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AGC Chemicals
Chemistry for a Blue Planet

Fluoropolymers and Fluoroelastomers

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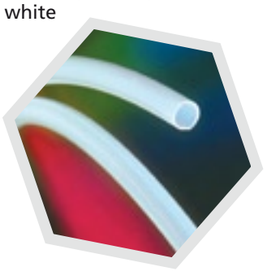
Fluon® ETFE

Fluon®ETFE has excellent processability and good heat resistance. The mechanical and electrical insulation properties are also outstanding. It is available as pellets and powders. In pellet form it is suitable for extrusion and injection moulding. When supplied as powder it can be used for rotational moulding and electrostatic coating.

Applications of Fluon®ETFE include wire and cable coating for automotive applications, robotics and electronic equipment, coatings and linings for chemical equipment, tubes, films, sheets, tape and parts for the semi-conductor industry.

Fluon®LM-ETFE has better thermal stability, heat resistance, stress crack resistance and is more flexible and transparent than standard ETFE. The LOI (limiting oxygen index) is also improved. It can be moulded at a wider range of temperatures due to its improved thermal stability and lower melting point. Applications include multi-layer fuel hose, filter media, wire and cable, valve housings, film and sheet.

Fluon® Colour Concentrates are a full range of colour master batches suitable for ETFE, high flow ETFE and high flow FEP. They are available in red, brown, orange, pink, violet, yellow, green, blue, black, grey and white and are supplied as cylindrical pellets.



AFLAS®

FLUOROELASTOMERS

AFLAS® the material of choice for products and systems that have to work in tough environments.

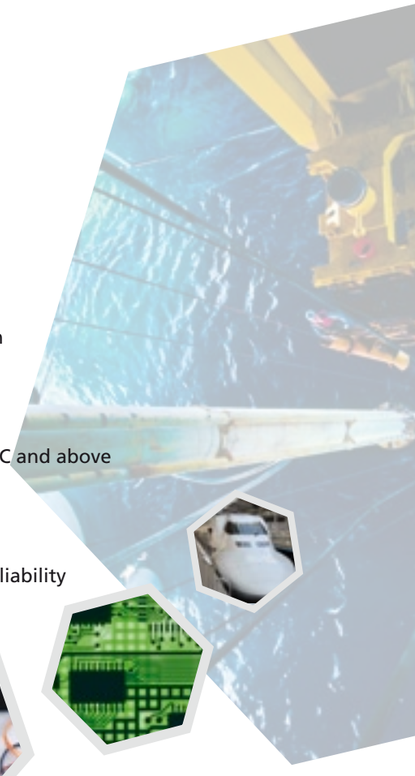
AFLAS® fluoroelastomer was launched over 30 years ago by AGC. It is based on an alternating copolymer of tetrafluoroethylene and propylene.

The unique properties of AFLAS® are:

1. Excellent heat resistance with a maximum service temperature of approx. 230°C and above
2. Excellent chemical resistance to strong acids and bases at high temperatures
3. Excellent steam resistance
4. Excellent electrical insulation properties with volume resistivity of 1016 Ω·cm

AFLAS® is used worldwide in all kinds of industrial applications where ultimate reliability is required.

Typical applications are: o-rings and gaskets, manufacture of liquid crystal and semi-conductors, wire and cable, automotive oil seals



Fluon® PTFE

Fluon® aqueous dispersions (ADs) have been developed for coating metal, impregnating glasscloth and packings and for coagulation with pigments or fillers.

Applications: conveyor belts, kitchen cookware, electronics, textile architecture, industrial applications

Fluon® granular PTFE is used in the form of pre-sintered powder for ram extrusion and in the form of non free flow powder for moulding and as feedstock for filled compounds.

Applications: blending with fillers, general moulding, billets for skived tape, ram extrusion, additive to coating systems

Fluon® lubricant powders are manufactured from virgin PTFE feedstock and are used either as dry lubricants or as additives in other materials such as plastic compounds, rubbers, fluoroelastomers, inks, paint, oils and greases.

Fluon® lubricant powders are FDA 21CFR 177:1550 (U.S. Food and Drug Administration) and EU food contact approved so are ideal as additives in coatings which are in contact with food and drink, such as food processing equipment and can coatings. They also give enhanced lubricity, non-stick properties and reduce friction, all of which are important in a wide range of applications.

Applications: additive in gravure and flexographic printing inks, general purpose lubricant, friction reducing additive in thermoplastics, food contact coatings

Fluon® PFA

PFA (Perfluoroalkoxy) is a type of fluoropolymer with excellent thermal and chemical resistance.

PFA is similar in composition to the fluoropolymers PTFE and FEP (fluorinated ethylene propylene), sharing low coefficient friction and non-reactivity characteristics. However PFA has better heat resistance and a higher melt strength, capable of being used up to temperatures of 260 °C (500 °F). PFA also offers stability at high processing temperatures, excellent crack and stress resistance whilst maintaining more than 10 times the flex life of FEP.

PFA's low dielectric constant allows it to be used in semiconductor manufacturing and many electrical applications. In order to avoid internal stresses, PFA should be processed at high temperatures -- around 700° F (371°C) -- and at slow rates. PFA coating is ideal when extended services are required in hostile environments involving chemical, thermal and mechanical stress.

Fluon® PFA has excellent chemical resistance, low friction and non-stick properties. It also has good electrical and mechanical properties and resists UV light and other environmental elements. As with other thermoplastic resins Fluon® PFA can be extruded, injection moulded, blow moulded and transfer moulded.

This unparalleled fluoropolymer can be used within the temperature range –200°C to +260°C.

Typical applications are tubes, blow-moulded items, linings and wire coatings.

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