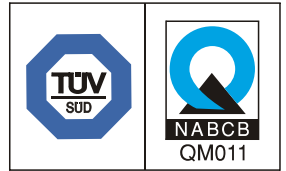


ISO 9001 : 2000 Company



# Engineered PTFE Components

# About Poly Fluoro

Since establishment in 1985 Poly Fluoro has been at the forefront of thermoplastic innovation, pioneering the manufacture and application of PTFE/Teflon® in India.

We are an accredited ISO 9001-2000 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 and machine both virgin and formulated PTFE components 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 which are tailored to suit numerous applications.

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



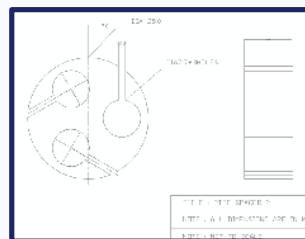
## Integrated service

For an integrated service in top quality fabricated PTFE products – try Poly Fluoro.

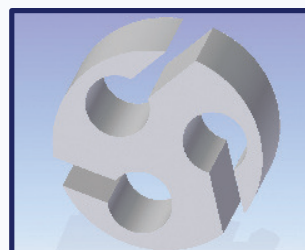
We have a long and distinguished record of supplying conventional and unconventional shapes of PTFE in a wide variety of configurations. You can, of course, buy the stock shapes from us and do your own machining – but customers invariably find it more practical and satisfactory to have the machining and finishing operations carried out at our plant. Our design team, using cutting edge modelling software Solid Edge® and NX™ CAM Express, can be as involved in the development of the component as you require, while our state-of-the-art CNC facilities and long experience in working with PTFE enable us to offer the highest quality service in the industry.

Our unit – based in Bangalore, India has complete facilities to handle a single prototype or millions of units. We are equipped for moulding, extrusion, machining and special fabrication techniques.

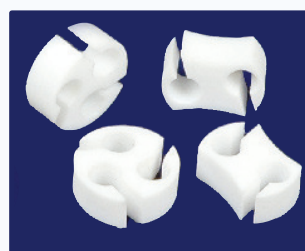
Solid Edge is a registered trademark of UGS Corp, NX is a trademark of UGS Corp and Teflon is a registered trademark of E. I. du Pont de Nemours and Company



1. Drawing received from customer



2. Design department creates 3D model of the piece



3. Part is CNC machined to the precise specifications of the customer

# Specialised service

Among the array of products offered by Poly Fluoro are engineering and design assistance and unusual fabrication techniques. Poly Fluoro has CNC capabilities and a dedicated team of machining experts who review each product and recommend the design and material most suitable for the application. We can also help in refinement of existing designs.

Selection of material, design and tolerances are vital factors in achieving the optimum combination of performance in service and economies in production. We have had experience with a wide range of shapes and sizes.

When it comes to fabrication skills Poly Fluoro has experience in moulding, machining, thermoforming, grinding, welding and finishing PTFE products. Parts may be cut from stock shapes or they may be custom moulded and machined.

## Why machining by Poly Fluoro is most suitable

PTFE products require special skills in machining to obtain accurate dimensions. The relative softness, flexibility in thin sections, low heat-transfer rate and high coefficient of thermal expansion of the material dictates the need for careful handling. Poly Fluoro combines special tooling and machining techniques with a wealth of experience to achieve the correct dimensions every time. Careful attention is given to control minor variations in manufacturing procedures or conditions which can seriously affect the quality and serviceability of the end product.

Poly Fluoro has been a leader in the machining of PTFE components for more than a decade. Equipment and techniques have been carefully studied and continually modified and refined during this period. Thus we have been able to improve the efficiency and speed with which close tolerance machined components are produced.

If you need parts machined from PTFE – Poly Fluoro has the experience and expertise to fulfil your requirements.



### Why convert to parts made of PTFE?

**Durability**

- Wear characteristics
- Frictional concerns
- Stress

**Regulatory Requirements**

- FDA
- USDA
- ASTM

**Usage conditions**

- Chemical environment
- UV requirements
- Temperature

## Key challenges in PTFE machining

Much higher coefficient of linear thermal expansion than metals – leads to 1.3% dimensional change between 0 and 100°C

Deformation due to heating of tool and material during turning

Special holding mechanisms needed to account for material softness



Choice of tool an important factor in achieving dimensions

Difficult to obtain tolerances less than 25µm

Stress induced in material by tool needs to be factored in

# Other PTFE products from Poly Fluoro

## FluoroTube™ PTFE Tubing

FluoroTube™ marks the entry of Poly Fluoro into the PTFE tubing segment. The grades and sizes available make FluoroTube™ ideal for applications such as medical, chemical and automotive.

FluoroTube™ comes in sizes ranging from 1mm to 25mm diameters and is unique in many ways when compared to conventional polymer tubing:

- Highly resistant to corrosive chemicals
- Working temperature range of -200°C to +250°C
- Chemically inert - making it ideal for medical applications
- Extremely low coefficient of friction



## Lubring™

Lubring™ Slideways (a proprietary PTFE formulation) is a superior bearing material developed specially for machine tool ways, gibs and other sliding applications. It is widely used by leading machine tool manufacturers, re-builders and in-plant personnel to restore existing equipment to like-new precision.

Lubring™ exhibits superior performance when compared to other slideway bearings:

- Excellent vibration dampening – dampens cutting tool vibration from migrating throughout the machine tool
- Chemical resistance – resists aggressive coolants and lubricants
- High wear resistance – ensures long service life
- Low wear in the event of dry operation – protects mechanical components in cases of poor or failed lubrication
- Impervious to moisture



## Bridge Bearings

Poly Fluoro combines its expertise in PTFE skived sheets with know-how on PTFE bonding techniques to produce high quality sliding bearings and PTFE-POT bearings. Our bearings usually employ PTFE with a 25% glass filling as this gives us superior creep properties. Fillers of bronze and carbon are also available.

We are equipped with facilities for testing the testing tensile properties, deformation and shore hardness of our sheets before we employ them in bridge bearings.

Our bridge bearings exhibit the following characteristics:

- Coefficient of friction as low as 0.03-0.05 – near rolling friction
- Load bearing capacity in the range of 40MPa
- PV values in excess of 10,000

