



## Technical Information



# 3M™ Dyneon™

## PTFE Paste TF 2029Z

PTFE fine powder for electrical tape and yarn applications

### Features

- Meets ASTM D 4895-04 Type I, Grade 1, Class B classification.
- 3M™ Dyneon™ PTFE Paste TF 2029Z is the preferred grade for tapes with high mechanical strength, e.g. electrical tape for wrapped insulations or flat cables
- Recommendable grade for yarn applications, e.g. sewing or weaving yarn for filter and sealing materials or dental floss
- High molecular weight PTFE powder, produced by the emulsion polymerization
- Designed for low reduction ratios
- Providing high stretch ratio
- Processing by standard paste extrusion



### Powder Properties\*

Properties	Test Method	Unit	Value
Bulk density	DIN EN ISO 60	g/l	450
Average particle size	ISO 13320	µm	630
Extrusion pressure (reduction ratio 400)	ASTM D 4895	MPa	50
Reduction ratio range	Dyneon intern		5-100:1

### Mechanical properties, measured at 23 °C on sintered moldings\*

Tensile strength	DIN EN ISO 527-3	MPa	34
Elongation at break	DIN EN ISO 527-3	%	380
Specific gravity	DIN EN ISO 12086	g/cm <sup>3</sup>	2.15

\* average values

### Processing

3M™ Dyneon™ PTFE Paste TF 2029Z can be processed by standard paste extrusion methods. To achieve optimum extrudate quality, all processing parameters such as temperature settings, extrusion pressure, lubricant content, extrusion rate and profile dimensions must be carefully balanced. The fine powder is mixed with a suitable lubricant, stored for at least 24 h at a temperature higher than 25 °C and compacted into a pre-form, which is then extruded through a die on a ram extruder to produce pipes or cords. Tapes are produced by calendaring cord which still contains lubricant. In case of extruded pipe the lubricant is evaporated and the liner is additionally sintered.

### Supply form

PTFE Paste TF 2029Z are supplied in moisture and dust tight plastic drums.

Capacity per drum: 25 kg  
Order quantity per pallet: 300 kg



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## Storage and Material Handling

3M™ Dyneon™ PTFE Paste TF 2029Z can be stored for a relatively long period of time provided it is stored in a clean, dry place at a temperature of less than 19 °C to safeguard free-flowing properties.

## Safety/Toxicology

This is a PTFE material, so normal precautions observed with PTFE should be followed. Before processing these products, consult the Material Safety Data Sheet and follow all label directions and handling precautions. 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) After handling these products wash any contacted skin with soap and water. (5) Avoid contact with hot fluoropolymer. Potential hazards, including evolution of toxic vapors, can exist if processing occurs under excessively high temperature conditions. Vapor extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with an open flame or in a furnace.

## Our Worldwide Commitment to Quality

Indicative of our commitment, most Dyneon design, development, production and service facilities have achieved global quality management certification. Production facilities have also received certification for their environmental management system. Please see the Dyneon website ([www.dyneon.eu](http://www.dyneon.eu)) for the most up-to-date certification details.

## 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" by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

The present edition replaces all previous versions. Please make sure and inquire if in doubt whether you have the latest edition.

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**Web Site: [www.dyneon.eu](http://www.dyneon.eu)**  
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