

## Omnia Plastica PTFE Polytetrafluoroethylene

Category : Polymer , Thermoplastic , Fluoropolymer , PTFE , Polytetrafluoroethylene (PTFE), Molded

### Material Notes:

A Fluoropolymer used mainly for its excellent chemical resistance. It has poor mechanical features. The strain, even under low weight, makes it very suitable as a gasket material. Features: Chemical: a typical fluoropolymer with very high chemical resistance. Mechanical: the mechanical features such as tensile stress and compressive strength are poor. Notably the bearing strain is very low. Very good resistance to low and high temperatures up to 260° C. as well as to UV rays. Low flammability. Low friction coefficient. Colour: natural. Weak Point: Poor mechanical properties. The strain is very high, even simply under the weight of the piece. Application: Chemical: very high chemical resistance to alkali and acids is the main feature of the fluoropolymers. PTFE is used for parts in the petrochemical and chemical industries. Food contact: physiologically inert it is approved for use in contact with food by some standards, whilst in some countries this use is questioned. Electrical: very good dielectric, self-extinguishing and weather stability properties make it suitable for this field. Mechanical: the low friction coefficient makes it suitable for bearings, provided that they work under low charge. Information provided by Omnia Plastica s.p.a. for semifinished products such as sheet, rod, and tube.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Omnia-Plastica-PTFE-Polytetrafluoroethylene.php](http://www.lookpolymers.com/polymer_Omnia-Plastica-PTFE-Polytetrafluoroethylene.php)

Physical Properties	Metric	English	Comments
Density	2.18 g/cc	0.0788 lb/in <sup>3</sup>	ISO.1183 DIN.53479
Moisture Absorption at Equilibrium	0.00 %	0.00 %	50% relative humidity
Water Absorption at Saturation	0.00 %	0.00 %	23°C

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	53	53	dry sample; ISO2039.2
Ball Indentation Hardness	30.0 MPa	4350 psi	ISO2039.1 DIN.53456
Tensile Strength at Break	20.0 MPa	2900 psi	ISO.527 DIN.53455
Elongation at Break	500 %	500 %	ISO.527 DIN.53455
Tensile Modulus	0.700 GPa	102 ksi	ISO.527 DIN.53455
Compressive Strength	1.50 MPa	218 psi	1% strain over 1000 hours; ISO.899 DIN.53444
Charpy Impact Unnotched	NB	NB	7.5 J; ISO.R179 DIN.53453
Charpy Impact, Notched	1.40 J/cm <sup>2</sup>	6.66 ft-lb/in <sup>2</sup>	ISO179/3C DIN.53453
Coefficient of Friction, Dynamic	0.10	0.10	on dry ground steel; load =0.05MPa; speed =0.6 m/s

Thermal Properties	Metric	English	Comments
--------------------	--------	---------	----------

Thermal Properties	Metric	English	Comments
CTE, linear	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
Thermal Conductivity	0.240 W/m-K	1.67 BTU-in/hr-ft²-°F	DIN.52612
Melting Point	325 °C	617 °F	
Maximum Service Temperature, Air	250 °C	482 °F	Maximum operating temperature continuously for 5000 hours based on a tensile stress of 50% at 23° C.
	260 °C	500 °F	short period, no load
Deflection Temperature at 1.8 MPa (264 psi)	50.0 °C	122 °F	ISO.75 DIN.53461
Minimum Service Temperature, Air	-200 °C	-328 °F	impact conditions and heavy loads not considered
Flammability, UL94	V-0	V-0	
Oxygen Index	92 %	92 %	ISO.4589

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+15 ohm-cm	1.00e+15 ohm-cm	ISO.93 DIN.53482
Dielectric Constant	2.1	2.1	ISO.250 DIN.53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Dielectric Strength	11.0 kV/mm	279 kV/in	ISO.243 DIN.53481
Dissipation Factor	0.00020	0.00020	ISO.250 DIN.53483
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	

## Contact Songhan Plastic Technology Co.,Ltd.

Website : [www.lookpolymers.com](http://www.lookpolymers.com)

Email : [sales@lookpolymers.com](mailto:sales@lookpolymers.com)

Tel : +86 021-51131842

Mobile : +86 13061808058

Skype : lookpolymers

Address : United North Road 215,Fengxian District, Shanghai City,China