



FluoroFoam® 
ePTFE from
Poly Fluoro Ltd.

About Poly Fluoro

Since establishment in 1985 Poly Fluoro Ltd. has been at the forefront of thermoplastic innovation, pioneering the manufacture and application of engineered plastics in India.

We are an accredited ISO 9001-2008 system, based in a modern 20,000-sq.ft plant, offering complete design, prototype and production services. This incorporates the capacity to mould, extrude, cast, expand and machine both virgin and formulated polymer materials from sizes ranging from 1mm to in excess of 500mm diameters.

Allying a traditional engineering background with in-house material production and innovative new techniques, we have developed a unique range of products that are tailored to suit numerous applications.

To many, Poly Fluoro Ltd. and its extensive range of formulated polymer specialty components is synonymous with the finest, most dependable engineering plastic for OE fitment. Over 100 OEMs regularly source their polymer requirements from us with an increasing number of these being import substitutes.

FluoroFoam® Expanded PTFE (ePTFE)

FluoroFoam® marks the entry of Poly Fluoro Ltd. into the expanded PTFE (ePTFE) segment and makes us the first Indian company to operate in this space.

With our state-of-the-art extrusion technology, we have stayed true to our reputation of being industry pioneers by going one step further into ePTFE.



Products offered include:

PRODUCT	DETAILS
ePTFE Joint Sealant	Available as adhesive and non-adhesive strips wound on spools. Thicknesses range from 2mm up to 8mm in widths of up to 40mm. Spool lengths of up to 25mts available, depending on the thickness
ePTFE Gaskets	Cut gaskets can be offered as per client requirements. Available in outer diameters of up to 200mm and from thicknesses of 3mm-8mm
ePTFE Membranes	Thin membranes of 0.15-0.25mm in thickness having pore sizes of 0.2-0.4 microns. Available in continuous rolls of customizable widths
ePTFE Sheet	Continuous sheets offered in widths of up to 200mm and thicknesses of 3mm-5mm

With FluoroFoam® we will give the market products that meet global quality norms at local prices. In addition to this, our completely in-house set up will allow us to customise products as per the client requirements, while also stocking standard sizes to meet immediate demand.



Application areas

FluoroFoam® forms a thin, but yet strong, reliable gasket under compression, that is highly resistant to aggressive media. Because of the excellent thermal and chemical resistance of FluoroFoam®, it can be used in a wide variety of static applications in virtually any industry. The exceptional malleability of expanded PTFE compensates for out-of parallel and/or damaged sealing surfaces and allows use with stress sensitive connections and applications where only a limited flange load may be available.

Typical applications are the sealing of flanges, pump housings, compressors, hand and manholes, air ducts, compensators, heat exchangers and many more.

FluoroFoam® ePTFE gasket material is supplied in rolls with widths of up to 200mm. These can be further punched into smaller gaskets as required by the end-user. Poly Fluoro Ltd. offers the option of supplying both the cut gaskets as well as the full sheet.

FluoroFoam® ePTFE membranes are supplied in running lengths of up to 500mm widths. Membranes are used in filtration for the separation of gases from liquids and/or the separation of micro particles from batches of fine powders. They find application in both automotive and medical industries and can be supplied either as pure ePTFE membranes or as ePTFE membranes with polymer backings – such as polypropylene or polyethylene.



Advantages

Quick and simple installation: adhesive strip makes installation easier while the shape and versatility of the material means minimal cutting and sizing

Reduced down time: standard sizes are immediately available ex-stock

Reduced stock: a few spools of different sizes cover most applications within a plant

No risk: the texture of FluoroFoam® ensures the material accommodates the shape of the mating member, so there is no chance of the equipment getting damaged by the ePTFE

Safe: ePTFE is chemically inert and can therefore be used even in the harshest environments without risk of reacting with the surrounding substances

No waste: FluoroFoam® comes in a spool, so no material gets wasted

Micro-porosity: ePTFE remains one of the few materials to be able to separate gas from liquids due to its micro pore size



Technical Details

Temperature range: -240 °C up to +260 °C, for short periods up to +310 °C

Chemical resistance: resistant against all chemicals from pH 0-14 - except molten alkali metals and elemental fluorine at high temperature and pressure

Pressure resistance: vacuum up to 200 bar

Density: 0,65 g/cm³, +/- 0,1g/cm³ (for rectangular cross sections only)

Aging resistance: FluoroFoam® itself does not age and is UV-resistant. However, the adhesive backing may lose its effectiveness if kept unused for too long

Colour: white (other pigments available on demand)

Fillers: FluoroFoam® can be offered in virgin and carbon filled variants

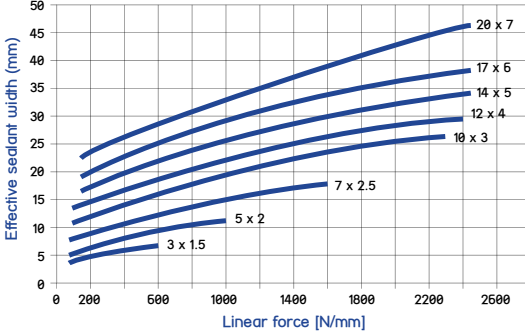
Others: FluoroFoam® is physiologically harmless. It has no smell or taste. It is neither contaminating nor toxic. It is made using FDA approved raw materials

ePTFE Joint Sealant

Sizes available:

Size (mm)	Standard Spool Lengths (others on request)			
	5m	10m	25m	50m
1.5 x 3			✓	✓
2 x 5			✓	✓
2.5 x 7			✓	✓
3 x 10		✓	✓	✓
4 x 12		✓	✓	✓
5 x 14		✓	✓	
6 x 17	✓	✓	✓	
7 x 20	✓	✓	✓	
5 x 25	✓	✓	✓	
5 x 28	✓	✓		

Compressed Sealant Width @ 20°C



Assembly in standard jointings

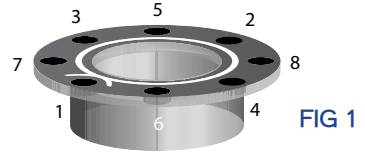


FIG 1

Assembly in fragile jointings

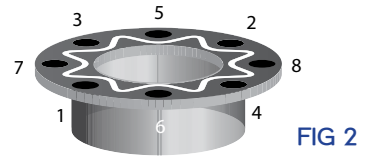


FIG 2

Installation:

Completely clean the sealing area and remove any dirt, corrosion, oil or leftover from old gasket material.

Cut one ending of the sealing tape and remove just a little of the protecting paper. Place the tape at the nearest possible position next to the bolts, starting next to a bolt hole. Fit the gasket around the entire flange circumference and across the endings as shown in fig 1.

Assembled in fragile flanges apply techniques as shown in fig 2. Skive the endings as shown in fig. 3 and overlap according to the recommended overlap length. Cut off the excess, tapering to the end, leaving a total thickness of approx. 120 %.

At least 4 progressive torque sequences with a torque wrench, in a star of 180° (fig 1), should follow the first torque by hand.

Lastly perform a circular torque to check and ensure a tight and long-lasting seal

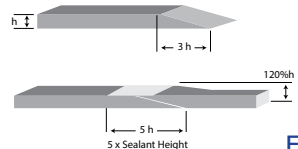


FIG 3

Assembly with skiving technique in fragile flanges and sizes > 17x6 mm

ePTFE Membranes

Technical Parameters:

Reference Pore Size:	0.2-0.45µm
Water Entry Pressure:	>15 psi (>1.0 bar), ASTMD751
Air Permeability:	0.2 – 0.50 ft ³ /ft ² /min @ 125 Pa (20-50 l/h/cm ² @ 0.07 bar), ASTM D737
Thickness:	6 – 10 mil (0.15 – 0.25 mm), ASTM D1777
Oil Repellence:	> 6 Membrane Side, AATCC 118
Available Dimensions:	OEM membranes as custom slit roll goods. Membrane vents in customised shapes.

All technical information and advice are based on our experience and are to the best of our knowledge, but do not state any liability by our company. Specifications and values must always be checked by the customers, as they are the only ones that can gauge the efficiency of a product taking into account all of the on site operating conditions.



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