

3M™ Dyneon™ Fluoroelastomer E-22029 Low Temperature Peroxide Curable

Product Description

3M™ Dyneon™ Fluoroelastomer E-22029 is a terpolymer made from vinylidene fluoride, tetrafluoroethylene and perfluoromethylvinylether. The product contains an incorporated cure site monomer.

Special Features

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

Typical Applications

Dyneon E-22029 can be used for manufacturing parts such as O-rings for fuel injectors and other parts using the manufacturing processes listed above.

Typical Polymer Properties

Property	Test method	Unit	Value
Colour			opaque, off-white
Fluorine Content	QCM 50.18.3C	%	64.5
Mooney Viscosity (raw gum) ML 1 + 10 @ 121 °C	QMC 2.14.4C	Mooney Unit	52
Solubility			Ketones and Esters
Specific Gravity	QCM 14.10		1.80
Tg		°C	- 32

Storage and Handling

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

The shelf life of Dyneon E-22029 is 3 years from date of manufacturing.

Delivery Form

Dyneon E-22029 is delivered in slab form.

Packaging size:

- PE-bags with 10 kg content each

Processing Recommendations

Dyneon E-22029 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 E-22029 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)
Dyneon E-22029	100
Carbon Black MT N-990	30
ZnO	3
TAIC (70 %)	4.3
Trigonox 101-50D	3

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	1.7
MH, Maximum Torque	dNm	21.5
ts2	Minutes	0.4
t'50, Time to 50 % cure	Minutes	0.5
t'90, Time to 90 % cure	Minutes	0.8

Typical Physical Properties

Press Cured 7' @ 177 °C
 Post Cured 2 hours @ 230 °C

Property	Unit	Value
Physical Properties DIN 53504 (S2 DIE)		
100 % Modulus	MPa	4.4
Tensile	MPa	21.8
Elongation at Break	%	250
Hardness (ASTM D2240)	Shore A	69

Compression Set on buttons ASTM D395 method B

70 hours @ 200 °C	%	22
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Lower Temperature Property

TR10 (ASTM D1329)	°C	- 30
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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 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

This product - marked by the designation "E" - is an experimental or developmental product provided for the purpose of experiments, testing and evaluation. It may be subject to modification, product limitation or cancellation by Dyneon at any time without prior notice. In addition, because of its experimental nature, specifications and pricing may not be established or may be subject to change. Dyneon makes no guarantee as to its future commercial availability. The health and environmental risks of this product in your application are not fully known. Available health, environmental and safe handling information can be obtained from the MSDS sheet, from other information shipped with the product or from Dyneon.

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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.

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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 sheet.

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.



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