

## TECANYL® - Stock Shapes

### Chemical Designation

PPO (Polyphenylene oxide)

### Colour

black

### Density

1.08 g/cm<sup>3</sup>

### 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	Static	0.32	ASTM D 3702	2)
Coefficient of friction	Dynamic, 40 psi, 50 fpm	0.39	ASTM D 3702	3)
Thermal properties	condition	value	test method	comment
Vicat softening point		310 °F	-	(1) Injection molded sample
Deflection temperature	@ 66 psi	279 °F	ASTM D 648	
Deflection temperature	@264 psi	254 °F	ASTM D 648	1)
Service temperature	Intermittent	230 °F	-	
Service temperature	Long Term	220 °F	-	
Thermal expansion (CLTE)		3.3*10 <sup>-5</sup> in/in/°F	ASTM D 696	
Electrical properties	condition	value	test method	comment
Volume resistivity	@ 73 °F	1*10 <sup>17</sup> 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

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