

3M™ Dyneon™ PTFE Dispersion TF 5041GZ

Product Description

3M™ Dyneon™ PTFE Dispersion TF 5041GZ is a milky-white, water-based fluoropolymer dispersion, filled with glass bubbles. The dispersion has a solids content of around 58 %. The spherical hydrophobic polymer particles have an average size of around 200 nm. The polymer has a density of approximately 2.2 g/ml.

Special Features

- Achieves a high coating compound per application
- High degree of viscosity
- Large operating temperature range
- Very good wetting properties
- Low settling tendency
- Very good non-stick properties
- High degree of abrasion resistance
- Mixture has a high storage stability

Properties	Test method	Unit	Value
Solids Content	DIN EN ISO 12086	%	58
Emulsifier			non-ionic
Emulsifier Content (based on solids)	Internal Dyneon method	%	6
Particle Size	DIN ISO 13321	nm	200
pH Value	DIN ISO 976		> 9
Viscosity (D = 30 s ⁻¹)	DIN EN ISO 3219	mPas	130



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Typical Properties

3M™ Dyneon™ PTFE Dispersion TF 5041GZ is supplied with a pH value of 9 – 11. The very high viscosity generates a high pick-up weight per coating pass, which makes the product useful for coating heavy-weight glass cloth fabrics.

Typical Applications

3M™ Dyneon™ PTFE Dispersion TF 5041GZ is mainly used for coating heavy glass fabrics in the architecture sector. When coating these fabrics, TF 5041GZ is usually used as an intermediate layer to achieve the desired coating compound. This makes the high viscosity of the product and its filling of special hollow glass bubbles very beneficial.

Processing Recommendations

Dyneon recommends that the dispersion always be gently homogenised before processing.

TF 5041GZ is used as an intermediate coating. Dyneon recommends using an unfilled polymer dispersion as a base coat for heavy glass fabrics. As coating with TF 5041GZ produces increased roughness due to the filling, a final top coat with pure PTFE and / or fluorothermoplastic dispersions is advisable.

PTFE coatings should be dried and sintered in a multi-step process. To dry the layers Dyneon recommends a continuous process at low temperatures of 90 – 120 °C to begin with, followed by intermediate drying at 250 – 320 °C and then final sintering at 360 – 400 °C.

To achieve the full functionality of the coating with its unique PTFE properties, the exposure time for each step must be chosen to ensure that all the by-products of the dispersion such as water and surfactants are completely removed. Complete sintering must also be guaranteed.

Fully sintered PTFE is characterised by its even, transparent appearance.

Storage and Handling

The aqueous dispersion must be stored under frost-proof conditions (5 – 30 °C). Although 3M™ Dyneon™ PTFE Dispersion TF 5041GZ has a low settling tendency, it should be homogenised once or twice a month by gentle rolling or stirring. Should sediment still build up, it can be redispersed by homogenising the dispersion as described above.

For more information please consult our technical information regarding "[Shelf Life and Storage of 3M™ Dyneon™ Fluoropolymer Dispersion Products](#)".

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.

Delivery Form

3M™ Dyneon™ PTFE Dispersion TF 5041GZ is delivered as a water-based solution (dispersion).

Packaging size is:

- 1000 l IBC container with 1300 kg content

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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.



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