

Premix Thermoplastics PRE-ELEC® PE 1294

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

Material Notes:

PRE-ELEC PE 1294 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 1294 has excellent mechanical properties and is easy to injection mould, extrude and blow mould. Typical applications include injection molded pallets, crates, extruded sheets for thermoforming and linings and blow molded drums and canisters. Test Specimen - 4.0 mm thick, 10.0 mm wide molded rod. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PE-1294.php

Physical Properties	Metric	English	Comments
Density	1.01 g/cc	0.0365 lb/in ³	
Linear Mold Shrinkage	0.015 - 0.025 cm/cm	0.015 - 0.025 in/in	ISO 294-4
Melt Flow	2.0 g/10 min	2.0 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 190 °C	@Load 4.76 lb, Temperature 374 °F	
	20 g/10 min	20 g/10 min	ISO 1133
	@Load 10.0 kg, Temperature 190 °C	@Load 22.0 lb, Temperature 374 °F	
High Load Melt Index	70 g/10 min	70 g/10 min	ISO 1133
	@Load 21.6 kg, Temperature 190 °C	@Load 47.6 lb, Temperature 374 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	66	66	ISO 868
Tensile Strength, Ultimate	12.0 MPa	1740 psi	ISO 527
Tensile Strength, Yield	22.0 MPa	3190 psi	ISO 527
Elongation at Break	180 %	180 %	ISO 527
Elongation at Yield	15 %	15 %	ISO 527
Modulus of Elasticity	0.810 GPa	117 ksi	ISO 178
Izod Impact, Notched	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
	NB	NB	

Mechanical Properties	Metric	English	Comments
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ISO 180
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	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	65.0 °C	149 °F	ISO 75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	39.0 °C	102 °F	ISO 75/Method Af
Vicat Softening Point	60.0 °C	140 °F	Rate B; ISO 306/B50
	125 °C	257 °F	Rate A; ISO 306/A50

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

Melt Temperature Processing Properties	180 - 250 °C Metric	356 - 482 °F English	Comments
Mold Temperature	30.0 - 70.0 °C	86.0 - 158 °F	
Roll Temperature	50.0 °C	122 °F	3rd Roll
	60.0 °C	140 °F	2nd Roll
	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
Injection Pressure	75.2 - 120 MPa	10900 - 17400 psi	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Appearance	Granule	
Color	Black	
Injection Speed	Moderate	
Post Pressure, psi	5800 - 8700	

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