Ensinger TECAPET®

Polyethylene Terephthalate

Ensinger Inc.

Message:

TECAPET® PET is an unreinforced, semicrystalline thermoplastic polyester derived from polyethylene terephthalate. Its excellent wear resistance, low coefficient of friction, high flexural modulus, and superior dimensional stability make it a versatile material for designing mechanical and electro-mechanical parts. Because TECAPET® PET has no centerline porosity, the possibility of fluid absorption and leakage is virtually eliminated. TECAPET™ PET superior wear resistance and lack of centerline porosity give it an advantage over other materials for applications involving solvents, chemicals, and food products. TECAPET™ PET is also used in water purification systems, printing equipment, textile components, food-handling equipment, and valves.

General Information			
Features	Semicrystallization		
	Good dimensional stability		
	Low friction coefficient		
	Rigidity, high		
	High strength		
	Insulation		
	Anti-gamma radiation		
	Good chemical resistance		
	Good wear resistance		
	Good weather resistance		
	Compliance of Food Exposure		
	Low or no water absorption		
	High hardness		
Uses	Valve/valve components		
	Textile applications		
	Food service sector		
	Printing machine parts		
Agency Ratings	FDA 21 CFR 177.1630		
Forms	Shapes		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity	1.38	g/cm³	ASTM D792
Water Absorption			ASTM D570
23°C, 24 hr	0.10	%	ASTM D570
Saturated, 23°C	0.50	%	ASTM D570
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness (M-Scale, 23°C)	94		ASTM D785
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	3240	MPa	ASTM D638

Tensile Strength (Yield, 23°C)	86.2	MPa	ASTM D638
Tensile Elongation (Break, 23°C)	20	%	ASTM D638
Flexural Modulus (23°C)	2960	MPa	ASTM D790
Flexural Strength (23°C)	121	MPa	ASTM D790
Coefficient of Friction			ASTM D1894
With self-dynamics [1]	0.25		ASTM D1894
With Self-Static	0.19		ASTM D1894
Wear Factor [2] (0.28 MPa, 0.25 m/sec)	420	10^-8 mm³/N·m	ASTM D3702
Impact	**Nominal Value**	**Unit**	**Test Method**
Unnotched Izod Impact (23°C)	37	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ASTM D648
0.45 MPa, not annealed	116	°C	ASTM D648
1.8 MPa, not annealed	79.4	°C	ASTM D648
Peak Melting Temperature	254	°C	ASTM D3418
CLTE - Flow	7.0E-5	cm/cm/°C	ASTM D696
Specific Heat	1170	J/kg/°C	
Maximum Service Temperature			
Intermittent	160	°C	
Long Term	110	°C	UL 746B
Electrical	**Nominal Value**	**Unit**	**Test Method**
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength	16	kV/mm	ASTM D149
Dielectric Constant [3] (23°C, 60 Hz)	3.40		ASTM D150
Dissipation Factor (23°C, 60 Hz)	2.0E-3		ASTM D150
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating	HB		UL 94
Additional Information			
Data obtained from extruded shapes material.			
NOTE			
1.	40 psi, 50 fpm		
2.	Against Steel		
3.	50% RH		

Recommended distributors for this material

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