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PETP (Polythene Terephthalate)

Possesses a useful balance of mechanical, thermal, chemical and electrical properties:
- Comparatively hard surface resistant to abrasion.
- Low coefficient of friction.
- High physical strength and rigidity.
- Excellent dimensional stability, low creep and almost no moisture absorption.
- Resistant to attack by a wide range of chemicals.
- Good electrical insulating properties.
- Easily machined.

AVAILABILITY - PETP
- Rod 10mm -150mm diameter
- Sheet 1mm - 100mm thick
- Sections cut from sheet
- Machined components
- Injection moulded components

MECHANICAL PROPERTIES		Test Method	Natural	Units
Density		DIN 53479	1.37	g/cm^3
Tensile Strength at Yield		DIN 53455	81	N/mm^2
Elongation at Break		DIN 53455	70	%
Modulus of Elasticity		DIN 53457	2800	N/mm^2
Ball Indentation Hardness (30 sec)		DIN 53456	150	N/mm^2
Rockwell Hardness		ASTM D785	M85	
Impact Strength		DIN 53453	no break	
Notched Impact Strength (Charpy)		DIN 53453	3	kJ/m^2
Moisture absorption	24 hour immersion		0.10	%
	Equilibrium 50% RH		0.20	%
	Equilibrium saturation		0.50	%
Coefficient of Dynamic Friction	against PETP		0.24	
	against polished steel		0.21	
THERMAL PROPERTIES				
Crystalline Melting Range		ASTM D2117	255	˚C
Vicat Softening Temperature/B		DIN 53460	185	˚C
Coefficient of Linear Expansion		DIN 52328	7	10^{-5} ˚C^{-1}
Heat Deflection Temperature	Method A	DIN 53461	80	˚C
	Method B	DIN 53461	115	˚C
Thermal Conductivity		DIN 52612	0.29	W/Km
Specific Heat			1.2	kJ/kgK
Maximum Service Temperature	short term		180	˚C
	continuous		100	˚C
Minimum Service Temperature	continuous		-20	˚C
Flammability UL		UL94	HB	
ELECTRICAL PROPERTIES				
Volume Resistivity		DIN 53482	10^{16}	ohm cm
Surface Resistivity		DIN 53482	10^{13}	ohm
Dielectric Strength		DIN 53481	45-60	kv/mm
Dielectric Constant	50 Hz	DIN 53483	3.4	
	1 MHz	DIN 53483	3.2	
Dissipation Factor	50 Hz	DIN 53483	0.002	
	1 MHz	DIN 53483	0.021	
Tracking resistance KC method		DIN 53480	350	