

Premix Thermoplastics PRE-ELEC® PP 1393 Conductive Thermoplastic Compound

Category : Polymer , Thermoplastic , Polypropylene (PP) , Polypropylene with Carbon Black Filler

Material Notes:

PRE-ELEC® PP 1393 is a conductive thermoplastic compound based on polypropylene. Conductivity is achieved by using special conductive carbon black. In addition to a very low electrical resistivity, PRE-ELEC® PP 1393 has an excellent balance of mechanical properties and it is easy to process. Applications: Injection moulded parts for the automotive, medical and electronics industries where a very low volume resistivity is needed. PRE-ELEC® PP 1393 can also be used as a masterbatch and blended with PP. It can also be used in extrusion applications. Processing: PRE-ELEC® PP 1393 compound can be extruded and injection moulded with machines using normal processing conditions as with polypropylene. 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-PP-1393-Conductive-Thermoplastic-Compound.php

Physical Properties	Metric	English	Comments
Density	1.06 g/cc	0.0383 lb/in ³	
Thickness	102 microns	4.00 mil	
Linear Mold Shrinkage	0.012 - 0.014 cm/cm	0.012 - 0.014 in/in	ISO 294-4
Melt Flow	0.50 g/10 min @Load 2.16 kg, Temperature 230 °C	0.50 g/10 min @Load 4.76 lb, Temperature 446 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	97	97	ISO 868
Hardness, Shore D	71	71	ISO 868
Tensile Strength	25.0 MPa	3630 psi	ISO 527
Elongation at Break	5.0 %	5.0 %	ISO 527
Flexural Modulus	1.80 GPa	261 ksi	ISO 178
Izod Impact, Notched (ISO)	4.00 kJ/m ² @Thickness 4.00 mm, Temperature -20.0 °C	1.90 ft-lb/in ² @Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	5.00 kJ/m ² @Thickness 4.00 mm, Temperature 23.0 °C	2.38 ft-lb/in ² @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched (ISO)	20.0 kJ/m ² @Thickness 4.00 mm,	9.52 ft-lb/in ² @Thickness 0.157 in,	ISO 180

Mechanical Properties	Temperature -20.0 °C Metric	Temperature -4.00 °F English	Comments
	NB	NB	
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Charpy Impact Unnotched	NB	NB	
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	ISO 179
	NB	NB	
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	ISO 179
Charpy Impact, Notched	0.600 J/cm²	2.86 ft-lb/in²	
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	ISO 179
	0.800 J/cm²	3.81 ft-lb/in²	
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	ISO 179

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	104 °C	219 °F	75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	58.0 °C	136 °F	75/Method Af
Vicat Softening Point	80.0 °C	176 °F	ISO 306/B50
	150 °C	302 °F	ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 5.0 ohm-cm	<= 5.0 ohm-cm	ISO D-257
Surface Resistance	<= 100 ohm	<= 100 ohm	ISO IEC 61340-5-1

Processing Properties	Metric	English	Comments
Zone 1	200 °C	392 °F	Cylinder
	220 °C	428 °F	Die
Zone 2	210 °C	410 °F	Cylinder
	220 °C	428 °F	Die
Zone 3	210 °C	410 °F	Die

Processing Properties	210 °C Metric	410 °F English	Cylinder Comments
Zone 4	220 °C	428 °F	Die
	220 °C	428 °F	Cylinder
Zone 5	220 °C	428 °F	Die
	220 °C	428 °F	Cylinder
Melt Temperature	200 - 260 °C	392 - 500 °F	
Mold Temperature	60.0 - 80.0 °C	140 - 176 °F	
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	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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