

Introduction

ELIFLON-C150-M00 fluoroelastomer is a high viscosity copolymer of hexafluoropropene and vinylidene fluoride particularly suitable for injection or compression moulding of sealing devices that must meet the most critical conditions of usage. ELIFLON-C150-M00 has been specially designed to improve mechanical properties especially at elevated temperatures. Moreover, in the appropriate formulation of the compound solves the problems related to a rapid decompression. ELIFLON-C150-M00 fluoroelastomer offers significant processing ease that can be modified when blended with similar fluoroelastomers. ELIFLON-C150-M00 is especially suited to curing with bisphenol-phosphonium salt systems.

ELIFLON-C150-M00 application:

- Injection moulded goods.
- O-rings.
- Gaskets, seals and profiles.
- Extruded cords.

Safety and handling

Despite the chemical inertness at ambient temperature, ELIFLON C types fluoroelastomers should be handled in such a way to avoid contact with skin and eyes. In case of contact, wash thoroughly with soap and water. Store in a well ventilated place away from any source of heat. Smoking is strictly forbidden in working and storage areas. In the event of fire, toxic gases are produced. Refer to MSDS for additional information. For the safe handling of other compound ingredients normally used in fluoroelastomers compounding, please refer to the respective manufacturers.

Product description

Chemical Composition	Copolymer of hexafluoropropene and vinylidene fluoride
Physical form	Slabs
Colour	Off-white
Odour	Odorless
Specific Gravity	1,81 ± 0,03 g/cm ³
Fluorine content	66%
Solubility	Low molecular weight esters and ketones
Storage stability¹	Excellent
Mooney viscosity - ML 1+10 at 121 °C (250°F)	150 ± 10 MU

1) At ambient temperature in a well-ventilated place

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ELIFLON-C150-M00 typical compound

TEST COMPOUND

	High Temperature compound	Explosive decomposition compound	
ELIFLON-C150-M00	94,25	93,32	phr
Magnesium oxide (MgO)	5	3	phr
Calcium Hydroxide (Ca(OH) ₂)	5	6	phr
Carbon Black	16	-	phr
Hi surface area Carbon Black	-	35	phr
ELIFLON-CURATIVE-1-C ¹	5,25	5,04	phr
ELIFLON-CURATIVE-3-C ²	5,25	1,64	phr
Processing aids (wax)	1	1	phr

1) Fluoroelastomer masterbatch 33% by weight of Bisphenol AF {4,4'-[trifluoro-1(tri-fluoromethyl)ethylidene]bisphenol} and Benzyltriphenylphosphonium salt with 4,4'-[2,2,2-tri-fluoro-1-(trifluoromethyl)ethylidene]bisphenol (1:1).

2) Fluoroelastomer masterbatch 33% by weight of Benzyltriphenylphosphonium chloride.

Performance of ELIFLON-C150-M00 in typical compound

STOCK PROPERTIES

ODR at 177°C, 3° arc, 12 min.

	High Temperature compound	Explosive decomposition compound	
ML	57,45	61,98	dN*m
T _{s2}	1,36	2,28	min
T _{C90}	4,34	9,17	min
MH	168,50	195,99	dN*m

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VULCANIZATE PROPERTIES

Slabs cured 10 min at 180°C, 110 kPa, post cured 3+18 hrs at 230°C.

	High Temperature compound	Explosive decompression compound	
100% modulus	5,5	16,2	MPa
Tensile strength	14,5	18,2	MPa
Elongation at the break	232	115	%
Hardness	68	87	ShoreA

Mechanical properties at 23°C, after aging in air 70 hrs at 250°C.

	High Temperature compound	Explosive decompression compound	
100% modulus	4,7	15,0	MPa
Tensile strength	13,4	17,0	MPa
Elongation at the break	200	105	%
Hardness	70	90	ShoreA

Swelling resistance in test fluids, ΔVolume %.

	High Temperature compound	Explosive decompression compound	
Fuel C, 70 hr at 23°C	+3,4	+3,0	%
Methanol (99%), 70 hr at 23°C	+73	+70	%
IRM 903 Oil, 70 hr at 150°C	+1,7	+1,7	%

Compression set, Method B disks, 25% def.

	High Temperature compound	Explosive decompression compound	
Aged 70 hr @ 250°C	31	-	%
Aged 70 hr @ 200°C	-	15,7	%

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Test procedures

Compression Set {22 h @200°C, 25% deformation}	ASTM D 395, Method B
Compression Set {70 h @250°C, 25% deformation}	DIN ISO 7619-1
Hardness	ASTM D 2240, Durometer A(Shore A)
ODR (Oscillating Disk Rheometer)	ASTM D2084
Mooney viscosity	ASTM D 1646
Property change after oven heat aging	ASTM D 573
Stress strain properties	ASTM D 412
Volume change in fluids	ASTM D 471

Packaging

ELIFLON-C150-M00 is packaged in boxes on 900 kg/pallet with base measures 120 cm x 110 cm and height 150 cm.

Packaging recycling instructions:

- pallet: 
- cardboard: 
- straps: 
- labels: 
- bags: 

The information contained in these specifications is based on the technical data of Sersar Srl and is provided free of charge. It is to be used solely by skilled individuals who use the material described, alone or in a mixture with other materials, shall ensure that the particular conditions or the particular formulations adopted present no health or safety hazard. Because conditions of product use or disposal are beyond our control, Sersar Srl issues no warranty, express or implied, and assumes no liability in connection with use of the information provided. The information contained herein is intended only as a guideline. An appropriate evaluation of any mixture of the material described above with other materials is absolutely necessary. The material described herein is not suitable for any implantation into the human body.

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