

3M™ Dyneon™

PTFE Dispersion TF 5066GZ

Product Description

3M™ Dyneon™ PTFE Dispersion TF 5066GZ is a milky-white, water-based fluoropolymer dispersion. The dispersion has a solids content of around 59 %. The spherical hydrophobic polymer particles have an average size of around 210 nm. The polymer has a density of approximately 2.2 g/ml.

Special Features

- Excellent film formation
- Very good wetting properties
- Very good non-stick properties
- Almost universal chemical resistance
- Low settling tendency
- Large operating temperature range

Properties	Test method	Unit	Value
Solids Content	DIN EN ISO 12086	%	59
Emulsifier			non-ionic
Emulsifier Content (based on solids)	Internal Dyneon method	%	6
Particle Size	DIN ISO 13321	nm	210
pH Value	DIN ISO 976		> 9
Viscosity (D = 30 s ⁻¹)	DIN EN ISO 3219	mPas	15

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Typical Properties

3M™ Dyneon™ PTFE Dispersion TF 5066GZ is supplied with a pH value of 9 – 11. The dispersion is characterised by excellent film formation and wetting properties, so the product can be used for coating PTFE surfaces.

Typical Applications

3M™ Dyneon™ PTFE Dispersion TF 5066GZ is mainly used for the coating or impregnation of fabrics. Due to the necessarily high sintering temperatures, glass and aramid fabrics are particularly suitable. Due to the product's excellent wetting properties, multiple coatings are possible. TF 5066GZ can be used for needle felts and packings, filters, and slide seals rings. PTFE coated fabrics are mainly used for products such as conveyor belts, baking foil, or in the architectural segment.

Processing Recommendations

Dyneon recommends that the dispersion always be gently homogenised before processing and filtered using a 50 µm filter.

When coating fabrics, make sure that the base coat is applied with as few air bubbles as possible. This can contribute to a reduction in the viscosity of the dispersion by dilution.

Subsequent layers can be applied with the concentrated material. The excellent film formation and wetting properties allow for a relatively high layering speed.

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 5066GZ 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 5066GZ is delivered as a water-based solution (dispersion).

Packaging sizes are:

- 30 l PE-drum with 40 kg content
- 1000 l IBC container with 1500 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 analyse test types and conditions, and to handle and use raw polymers and related compounding ingredients. Testing in accordance with DIN, ISO and ASTM.

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



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