

AVIATION

PTFE tubings are used in Aircraft industry owing to their non-flammability, lower friction coefficient which allows durability under extreme temperature and pressure . PTFE tubings are used to cover the wiring and cables.

TEXTILE

In the textile Industry, corrosion is a major worry due to the transfer of chemicals. PTFE tubing is the ideal material for such application.

3D PRINTING

In this application, PTFE is utilized in tubing form because its lubricity guides filament to the die head to make parts or transport liquids. PTFE tubing has high temperature coefficient along with non-sticky nature which helps to easily slip the material from the nozzle in 3D printing, even under high temperature ranges. PTFE is most preferable polymer in the 3D printing industries.

CHEMICAL

The inherent nature of PTFE makes it a versatile material to use in chemical industries where transfer of the highly sensitive and corrosive fluids and high purity fluids can be handled in a safe and repetitive manner. PTFE tubing is resistant to acids, alkalis, solvents and hydrocarbons in various concentrations and working temperatures.

HVAC INDUSTRY

PTFE tubing finds wide application due to its extensive working temperature range of -60°C to 260°C. It works well with steam as well as refrigerant.

GENERAL

PTFE tubing can be efficiently used in cosmetic industry for transferring powder and oils, in distillation of alcohols and pure solvents, in applications related to conveying of compressed, pure and corrosive gases, in coolant lines in electronic industry and in transfer and heat supply lines in the food industry

TECHNICAL SPECIFICATIONS				
	Properties	DIN or ASTM Standard	Unit	PTFE
Physical	Specific Gravity	53479	gfcc	2.14-2.19
	Maximum Working Temperature		°C	260
	Flame Rating		UL-94	94 V-O
	Water Absorption	53495	%	<0.01
Mechanical	Ultimate tensile strength at 23°C			29-39
	Ultimate tensile strength at 150°C		Mpa	14-20
	Ultimate tensile strength at 250°C	53455		n.kn.
	Yield point as 23°C	53455	N/mm2	10
	Elongation at break, at 23°C	53455	%	200-500
	Modulus of elasticity in tension at 23°C	53457	N/mm2	400-800
	Maximum bending stress at 23°	53452	Mpa	18-20
	Flexural Modulus	53457	N/mm2	600-800
	Ball Hardness 132-60	53456	N/mm2	25-30
	Shore Hardness D	53505		55-72
	Coefficient of Friction (dry with steel)			0.05-0.20
Thermal	Melting Temperature	ASTM 2116	°C	327
	Heat deflection temperature @ 18.5 Kp/sq.cm	5361	°C	50-60
	Heat deflection temperature @ 4.6 Kp/sq.cm	ISO R75	°C	130-140
	Coefficient of expansion		1/K.10-5	10-16
	Thermal conductivity at 23°C	52612	W/K.m	0.23
	Specific heat 23°C		Kj/Kg.K	1.01
	Oxygen index		%	>95
Electrical	Relative permittivity at 10 (3) Hz	53483		2.0-2.1
	Relative permittivity at 10 (6) Hz			2.0-2.1
	Surface resistivity	ICE 93+167	Ohms	10 (17)
	Arc resistance	ASTM 495	sec	>360
	Dielectric strength	53481	KV/mm	40-80

HITECH FLUORO PRODUCTS

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ABOUT US

WHO WE ARE ?

HITECH FLUORO PRODUCTS is a polymer extrusion specialist. Our focus is centred on fluoropolymers with which we extrude high quality and high value products with integrity, precision and consistency.

We are an ISO 9001 : 2015 Certified Company which is built on the premise of fulfilling the needs and surpassing the expectations of our customers, with a commitment to providing solutions to a myriad of applications, both existing and under development.

We have the natural attitude and the flexibility to partner with designers and innovators, to create custom oriented products and solutions.

We are located on the outskirts of the commercial capital of India, Mumbai, and will be pleased to Extrude your needs to the best of our abilities.

VISION

To transform ourselves into bringing value to all we do, maintaining the highest standards of product quality and service in India and Overseas.

PTFE TUBING

PTFE Paste Extruded Tubing.

- PTFE is one of the most versatile plastics known today and is a unique polymer material.
- PTFE tubing is unaffected by harsh and corrosive acids, ultra high purity solvents, fuels and hydrocarbons. The tubing is made from Virgin PTFE and so it's surface integrity provides for a smooth, lubricating and inert surface that is practically unaffected and in a class of its own.
- PTFE tubing can withstand strong weathering conditions and is resistant to ultra violet (UV).
- PTFE tubing is ultra pure, non-toxic, resists corrosion, porosity, and oxidation naturally. PTFE fluoropolymer structure offers non stick properties and high dimensional stability with UL94 V-0 flame rating.
- PTFE tubing can endure a temperature range from -60°C up to 260°C.
- PTFE tubing has 58 D Durometer rating with outstanding dielectric properties.
- PTFE tubing is produced by the "PASTE EXTRUSION PROCESS" and this imparts smooth internal as well as external surface. These tubing are produced with very tight tolerances continuously over lengths up to 800 Metres.

The applications for PTFE tubing are numerous and virtually each day a new application is tested or developed.

PTFE TUBING – Category

❖ **PTFE Natural Tubing** ❖ **PTFE Pigmented Tubing**

❖ **PTFE Striped Tubing** ❖ **PTFE markable Tubing**

❖ **PTFE Abrasion Resistance Tubing(Filled)**

PTFE Stock Shapes

Hitech Fluoro Products is among the leading manufacturers of polymer machined components and stock shapes.

We process a wide range of polymers such as Poly Tetra Fluoro Ethylene (PTFE), Poly Ether Ether Ketone (PEEK), Poly Oxy Methylene (Delrin), Poly Vinylidene Fluoride (PVDF), Poly Amide(Nylon), and UHMWPE in standard sizes as well as customized sizes to suit specific applications.

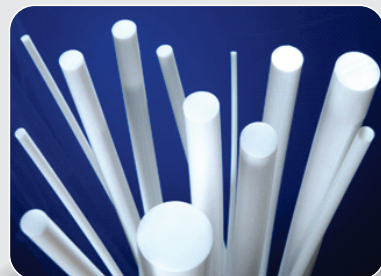
PTFE RODS

Hitech Fluoro Products offers a wide range of PTFE Molded rods with diameter ranging from 12.5 mm to 300 mm and extruded rods with diameter from 2mm to 200mm

These rods are available either as moulded type with lengths upto 300 mm or as extruded type with lengths upto 1mtr.

We can also offer PTFE filled rods with various compositions as under

15 % - 25 % glass filled PTFE 25 % - 30 % carbon filled PTFE 15 % - graphite PTFE
40 % - 60 % bronze filled PTFE.



PTFE Bush

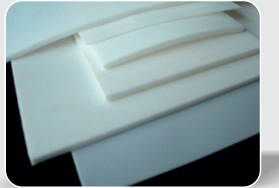
We process a wide range of bushes as per the need of our customers and based on specific applications. These bushes have good tensile strength and are chemical and abrasion resistant. They are available in different grades and dimensions and possess a fine finish and precision design which aid in installation.



PTFE sheets

PTFE sheets can be offered either by skiving or by moulding. Skived sheets are usually in thicknesses of 0.1mm to 3.5mm with size of 300X1200mm, while moulded sheets are of higher thicknesses from 4mm to 100mm with size 300x1200mm.

The product is subject to stringent online quality control to ensure the use of the sheets in application that demand low coefficient of friction, chemical resistance at elevated temperatures, Other industrial applications for PTFE sheets are widespread like wear plates , sliding supports, insulation and load bearings. They are usually produced in a variety of grades such as bronze, glass, and carbon and can be made and pigmented as required.

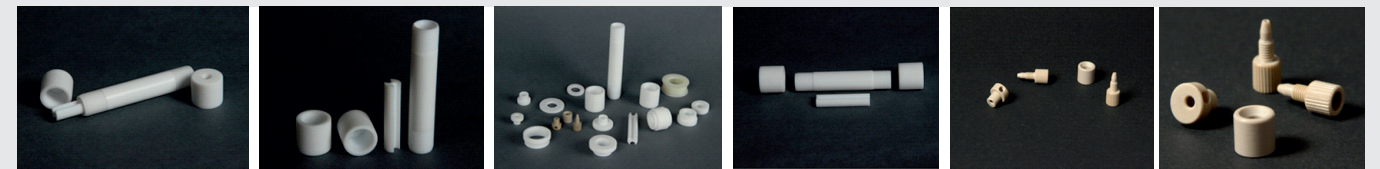


MACHINED COMPONENTS

Hitech Fluoro Products produces a wide range of machined components in a diverse range of materials comprising of PTFE, PEEK, PVDF, Poly Oxy Methylene (POM) , Poly Amide(Nylon), and UHMWPE, PA66, and other advanced materials.

We can produce gaskets, seals, seats, screws, customized laboratory components, bellow, bottles and beakers to name a few...

Please contact us at info@hitechfluoro.com for special requests or to help you develop components as per your need.



APPLICATIONS

AUTOMOTIVE

Due to its excellent dielectric strength, PTFE is a material of choice for wire harness insulation. Its inherent property provides for dry lubrication solutions in a variety of applications such as tubing for fluids and fuel hoses. PTFE Tubing can withstand a wide working temperature range of from -140°F (-60°C) up to 500°F (260°C). PTFE, being chemically inert and resistant can be used for critical fluid transfer. It has low gas permeability and also displays UV resistance. It is easy to convenient to produce a wide range of standard and customized shapes.

ELECTRICAL

PTFE provides great electrical insulation and chemical resistance and these attributes are ideal for its use as a splicing aid at high continuous service temperatures up to 260°C (500°F). PTFE tubing can bear the high temperature and protect the wire from any cuts. These tubings are available in multi-colours that help to identify the wires. Coloured Stripes can also be aesthetically provided to help identification.

FIBRE OPTICS

The lubricity property of PTFE provides for easy sliding over fibre optics without damaging the delicate fibres. The material is also UV resistant and can operate in a variety of extremes from cryogenic low temperature to up to 500°F (260°C) without any noticeable linear expansion. PTFE can be compounded with other materials to increase performance, such as glass - that when extruded with customized designs - can offer accelerated bonding ability without sacrificing lubricity along the tube's inside diameter.

CRITICAL FLUID TRANSFER

PTFE is an ideal material for critical fluid transfer applications. Due to its chemical resistance, mechanical integrity and high temperature resistance, it can handle a wide range of acids, alkalis and solvents. PTFE is inherently a pure fluoropolymer, thus making it an excellent material choice for pharmaceutical applications that require a very high degree of purity.

INDUSTRIAL

PTFE is the most versatile fluoropolymer, positioning it as an ideal material for a variety of industries. The material is chemically inert and can have colour added for identification, offers resistance over a wide temperature range, can maintain high purity and durability.