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LPG System Specifications

The LPG is a Low Pressure service isolation Gasket kits designed for electrical flange isolation and/or general sealing applications. This gasket is suitable for use in raised-face and flat-face flanges in ANSI class 150 and 600 service (or equivalent). In addition to providing electrical isolation, the gasket is excellent for isolating flanges made of dissimilar metals or where prevention of flange face corrosion is desired.

The design of LPG incorporated overlapping and offsetting seal grooves. The purpose of this design is to break each layer of laminate within the seal itself thereby creating a barrier through which fluid and/or gas cannot migrate. The sealing element can be any elastomeric material as well as more sophisticated Spring-Energized Teflon seals.

As a result of this advanced seal design, maintenance free flange isolation and flange face corrosion mitigation are achieved economically.

The LPG is available in both full-face (Type E) and ring style (Type F) configurations.

Depending upon the sealing element selected, the LPG is rated for most all hydrocarbon and water service applications.

Retainer Material

1) G-10 Glass-Reinforced Epoxy (GRE) laminate:

Compressive Strength: 65,000 PSI

Dielectric Strength: 750-800 VPM

Max. Continuous Operating Temp: 150°C(300°F)

Water Absorption: 0.05%

Flexural Strength: 65,000 PSI

Tensile Strength: 50,000 PSI

2) G-11 Glass-Reinforced Epoxy (GRE) High Temp. laminate material:

Compressive Strength: 50,000 PSI

Dielectric Strength: 500 VPM

Max. Continuous Operating Temp: 200°C (398°F)

Water Absorption: 0.085%

Flexural Strength: 57,700 PSI

Tensile Strength: 41,000 PSI

Seal Material

1) PTFE (Spring-Energized)

Recommended for all environments. Helical wound spring provides radial load. Encapsulation in the seal groove eliminates creep or cold flow. PTFE is the most reliable sealing element.

Temperature Range: -200°C to 250°C (note: gasket material is limiting factor)

2) Viton

General-purpose oilfield elastomer. Excellent resistance to aliphatic hydrocarbons and glycols. Good resistance to aromatic hydrocarbons.

Not recommended for: Systems with amine inhibitors and in piping systems containing significant partial

pressures of H_2S, polar gases (i.e., CO_2) or where radical pressure drops (2000 PSI to 0 PSI) commonly occur.
Temperature Range: -29°C to 250°C

3) Nitrile
General purpose elastomer. Excellent for use in water systems with some aliphatic hydrocarbons, silicone base fluids and glycol based systems.
Not recommended for:Systems containing H_2S, aromatic hydrocarbons, phosphate esters or halogenated hydrocarbons; piping systems subjected to radical pressure drops (2000 PSI to 0 PSI) or piping systems containing significant partial pressures of polar gases (i.e., CO_2).
Temperature Range: -20°C to 110°C

4)EPDM
General purpose elastomer,material with WRAS certificated,suitable to be use in portal water.
Temperature Range:-57°C to 150°C

Isolating Sleeve

1) GRE
GRE (Glass-Reinforced Epoxy) tubing is suitable for continuous exposure to 350°C. This material is an epoxy laminate that offers excellent resistance to crushing, cracking, breaking and thread pinch.

2) Mylar
Spiral wound Mylar is a general-purpose material recommended for bolting applications with flange temperatures below 120°C. This material has generally fair resistance to crushing, cracking, breaking and thread pinch.

3) NOMEX
Nomex is a high temperature sleeve material manufactured from solid organic polymer and is suitable for temperatures up to 210°C.

4)PTFE
Made of 100% Teflon PTFE,compliance to FDA.Suit to all environments.
Temperature Range:-200°C to 260°C

Isolating Washers

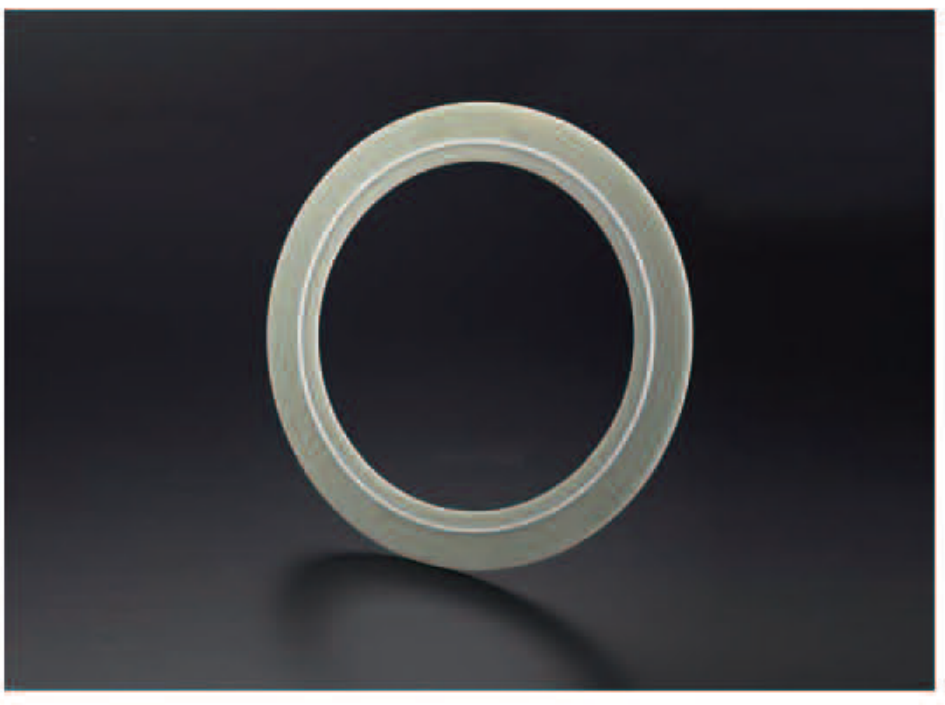
1) GRE – G10/G11
3mm (1/8") thick Glass Reinforced Epoxy washers

Steel Washer

1) ZPS (Zinc plated Carbon Steel)
2) XPS (Xylan coated Carbon Steel)
3) SS (Stainless Steel)

Gasket Thickness

Standard thickness of LPG gaskets are 3.2mm (1/8").Special thickness can be supplied on request.



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ANSI B16.5 Bolt Torque (ft.-lbs) for 7500psi Gasket Seating Stress for Raised Face Flanges

Nominal Pipe Size	Pressure Classes					
	150 Class	300 Class	600 Class	900 Class	1500 Class	2500 Class
1/2	21	21	21	30	30	30
3/4	30	37	37	43	43	43
1	40	49	49	66	66	66
1 1/4	60	73	73	100	100	113
1 1/2	78	113	113	148	148	165
2	150	75	75	102	102	116
2 1/2	184	109	109	142	142	159
3	262	155	155	178	225	248
3 1/2	149	175	202	N/A	N/A	N/A
4	186	219	253	320	352	417
5	277	277	363	446	528	610
6	352	234	307	342	411	878
8	490	377	476	573	670	815
10	475	404	496	542	967	1272
12	619	586	517	565	1004	1817
14	767	512	617	669	1228	N/A
16	713	700	829	894	1684	N/A
18	1038	763	1169	1338	2413	N/A
20	917	842	1076	1572	2899	N/A
22	1187	1172	1355	N/A	N/A	N/A
24	1289	1272	1570	2481	4293	N/A

ANSI B16.5 Bolt Torque (ft.-lbs) for 7500psi Gasket Seating Stress for RTJ Flanges

Nominal Pipe Size	Pressure Classes					
	150 Class	300 Class	600 Class	900 Class	1500 Class	2500 Class
1/2	N/A	29	29	62	62	77
3/4	N/A	55	55	76	76	97
1	35	63	63	93	93	142
1 1/4	45	78	78	115	115	228
1 1/2	61	127	127	179	179	335
2	122	65	65	143	144	205
2 1/2	185	113	113	193	193	278
3	201	144	144	218	354	381
3 1/2	143	166	192	N/A	N/A	N/A
4	179	199	230	341	479	596
5	233	290	380	532	778	903
6	270	250	328	365	471	1390
8	382	439	555	738	879	1248
10	398	466	572	686	1247	2374
12	698	665	586	698	1230	3415
14	724	680	819	899	1732	N/A
16	675	847	1003	1178	2176	N/A
18	990	931	1427	1712	3111	N/A
20	877	1093	1396	2062	3859	N/A
22	1055	1374	1588	N/A	N/A	N/A
24	1321	1626	2007	3273	5935	N/A

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Notes:

1) Recommended bolt torque is based on generating a minimum gasket seating stress of 7,500 PSI arrived at using API 6A Annex D recommended flange bolt torque.
2) Bolt torque values listed assume a lubricated stud bolt resulting in a 0.16 friction factor.
3) Recommended torque values are based on using weld-neck (integral) flanges.
4) The torque figures in the table are based on a flange surface finish between 125 -250 rms finish, surface flatness within 0.020" tolerance and no misaligned flanges.
5) Deviation from these specific requirements may affect product performance or service life.

When ordered, the following must be specified:

1) Flange Specification (ANSI/ASME, API, MSS, BSI or DIN standard)
2) Size Pressure Rating (ANSI class 600 maximum)
3) Operating Pressure, Temperature and Media
4) Required Seal Material
5) Isolating Sleeve Material
6) Isolating Washer Material
7) Metal Washer Material

Customer Service:

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Warning:

Properties shown throughout this brochure are typical. Your specific application should not be undertaken without independent study and evaluation for suitability.

For specific application recommendations consult Tecson. Failure to select the proper sealing products could result in property damage and/or serious personal injury.

Performance data published in this brochure has been developed from field testing, customer field reports and/or in-house testing.

While the utmost care has been used in compiling this brochure, we assume no responsibility for errors. Specifications subject to change without notice. This edition cancels all previous issues. Subject to change without notice.

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