TECANYL® black (Noryl EN 265) - Stock Shapes (rods, plates, tubes)

Chemical Designation
PPE (Polyphenylene ether)

Colour
black

Density
1.08 g/cm^3

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	unit	test method		comment
Modulus of elasticity (tensile test)	@ 73 °F	350,000	psi	ASTM D 638		(1) Data obtained from public source (2) publicly available data from injection molded sample (3) publicly available data from injection molded sample
Tensile strength at yield	@ 73 °F	9,000	psi	ASTM D 638	1)	
Tensile strength at break	@ 73 °F	9,200	psi	ASTM D 638		
Elongation at break (tensile test)	@ 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	unit	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)		$3.3*10^{-5}$	in/in/°F	ASTM D 696		

Electrical properties	condition	value	unit	test method		comment
volume resistance	@ 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	unit	test method		comment
Moisture absorption	@ 24 hrs, 73 °F	0.07	%	ASTM D 570		(1) thickness greater than 1.5 mm, injection molded samples (2) thickness greater than 6 mm injection molded samples
Flammability (UL94)		V1		-	1)	
Flammability (UL94)		V0		-	2)	

- Resin specification:
  ASTM D4349-22 PPE0220B50541
  Shapes specification:
  none

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Date: 2017/08/01

Version: