

TECANYL® - Stock Shapes

Chemical Designation

PPO (Polyphenylene oxide)

Colour

black

Density

1.08 g/cm³

Main features

- electrically insulating
- high strength
- good dimensional stability
- high toughness
- high thermal resistance

Target Industries

- conveyor technology
- mechanical engineering
- food processing
- precision engineering
- automotive industry
- electrical engineering
- home appliances

Mechanical properties	condition	value		test method	comment
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638	(1) Data obtained from public source
Tensile strength at yield	@ 73 °F	9,000	psi	ASTM D 638	(2) publicly available data from injection molded sample
Tensile strength at break	@ 73 °F	9,200	psi	ASTM D 638	(3) publicly available data from injection molded sample
Elongation at break	@ 73 °F	25	%	ASTM D 638	
Flexural strength	@ 73 °F	13,400	psi	ASTM D 790	
Modulus of elasticity (flexural test)	@ 73 °F	370,000	psi	ASTM D 790	
Impact strength (Izod)	@ 73 °F	3.5	ft-lbs/in	ASTM D 256	
Rockwell hardness	@ 73 °F R Scale	119		ASTM D 785	
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.39		ASTM D 3702	2)
Coefficient of friction	Static	0.32		ASTM D 3702	3)
Thermal properties	condition	value		test method	comment
Vicat softening point		310	°F	-	(1) Injection molded sample
Deflection temperature	@264 psi	254	°F	ASTM D 648	1)
Deflection temperature	@ 66 psi	279	°F	ASTM D 648	
Service temperature	Intermittent	230	°F	-	
Service temperature	Long Term	220	°F	-	
Thermal expansion (CLTE)		3.3*10 ⁻⁵	in/in/°F	ASTM D 696	
Electrical properties	condition	value		test method	comment
Volume resistivity	@ 73 °F	1*10 ¹⁷	Ω*cm	ASTM D 257	(1) Injection molded samples
Dielectric strength		500	V/mil	ASTM D 149	
Dissipation factor	@ 60 Hz, 73 °F	0.0007		ASTM D 150	1)
Dielectric constant	@ 60 Hz, 73 °F, 50% RH	2.7		ASTM D 150	
Other properties	condition	value		test method	comment
Moisture absorption	@ 24 hrs, 73 °F	0.07	%	ASTM D 570	(1) thickness greater than 1.5 mm, injection molded samples
Flammability (UL94)		V-1		-	1)
Flammability (UL94)		V-0		-	2)

→ Resin specification:
ASTM D4349-10 PPE220B50541, F13, G1106
Shapes specification:
NONE

This information reflects the current state of our knowledge and is intended only to assist and advise. It is given without obligation or liability. It does not assure or guarantee chemical resistance, quality of products or their suitability in any legally binding way. Values are not minimum or maximum values, but guidelines that can be used for comparative purposes in material selection. They are within the normal range of product properties and do not represent guaranteed property values. Testing under individual application circumstances is always recommended. Data is obtained from extruded shapes material unless otherwise noted. References to FDA compliance refer to the resins from which the products were made unless otherwise noted. All trade and patent rights should be observed. All rights reserved. Data sheet values are subject to periodic review, the most recent update can be found at www.ensinger-inc.com.