

Braycote Vacuum Greases



Gas solubility data for the base fluid



Technical Report

Perfluoropolyether Lubricants

Elastomer Compatibility

The following elastomers were treated at 70°C for 166 hours:

Elastomer	Ultimate Tensile Stress (%)	Ultimate Elongation (%)	Modulus At 200% (%)	Modulus At 300% (%)	Shore Hardness (%)	Volume Change (%)
Butadiene - acrylonitrile rubber (NBR)	- 5	+ 3	- 14	- - -	- - -	- 0.3
Butyl rubber (IIR)	+ 7	+ 12	- 10	- 7	+ 0.7	+ 1.5
Cloroprene rubber (CR)	+ 14	+ 18	- - -	- - -	0	- 0.5
Ethylene-propylene-diens-terpolymer (EPDM)	+ 14	+ 20	- 11	- 8	+ 0.6	- 0.3
Fluorocarbon rubber (FKM)	+ 5	0	+ 2	+ 5	+ 5.2	+ 0.3
Natural rubber (NR)	+ 6	+ 25	- 20	- 15	- 3.9	+ 2.0
Polybutadiene cis rubber (BR)	- 17	+ 7	- 21	- - -	- 4.5	+ 8.0
Styrene butadiene rubber (SBR)	+ 4	+ 38	- 38	- 36	- 3	+ 0.8

Elastomer Compatibility

Compounds	Conditions	Results
Aflas 7	ASTM D471-79 150EC @ 500 hrs.	Tensile = - 10.4% Elongation = 1.4% Volume change = - 14.7%
DOW 236	ASTM D 471-79 200EC @ 500 hrs.	Change in weight = - 5.4% The material hardened, changed color from white to brown and leached brownish particulate & globules into the fluid.
EPDM	ASTM D471-79 150EC @ 500 hrs.	Some leeching into fluid. Compatibility questionable.
Fluorosilicone 60 Duro (XL 2113)	ASTM D471-79 150EC @ 575 hrs.	Change in tensile = - 12% Volume change = - 0.1% Change in elongation = - 11.5%
Fluorosilicone 70 Duro (XL 2114)	ASTM D471-79 150EC @ 500 hrs.	Change in tensile = - 12.5% Volume change = - 3.5% Change in elongation = - 17%
Loctite PST (sealant)	ASTM D1384-94 150EC @ 336 hrs. 150 ml/min air flow	Appears compatible. No leeching of sealant into fluid.
Loctite 7 Ultra Blue (silicone)	125EC @ 100 hrs.	Volume change = - 2.6% Weight change = - 0.2%
Silicone RTV (DOW) rubber	125EC @ 100 hrs.	Volume change = - 2.7% Weight change = - 0.5%
Tecnoflon® FOR 5351 U	ASTM D 471-79 150EC @ 100 hrs.	Tensile = 1% Elongation = - 1% Volume Change = 3%
Tecnoflon® P 819	ASTM D 471-79 150EC @ 500 hrs.	Tensile = 2% Elongation = - 7% Volume Change = 11%
Tecnoflon® FOR 439	ASTM D 471-79 150EC @ 500 hrs.	Tensile = - 13% Elongation = - 4% Volume Change = 9%
Tecnoflon® P-710	ASTM D 4 71-79 150EC @ 500 hrs.	Tensile = - 9.3% Elongation = Volume Change = 4.3%

Tecnoflon® 5351	ASTM D 471-79 200EC @ 500 hrs.	Tensile = - 4.7% Elongation = 3.9% Volume Change = 8.5%
Viton® fluoroelastomer A Gasket (GASKET NOT 100% VITON A)	ASTM D 471-79 150EC @ 500 hrs.	0.32% volume swell Gasket left a lot of filler Not compatible
Viton® fluoroelastomer V115 (TEC V12) International Seals	ASTM D 471-79 150EC @ 850 hrs.	Volume change = 3.4% Weight change = 5.5% Change in Hardness = 0.9% Tensile change = - 8% Elongation change = 4.1%