

Premix Thermoplastics PRE-ELEC® PS 1324

Category : Polymer , Film , Thermoplastic , Polystyrene (PS)

Material Notes:

PRE-ELEC PS 1324 is a conductive thermoplastic compound based on polystyrene. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC PS 1324 has excellent mechanical properties and is easy to extrude. Typical applications include extruded sheets for thermoforming of trays for the electronics industry. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PS-1324.php

Physical Properties	Metric	English	Comments
Density	1.08 g/cc	0.0390 lb/in ³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	4 mm thick, 10.0 mm wide molded rod; ISO 294-4
Melt Flow	0.20 g/10 min @Load 5.00 kg, Temperature 200 °C	0.20 g/10 min @Load 11.0 lb, Temperature 392 °F	ISO 1133
High Load Melt Index	18 g/10 min @Load 21.6 kg, Temperature 200 °C	18 g/10 min @Load 47.6 lb, Temperature 392 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	99	99	4.0 mm thick;10.0 mm wide molded rod; ISO 868
Hardness, Shore D	73	73	4.0 mm thick;10.0 mm wide molded rod; ISO 868
Film Tensile Strength at Yield, MD	20.0 MPa	2900 psi	ISO 527
Film Tensile Strength at Yield, TD	18.0 MPa	2610 psi	ISO 527
Film Elongation at Break, MD	80 %	80 %	ISO 527
Film Elongation at Break, TD	65 %	65 %	ISO 527
Film Elongation at Yield, MD	4.0 %	4.0 %	ISO 527
Film Elongation at Yield, TD	4.0 %	4.0 %	ISO 527
Modulus of Elasticity	1.80 GPa	261 ksi	4 mm thick;10.0 mm wide molded rod; ISO 178
	0.900 J/cm	1.69 ft-lb/in	

Mechanical Properties	Metric	English	Comments
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
	1.30 J/cm	2.44 ft-lb/in	
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched	4.00 J/cm	7.49 ft-lb/in	
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	8.00 J/cm	15.0 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	22.0 MPa	3190 psi	ISO 527
Film Tensile Strength at Break, TD	20.0 MPa	2900 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	84.0 °C	183 °F	4 mm thick;10.0 mm wide molded rod; ISO 75/Method Bf
Vicat Softening Point	97.0 °C	207 °F	Rate A; 4 mm thick;10.0 mm wide molded rod; ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 10000 ohm-cm	<= 10000 ohm-cm	400 um thick sheet; ISO D-257
Surface Resistance	<= 1e+05	<= 1e+05	400 um thick sheet; ISO D-257

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	210 °C	410 °F	Zone 1; Cylinder
	220 °C	428 °F	Zone 2; Cylinder
	220 °C	428 °F	Zone 3; Cylinder
	230 °C	446 °F	Zone 6; Cylinder
	230 °C	446 °F	Zone 4; Cylinder
	230 °C	446 °F	Zone 5; Cylinder
Die Temperature	220 °C	428 °F	Zone 3
	230 °C	446 °F	Zone 1
	230 °C	446 °F	Zone 4

Processing Properties	Metric	English	Comments
	230 °C	446 °F	Zone 2
Roll Temperature	60.0 °C	140 °F	3rd Roll
	80.0 °C	176 °F	2nd Roll
	90.0 °C	194 °F	1st Roll
Drying Temperature	60.0 - 80.0 °C @Time 10800 - 14400 sec	140 - 176 °F @Time 3.00 - 4.00 hour	Pre-drying; If stored for longer than 1 year
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	
Bending Strength, cycles, min	1000	ISO 5626; Machine Direction; 400 um thick sheet
	1000	ISO 5626; Trans-Machine Direction; 400 um thick sheet
Color	Black	

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