

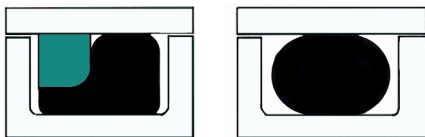
STATIC FACE™ SEALS

*For S.A.E. J518c
4-Bolt Split Flange*

The Static Face Seal is designed to eliminate O-ring associated leakage problems in 4-bolt split flange assemblies to pressures of 10,000 psi and beyond. Consisting of an “L” shaped elastomeric sealing element and a mating non-extrusion ring, the Static Face Seal is engineered as a “drop-in” replacement for standard O-ring seals.

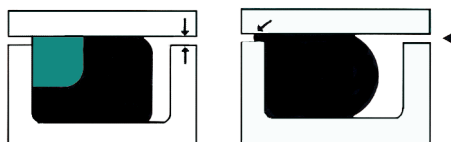
SEAL OPERATION

At zero or low pressures, the Static Face Seal performs much like a standard O-ring, axial compression (“squeeze”) deforming the resilient “L” shaped elastomeric member. As pressure builds, the elastomeric part transmits full system pressure to the non-extrusion ring, bringing it into positive contact with the port face. During



STATIC FACE SEAL **O-RING**
INSTALLED

extreme pressure spikes, impulse or shock-loading, bolts can momentarily stretch, opening a clearance between the flange shoulder and port face. The Static Face Seal's non-extrusion ring – already under



CLEARANCE **EXTRUSION**
PRESSURIZED

an axial load—merely – follows the motion, effectively bridging the same clearance that causes O-ring leakage and failure. (Designers often specify harder, 90 durometer O-rings to eliminate high pressure extrusion. This works, but because harder O-rings cannot conform well to rough port faces, low pressure leakage occurs.)

SURFACE FINISHES

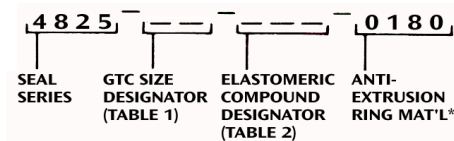
The Static Face Seal is recommended for use with standard finishes noted in S.A.E. Specification J518c. For optimal performance however, Greene, Tweed Engineering recommends a gland finish of 32μ RMS and port face finish of 16μ RMS.

SEAL CONFIGURATION

The Standard Static Face Seal is designed to operate at pressure. Configurations for vacuum service are also available. Contact your distributor or Greene, Tweed Engineering for specifics.

PART NUMBERING SYSTEM

The Static Face Seal part number describes the size, elastomeric compound and anti-extrusion ring material. For sizes not shown in this brochure, please contact your distributor or Greene, Tweed Engineering.



**NOTE: Greene, Tweed's MoS₂-loaded nylon (“NWR”) is supplied standard. For extreme pressures, fluids, temperatures (above 350°F) and/or broad clearances, Greene, Tweed Engineering will be pleased to make specific recommendations.*

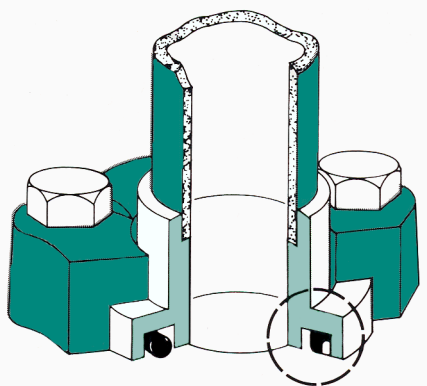


TABLE 1 DIMENSIONAL INFORMATION

SAE Nominal Flange Head, Tube or Hose Size	O-Ring Dash No.	Gland OD (+.000 - .005)	GTC Size Designator
½	210	1.005	01
¾	214	1.255	02
1	219	1.565	03
1¼	222	1.755	04
1½	225	2.125	05
2	228	2.500	06
2½	232	3.005	07
3	237	3.625	08
3½	241	4.115	09
4	245	4.615	10
5	253	5.615	11

Gland Depth = .100”/.115”
Gland Radial Width = .165” ± .010”

TABLE 2 ELASTOMERIC COMPOUND SELECTOR

FLUIDS	TEMPERATURE RANGE	BASE POLYMER	DUROMETER HARDNESS (SHORE A)	COMPOUND DESIGNATOR
HYDRAULIC FLUIDS General Purpose Hyd. Oils, Petroleum Base Lubricating Oils, Air, Water Water Glycols & soluble oil	-40° to 300°F	NBR	70	173
	-65° to 325°F	FZ (PNF)	70/80	737/738
MIL-H-5606 MIL-H-6083 MIL-H-83282	-65° to 300°F	NBR	75	964
	-65° to 325°F	FZ (PNF)	70/80	737/738
Silicone Oils	-65° to 300°F	EPR	80	952
	-40° to 300°F	NBR	70	173
	-65° to 325°F	FZ (PNF)	70/80	737/738
Pydraul 10E/50E/29E/115E, Fyrquel Pydraul 10E/29E/30E/50E/90E/115E 250C/312C/320C/540C	-65° to 250°F	EPDM	70	801
	-20° to 400°F	FKM	75	731
FUELS Gasoline, Kerosene JP Fuels	-20° to 400°F	FKM	75	731
	-65° to 300°F	FZ (PNF)	70/80	740/741
BRAKE FLUIDS Automotive (SAE-J-1703) Silicone, Petroleum	-65° to 300°F	EPDM	70	801
	-65° to 300°F	EPR	80	952
	-65° to 325°F	FZ (PNF)	70/80	737/738
AUTOMATIC TRANS. FLUID	-40° to 300°F	NBR	70	700
GASES Freon Nitrogen	-40° to 250°F	CR	75	156
	-65° to 275°F	NBR	75	964
CHEMICAL LUBRICATING OILS AND SOLVENTS	-20° to 400°F	FKM	75	731
STEAM	-32° to 400°F	EPDM	80	803
PETROLEUM INDUSTRY Well-Drilling Fluids Amines, N ₂ S, Steam	-50° to 250°F	ECO	85	957
	+32° to 450°F	TFE/PROPYLENE	70/90	797/799
Virtually all Fluids and Fluid Combinations	-20° to 400°F	FFKM	75/90	505/510

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