

3M Advanced Materials Division

3M™ Dyneon™ Fluoroelastomer LTFE 6320Z

Low Temperature Peroxide Curable

Features and Benefits

- Composition: terpolymer of vinylidene fluoride, tetrafluoroethylene and perfluoromethylvinylether plus cure site monomer
- Process target: injection and transfer molding, extrusion and calendaring
- Peroxide curable
- Improved low temperature performance compared to standard peroxide grades
- Excellent physical properties

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

Typical Polymer Properties (Not for specification purposes)

Property	
Color	Opaque, off-white
Fluorine Content, %	64.3
Mooney Viscosity ML 1 + 10 @ 121°C (250°F) (Mooney Unit)	20
Solubility	Ketones and Esters
Specific Gravity	1.8
Tg, °C (°F)	-32 (-26)

Product Description

3M™ Dyneon™ Fluoroelastomer LTFE 6320Z is a terpolymer made from vinylidene fluoride, tetrafluoroethylene and perfluoromethylvinylether. The product contains an incorporated cure site monomer.

Typical Applications

Dyneon LTFE 6320Z can be used for manufacturing parts such as O-rings for fuel injectors and other parts using the manufacturing processes listed above.

Product Form and Packaging

Dyneon LTFE 6320Z is delivered in crumb form, in PE-bags with 25 kg (55 lb) content each.

Shelf Life

The shelf life of Dyneon LTFE 6320Z is 3 years from date of manufacturing.

Storage

Store and use all Dyneon Fluoroelastomers only in well-ventilated areas under cool and dry conditions.

Processing Recommendations

Dyneon LTFE 6320Z can be compounded using standard water-cooled internal mixers or two-roll mills with standard fillers and ingredients utilized in typical fluoroelastomer formulations. The “dry” ingredients should be blended before adding to the masticated gum. For best results, Dyneon LTFE 6320Z should be banded on the mill several minutes prior to adding the blended dry ingredients. Once mixed, the compounded stocks have good scorch resistance and storage stability.

Typical Properties

(Not for specification purposes)

Compound	Amount (in Parts/100)
Dyneon LTFE 6320Z	100
Carbon Black MT N-990	30
ZnO	3
TAIC (70%)	4.3
Peroxide DBPH50	3

Typical Rheological Properties (Not for specification purposes)

Alpha Technologies Moving Die Rheometer (MDR 2000), 100 cpm, 0.5° Arc, Test Condition, 6 minutes @ 177°C (351°F)

Property	
ML, Minimum Torque, Inch-lb (dNm)	0.4 (0.4)
MH, Maximum Torque, Inch-lb (dNm)	22.4 (25.3)
t _{s2} , Time to 2 Inch-lb Rise from Minimum - Minutes	0.4
t'50, Time to 50% Cure - Minutes	0.5
t'90, Time to 90% Cure - Minutes	0.8

Typical Physical Properties (Not for specification purposes)

Press Cured 7 minutes @ 177°C (351°F)

Post Cured 2 hours @ 230°C (446°F)

Property	
Physical Properties (ASTM D412)	
Tensile, psi (MPa)	3075 (21.2)
100% Modulus, psi (MPa)	609 (4.2)
Elongation at Break, %	230
Hardness, Type A [ASTM D2240]	69
Compression Set on Molded Buttons ASTM D395 Method B	
70 hours @ 200°C (392°F), %	20
Compression Set on O-ring (214) per ASTM D395	
70 hours @ 200°C (392°F), %	24
Lower Temperature Property	
TR10 (ASTM D1329), °C (°F)	-30 (-22)

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3M Advanced Materials Division

Oakdale, MN 55128

Phone 1-800-810-8499

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