

Manufacturer of

PTFE
PRODUCTS

LARGEST...

PTFE PRODUCTS RANGE

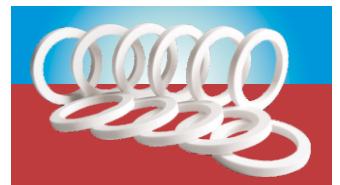
PTFE SHEET RANGE UP 2000 MM x 2000 MM

PTFE GASKETS RANGE UP TO DIA 2600 MM

PTFE MOULDING CAPACITY UP TO DIA 2600 MM

PTFE FILLED GRADES (ALL) UNDER ONE ROOF

“PIONEER IN PTFE INDUSTRY IN INDIA”.



DIAMOND
POLYMERS

“Production Solutions, That Make Sense”

ISO 9001:2015

www.diamondpolymers.in

About us

Diamond Polymers, established in 2015, is a leading manufacturer of high-quality PTFE products, dedicated to excelling in the fluoropolymers industry through advanced technology and expertise. Our product range includes standard PTFE items such as rods, bushes, sheets, gaskets, washers, bellows, piston rings, O/U/V rings, ready-cut gaskets, envelopes, chevron packing, and balls. Additionally, we specialize in customizing non-standard sizes to meet specific customer requirements.

We offer a diverse portfolio of PTFE grades, including Glass Filled, Bronze Filled, Carbon Filled, Graphited Filled, Peek PTFE, Pigmented PTFE, Mos2 Filled PTFE, and many more.

Diamond Polymers is proud to associate with **Prime International**, a leading global marketing and service provider, to expand our international reach and deliver exceptional services. This strategic collaboration enables us to serve a wider customer base, ensuring timely delivery and unparalleled support across the globe.

- Emphasized **Diamond Polymers'** commitment to excellence and technology
- Highlighted the customization capabilities for non-standard sizes
- Emphasized the diversity of PTFE grades offered
- Introduced Prime International as a strategic partner for global marketing and service provision

"State-of-the-Art Manufacturing Facility & Strategic Location"

Diamond Polymers is strategically located in the Karve Industrial Area, Vita, Sangli District, Maharashtra. in India. within a government-approved industrial zone. Our facility is well-equipped with modern amenities and boasts excellent infrastructure, ensuring efficient production and operations.

Our location offers unparalleled connectivity, with easy access to major transportation networks, including:

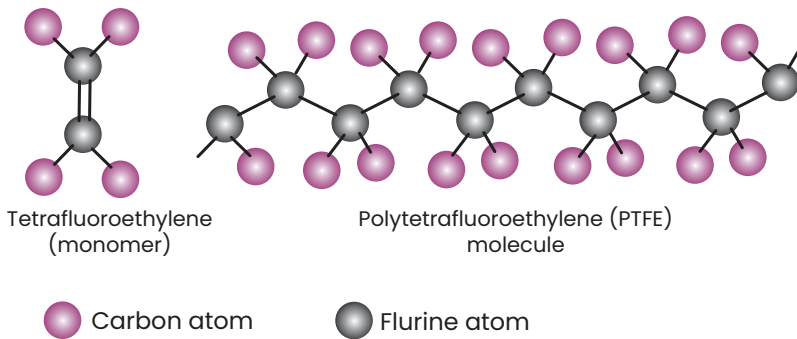
Road: Proximity to national highways for swift transportation (Connected NH-4)

Railway: Nearby railway station for convenient cargo handling (Miraj & Sangli)

Sea: Close proximity to the nearest sea port for international trade (Mumbai & Goa)

Airport: Accessibility to nearby airports for swift logistics (Mumbai & Pune)

Polytetrafluoroethylene (PTFE) structure



PTFE (Polytetrafluoroethylene):

PTFE (Polytetrafluoroethylene) is a synthetic fluoropolymer of tetrafluoroethylene, renowned for its exceptional properties and diverse applications. As a fluorocarbon solid, PTFE is a high-molecular-weight compound composed entirely of carbon and fluorine atoms.

Basic Properties of PTFE

PTFE has an impressive array of physical, chemical and mechanical properties that makes it, the material of choice for the most demanding applications.

- Extremely low coefficient of friction
- Low dielectric constant and loss factor
- Broad range of service temperature (-260 c to +260 c)
- Inherent UV resistance
- Excellent chemical resistance
- FDA compliance for food contact
- Low smoke and flammability resistance (limiting oxygenindex=95%)
- Non-adhesive properties
- Low water absorption
- Non-toxic
- Resistance to magnetic field

PTFE Grades

- 100% Virgin PTFE
- 15-35% Carbon filled PTFE
- 15 to 25% Glass filled PTFE
- 15% Graphite filled PTFE
- 40 to 60 % Bronze filled PTFE
- 5 to 10% SS filled PTFE
- 5 to 10% Mica filled PTFE
- 55% Bronze +5% MOS 2 (molydenumdisulphide) Filled PTFE
- MOS2 filled PTFE
- MOS2 filled Glass and Carbon PTFE
- Pigmented PTFE
- Peek filled PTFE
- Turcite
- Ceramic Filled PTFE
- Modified PTFE - M-PTFE

Manufacturing Capabilities

At **Diamond Polymers**, we pride ourselves on our state-of-the-art manufacturing capabilities, which enable us to produce high-quality PTFE products that meet the exacting standards of our customers. Our capabilities include:

- Advanced moulding processes having hydraulic press capacity from 10 ton to 1500 ton, total 22 hydraulic press installed.
- Oven sintering process total 13 electric oven installed having deferent capacity.
- CNC machines for machined precision components
- 2.6 mtr (2600mm) dia moulding capacity
- upto 2 mtr X 2 mtr moulded sheet range
- machining capacity upto 2.6 mtr dia (2600mm)
- Skilled labour and quality control measures
- Custom manufacturing to meet specific customer requirements
- Ability to handle large and small production runs
- In-house tooling and design capabilities
- Highly precision products in PTFE machined by highly advance CNC & VNC machines.



ISO 9001:2015 certified

Diamond Polymers Quality Checking

Process Purpose: Ensure highest quality PTFE products and services.

Key Stages:

- ✓ Raw Material Inspection
- ✓ Production Monitoring
- ✓ In-Process Inspection
- ✓ Final Product Inspection
- ✓ Packaging and Shipping

Quality Checking Frequency:

- ✓ 100% raw material inspection
- ✓ Continuous production monitoring
- ✓ Regular in-process checks

Ensuring:

- ✓ High-quality materials
- ✓ Precise dimensions
- ✓ Excellent surface finish
- ✓ Reliable chemical composition
- ✓ Optimal mechanical, thermal, & electrical properties

Corrective Action:

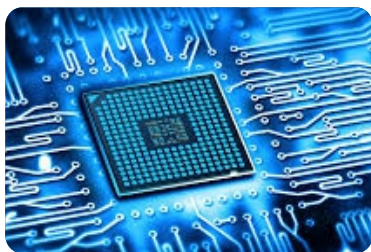
- ✓ Prompt issue resolution
- ✓ Preventative measures implementation

With a reputation for excellence, **Diamond Polymers'** PTFE meets the high demands of challenging applications, offering unparalleled quality and reliability in multiple industries.



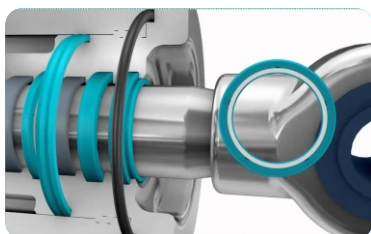
PTFE in - Chemical processing Plant / Pump & Valve Industries

PTFE is crucial in chemical processing and plant construction for its superior chemical resistance, temperature stability, and low friction. It remains effective across a broad temperature range, from -200°C to +260°C (-328°F to +500°F). PTFE is commonly used in piping, seals, and linings, seat & packing ensuring reliable performance and durability in demanding conditions.



PTFE in - Semiconductor / Electrical / Electronic engineering

PTFE offers excellent electrical insulation properties, a very low dielectric constant, high thermal stability, and flame-resistant properties, making it ideal for use in manufacturing equipment. Its exceptionally low ion extractables and fusibility further enhance its suitability in such applications. Additionally, the ultrasmooth surfaces of machined PTFE components help reduce wash, rinse, and dry cycles.



PTFE in - Hydraulic & Engineering Industries

PTFE hydraulic seals and seals are widely used in hydraulic systems due to their excellent chemical resistance, low friction, and ability to withstand high temperatures and pressures. PTFE's non-stick properties reduce wear and friction, enhancing the performance and lifespan of hydraulic components. These seals are ideal for harsh environments, as they resist corrosion, minimize leakage, and can operate effectively in both dynamic and static applications. PTFE seals are commonly found in industries such as aerospace, automotive, and chemical processing.



PTFE in - Oil & Gas industries

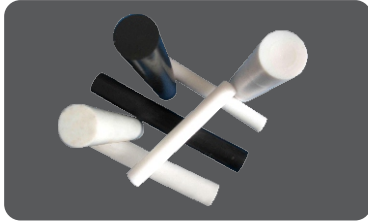
In the oil and gas industry, PTFE is used for seals, gaskets, O-rings, valve seats, bushings, bearings, liners, and packing materials. These components offer chemical resistance, low friction, and durability in harsh environments, enhancing performance and lifespan.



PTFE in - Pharmaceutical, Food & Process Industries

In the pharmaceutical industry, PTFE is used for seals, scoop, beaker, stirrer, sampler, spoon, gaskets, O-rings, valve seats, filters, and liners. These components provide chemical resistance, non-reactivity, and ease of sterilization, making them ideal for maintaining purity, preventing contamination, and ensuring durability in pharmaceutical processing equipment. Our PTFE products are FDA compliant.

PRODUCT RANGE

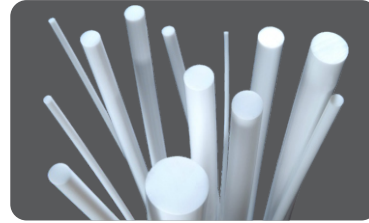


PTFE MOLDED ROD

Dia : 25 MM To 400 MM (Standard)

Length : 300 MM (Standard)

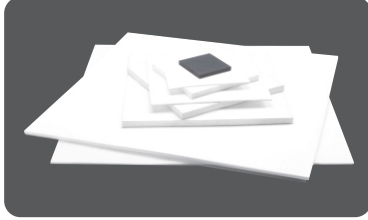
Specific Length and Diameter available as per customer's requirement.



PTFE EXTRUDED ROD

Diameter : 6 MM To 200 MM (Standard)

Length : 900 MM To 1000 MM (Standard)

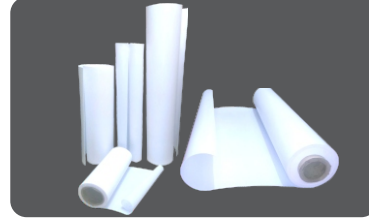


PTFE MOLDED SHEETS

Standard Size : 300 mm² / 400 mm² / 450 mm² / 500 mm² 600 mm² / 900 mm² / 1000 mm² / 1200 mm² / 1500 mm² / 2000mm²

Special size - 1000 mm X 2000 mm

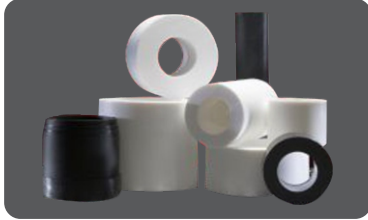
Thickness : From 1.5mm to 100 mm



PTFE SKIVED SHEETS

Standard Size : 300mm W / 450mm W / 600mm W / 1000mm W / 1200mm W / 1500mm W

Thickness : from 0.1 mm To 6 mm
All non standard sizes available as per customer specifications

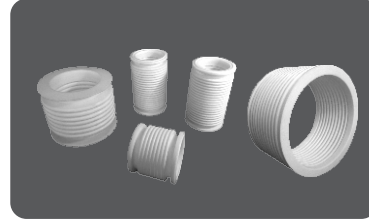


PTFE BUSHES

Length : 100 MM (Standard) Non Standard Sizes available upto 1500 MM
Dia and Length upto 600 MM.

Size : OD 12.5 X ID 6 MM To OD 300 X ID 275 MM (Standard)

As per customer's specifications and drawings

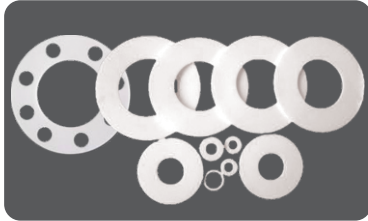


PTFE BELLOWS

Range : Line Bellows, Expansion Bellows, Valve Bellows, Special Bellows, Composite Bellows available as per Customer Requirement in all PTFE Grades.

Size : NB - 1/2" To 24" Class #150/300

Length : 67.5 MM (Standard) To As per



PTFE RING / WASHER / GASKET

Range : Specific Size & Thickness available as per customer's requirements upto 1600 MM Dia.

Readycut Gasket, Flange Gasket Etc.

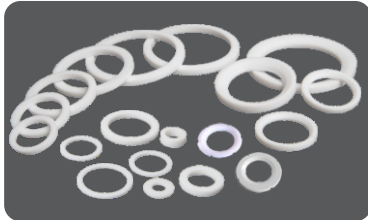


PTFE ENVELOPS

Range : 0.5 + 0.5 Envelops, 0.5 + 2 to 5mm + 0.5 milled Envelops

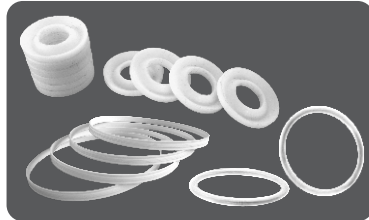
Manufacturing s per customer's specifications and drawings upto 1600 MM Dia.

Size : NB - 1/2" To 24" Class #150/300



PTFE Ball Valve Seat - Seal - Thrust Washer Gland Packing

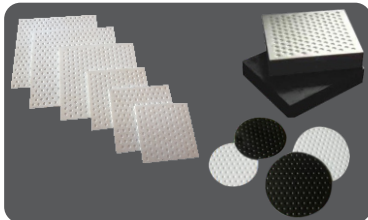
Ball Valve Seat - Seal & Packing as per Customer Specification & Drawings its also available in R-PTFE



PTFE O/V/C/U/D Rings

Chevron Packing, Piston Ring, Guide Ring, Compressor Ring, Oil Seal etc.

Range : Manufacturing s per customer's specifications and drawings upto 2600 MM Dia.



PTFE DIMPLE SHEET / BRIDGE BEARING PAD

PTFE Bridge Bearing Pad also known as PTFE Dimple Sheet, mostly used in fastly growing infrastructural projects like Metro Projects, Railway Bridges, Fly-overs etc.

Range : As per customer's specifications and drawings

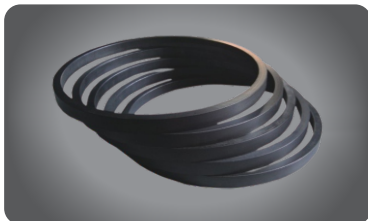


Expanded PTFE

Expanded PTFE Sheet 1500 X 1500mm in thickness 1.5 mm , 2 mm, 3 mm, 5 mm, 6 mm

E-PTFE Gasket in Thickness 1.5 mm , 2 mm, 3 mm, 5 mm, 6 mm

Strip with one side adhesive



CARBON FILLED PTFE

Carbon-filled PTFE is stronger, more wear-resistant, and heat-conductive than regular PTFE, ideal for seals and bearings.

Range : As per customer's specifications and drawings



PIGMENTED PTFE

Pigmented PTFE is PTFE colored with pigments for identification or aesthetic purposes, keeping its original properties intact.

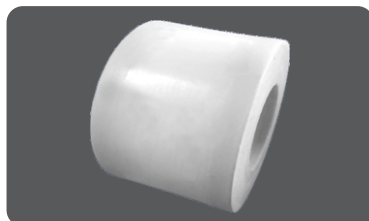
Range : As per customer's specifications and drawings



BRONZE PTFE

Bronze-filled PTFE is a composite material where bronze is added to PTFE, improving its strength, wear resistance, and thermal conductivity, commonly used in high-load, high-speed applications like bushings and bearings.

Range : As per customer's specifications and drawings



GLASS FILLED PTFE

Glass-filled PTFE is PTFE reinforced with glass fibers to enhance its strength, wear resistance, and dimensional stability, making it ideal for seals, gaskets, and insulation in demanding environments.

Range : As per customer's specifications and drawings

Special product



PTFE MOULDED SHEET

Largest Size 2mtr X 2 mtr
Thickness up to 100mm

Special product



PTFE MOULDED BUSH

Largest Moulding Size upto
2600 mm dia.



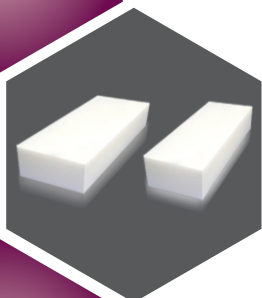
PTFE CIRCLE & DISC

Sizes : Upto Dia 2600 MM
& upto Thickness 200MM
Manufacturing as per customer's
Specifications and drawings.
Also available in all PTFE filled grades.



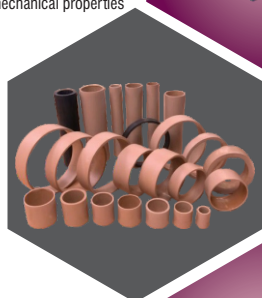
MODIFIED PTFE - M-PTFE

M-PTFE is a next generation moulding grade
which is chemically modified to give superior
performance than standard PTFE.
* Reduced deformation under load
* Good weldability * High chemical resistance
* Good electrical and mechanical properties



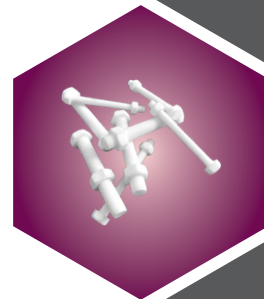
PTFE SQUARE BLOCK & PAD

Blocks & Pads Manufacturing
any size upto 2000 MM Length
& upto 200 MM Thickness



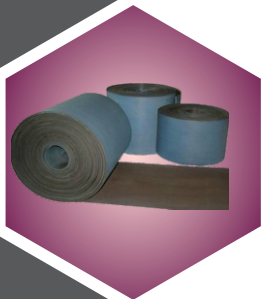
PEEK PTFE

5 to 20% PEEK PTFE Products as per
Customer Specification Excellent
Dimension Stability than PTFE. Ideal
for stop - start application to
eliminate stick - sleep high continues
use temperature up to 260 c



PTFE NUT & BOLTS

PTFE nuts and bolts resist chemicals, heat,
and friction, ideal for corrosive and
non-conductive environments.



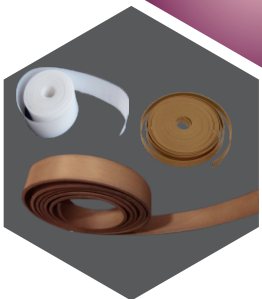
TURCITE SHEET

Turcite, also known as Bearing Linear or Trexonn, is
widely used in machine tool, hydraulic, and pneumatic
manufacturing for its low friction and wear resistance.
Turcite Green Sheet with one side chemical etching.



PTFE LAB ITEMS

PTFE lab items like spoons and scoops
provide chemical resistance and durability
for handling corrosive materials.

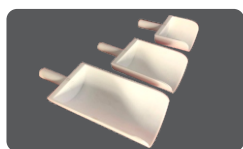


PTFE GUIDE STRIP

PTFE guide strips reduce friction and
wear in moving parts, enhancing
efficiency and lifespan in machinery
and conveyor systems.



PTFE BEAKER



PTFE SCOOP



PTFE NOZZLE

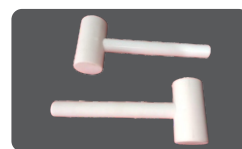


PTFE BALL

Special product

PTFE GASKET

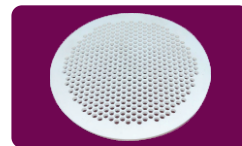
**Largest dia 2600mm gasket
without joint**



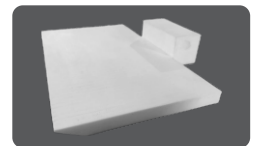
PTFE HAMMER



PTFE FUNNEL



**PTFE HEAT EXCHANGER
DISC**



**PTFE SCRAPER
DISC**

PHYSICAL PROPERTIES OF PTFE AND FILLED PTFE PRODUCTS

Technical Data Sheet

Physical properties of Virgin PTFE & Filled Grade of PTFE are dependent upon many factors such as Grades of PTFE - Conventional, Modified PTFE or Filled PTFE, Particle size of resin - Fine Cut or Coarse, Particle Shape of Resin - Spherical, Flake, irregular, Type & content of filler, Manufacturing Process - Compression Molding, Ram Extrusion, Isostatic, Paste Extrusion. Due to this - Physical Properties of PTFE & Filled PTFE Products - have the wide range of Values:-

Sr. No.	Property	Unit	Test Method	Virgin PTFE	Chemically Modified PTFE	25% Carbon Filled PTFE 23% Carbon + 2% Graphite	25% Glass Filled PTFE	15% Glass +5% MoS2 Filled PTFE	15% Graphite Filled PTFE	40% Bronze/ TSQ Filled PTFE	40% Bronze + 5% MoS2 Filled PTFE	60% Bronze Filled PTFE									
				1	2	3	4	5	6	7	8	9									
1	Density	gm / cc	ASTM D-792	2.1 – 2.2	2.15 – 2.2	2.0 – 2.2	2.22– 2.25	2.20– 2.24	2.10– 2.16	3.0 – 3.2	3 – 3.2	3.8 – 4.0									
2	Tensile Strength	kgf/cm ²	ASTM D-638	210 – 375	300 – 325	125–200	125– 200	150– 220	150– 200	125– 225	125-225	100– 200									
3	Elongation of Break	%	ASTM D-638	250 – 400	400 – 450	80–150	200-300	220-320	150-250	200-350	200-350	150-300									
4	Compressive Strength	kgf/cm ²	ASTM D-695	40-50	45-55	75–85	75-85	65-75	65-75	85-100	80-95	115-125									
5	Deformation under load (Max.)																				
a	2 Hrs. 23 ^o C 113 kgf	%	ASTM D-621	12	3.5	5	9	10	6	5	5	4									
b	24 Hrs. 23 ^o C 113 kgf			15	5	7	11	12	8	6	6	5									
c	Permanent			8	2.5	3.5	7	7.5	4.5	3	3	2.5									
d	2 Hrs. 150 ^o C 113 kgf			55	40	35	50	50	43	42	42	40									
6	Impact strength	J/cm	ASTM D-256	1.4 – 1.5	1.6 – 1.75	0.7 – 0.8	1.0 – 1.1	1.2 – 1.3	0.8 – 0.9	0.9 – 1.0	0.9 – 1.0	0.8 – 0.9									
7	Hardness	Shore D	ASTM D-2240	58 – 62	56 – 62	60 – 65	58 – 63	60 – 65	60 – 65	62 – 66	62 – 66	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	0.12-0.17	0.5-0.54	0.15-0.20	0.11-0.16	0.11-0.15	0.1-0.14	0.12-0.16									
b	Static P-35 kg/cm ²			0.05-0.08	0.04-0.06	0.09-0.11	0.11-0.13	0.08-0.01	0.08-0.10	0.08-0.10	0.075-0.09	0.08-0.10									
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									
10	Water Absorption (Max.)	%	ASTM D-570	0	0	0	0.013	0.015	0	0	0	0									
11	Continuous Service Temperature	^o C	ASTM-D-648	+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									
13	Linear Thermal Expansion (Max.)	%	ASTM D-696	A	R	A	R	A	R	A	R	A	R	A	R	A	R				
a	30 – 150 ^o C			1.5	1.5	1.5	1.5	1.2	1	1.5	0.7	1.5	1	1.3	1	1.15	0.95	1.15	0.95	1.1	0.9
b	30 – 200 ^o C			2.4	2.3	2.4	2.3	1.9	1.5	2.2	1	2.3	1.8	2	1.7	1.85	1.55	1.85	1.55	1.8	1.5
c	30 – 250 ^o C	3.4	3.6	3.4	3.6	2.7	2.4	3.2	1.4	3.3	2.2	3	2.5	2.55	2.25	2.55	2.25	2.5	2.2		
14	Dielectric Strength	Kv/mm	ASTM D-149	22 – 24	30 – 35	1 – 2	11 – 12	15 – 16	1 – 2	Conductive	Conductive	Conductive									
15	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									
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									
16	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									
b	Dissolution	%		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.																					



DIAMOND
POLYMERS

“ Production Solutions, That Make Sense ”

Associated Global partner



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