

Premix Thermoplastics PRE-ELEC® PC 1431

Category : Polymer , Film , Thermoplastic , Polycarbonate (PC)

Material Notes:

PRE-ELEC PC 1431 is a conductive thermoplastic compound based on polycarbonate. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC PC 1431 has excellent mechanical properties and is easy to extrude. PRE-ELEC PC 1431 can also be injection molded. Typical applications include extruded sheets for monolayer microchip carrier tape. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PC-1431.php

Physical Properties	Metric	English	Comments
Density	1.24 g/cc	0.0448 lb/in ³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	<= 0.0060 cm/cm	<= 0.0060 in/in	4 mm thick, 10.0 mm wide molded rod; ISO 294-4
Melt Flow	1.0 g/10 min	1.0 g/10 min	ISO 1133
	@Load 1.20 kg, Temperature 300 °C	@Load 2.65 lb, Temperature 572 °F	
	4.0 g/10 min	4.0 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 300 °C	@Load 4.76 lb, Temperature 572 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	4.0 mm thick, 10.0 mm wide molded rod; ISO 868
Film Tensile Strength at Yield, MD	50.0 MPa	7250 psi	ISO 527
Film Tensile Strength at Yield, TD	45.0 MPa	6530 psi	ISO 527
Film Elongation at Break, MD	20 %	20 %	ISO 527
Film Elongation at Break, TD	15 %	15 %	ISO 527
Film Elongation at Yield, MD	6.0 %	6.0 %	ISO 527
Film Elongation at Yield, TD	6.0 %	6.0 %	ISO 527
Modulus of Elasticity	2.50 GPa	363 ksi	4 mm thick; 10.0 mm wide molded rod; ISO 178
Izod Impact, Notched	0.800 J/cm	1.50 ft-lb/in	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	

Mechanical Properties	Metric	English	Comments
	1.74 J/cm	5.00 ft-lb/in	
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched	8.80 J/cm	16.5 ft-lb/in	
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	8.80 J/cm	16.5 ft-lb/in	
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Film Tensile Strength at Break, MD	47.0 MPa	6820 psi	ISO 527
Film Tensile Strength at Break, TD	44.0 MPa	6380 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	134 °C	273 °F	4 mm thick;10.0 mm wide molded rod; ISO 75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	120 °C	248 °F	4 mm thick;10.0 mm wide molded rod; ISO 75/Method Af
Vicat Softening Point	140 °C	284 °F	Rate B; 4 mm thick;10.0 mm wide molded rod; ISO 306/B50
	147 °C	297 °F	Rate A; 4 mm thick;10.0 mm wide molded rod; ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1e+05	<= 1e+05	400 um thick sheet; ISO D-257
Surface Resistance	<= 1.00e+7 ohm	<= 1.00e+7 ohm	400 um thick sheet; ISO D-257

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	250 °C	482 °F	Zone 1; Cylinder
	260 °C	500 °F	Zone 4; Cylinder
	260 °C	500 °F	Zone 2; Cylinder
	260 °C	500 °F	Zone 3; Cylinder
	270 °C	518 °F	Zone 5; Cylinder
	270 °C	518 °F	Zone 6; Cylinder
Die Temperature	260 °C	500 °F	Zone 3
	280 °C	536 °F	Zone 4

Processing Properties	Metric	English	Comments
	280 °C	536 °F	Zone 5
	280 °C	536 °F	Zone 2
Roll Temperature	70.0 °C	158 °F	3rd Roll
	80.0 °C	176 °F	2nd Roll
	90.0 °C	194 °F	1st Roll
Drying Temperature	100 - 120 °C @Time 7200 - 14400 sec	212 - 248 °F @Time 2.00 - 4.00 hour	Pre-drying
Moisture Content	<= 0.15 %	<= 0.15 %	When Produced
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Appearance	Granule	
Color	Black	

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