

3M™ Dyneon™ Fluoroelastomer FPO 3520

Features and Benefits

- TR10 = -19°C
- Improved water, steam, and base resistance over conventional fluoroelastomers
- Processes comparably to other peroxide-cured fluoroelastomers
- Can be used in blends with other peroxide curable elastomers
- Composition: Terpolymer of vinylidene fluoride, hexafluoropropylene, tetrafluoroethylene
- Can be vulcanized by peroxides, dephenols, and diamines.

Note: Data in this document are not for specification purposes.

Typical Properties

Property	
Fluorine Content	66%
Specific Gravity	1.75
Color	Translucent
Form	Slab
Mooney Viscosity – ML (1+10) @ 121°C	25

Product Description

3M™ Dyneon™ FPO 3520 is a peroxide curable fluoroelastomer terpolymer containing 66 wt% fluorine. FPO 3520 can be used in compression, transfer or injection molding, and extrusion processes.

Safety and Toxicology

Before processing 3M fluoroelastomers, read and follow all precautions and directions for use contained in the product label and Material Safety Data Sheet (MSDS). General handling precautions and directions for use include: (1) Store and use all 3M fluoroelastomers only in well ventilated areas; (2) Do not smoke in areas contaminated with dust from 3M fluoroelastomers; (3) Avoid eye contact; (4) After handling 3M fluoroelastomers wash any contacted skin with soap and water. Potential hazards, including evolution of toxic vapors, can occur during compounding or processing under excessively high temperature conditions. Appropriate local exhaust ventilation such as vapor extractor units should be installed above compounding or processing equipment. When compounding, be sure to read and follow all precautions and directions for use from other compound ingredient suppliers.

Storage and Handling

Storage conditions with fluctuations (e.g., high heat, high humidity) may result in changes to Mooney Viscosity of this product. 3M testing indicates final cure rheology properties should not be affected by these fluctuations.

ISO 9001

All 3M fluoroelastomers are manufactured at ISO 9001 registered facilities.

Typical Properties of Vulcanizate

Compound	phr
FPO 3520	100
N-990 MT Carbon Black	30
Zinc Oxide (ZnO)	3
Peroxide (VAROX® DBPH - 50)	4
Co-agent (TAIC®, 72% Active)	4

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Typical Rheological Properties [ASTM D5289]**Moving Die Rheometer (MDR)****100 cpm, 0.5° Arc, 6 Minutes @ 177°C (350°F)**

Property	
ML, Minimum Torque, Inch-lb (dN m)	0.6 (0.7)
t _{s2} , Time to 2 Inch-lb Rise from Minimum – Minutes	0.5
t'50, Time to 50% Cure – Minutes	0.7
t'90, Time to 90% Cure – Minutes	1.9
MH, Maximum Torque, Inch-lb (dN m)	15.7 (17.7)

Typical Physical Properties [ASTM D412]**Press Cure 10 Minutes @ 177°C (350°F)**

Property	
Tensile, psi (MPa)	2700 (18.6)
100% Modulus, psi (MPa)	600 (4.1)
Elongation at Break, %	240
Hardness, Shore A [ASTM D2240]	68

Post Cure 16 Hours @ 230°C (446°F)

Tensile, psi (MPa)	3300 (22.8)
100% Modulus, psi (MPa)	900 (6.2)
Elongation at Break, %	210
Hardness, Shore A [ASTM D2240]	72

Compression Set Resistance [ASTM D395 Method B, -214 O-rings]

70 Hours @ 200°C (392°F), % Set	28
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TR10 [ASTM D1329], °C (°F)	-19 (-2.2)
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