

iGuard™ flange isolation and sealing systems consist of all the necessary components to seal, electrically isolate, and cathodic protection (corrosion control) between flanges in general to severe service applications such as water, wastewater, natural gas, hydrocarbons, caustics, acids, and other aggressive media to 232°C (450°F). Gaskets are available for full face (Type E), raised face (Type F), and ring type joint (RTJ) flanges (Type D) from NPS ½" (DN 15) to NPS 144" (DN 3600) or equivalent to meet all international piping sizes. iGuard™ gaskets meet AWWA, ANSI, API, DN, JIS and all other dimensional standards. The standard iGuard™ flange isolation kit consists of a gasket, isolating washers, backing washers, and isolating bolt/stud sleeves. Gasket selection can be made from a wide variety of materials to best suit the sealing and performance characteristics of the application. In gaskets with phenolic or glass carrier rings, the double-ogee sealing element provides a reliably concentrated unit load on the flanges using the lowest torquing conditions possible.

### General Features:

- Auto-Energizing double-ogee seal
- Low torque requirements
- Tri-directional seal movement for a tighter seal

### Applications

- Gas
- Waste Water
- Potable Water
- Steam
- Oil
- Chemicals (caustic, acid)
- Pipelines
- LNG

### Industries:

- Oil & Gas
- Pulp & Paper
- Petro Chemical
- Refining
- Water/Wastewater
- Food & Beverage
- Marine
- Aerospace
- Chemical
- LNG

### Gasket Options:

Carrier	Sealing Element			
	Nitrile	EPDM	Viton	PTFE
Plain Phenolic	✓	✓	✓	✓
Neo-Faced Phenolic G-3	✓	✓	✓	✓
Silicone Glass G-7	✓	✓	✓	✓
Epoxy Glass G-10	✓	✓	✓	✓
Epoxy Glass G-11	✓	✓	✓	✓
Durlon 8400	n/a	n/a	n/a	n/a
Durlon 8500	n/a	n/a	n/a	n/a
Durlon 9000	n/a	n/a	n/a	n/a

### Before Tightening

The flange faces make contact with the sealing elements which sit slightly higher than the isolating carrier ring.

### After Tightening

The sealing element is compressed and moves bi-laterally through the gasket radius thus filling the small gaps on either side of the sealing element. This radial movement provides a tighter seal with less stress on the carrier ring as compared to rectangular sealing elements used in other gasket styles in the market. The tri-directional movement of the sealing element provides better elastic recovery over time as bolt loads relax and pressure/temperature cycles occur.

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Durlon iGuard REV 2016-06

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ASTM	Test Method	Plain Phenolic	Neo-Faced Phenolic	Hi-Temp Phenolic G-3	Silicone Glass G-7	Epoxy Glass G-10	Expoxy Glass G -11
D149	Dielectric Strength, Volts/Mil	500	500	550	350-400	550	550
D695	Compressive Strength, psi	25,000	25,000	50,000	40,000	50,000	50,000+
D229	Water Absorption, %	1.60	1.60	0.70	0.07	0.10	0.10
D257	Insulation Resistance, Meg/Ohms	40,000	40,000	46,000	2,500	200,000	200,000
D790	Flexural Strength, psi	22,500	22,500	60,000	27,000	60,000	75,000+
D785	Hardness Rockwell, "M"	85	85	115	105	115	115
D256	IZOD Impact Strength, Ft-Lbs/In.	1.2	1.2	12	8	14	12
D732	Shear Strength, psi	10,000	10,000	18,000	20,000	22,000	22,000
	Operating Temperature	-54°C to 104°C	-54°C to 79°C	-54°C to 200°C	Cryogenic to 232°C	Cryogenic to 138°C	Cryogenic to 177°C
		-65°F to 220°F	-65°F to 175°F	-65°F to 392°F	Cryogenic to 450°F	Cryogenic to 280°F	Cryogenic to 177°F

- iGuard™ EN** The iGuard™ EN style isolation gasket is manufactured from Nema grade G-10 / FR-4 glass epoxy material incorporating a Viton double-ogee sealing element. These kits come standard with one iGuard™ EN gasket, two isolating Nema grade G-10 washers and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ HC** The iGuard™ HC style isolation gasket is manufactured from special high-compression 6mm (¼") thick Nema grade G-10 glass epoxy material incorporating a spring energized PTFE sealing element to prevent cold flow under high pressures. These kits come standard with one iGuard™ HC gasket, two isolating Nema grade G-10 washers, two SAE zinc plated steel backup washers, and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ CS** The iGuard™ CS style isolation gasket is manufactured from 3mm (1/8") thick Nema grade G-10 glass epoxy material bonded to a 316 stainless steel internal core with a spring energized PTFE sealing element to prevent cold flow in critical service applications under continuous reciprocating movement or internal pressure surges at elevated temperatures. This design makes the iGuard™ CS ideal for API Class 15,000 and ANSI Class 600, 900, and 2,500 flange applications. These kits come standard with one iGuard™ CS gasket, two isolating Nema grade G-10 washers, two SAE zinc plated steel backup washers, and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ HT** The iGuard™ HT style isolation gasket is manufactured from 6mm (¼") thick Nema grade G-10 glass epoxy material incorporating a spring energized PTFE sealing element to prevent cold flow in critical service applications at higher temperatures, under continuous reciprocating movement, with internal pressure surges, and requiring frequent removal and installation such as those found in offshore drilling platforms and natural gas compressor and pumping stations. This design makes the iGuard™ HT ideal for ANSI Class 150 to 2,500 and API Class 3,000 to 10,000 and comes in sizes from NPS ½" (DN 25) to NPS 24" (DN 600) or international equivalents in Type E (full face) or Type F (raised face) configurations. These kits come standard with one iGuard™ HT gasket, two isolating Nema grade G-10 washers, two SAE zinc plated steel backup washers, and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ 8400** The iGuard™ 8400 style isolation gasket is manufactured from 3mm (1/8") thick genuine Durlon® 8400 phenolic fiber gasket material to improve sealability in critical service chemical environments from pH 2-13 and other aggressive media to 232°C (450°F). This design makes the iGuard™ 8400 ideal for ANSI Class 150 and 300 and comes in sizes from NPS ½" (DN 25) to NPS 96" (DN 2400) or international equivalents in Type E (full face) or Type F (raised face) configurations. These kits come standard with one iGuard™ 8400 gasket, two isolating Nema grade G-10 washers, two SAE zinc plated steel backup washers, and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ 8500** The iGuard™ 8500 style isolation gasket is manufactured from 3mm (1/8") thick genuine Durlon® 8500 aramid fiber gasket material to improve sealability in steam environments to 232°C (450°F). This design makes the iGuard™ 8500 ideal for ANSI Class 150 and 300 and comes in sizes from NPS ½" (DN 25) to NPS 96" (DN 2400) or international equivalents in Type E (full face) or Type F (raised face) configurations. These kits come standard with one iGuard™ 8500 gasket, two isolating Nema grade G-10 washers, two SAE zinc plated steel backup washers, and one Nema grade G-10 sleeve tube for every bolt/stud.
- iGuard™ 9000** The iGuard™ 9000 style isolation gasket is manufactured from 3mm (1/8") thick genuine Durlon® 9000 glass filled PTFE gasket material to improve sealability in critical service chemical environments from pH 0-14 and other aggressive media and from temperatures between -73°C (-100°F) to 232°C (450°F). This design makes the iGuard™ 9000 ideal for cryogenic, petrochemical, pharmaceutical, semiconductor manufacturing, and food and beverage manufacturing applications in ANSI Class 150 and 300 or international equivalents and comes in sizes from NPS ½" (DN 25) to NPS 144" (DN 3600) in Type E (full face) or Type F (raised face) configurations. These kits come standard with one iGuard™ 9000 gasket, two isolating PTFE washers, two SAE zinc plated steel backup washers, and one PTFE sleeve tube for every bolt/stud.

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