

Premix Thermoplastics PRE-ELEC® PE 1297 Conductive Thermoplastic Compound

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

Material Notes:

PRE-ELEC® PE 1297 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 1297 has an excellent balance of mechanical properties and is easy to mould. Applications: UN- approved blow moulded canisters and containers, injection moulded crates, boxes and tote bins for electronic, automotive and chemical industry to prevent static charges. Processing: PRE-ELEC® PE 1297 compound can be processed in the injection moulding machines using normal processing conditions as with high density polyethylene. Test Specimen: 10[mm] wide moulded rod Information from Premix OY

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PE-1297-Conductive-Thermoplastic-Compound.php

Physical Properties	Metric	English	Comments
Density	1.04 g/cc	0.0376 lb/in ³	
Thickness	102 microns	4.00 mil	
Linear Mold Shrinkage	0.025 - 0.035 cm/cm	0.025 - 0.035 in/in	ISO 294-4
Melt Flow	1.1 g/10 min	1.1 g/10 min	ISO 1133
	@Load 10.0 kg, Temperature 190 °C	@Load 22.0 lb, Temperature 374 °F	
	7.0 g/10 min	7.0 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 A	96	96	ISO 868
Hardness, Shore D	67	67	ISO 868
Tensile Strength	12.0 MPa	1740 psi	ISO 527
Tensile Strength, Yield	26.0 MPa	3770 psi	ISO 527
Elongation at Break	300 %	300 %	ISO 527
Elongation at Yield	11 %	11 %	ISO 527
Izod Impact, Notched (ISO)	75.0 kJ/m ²	35.7 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	

Mechanical Properties	80.0 kJ/m ² Metric	38.1 ft-lb/in ² English	Comments ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
	NB	NB	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
Charpy Impact Unnotched	NB	NB	ISO 179
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	
	NB	NB	ISO 179
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	
Charpy Impact, Notched	2.90 J/cm ²	13.8 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	
	5.00 J/cm ²	23.8 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	77.0 °C	171 °F	75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	42.0 °C	108 °F	75/Method Af
Vicat Softening Point	55.0 °C	131 °F	ISO 306/B50
	121 °C	250 °F	ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1000 ohm-cm	<= 1000 ohm-cm	ISO D-257
Surface Resistance	<= 1e+05	<= 1e+05	ISO IEC 61340-5-1

Processing Properties	Metric	English	Comments
Zone 1	200 °C	392 °F	Cylinder
	240 °C	464 °F	Die

Processing Properties	Metric	English	Comments
	230 °C	446 °F	Die
Zone 3	220 °C	428 °F	Die
	220 °C	428 °F	Cylinder
Zone 4	220 °C	428 °F	Cylinder
	230 °C	446 °F	Die
Zone 5	230 °C	446 °F	Cylinder
	240 °C	464 °F	Die
Melt Temperature	210 - 250 °C	410 - 482 °F	
Mold Temperature	40.0 - 80.0 °C	104 - 176 °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	60.0 - 80.0 °C	140 - 176 °F	Pre-drying
Dry Time	2 - 4 hour	2 - 4 hour	
Injection Pressure	60.0 - 80.0 MPa	8700 - 11600 psi	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Injection Speed	Moderate	

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