

## Polimersan Plastics POLITEF® (PTFE)

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

### Material Notes:

POLITEF (PTFE) was invented in 1938. It is the most preferable and known fluoropolymer among fluorine polymers. It has superior properties that none of the other industrial plastics have because of its strong connection between the carbon and fluor atoms and its molecular structure made of a long and linear carbon chain, which is full with fluor atoms. It has the widest working heat interval among all the industrial plastics (-260°C and +260°C) , complete unlimited resistance against humidity, against environment conditions and against all the chemical materials used in industry. It has the lowest static and dynamic friction coefficient among all the known solids, superior electrical isolation, non-adhesiveness, non inflammability and other properties like these. In addition to these, it has sufficient mechanical properties and full resistance against all chemical materials. All these provide POLITEF to be preferred more than the other materials at many usage areas. Moreover many times only POLITEF is being used. POLITEF, is a material which can be used at many fields because of its above mentioned properties. Medicine, air and space technologies, cable and cable structure groups at computer sector, filter products, systems for determining leakage, valve spare parts, mechanical spare parts, electrical industry, food industry and textile industry are only small examples of POLITEF's usage areas. Information provided by Polimersan Polimer Kimya San.Tic.Ltd.Sti.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Polimersan-Plastics-POLITEF-PTFE.php](http://www.lookpolymers.com/polymer_Polimersan-Plastics-POLITEF-PTFE.php)

Physical Properties	Metric	English	Comments
Specific Gravity	2.13 - 2.23 g/cc	2.13 - 2.23 g/cc	ASTM D1457-18; ISO.1183 DN.53479
Deformation	9.5 - 11 %	9.5 - 11 %	230°C, 1 day, 140 kg/cm <sup>2</sup> ; ASTM D621

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	53 - 57	53 - 57	ASTM D2240; DIN.53505
Ball Indentation Hardness	30.0 MPa	4350 psi	ISO.2039-2
Tensile Strength, Yield	24.5 - 29.4 MPa	3560 - 4270 psi	ASTM D1708
	25.0 - 30.0 MPa	3630 - 4350 psi	ISO.527 DN.53455
Elongation at Break	250 - 300 %	250 - 300 %	ASTM D1708
Elongation at Yield	25 %	25 %	ISO.527 DN.53455
Izod Impact, Notched	1.52 J/cm	2.85 ft-lb/in	ASTM D256

Thermal Properties	Metric	English	Comments
CTE, linear	120 - 140 µm/m-°C	66.7 - 77.8 µin/in-°F	ASTM E831
	@Temperature 20.0 °C	@Temperature 68.0 °F	
Thermal Conductivity	0.4068 W/m-K	2.818 BTU-in/hr-ft <sup>2</sup> -°F	ASTM C177

Thermal Properties	Metric	English	Comments
Maximum Service Temperature, Air	260 °C	500 °F	ISO.75 DN.53461
Minimum Service Temperature, Air	-250 °C	-418 °F	
Brittleness Temperature	-200 °C	-328 °F	

Electrical Properties	Metric	English	Comments
Volume Resistivity	$\geq 1.00 \times 10^{15}$ ohm-cm	$\geq 1.00 \times 10^{15}$ ohm-cm	ISO.167 DN.53482
Surface Resistance	$\geq 1.00 \times 10^{13}$ ohm	$\geq 1.00 \times 10^{13}$ ohm	ISO.167 DN.53482
Dielectric Strength	50.0 - 80.0 kV/mm	1270 - 2030 kV/in	ASTM D149; ISO.243 DN.53481

Descriptive Properties	Value	Comments
Corrosion	20 - 25 cc-dak/kg-ms	25 - 1000°C
Kinding Temperature	530	°C, ASTM D1929

## Contact Songhan Plastic Technology Co.,Ltd.

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