

Garlock FLEXSEAL® ULE (Ultra Low Emissions) Spiral Wound

Spiral wound gasket for stringent fugitive emission requirements

Garlock has expanded their Ultra Low Emissions family of products to include a spiral wound gasket. The FLEXSEAL® ULE is designed for use where leakage control is critical and the aggressive application requires a spiral wound design. It's manufactured using high performance graphite, and offers maximum protection against oxidation. The standard design includes an inner ring and outer ring, as well as preformed metal wire to enhance compressability and sealability. The FLEXSEAL® ULE spiral wound is another product born from Garlock's customer driven innovation.



VALUES AND BENEFITS

- » API 6FB
 - › Average leak rate recorded of 1.4 ml/min
- » Low Emissions (CFET)
 - › Provides average leakage rates of 10 PPM (parts per million)
- » Oxidation Resistance
 - › Offers maximum protection against oxidation for greater reliability and longer service life
 - › No aging or fatigue under dynamic load, even at elevated temperatures
- » Manufacturability
 - › Available in standard lead-time

CONFIGURATIONS

- » Available in
 - › Standard Flexseal Spiral Wound configurations: RW/RWI/SW/SWI
 - › Materials and dimensions per ASME B16.20
 - › Materials available include various series 300 stainless, Hastelloy®, Inconel®** and titanium, custom materials are also available

IDEAL FOR

- » Thermal Cycling - Compressibility and recovery of high performance graphite combined with custom winding technology and processes that provides excellent chemical resistance and performance operating uncompromised in a wide temperature range
- » Industries where stringent fugitive emission requirements are found
- » Pressurized process equipment with evaporated sources, such as waste water treatment and storage tanks.

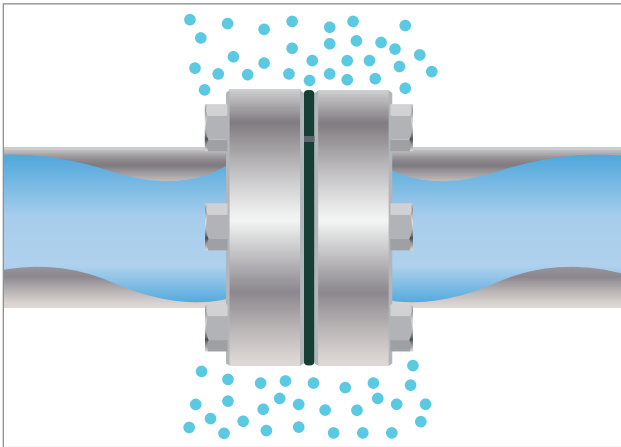
*Hastelloy is a registered trademark of Haynes International, Inc.

**Inconel is a registered trademark of Inco Alloys International, Inc.

GARLOCK FLEXSEAL® ULE

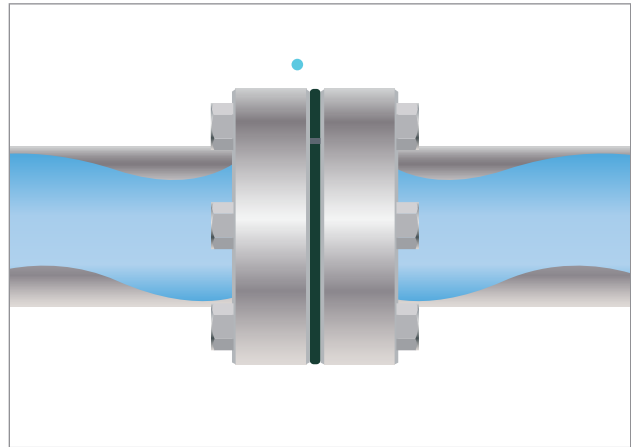
According to API 641 the acceptable industry limit of leakage is 100 ppm.

STANDARD GASKET



A standard spiral wound gasket can experience leak rates of up to 600 ppm, 6 times greater than the standard set by API 641.

GARLOCK FLEXSEAL® ULE



The Garlock FLEXSEAL® ULE spiral wound gasket is well under the new standard set by the API 641 regulation.

TORQUE TABLES

NPS	150#				300#				600#				900#				1500#				2500#			
	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)	# of bolts	bolt size (in.)	min. torque (ft.lbs)	preferred torque (ft. lbs)
½	4	0.50	16	32	4	0.50	16	38	4	0.50	16	38	4	0.75	22	47	4	0.75	22	47	4	0.75	22	47
¾	4	0.50	22	44	4	0.63	28	63	4	0.63	28	63	4	0.75	31	70	4	0.75	31	70	4	0.75	31	70
1	4	0.50	30	63	4	0.63	38	89	4	0.63	38	89	4	0.88	49	117	4	0.88	49	117	4	0.88	49	117
1½	4	0.50	47	76	4	0.75	66	147	4	0.75	66	147	4	1.00	89	283	4	1.00	118	295	4	1.13	129	345
2	4	0.63	74	158	8	0.63	37	89	8	0.63	37	89	8	0.88	48	188	8	0.88	76	205	8	1.00	88	239
2½	4	0.63	87	158	8	0.75	48	118	8	0.75	48	118	8	1.00	65	286	8	1.00	108	298	8	1.13	119	349
3	4	0.63	120	158	8	0.75	71	165	8	0.75	71	165	8	0.88	106	291	8	1.13	150	403	8	1.25	166	515
4	8	0.63	92	146	8	0.75	103	256	8	0.88	149	378	8	1.13	191	523	8	1.25	231	690	8	1.50	245	760
5	8	0.75	124	236	8	0.75	124	265	8	1.00	221	563	8	1.25	268	665	8	1.50	323	946	8	1.75	430	1467
6	8	0.75	178	265	12	0.75	118	236	12	1.00	202	558	12	1.13	221	605	12	1.38	289	856	8	2.00	611	2074
8	8	0.75	200	265	12	0.88	194	378	12	1.13	307	809	12	1.38	333	967	12	1.63	432	1375	12	2.00	548	2081
10	12	0.88	236	407	16	1.00	206	499	16	1.25	346	969	16	1.38	306	960	12	1.88	754	2500	12	2.50	831	3353
12	12	0.88	320	407	16	1.13	309	722	20	1.25	365	969	20	1.38	368	1135	16	2.00	647	2323	12	2.75	1326	5404
14	12	1.00	408	623	20	1.13	269	578	20	1.38	408	1,070	20	1.50	388	1291	16	2.25	684	2725				
16	16	1.00	421	563	20	1.25	399	817	20	1.50	514	1,306	20	1.63	514	1692	16	2.50	1141	4346				
18	16	1.13	649	867	24	1.25	478	1,012	20	1.63	757	2,135	20	1.88	991	3194	16	2.75	1606	6140				
20	20	1.13	572	867	24	1.25	526	1,012	24	1.63	695	2,121	20	2.00	934	3152	16	3.00	1921	7732				
24	20	1.25	820	1,292	24	1.50	723	1,329	24	1.88	1,103	3,241	20	2.50	1382	5085	16	3.50	3,100	12,225				

Based on ASTM A193 B7 bolts

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