

PSI Flange Isolation Kits

Canada distributors Power Plant supply Co

<http://www.powercanadasolutions.com/flangeisolation.html>

ONTARIO/Western Canada QUEBEC: 416 752 3339 ATLANTIC/North & East Quebec: 902 435 9899 / 709 747 7650



Available for all flange sizes, types, pressure ratings and materials.



LineBacker® & GasketSeal® Sealing Gasket Physical Properties

ASTM Test	Property	Plain Phenolic	Neo-faced Phenolic	Hi-temp Phenolic G-3	Silicone Glass G-7*	Epoxy Glass G-10	Epoxy Glass G-11
D149	Dielectric strengths, 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, %	1.6	1.6	0.7	0.07	0.10	0.10
D257	Insulating Resistance, Meg Ohms	40,000	40,000	46,000	2,500	200,000	200,000

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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/inch	1.2	1.2	12.0	8.0	14.0	12.0
D732	Shear strength, psi	10,000	10,000	18,000	20,000	22,000	22,000
D229	Operating temp, °F	-65 to +220	-65 to +175	-65 to +392	Cryogenic to +450	Cryogenic to +280	Cryogenic to +350
	Operating temp, °C	-54 to +104	-54 to +79	-54 to +200	- Cryogenic to +232	Cryogenic to +138	Cryogenic to +177

* = G-7 material should not be used with hydrocarbons, not even trace amounts.

Seal Element Temperature Limits

Nitrile	Viton	Teflon	Neoprene	EPDM
-65 to +250°F	-20 to +350°F	Cryogenic to +450°F	-40 to +175°F	-65 to +300°F
-54 to +121°C	-29 to +177°C	Cryogenic to +232°C	-40 to +79°C	-54 to +149°C

Consider both retainer and seal element temperature limits together for GasketSeal® and LineBacker® Sealing Gaskets

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Flange Isolation Washer Sets

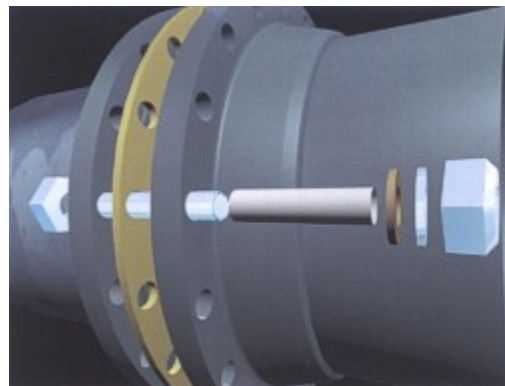
Single Washer Set

Single washer set flange isolation kits include the following items for each bolt:

- One - 1/8" thick steel washer
- One - Isolating washer
- One - Isolating sleeve

Application Considerations:

In buried applications, single washer configurations may be used to allow the Cathodic Protection (CP) current to reach the nuts and bolts. If desired, nuts on the opposite side of the cathodically protected flange may be included as part of the CP system.



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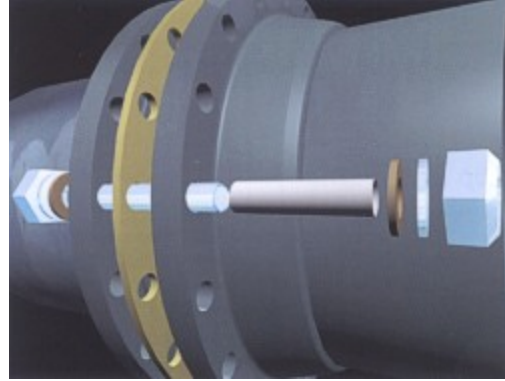
Double Washer Set

Double washer set flange isolation kits include the following components for each bolt:

- Two - 1/8" thick steel washers
- Two - Isolating washers
- One - Full length isolating sleeve

Application Considerations:

Double washer configurations may be used for added protection against the possibility of "shorting out" the nuts and bolts. In addition, double washer sets electrically isolate the nuts and bolts from both flanges.



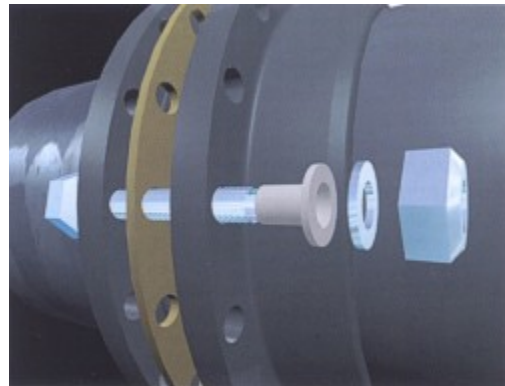
One-Piece Sleeve and Washer Sets

One-piece sleeve and washer set flange isolation kits include the following items for each bolt:

- Two - 1/8" thick steel washers
- One - One-piece Isolating sleeve

Application Considerations:

Easier to install, one-piece sleeves also allow the inspector a visual indication of sleeve usage. Due to the relatively low compressive strength of this material, its use is not recommended for high pressure or large diameter flanges that require high torque loads.



Typical Specifications

General / Economical

Flange Isolation Kit Specification

Materials for flange isolation kits on pipes containing water, aqueous fluids or natural gas (up to 220°F, 104°C) shall consist of the following components:

Isolating and Sealing Gasket

One full-faced isolating and sealing gasket, LineBacker Sealing Gasket - Type "E", 1/8" thick, phenolic retainer containing a precision tapered groove to accommodate the controlled compression of a nitrile quad-ring sealing element. Sealing element placement shall accommodate either flat, raised or RTJ face flanges. The quad-ring seal shall be pressure energized. The phenolic retainer shall have a 500 volts/mil dielectric strength and a minimum 25,000 psi compressive strength. The full faced flange isolating gasket shall be 1/8" less in I.D. than the I.D. of the flange in which it is installed.

Full Length Bolt Isolating Sleeves

One full length Mylar sleeve (extending half way into both steel washers) for each flange bolt. The Mylar shall be a 1/32 inch thick tube with a 4000 volts/mil dielectric strength and water absorption of 0.8% or less.

Washers

Two, 1/8 inch thick, glass clad phenolic isolating washers for each bolt. Their compressive strength shall be 33,000 psi, dielectric strength 500 volts/mil and water absorption 1.6% or less.

Two, 1/8 inch thick steel washers for each bolt. The I.D. of all washers shall fit over the isolating sleeve and the steel and isolating washers shall have the same I.D. and O.D.

Quality

Flange isolating kits shall be manufactured at a facility that has a registered ISO 9001:2000 Quality Management System. Submittals shall include copy of valid registration.

Top of the Line

Flange Isolation Kit Specification

Materials for flange isolation kits on pipes containing natural gas, oil and aqueous fluids (up to 280°F, 138°C) shall consist of the following components:

Isolating and Sealing Gasket

One full faced isolating and sealing gasket, LineBacker Sealing Gasket - Type "E", 1/8" thick, G-10 retainer containing a precision tapered groove to accommodate the controlled compression of a Teflon (or Viton) quad-ring sealing element. Sealing element placement shall accommodate either flat, raised face or RTJ flanges. The quad-ring seal shall be pressure energized. The G-10 retainer shall have a 550 volts/mil dielectric strength and a mini-mum 50,000 psi compressive strength. The full faced flange isolating gasket shall be 1/8" less in I.D. than the I.D. of the flange in which it is installed.

Full Length Bolt Isolating Sleeves

One full length G-10 sleeve (extending halfway into both steel washers) for each flange bolt. The G-10 shall be a 1/32 inch thick tube with a 400 volts/mil dielectric strength and water absorption of 0.10% or less.

Washers

Two, 1/8 inch thick, G-10 isolating washers for each bolt. Their compressive strength shall be 50,000 psi, dielectric strength 550 volts/mil and water absorption 0.10% or less. Two, 1/8 inch thick zinc plated, hot rolled steel washers for each bolt. The I.D. of all washers shall fit over the isolating sleeve and both the steel and isolating washers shall have a same I.D. and O.D.

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In Canada, from our Canadian warehouse locations Power Plant Supply Co, serve customers in Ontario ON, Quebec QC, Nunavut, Northwest Territories, NWT, and Yukon. We supply customers in Atlantic Canada including New Brunswick NB, PEI, Nova Scotia NS, and Newfoundland Labrador NL. We ship same day in Toronto, GTA. We also ship to Canada provinces, British Columbia, BC, Alberta, *Saskatchewan*, Manitoba; including cities Vancouver, Calgary, Fort McMurray, Edmonton, Regina, Winnipeg, Thunder Bay, Churchill, Hamilton, Ottawa, Montreal, Quebec City, Saint John, Fredericton, Moncton, Halifax, Charlottetown, Sydney, ST John's.