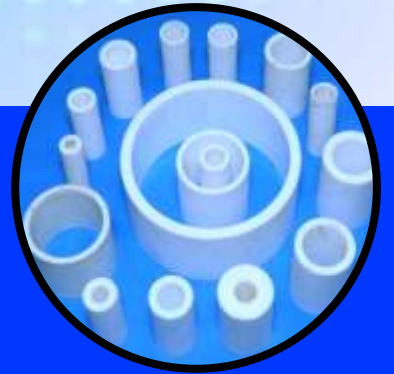
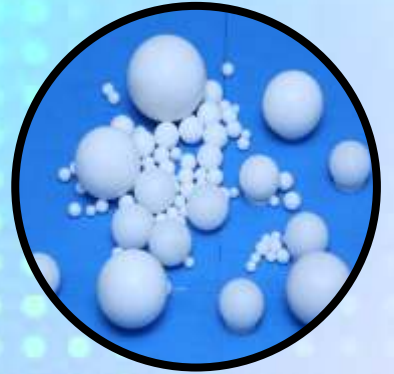




LUWOL INDUSTRIES



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Teflon Is The Registered Trade Name Of The Highly Useful Plastic Material Polytetrafluoroethylene (PTFE). PTFE Is One Of A Class Of Plastics Known As Fluoropolymers. A Polymer Is A Compound Formed By A Chemical Reaction Which Combines Particles Into Groups Of Repeating Large Molecules. Many Common Synthetic Fibers Are Polymers, Such As Polyester And Nylon. PTFE Is The Polymerized Form Of Tetrafluoroethylene. PTFE Has Many Unique Properties, Which Make It Valuable In Scores Of Applications. It Has A Very High Melting Point, And Is Also Stable At Very Low Temperatures. It Can Be Dissolved By Nothing But Hot Fluorine Gas Or Certain Molten Metals, So It Is Extremely

Resistant To Corrosion. It Is Also Very Slick And Slippery. This Makes It An Excellent Material For Coating Machine Parts Which Are Subjected To Heat, Wear, And Friction, For Laboratory Equipment Which Must Resist Corrosive Chemicals, And As A Coating For Cookware And Utensils. PTFE Is Used To Impart Stain-resistance To Fabrics, Carpets, And Wall Coverings, And As Weatherproofing On Outdoor Signs. PTFE Has Low Electrical Conductivity, So It Makes A Good Electrical Insulator. It Is Used To Insulate Much Data Communication Cable, And It Is Essential To The Manufacture Of Semiconductors. PTFE Is Also Found In A Variety Of Medical Applications, Such As In Vascular Grafts. A Fiberglass Fabric With PTFE Coating Serves To Protect The Roofs Of Airports And Stadiums. PTFE Can Even Be Incorporated Into Fiber For Weaving Socks. The Low Friction Of The PTFE Makes The Socks Exceptionally Smooth, Protecting Feet From Blisters.



Read more: <http://www.madehow.com/Volume-7/Teflon.html#ixzz5f1ikuXME>

PTFE (polytetrafluoroethylene) is a synthetic resin derived from the polymerization of tetrafluoroethylene. PTFE is more commonly known by various trademarks such as Teflon, Hostafion and Polyflon.

Properties of PTFE

PTFE Possesses Several Properties That Make It Suitable For Manufacturing A Wide Range Of Products:

- ◆ Chemical resistance to a wide range of substances including vegetable oils, aldehydes, acids and ketones
- ◆ Insolubility
- ◆ Incombustibility (can tolerate temperature up to 260 degrees Celsius)
- ◆ Low coefficient of friction

PTFE (Polytetrafluoroethylene) is a synthetic fluoropolymer of tetrafluoroethylene and is known for being one of the most versatile plastics available.

Our products are manufactured to exacting standards at quantities to suit your needs. All of our machined parts are made to order so you get exactly what you're looking for to suit your specific industry application. We can design custom machined parts to suit a wide range of uses or manufacture based on your own drawings. There really is almost nothing we cannot manufacture in plastics.

Below is a short introduction to some of the products areas our expertise covers.

Moulding

Our range of Fluoropolymer materials include semi-finished rod, tube and sheet in PTFE, PEEK, PFA, FEP, PCTFE, Nylon, PP and many others.

Fluoropolymers are commonly used in applications that require chemical resistance, sealing at temperature etc. We offer a range of compression moulded PTFE tube in Virgin PTFE and have developed our own "AF" range of filled PTFE compounds, with in-house moulding capability up to 1000mm diameter. All materials manufactured or supplied by AFT Fluorotec are fully certified and tested.



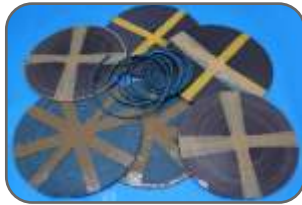
MACHINING

We've worked with clients to create complex components from a wide variety of materials and in many cases, been able to deliver solutions that other suppliers couldn't. For more information about our machining capabilities, check out our over view or contact us to discuss your project.

Components



PTFE T BUSH



PTFE WEAR STRIP



PTFE SCREW



**PEEK ROD BUSH
& RINGS**



PTFE PCD RINGS



PTFE BALLS



PTFE T.C. GASKETS



PTFE BOTTLE CAPS



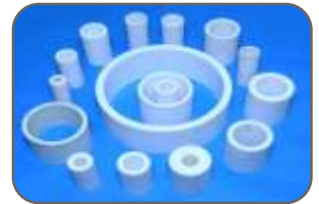
**PTFE MACHINING
COMPONENTS**



**PTFE MECHANICAL
SEAL BELLOW**



**PTFE MOULDED
RODS**



**PTFE MOULDED
BUSH**



PTFE FILTERS



**PTFE V. PACKING
SET**



**PTFE CARBON
FILLED
COMPONENTS**



PTFE "O"RINGS

PTFE Powder & Ready Components Stock



Lathe Machinery



Moulding Machinery



VMC & CNC Automation Machinery



Technical Data Sheet - TDS - Physical Properties of PTFE and Filled PTFE Products

Physical properties of Virgin PTFE & Filled Grade o Flake, Irregular, Type & content of filler, Manufac		f PTFE are dependent upon many factors such as Grad turing Process - Compression Molding, Ram Extrusion		es of PTFE - Conventional, Modified PTFE or Filled , Isostatic, Paste Extrusion. Due to this - Physica						PTFE, Particle size of resin - Fine Cut or Coarse, l Properties of PTFE & Filled PTFE Products - have				Particle Shape of Resin - Spherical, the wide range of Values:-															
Sr. No.	Property	Unit	Test Method	Virgin PTFE	Chemically Modified PTFE	15% Glass Filled PTFE	25% Glass Filled PTFE	5% Glass +5% MoS2 Filled PTFE	15% Glass +5% MoS2 Filled PTFE	25% Carbon / 23% Carbon + 2% Graphite Filled PTFE	35% Carbon / 33% Carbon + 2% Graphite Filled PTFE	15% Graphite Filled PTFE	40% Bronze/ TSQ Filled PTFE	40% Bronze + 5% MoS2 Filled PTFE	60% Bronze Filled PTFE	55% Bronze + 5% MoS2 Filled PTFE													
				1	2	3	4	5	6	7	8	9	10	11	12	13													
1	Density	gm / cc	ASTM D-792	2.1 - 2.2	2.15 - 2.2	2.15 - 2.22	2.22 - 2.25	2.20 - 2.24	2.20 - 2.24	2.0 - 2.2	2.0 - 2.14	2.10 - 2.16	3.0 - 3.2	3 - 3.2	3.8 - 4.0	3.8 - 4													
2	Tensile Strength	kgf/cm ²						75 - 250	150 - 220	125 - 200	100 - 175	150 - 200	125 - 225																
3	Elongation of Break	%	ASTM D-638	250 - 400	400 - 450	225 - 325	200 - 300	200 - 300	220 - 320	80 - 150	100 - 150																		
4	Compressive Strength	kgf/cm ²								85	80 - 90	65 - 75	85 - 100	80 - 95	115 - 125	115 - 125													
5	Deformation under load (Max.)																												
a	2 Hrs. 23°C 113 kgf	%	ASTM D-621	12	3.5	10	9	11	10	5	4	6	5	5	4	4													
b	24 Hrs. 23°C 113 kgf			15	5	12	11	13	12	7	6	8	6	6	5	5													
c	Permanent																												
d	2 Hrs. 150°C 113 kgf			55	40	52	50	52	50	35	30	43	42	42	40	40													
6	Impact strength	J/cm	ASTM D-256	1.4 - 1.5	1.6 - 1.75	1.2 - 1.3	1.0 - 1.1	1.25 - 1.35	1.2 - 1.3	0.7 - 0.8	0.6 - 0.7	0.8 - 0.9	0.9 - 1.0	0.9 - 1.0	0.8 - 0.9	0.85 - 0.95													
7	Hardness	Shore D	ASTM D-2240	58 - 62	56 - 62	58 - 62	58 - 63							62 - 66	64 - 68	64 - 68													
8	Coefficient of Friction		ASTM-D-1894							-																			
a	Dynamic P-7 kg/cm ² V-0.5			0.04-0.06	0.02-0.03	0.31-0.37	0.5-0.54	0.15-0.20	0.15-0.20	0.12-0.17	0.13-0.18	0.11-0.16	0.11-0.15	0.1-0.14	0.12-0.16	0.11-0.14													
b	Static P-35 kg/cm ²			0.05-0.08	0.04-0.06	0.01-0.12	0.11-0.13	0.08-0.01	0.08-0.01	0.09-0.11	0.01-0.12	0.08-0.10	0.08-0.10	0.075-0.09	0.08-0.10	0.07-0.09													
9	Wear Rate (Max.)	gm/s	ASTM-G-137	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01													
10	Water Absorption (Max.)	%	ASTM D-570	0	0	0.015	0.013	0.015	0.015	0	0	0	0	0	0	0													
11	Continuous Service Temperature	°C	ASTM-D-648	+260	+260	+260	+260	+260	+260	+260	+260	+260	+260	+260	+260	+260													
12	Heat Resistance (Max.)	%	ASTM-D-648	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01													
13	Coefficient of Linear Thermal Expansion- 10 ⁻⁶ X	%	ASTM D-696	250 - 275	250 - 275	240 - 265	235 - 255	245 - 270	240 - 265	225 - 250	215 - 240	240 - 265	200 - 225	200 - 225	175 - 200	175 - 200													
14	Linear Thermal Expansion (Max.)		ASTM D-696	A	R	A	R	A	R	A	R	A	R	A	R	A	R												
a	30 - 150°C	%		1.5	1.5	1.5	1.5	1.5	1	1.5	0.7	1.5	1	1.5	1	1.2	1	1.1											
b	30 - 200°C			2.4	2.3	2.4	2.3	2.3	1.8	2.2	1	2.3	1.8	2.3	1.8	1.9	1.5	1.8	1.4	2	1.7	1.85	1.55	1.85	1.55	1.8	1.5	1.8	1.5
c	30 - 250°C			3.4	3.6	3.4	3.6	3.3	2.2	3.2	1.4	3.3	2.2	3.3	2.2	2.7													
15	Dielectric Strength	Kv/mm	ASTM D-149	22 - 24	30 - 35	15 - 16	11 - 12	15 - 16	15 - 16	1 - 2	1 - 2	1 - 2	Conductive	Conductive	Conductive	Conductive													
16	Dimensional stability																												
a	Length	%	ASTM-D-1710	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3	1.5 - 3													
b	Diameter	%		0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1	0.5 - 1													
17	Chemical Resistance (Max.)																												
a	Permeability	%	ASTM-D-543	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01													
b	Dissolution	%		0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01													
c	PTFE is chemically inert & unaffected by all known chemicals except molten or dissolved alkali metals-Sodium; Potassium; Rubidium; Cesium; Francium & Fluorine gas, certain fluorine compounds & complexes at elevated temperatures. Filled PTFE has inferior chemical resistance depending upon the particular filler.																												
The physical properties of Standard & Non-standard filled grade composition not mentioned in above table are to be referred on the basis of Material Test Certificate issued by Raw Material Supplier / Manufacturer. Data quoted are average values only & should not be used for designed purpose.																													
Company has in-house test facility / Laboratory to test above properties. The testing equipments are calibrated as per procedures laid down in QMS-ISO-9001:2008, having traceability with NPL. The test procedures are self designed, similar to above referred ASTM's.																													



LWOL INDUSTRIES

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