

Low Compression Set Perfluoroelastomer for General Purpose High Temperature Applications

Technical information

Low Compression Set FFKM

Typical Physical Properties	LCS759B
Hardness ^a , Shore A	74
Color	Black
100 % Modulus ^b , MPa	8.8
Tensile Strength at Break ^b , MPa	12.5
Elongation at Break ^b , %	183
Compression Set (% , 70hr@200 °C) ^c	12.5
Max. Continuous Service Temp. ^d °C	330
Min. Service Temp. ^d °C	-30
Specific Gravity ^e , g/cc	2.15

Equivalent to Kalrez® 7075

^a ASTM D2240 (pellet test specimen)

^b ASTM D412 & D1414 (dumbbell test specimen)

^c ASTM D395B (AS568 214 O-ring test specimen)

^d Fluorez® proprietary test method

^e ASTM D792 (AS568 214 O-ring test specimen)

Fluorez® LCS759B is a multi-purpose, high-temperature FFKM material featuring a low compression set and enhanced physical properties to improve sealing performance.

This carbon black-filled compound provides a broad range of chemical compatibility, making it suitable for o-rings or other customized seal shapes. LCS759B is specifically designed for the chemical processing, petroleum, and semiconductor industries.

Its fully fluorinated backbone structure ensures broad chemical and thermal stability. The outstanding low compression set of LCS759B helps extend the service life under long-term thermal challenges

The compression set of LCS759B is measured following the ASTM D395B guideline.

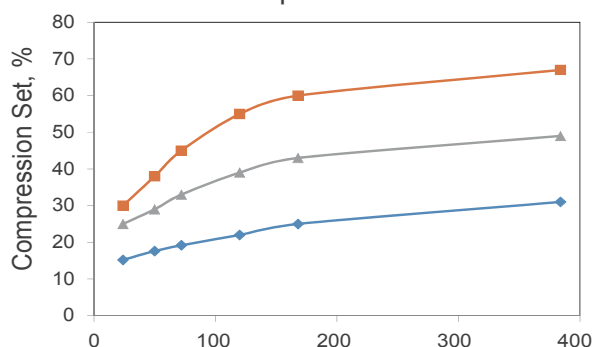
To accurately predict the material's potential heat resistance, Fluorez® technology applied the ASTM 70-hour standard test and further extended the duration to 384 hours for long-term o-ring performance evaluation.

Additionally, a force retention test was performed following the ISO3384 guideline to demonstrate the sealing capability for 720 hours.

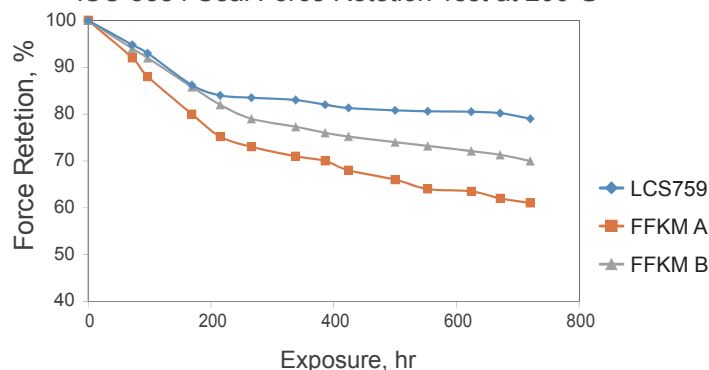
Both tests collectively indicate LCS759B's strength in providing an extended service life as a sealing material.

Ultrapure post-cleaning and packaging processes are applied to all Fluorez® LCS750B series compounds and parts.

ASTM D395B Compression Set Test at 200°C



ISO 3384 Seal Force Retention Test at 200°C



Suggested Applications:

Chemical and Petroleum industries:

- Variety of acid and alkine equipments
- Painting and ink injector or spraying head
- Mechanical seals
- Pump, Valve, mechanical seals, joints, flanges
- Quick connectors

Aerospace

- Static sealing

Metal bounded parts

Customized items

Additional Technical Information

Coefficient of Thermal Expansion (°C ⁻¹) :	3.65X10 ⁻⁴
TR-10°C (ASTM D1329) :	-3
Brittle point °C (ASTM D746) :	-30

Chemical Compatibility

Chemical		Condition		LCS759B	FC750B	FT750B
		Temp (°C)	Time (hr)	Rating	Rating	Rating
Acids	Glacial Acetic Acid	100	168	A	A	A
	Hydrochloric Acid (37%)	80	168	A	A	A
	Nitric Acid (65%)	85	168	B	A	B
	Sulfuric Acid (98%)	175	168	A	A	A
Amines	Ethylene Diamine	60	168	B	A	B
	Triethanolamine	40	168	A	A	A
Bases	Ammonia (30%)	100	168	A	A	A
	NaOH (50%)	100	168	A	A	A
Esters	Ethylacetate	23	168	A	A	A
	Methyl Tert-Butyl Ether	23	168	A	A	A
Gases	Ethylene Oxide	50	168	A	A	A
	Propylene Oxide	50	168	B	A	B
Hydrocarbons	Toluene	40	168	A	A	A
	Trichloroethylene	40	168	A	A	A
Ketones	Acetone	40	720	A	A	A
	Methyl Ethyl Ketone	40	720	A	A	A
Steam (5 bar)		152	2000	B	A	B

Rating: A = volume swelling (0-10%). B = volume swelling (10-20%). C = volume change (>20%)