Product Data Sheet
Commercial Product

3M™ Dyneon™

Fluoroelastomer LTFE 6400Z
Low Temperature Peroxide Curable

Product Description

3M™ Dyneon™ Fluoroelastomer LTFE 6400Z is a technically advanced, -40 °C low temperature, peroxide-cured fluoroelastomer, designated as a FKM type 3 elastomer per ASTM D-1418. It is designed to meet the challenging demands of the automotive, aerospace and chemical processing industries, requiring low temperature sealing in chemically aggressive environments.

Special Features

- TR10 = -40 °C, which means true dynamic sealing capability at low temperatures
- Very good chemical resistance against most chemicals such as acids, bases, fuels, oils, coolants and alcohols
- Good compression set resistance with low / no post-cure
- Processes comparable to other peroxide-cured fluoroelastomers

Typical Applications

Dyneon LTFE 6400Z can be used for manufacturing parts such as O-rings and fuel injectors, among others.

Typical Polymer Properties

Property	Test method	Unit	Value
Colour			Translucent, Clear - Amber
Fluorine Content	QCM 50.18.3C	%	67.1
Mooney Viscosity (raw gum) ML 1 + 10 @ 121 °C	QMC 2.14.4C	Mooney Unit	100
Glass Transition Temperature		°C	-40
Specific Gravity	QCM 14.10		1.86

Storage and Handling

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

The shelf life of Dyneon LTFE 6400Z is 3 years from date of manufacturing.

Delivery Form

Dyneon LTFE 6400Z is delivered in slab form. It is also available in crumb form.

Packaging sizes are:

- 1 kg cardboard box, containing 1 PE bag with 1 kg content
- 25 kg cardboard box, containing 2 PE bags with 12.5 kg content each

Processing Recommendations

Dyneon LTFE 6400Z 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, LTFE 6400Z 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.

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Typical Properties

Compound	Amount (in Parts/100)
LTFE 6400Z	100
Carbon Black MT N-990	50
ZnO	5
Trigonox 101-50D	2.5
TAIC (98 %)	1.8

Typical Rheological Properties

Alpha Technologies Moving Die Rheometer (MDR 2000), 100 cpm, 0.5° Arc, (QCM 2.19.1)
Test Condition, 6' @ 177 °C

Property	Unit	Value
ML, Minimum Torque	dNm	4.5
MH, Maximum Torque	dNm	15.8
ts2	Minutes	0.5
t'50, Time to 50 % cure	Minutes	0.7
t'90, Time to 90 % cure	Minutes	2.3

Typical Physical Properties

Press Cured 10° @ 177 °C
Post Cured 16 hours @ 230 °C

Property	Unit	Value
Physical Properties DIN 53504 (S2 DIE)		
100 % Modulus	MPa	6.1
Tensile	MPa	13.3
Elongation at Break	%	175
Hardness (ASTM D2240)	Shore A	70
Compression Set on buttons ASTM D395 method B		
70 hours @ 150 °C	%	15
70 hours @ 200 °C	%	26
168 hours @ 200 °C	%	32
Lower Temperature Property		
TR10 (ASTM D1329)	°C	- 40

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Safety Instructions

Follow the normal precautions observed with all fluoropolymer materials.

Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing these products poses no known health risks. General handling/processing precautions include: 1) Process only in well-ventilated areas. 2) Do not smoke in areas contaminated with powder/residue from these products. 3) Avoid eye contact. 4) If any skin comes into contact with these products during handling, wash with soap and water afterwards. 5) Avoid contact with hot fluoropolymer.

Potential hazards, including release of toxic vapours, can arise if processing occurs under excessively high temperature conditions. Vapour extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with a naked flame or in a furnace.

Important Notice

All information set forth herein is based on our present state of knowledge and is intended to provide general notes regarding products and their uses. It should not therefore be construed as a guarantee of specific properties of the products described or their suitability for a particular application. Because conditions of product use are outside Dyneon's control and vary widely, user must evaluate and determine whether a Dyneon product will be suitable for user's intended application before using it.

The quality of our products is warranted under our General Terms and Conditions of Sale as now are or hereafter may be in force.

Technical information, test data, and advice provided by Dyneon personnel are based on information and tests we believe are reliable and are intended for persons with knowledge and technical skills sufficient to analyze test types and conditions, and to handle and use raw polymers and related compounding ingredients.

No license under any Dyneon or third party intellectual rights is granted or implied by virtue of this information.

General recommendations on health and safety in processing, on work hygiene and on measures to be taken in the event of accident are detailed in our material safety data sheets.

You will find further notes on the safe handling of fluoropolymers in the brochure "Guide for the safe handling of Fluoropolymers Resins" (download link) by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

You can also download it with your smartphone using the QR code below.

Customer Service

Europe
Phone: 00 800 396 366 27
Fax: 00 800 396 366 39
Italy
Phone: 800 7 910 18
Fax: 800 7 810 19
USA
Phone : +1 800 810 8499
Fax : +1 800 635 8061

Technical Service Fluoroplastics

Dyneon GmbH
3M Advanced Materials Division
Industrieparkstraße 1
84508 Burgkirchen
Germany
Phone: +49 8679 7 4709
Fax : +49 8679 7 5037

Technical Service Fluoroelastomers & Polymer Processing Additives

3M Belgium BVBA / SPRL
3M Advanced Materials Division
Canadastraat 11,
Haven 1005
2070 Zwijndrecht
Belgium
Phone: +32 3 250 7868
Fax: +32 3 250 7905

Technical Service PTFE Compounds

Dyneon B.V.
3M Advanced Materials Division
Tunnelweg 95
6468 EJ Kerkrade
The Netherlands
Phone: +31 45 567 9600
Fax: +31 45 567 9619

We will gladly supply further contact details for our full network of global sales offices. Alternatively, find them here.

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