

Premix Thermoplastics PRE-ELEC® PE 1291

Category : Polymer , Film , Thermoplastic , Polyethylene (PE) , HDPE

Material Notes:

PRE-ELEC PE 1291 is a conductive thermoplastic compound based on PE-HD. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC PE 1291 has an excellent balance of mechanical properties and is easy to extrude. PRE-ELEC PE 1291 can also be blow molded. Typical applications include extrusion of pipe and sheet which can be welded or vacuum formed without predrying. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PE-1291.php

Physical Properties	Metric	English	Comments
Density	1.04 g/cc	0.0376 lb/in ³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	0.015 - 0.025 cm/cm	0.015 - 0.025 in/in	4 mm thick, 10.0 mm wide molded rod; ISO 294-4
Melt Flow	0.80 g/10 min @Load 10.0 kg, Temperature 190 °C	0.80 g/10 min @Load 22.0 lb, Temperature 374 °F	ISO 1133
High Load Melt Index	6.0 g/10 min @Load 21.6 kg, Temperature 190 °C	6.0 g/10 min @Load 47.6 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	97	97	4.0 mm thick; 10.0 mm wide molded rod; ISO 868
Film Tensile Strength at Yield, MD	25.0 MPa	3630 psi	ISO 527
Film Elongation at Yield, MD	14 %	14 %	ISO 527
Film Elongation at Yield, TD	9.0 %	9.0 %	ISO 527
Elongation at Break	>= 500 %	>= 500 %	Trans-Machine Direction; 400 um thick sheet; ISO 527
	>= 650 %	>= 650 %	Machine Direction; 400 um thick sheet; ISO 527
Modulus of Elasticity	1.20 GPa	174 ksi	4 mm thick; 10.0 mm wide molded rod; ISO 178
Izod Impact, Notched	1.50 J/cm @Thickness 4.00 mm, Temperature -20.0 °C	2.81 ft-lb/in @Thickness 0.157 in, Temperature -4.00 °F	ISO 180

Mechanical Properties	2.30 J/cm Metric	4.31 ft-lb/in English	Comments ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Izod Impact, Unnotched	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Film Tensile Strength at Break, MD	26.0 MPa	3770 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	76.0 °C	169 °F	4 mm thick;10.0 mm wide molded rod; ISO 75/Method Bf
Vicat Softening Point	126 °C	259 °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	200 °C	392 °F	Zone 1; Cylinder
	210 °C	410 °F	Zone 2; Cylinder
	220 °C	428 °F	Zone 3; Cylinder
	220 °C	428 °F	Zone 4; Cylinder
	230 °C	446 °F	Zone 5; Cylinder
	230 °C	446 °F	Zone 6; Cylinder
Die Temperature	220 °C	428 °F	Zone 3
	230 °C	446 °F	Zone 2
	230 °C	446 °F	Zone 4
	240 °C	464 °F	Zone 5
	240 °C	464 °F	Zone 1
Roll Temperature	50.0 °C	122 °F	3rd Roll

Processing Properties	Metric	English	Comments
	70.0 °C	158 °F	1st Roll
Drying Temperature	80.0 °C @Time 7200 - 14400 sec	176 °F @Time 2.00 - 4.00 hour	Pre-drying in a dehumidifier
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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