C20-M21

Introduction

Seflor® C20-M21 fluoroelastomer is a medium-low viscosity copolymer of hexafluoropropene and vinylidene fluoride particularly suitable for extrusion and compression moulding of sealing devices that must meet the most critical conditions of usage. Seflor® C20-M21 fluoroelastomer offers significant processing ease that can be modified when blended with similar fluoroelastomers. Seflor® C20-M21 is especially suited to curing with bisphenol-phosphonium salt systems.

Seflor® C20-M21 provides:

- fast curing rates
- low mould fouling
- easy mould release
- good mould flow
- improved extrusion
- good compression set resistance

Application

- Compression Moulded goods
- Extruded cords

Safety and Handling

Despite the chemical inertness at ambient temperature, Seflor® 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 hexafluoro-propene and vinylidene fluoride
Physical Form	Slabs
Color	Off white
Odor	Odorless
Specific Gravity	1,81 ± 0,02 g/cm^3
Fluorine Content	66 %
Glass transition temperature (Tg)	- 18 ± 1°C
Solubility	Low molecular weight esters and ketones
Storage Stability	Excellent
Mooney Viscosity, ML 1+10 at 121 °C (250 °F)	20 MU

Seflor® C20-M21 typical Compound

Seflor® C20-M21	91,8	phr
High activity magnesium oxide (MgO)	3	phr
Calcium Hydroxide ($Ca(OH)_2$)	6	phr
Medium Thermal Carbon Black (N990)	30	phr
Seflor® Curative 1[1]	7,2	phr
Seflor® Curative 3[2]	1	phr
Processing aids (wax)	1	phr

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

2) Fluoroelastomer masterbatch 33% by weight of Benzyltriphenylphosphonium chloride

IMPORTED AND DISTRIBUTED BY

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Performance of Seflor® C20-M21 in typical Compound

STOCK PROPERTIES

MDR at 180 °C, 6 min

ML	0,65	dN*m
T_s2	1,03	min
T_c90	1,83	min
MH	29,31	dN*m

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

100% modulus	4,9	MPa
Tensile strength	12,0	MPa
Elongation at the break	193	%
Hardness	74	ShoreA

Compression set, Method B disks, 25% def.

Aged 70 hr @ 200°C	19%

VULCANIZATE PROPERTIES

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

100% modulus	5,8	MPa
Tensile strength	12,4	MPa
Elongation at the break	222	%
Hardness	73	ShoreA

Swelling resistance in test fluids, Δ Volume %

Fuel C, 70 hr at 23°C	+ 3,4	%
Methanol (99%), 70 hr at 23°C	+ 74	%
IRM 903 Oil, 70 hr at 150°C	+ 1,9	%

Test procedures

Compression set	ASTM D 395, Method B
Compression set, O-ring	ASTM D 1414
Hardness	ASTM D 2240, Durometer A (Shore A)
MDR (Moving Die Rheometer)	ASTM D 5289
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

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