

Premix Thermoplastics PRE-ELEC® PP 1394 Conductive Thermoplastic Compound

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

Material Notes:

PRE-ELEC® PP 1394 is a conductive thermoplastic compound based on polypropylene. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC® PP 1394 has excellent mechanical properties and is easy to extrude. PRE-ELEC® PP 1394 is recommended to be used in thin co-extrusion applications e.g. in coextruded conductive PP tape, film or sheet. Processing: PRE-ELEC® PP 1394 compound can be extruded in the 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-1394-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 - 0.017 cm/cm	0.012 - 0.017 in/in	ISO 294-4
Melt Flow	1.0 g/10 min	1.0 g/10 min	ISO 1133
	@Load 2.16 kg, Temperature 230 °C	@Load 4.76 lb, Temperature 446 °F	
	15 g/10 min	15 g/10 min	ISO 1133
	@Load 5.00 kg, Temperature 230 °C	@Load 11.0 lb, Temperature 446 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	98	98	ISO 868
Hardness, Shore D	73	73	ISO 868
Film Elongation at Break, MD	5.0 %	5.0 %	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Flexural Modulus	2.30 GPa	334 ksi	ISO 178
Izod Impact, Notched (ISO)	1.20 kJ/m ²	0.571 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
	1.50 kJ/m ²	0.714 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	

Mechanical Properties	Metric	English	Comments
Izod Impact, Unnotched (ISO)	9.00 kJ/m ²	4.28 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	
	16.0 kJ/m ²	7.61 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature 23.0 °C	@Thickness 0.157 in, Temperature 73.4 °F	
Charpy Impact Unnotched	0.500 J/cm ²	2.38 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	
	1.40 J/cm ²	6.66 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	
Charpy Impact, Notched	0.200 J/cm ²	0.952 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	
	0.400 J/cm ²	1.90 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	
Film Tensile Strength at Break, MD	30.0 MPa	4350 psi	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	110 °C	230 °F	75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	63.0 °C	145 °F	75/Method Af
Vicat Softening Point	156 °C	313 °F	ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 10 ohm-cm	<= 10 ohm-cm	ISO D-257
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Surface Resistance	<= 100 ohm	<= 100 ohm	ISO IEC 61340-5-1
	@Thickness 0.400 mm	@Thickness 0.0157 in	

Processing Properties	Metric	English	Comments
Zone 1	210 °C	410 °F	Cylinder
	230 °C	446 °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	230 °C	446 °F	Die
	230 °C	446 °F	Cylinder
Zone 5	230 °C	446 °F	Die
	230 °C	446 °F	Cylinder
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	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

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