

Premix Thermoplastics PRE-ELEC® PE 1299 Conductive Thermoplastic Compound

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

Material Notes:

PRE-ELEC® PE 1299 is a conductive thermoplastic masterbatch/compound based on PE-HD. Conductivity is achieved by using special conductive carbon black. PRE-ELEC® PE 1299 has a high concentration of carbon black and has been developed to be used as a masterbatch. PRE-ELEC® PE 1299 can be diluted up to 50% with natural or recycled HDPE. The actual amount should always be tested as it also depends on the processing parameters. PRE-ELEC® PE 1299 can be used both in injection moulding or extrusion of sheets, profiles, pipes etc. Processing: PRE-ELEC® PE 1299 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. The values below with the exception of MFI and specific gravity are measured from test bars moulded with 40% HDPE (MFI8). Information from Premix OY

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-PE-1299-Conductive-Thermoplastic-Compound.php

Physical Properties	Metric	English	Comments
Density	1.12 g/cc	0.0405 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	1.5 g/10 min @Load 21.6 kg, Temperature 190 °C	1.5 g/10 min @Load 47.6 lb, Temperature 374 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	95	95	ISO 868
Hardness, Shore D	65	65	ISO 868
Tensile Strength	11.0 MPa	1600 psi	ISO 527
Tensile Strength, Yield	21.0 MPa	3050 psi	ISO 527
Elongation at Break	90 %	90 %	ISO 527
Elongation at Yield	12 %	12 %	ISO 527
Flexural Modulus	1.00 GPa	145 ksi	ISO 178
Izod Impact, Notched (ISO)	20.0 kJ/m ² @Thickness 4.00 mm, Temperature -20.0 °C	9.52 ft-lb/in ² @Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	NB	NB	

Mechanical Properties	Metric	English	ISO 180 Comments
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Izod Impact, Unnotched (ISO)	NB @Thickness 4.00 mm, Temperature 23.0 °C	NB @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
	NB @Thickness 4.00 mm, Temperature -20.0 °C	NB @Thickness 0.157 in, Temperature -4.00 °F	ISO 180
Charpy Impact Unnotched	NB @Thickness 102 mm, Temperature 23.0 °C	NB @Thickness 4.00 in, Temperature 73.4 °F	ISO 179
	NB @Thickness 102 mm, Temperature -20.0 °C	NB @Thickness 4.00 in, Temperature -4.00 °F	ISO 179
Charpy Impact, Notched	1.70 J/cm ² @Thickness 102 mm, Temperature -20.0 °C	8.09 ft-lb/in ² @Thickness 4.00 in, Temperature -4.00 °F	ISO 179
	5.50 J/cm ² @Thickness 102 mm, Temperature 23.0 °C	26.2 ft-lb/in ² @Thickness 4.00 in, Temperature 73.4 °F	ISO 179

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	65.0 °C	149 °F	75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	43.0 °C	109 °F	75/Method Af
Vicat Softening Point	58.0 °C	136 °F	ISO 306/B50
	123 °C	253 °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

Zone 2 Processing Properties	210 °C Metric	410 °F English	Cylinder 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	180 - 280 °C	356 - 536 °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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