ELIFLON-C60-M00

Rev.1.0-2024 Technical Data Sheet

Introduction

ELIFLON-C60-M00 fluoroelastomer is a medium-high viscosity copolymer of hexafluoropropene and vinylidene fluoride, particularly suitable for injection moulding of sealing devices that must meet the most critical conditions of usage. Due to narrow molecular weight distribution and a low long chain branching content, despite a relative high Mooney viscosity, ELIFLON-C60-M00 fluoroelastomer offers significant processing ease that can be modified when blended with similar fluoroelastomers. ELIFLON-C60-M00 is especially suited to curing with bisphenol-phosphonium salt systems.

ELIFLON-C60-M00 provides:

- Improved injection rate.
- Fast curing rate.
- Low mould fouling.
- Easy mould release.
- Good mould flow.
- Improved extrusion.
- Good compression set resistance.

Application:

- Injection moulded goods.
- O-rings
- Bonded metal insets products.
- Gasket, 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 stability[1]	Excellent
Mooney viscosity - ML 1+10 at 121 °C (250°F)	60 ± 5 MU

1) At ambient temperature in a well-ventilated place

IMPORTED AND DISTRIBUTED BY

SERSAR

Via Vittoria, 1
40068 San Lazzaro di Savena (BO) – Italy
Phone +39 (0) 51 6255442
E-mail info@sersar.net
www.sersar.net

ELIFLON-C60-M00

Rev.1.0-2024 Technical Data Sheet

ELIFLON-C60-M00 typical compound

TEST COMPOUND

ELIFLON-C60-M00	phr	91,8
Magnesium oxide (MgO)	phr	3
Calcium Hydroxide ($Ca(OH)_2$)	phr	6
Medium thermal carbon black (N990)	phr	30
ELIFLON-CURATIVE-1-C[1]	phr	7,2
ELIFLON-CURATIVE-3-C[2]	phr	1
Processing aids (wax)	phr	1

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-C60-M00 in typical compound

STOCK PROPERTIES

MDR at 180°C, 6 min

M_L	1,73	dN*m
T_S2	38	s
T_C90	70	s
M_H	34,73	dN*m

VULCANIZATE PROPERTIES

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

100% modulus	6,2	MPa
Tensile strength	13,3	MPa
Elongation at break	215	%
Hardness	74	ShoreA

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

100% modulus	5,4	MPa
Tensile strength	13,7	MPa
Elongation at break	200	%
Hardness	75	ShoreA

Swelling resistance in test fluids, Δ Volume %

Fuel C, 70 hrs at 23°C	+ 3,2	%
Methanol (99%), 70 hrs at 23°C	+ 73	%
IRM 903 Oil, 70 hrs at 150°C	+ 1,9	%

Compression set, Method B disks, 25% def.

Aged 70 hrs @ 200°C	17	%

IMPORTED AND DISTRIBUTED BY

SERSAR

Via Vittoria, 1
40068 San Lazzaro di Savena (BO) – Italy
Phone +39 (0) 51 6255442
E-mail info@sersar.net
www.sersar.net

Effect of filler (carbon black) level on ELIFLON-C60-M00 properties

	A	B	C	
ELIFLON-C60-M00	91,8	91,8	91,8	phr
Magnesium oxide (MgO)	3	3	3	phr
Calcium Hydroxide ($Ca(OH)_2$)	6	6	6	phr
Medium Thermal Carbon Black (N990)	45	30	10	phr
ELIFLON-CURATIVE-1-C[1]	7,1	7,1	7,1	phr
ELIFLON-CURATIVE-2-C[2]	1	1	1	phr
Processing aids (wax)	1	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.

STOCK PROPERTIES

MDR at 180°C, 6 min

	A	B	C	
M_L	2,07	1,73	1,16	dN*m
T_S2	34	38	78	s
T_C90	65	70	114	s
M_H	38,40	34,73	27,20	dN*m

VULCANIZATE PROPERTIES

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

	A	B	C	
100% modulus	10,4	6,2	2,8	MPa
Tensile strength	14,1	13,7	11,6	MPa
Elongation at break	174	215	248	%
Hardness	84	74	60	ShoreA

Compression set, Method B disks, 25% def.	**A**	**B**	**C**	
Aged 70 hrs @ 200°C	21	16	12	%

IMPORTED AND DISTRIBUTED BY

SERSAR

Via Vittoria, 1
40068 San Lazzaro di Savena (BO) – Italy
Phone +39 (0) 51 6255442
E-mail info@sersar.net
www.sersar.net

Test procedures

Compression set	ASTM D 395, Method B	**Mooney viscosity**	ASTM D 1646
Compression set, O-ring	ASTM D 1414	**Property change**	ASTM D 573
Hardness	ASTM D 2240,	**after oven heat aging**	
	Durometer A (ShoreA)	**Stress strain properties**	ASTM D 412
MDR (Moving Die Rheometer)	ASTM D 5289	**Volume change in fluids**	ASTM D 471

Packaging

ELIFLON-C60-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: 

IMPORTED AND DISTRIBUTED BY

SERSAR

Via Vittoria, 1
40068 San Lazzaro di Savena (BO) – Italy
Phone +39 (0) 51 6255442
E-mail info@sersar.net
www.sersar.net