

A gasket has one basic function: to create a positive seal between two relatively stationary parts. The gasket must do a number of different jobs well to function properly - first, create an initial seal; second, maintain the seal over a desired length of time; third, be easily removed and replaced. Varying degrees of success are dependent on how well the gasket does the following:

1. Seals system fluid.
2. Chemically resists the system fluid to prevent serious impairment of its physical properties.
3. Deforms enough to flow into the imperfections on the gasket seating surfaces to provide intimate contact between the gasket and the sealing surfaces.
4. Withstands system temperatures without serious impairments of its performance properties.
5. Is resilient and creep resistant enough to maintain an adequate portion of the applied load.
6. Has sufficient strength to resist crushing under the applied load, and maintain its integrity when being handled and installed.
7. Does not contaminate the system fluid.
8. Does not promote corrosion of the gasket seating surfaces.
9. Is easily and cleanly removable at the time of replacement.

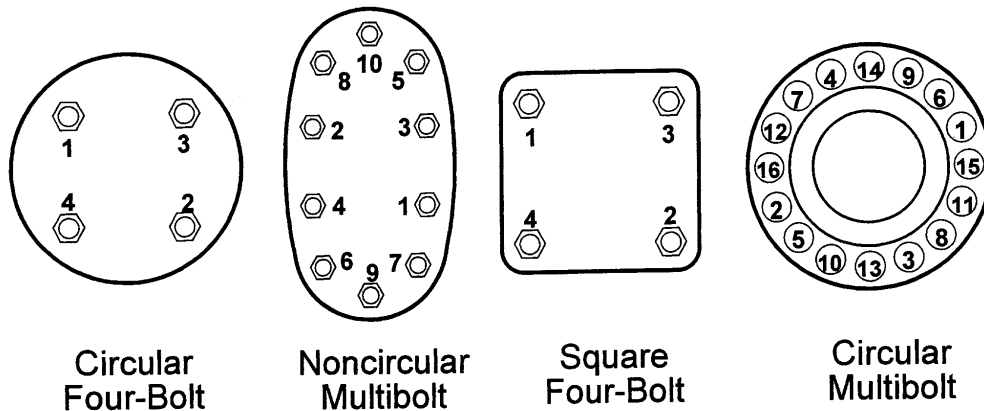
During the gasket product selection process that follows, we recommend that these nine (9) factors be used as a checklist from the viewpoint of the user's degree of need for each factor and the manufacturer's degree of compliance.

A few simple precautionary measures must be observed during installation to ensure the most satisfactory joint.

- Center the gasket on the flange.
- Be sure surface finish and flatness are satisfactory.
- Tighten the bolts to compress the gasket uniformly. This means going from side to side around the joint. See Figure 1.
- Use a torque wrench, well-lubricated fasteners, and hardened flat washers to ensure correct initial loading.
- All bolts should be tightened in one-third increments, according to proper bolting patterns.
- Make a final check pass at the target torque value moving consecutively from bolt to bolt.
- Never use liquid or metallic based anti-stick or lubricating compounds on the gaskets. Premature failure could occur as a result.

Correct Bolting Patterns

Figure 1



**Bolt Torque Values for ASME B16.5 Class 150# Flat Flanges
with A193 Grade B7 Bolts**
for Full Face *Homogeneous Elastomeric* gaskets

				<70 durometer Shore A	>70 durometer Shore A
Nominal Pipe Size (in)	No. of Bolts	Size of Bolts (inches)	Minimum Torque (ft.lbs.)	Preferred Torque (ft.lbs.)	Preferred Torque (ft.lbs.)
0.5	4	0.50	9	14	19
0.75	4	0.50	12	17	23
1	4	0.50	14	21	28
1.25	4	0.50	16	24	32
1.5	4	0.50	19	28	37
2	4	0.63	33	49	66
2.5	4	0.63	45	67	90
3	4	0.63	49	73	97
3.5	8	0.63	30	45	60
4	8	0.63	33	49	66
5	8	0.75	41	61	82
6	8	0.75	46	69	92
8	8	0.75	66	99	132
10	12	0.88	64	96	128
12	12	0.88	93	140	186
14	12	1.00	134	201	268
16	16	1.00	120	181	241
18	16	1.13	132	198	264
20	20	1.13	124	187	249
24	20	1.25	173	260	347

NOTE 1: This torque table applies for 1/16" and 1/8" thick homogeneous elastomeric gaskets. The pressure rating of the material may vary depending on the grade.

NOTE 2: The above mentioned torque values are based on a maximum bolt stress of 60,000 psi. Bolt yield should be at least 80,000 psi.

NOTE 3: This table does not take flange strength into consideration. We recommend consulting the flange manufacturer to confirm the suitability of the above-mentioned values.

NOTE 4: Apply torque in increments. When the gasket extends past the OD of the flange by 1/4" to 3/8", stop tightening.

**Bolt Torque Values for ASME B16.47 Series A Class 150# Flat Flanges
with A193 Grade B7 Bolts**
for Full Face *Homogeneous Elastomeric* gaskets

				<70 durometer Shore A	>70 durometer Shore A
Nominal Pipe Size (in)	No. of Bolts	Size of Bolts (inches)	Minimum Torque (ft.lbs.)	Preferred Torque (ft.lbs.)	Preferred Torque (ft.lbs.)
26	24	1.25	238	238	318
28	28	1.25	224	224	299
30	28	1.25	248	248	331
32	28	1.50	309	309	412
34	32	1.50	283	283	377
36	32	1.50	309	309	411
38	32	1.50	356	356	474
40	36	1.50	328	328	438
42	36	1.50	354	354	472
44	40	1.50	339	339	452
46	40	1.50	354	354	473
48	44	1.50	342	342	456
50	44	1.75	470	470	626
52	44	1.75	502	502	669
54	44	1.75	535	535	713
56	48	1.75	528	528	705
58	48	1.75	561	561	747
60	52	1.75	530	530	707

NOTE 1: This torque table applies for 1/16" and 1/8" thick homogeneous elastomeric gaskets. The pressure rating of the material may vary depending on the grade.

NOTE 2: The above mentioned torque values are based on a maximum bolt stress of 60,000 psi. Bolt yield should be at least 80,000 psi.

NOTE 3: This table does not take flange strength into consideration. We recommend consulting the flange manufacturer to confirm the suitability of the above-mentioned values.

NOTE 4: Apply torque in increments. When the gasket extends past the OD of the flange by 1/4" to 3/8", stop tightening.