Product Data Sheet

Commercial Product

3M™ Dyneon™

Perfluoroelastomer PFE 7301BZ Black Compound

Product Description

The 3M™ Dyneon™ Perfluoroelastomer compound PFE 7301BZ is a high temperature perfluoroelastomer with a broad chemical resistance and excellent physical properties at continuous high service temperatures up to 320°C. It is ideally suited for applications in the aerospace and chemical processing industry.

Special Features

- Proprietary 80 Shore A black compound
- Designed for high temperature applications
- Continuous operating temperature of > 300 °C
- Low long term compression set
- Excellent chemical resistance
- Superior resistance to HTS oils

Typical Applications

Finished parts based on 3M™ Dyneon™ Perfluoroelastomer compounds like PFE 7301BZ are used for true high temperature applications in the aerospace and the chemical processing industry. Typical applications are aero engine sealing systems or gearbox seals.

Typical Polymer Properties

Property	Test method	Unit	Value
Colour			Black
Specific Gravity	QCM 14.10		2.01

Storage and Handling

Store Dyneon Perfluoroelastomer PFE 7301BZ in a fridge or climate controlled area in an air-sealed bag away from moisture. Allow conditioning to room temperature in the bag prior to use. The shelf life of product Dyneon Perfluoroelastomer PFE 7301BZ is 1 year from date of manufacturing.

Delivery Form

Dyneon Perlfuoroelastomer PFE 7301BZ is delivered in extruder-ready strip form.

Packaging sizes are:

- 5 kg cardboard box, containing PE / Aluminium / Epoxy layered bags with 1 kg content each

Processing Recommendations

N/A

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Perfluoroelastomer PFE 7301BZ
Black Compound

Typical Properties

Compound	Amount (in Parts/100)
N/A	

Typical Rheological Properties

Alpha Technologies Moving Die Rheometer (MDR 2000), 100 cpm, 0.5° Arc, (QCM 2.19.1)
Test Condition, 30' @ 187°C

Property	Unit	Value
ML, Minimum Torque	dNM	2.1
MH, Maximum Torque	dNM	21.2
ts2	Minutes	2.8
t'50, Time to 50 % cure	Minutes	4.5
t'90, Time to 90 % cure	Minutes	10.4

Typical Physical Properties

Press Cured 15' @ 187 °C
Post Cured 24 hours @ 250 °C

Property	Unit	Value
Physical Properties DIN 53504 (S2 DIE)		
100 % Modulus	MPa	12.5
Tensile	MPa	17.0
Elongation at break	%	153
Hardness (ASTM D2240)	Shore A	80
Compression Set on O-rings ASTM D395 method B		
70 hours @ 200 °C (25 % deflection)	%	14
70 hours @ 316 °C (18 % deflection)	%	44
Lower Temperature Property		
TR10 (ASTM D1329)	°C	- 2

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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 using the QR code below with your smartphone.

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