41,233	10,000	388	1,164
16	16.25	18.00	47.07	20	1.63	2,200	100,800	42,825	10,000	514	1,541
18	18.25	20.50	68.48	20	1.88	4,000	138,240	40,376	10,000	991	2,972
20	20.50	22.50	67.54	20	2.00	4,400	159,120	47,116	10,000	934	2,802
24	24.75	26.75	80.90	20	2.50	8,800	257,520	63,667	10,000	1,382	4,400

Class 1500

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Preferred Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.75	200	18,120	92,284	10,000	22	100
0.75	1.00	1.56	1.13	4	0.75	200	18,120	64,024	10,000	31	100
1	1.25	1.88	1.53	4	0.88	320	25,140	65,555	10,000	49	160
1.25	1.56	2.38	2.51	4	0.88	320	25,140	40,021	10,000	80	240
1.5	1.88	2.75	3.18	4	1.00	490	33,060	41,606	10,000	118	353
2	2.31	3.38	4.75	8	0.88	320	25,140	42,376	10,000	76	227
2.5	2.75	3.88	5.85	8	1.00	490	33,060	45,182	10,000	108	325
3	3.63	4.75	7.40	8	1.13	710	43,680	47,222	10,000	150	451
4	4.63	5.88	10.31	8	1.25	1,000	55,740	43,258	10,000	231	694
5	5.63	7.00	13.63	8	1.50	1,600	84,300	49,464	10,000	323	970
6	6.75	8.25	17.67	12	1.38	1,360	69,300	47,059	10,000	289	867
8	8.50	10.13	23.77	12	1.63	2,200	100,800	50,886	10,000	432	1,297
10	10.50	12.25	31.27	12	1.88	4,000	138,240	53,052	10,000	754	2,262
12	12.75	14.50	37.45	16	2.00	4,400	159,120	67,975	10,000	647	2,200
14	14.25	15.75	35.34	16	2.25	6,360	205,380	92,977	10,000	684	3,180
16	16.00	18.00	53.41	16	2.50	8,800	257,520	77,149	10,000	1,141	4,400
18	18.25	20.50	68.48	16	2.75	11,840	315,540	73,728	10,000	1,606	5,920
20	20.25	22.50	75.55	16	3.00	15,440	379,440	80,363	10,000	1,921	7,720
24	24.25	26.75	100.14	16	3.50	26,000	525,000	83,884	10,000	3,100	13,000

Tables are based on the use of bolts with a yield strength of 100,000 psi.

Torque Tables

For Spiral Wound Gaskets, ASME B16.5

Class 2500

Nom. Pipe Size (inches)	Gsk. ID Contact (inches)	Gsk. OD Contact (inches)	Gsk. Area Contact (Sq. in.)	No. of Bolts	Size of Bolts (inches)	Max. Torque per Bolts @ 60 ksi Bolt Stress (ft lb)	Comp. per Bolt @ 60K (ft lb)	Max. Gsk. Comp. Available (psi)	Min. Gsk. Comp. Recomm. (psi)	Minimum Torque per Bolt (ft lb)	Preferred Torque (ft lb)
0.5	0.75	1.25	0.79	4	0.75	200	18,120	92,284	10,000	22	100
0.75	1.00	1.56	1.13	4	0.75	200	18,120	64,024	10,000	31	100
1	1.25	1.88	1.53	4	0.88	320	25,140	65,555	10,000	49	160
1.25	1.56	2.38	2.51	4	1.00	490	33,060	52,629	10,000	93	279
1.5	1.88	2.75	3.18	4	1.13	710	43,680	54,971	10,000	129	387
2	2.31	3.38	4.75	8	1.00	490	33,060	55,725	10,000	88	264
2.5	2.75	3.88	5.85	8	1.13	710	43,680	59,696	10,000	119	357
3	3.63	4.75	7.40	8	1.25	1,000	55,740	60,260	10,000	166	500
4	4.63	5.88	10.31	8	1.50	1,600	84,300	65,423	10,000	245	800
5	5.63	7.00	13.63	8	1.75	3,000	118,800	69,708	10,000	430	1,500
6	6.75	8.25	17.67	8	2.00	4,400	159,120	72,035	10,000	611	2,200
8	8.50	10.13	23.77	12	2.00	4,400	159,120	80,323	10,000	548	2,200
10	10.63	12.25	29.19	12	2.50	8,800	257,520	105,849	10,000	831	4,400
12	12.50	14.50	42.41	12	2.75	11,840	315,540	89,280	10,000	1,326	5,920

Tables are based on the use of bolts with a yield strength of 100,000 psi.