

Premix Thermoplastics PRE-ELEC® PS 1331 Carbon Black Filled Conductive Thermoplastic Compound

Category : Polymer , Thermoplastic , Polystyrene (PS) , Polystyrene, Carbon Black Filled

Material Notes:

PRE-ELEC® PS 1331 is a carbon black filled conductive thermoplastic compound based on polystyrene. In addition to a low electrical resistivity PRE-ELEC® PS 1331 has excellent mechanical properties and is easy to extrude. The chemical purity of PRE-ELEC® PS 1331 is very good. Moisture pick up of PRE-ELEC® PS 1331 is minimal so the pre-drying of the sheets is not always necessary. PRE-ELEC® PS 1331 is developed for microchip carrier tape applications. It is also suitable for co-extruded tape. Processing: PRE-ELEC® PS 1331 compound can be extruded in the machines using normal processing conditions as with polystyrene. 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-PS-1331-Carbon-Black-Filled-Conductive-Thermoplastic-Compound.php

Physical Properties	Metric	English	Comments
Density	1.08 g/cc	0.0390 lb/in ³	
Thickness	102 microns	4.00 mil	
Linear Mold Shrinkage	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	ISO 294-4
Melt Flow	1.8 g/10 min	1.8 g/10 min	ISO 1133
	@Load 5.00 kg, Temperature 200 °C	@Load 11.0 lb, Temperature 392 °F	
	60 g/10 min	60 g/10 min	ISO 1133
	@Load 21.6 kg, Temperature 200 °C	@Load 47.6 lb, Temperature 392 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	75	75	ISO 868
Film Tensile Strength at Yield, MD	33.0 MPa	4790 psi	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Film Tensile Strength at Yield, TD	39.0 MPa	5660 psi	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Film Elongation at Break, MD	66 %	66 %	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Film Elongation at Break, TD	34 %	34 %	ISO 527
	@Thickness 0.400 mm	@Thickness 0.0157 in	

Mechanical Properties	Metric	English	Comments
Film Elongation at Yield, MD	@Thickness 0.400 mm	@Thickness 0.0157 in	ISO 527
Film Elongation at Yield, TD	8.0 % @Thickness 0.400 mm	8.0 % @Thickness 0.0157 in	ISO 527
Flexural Modulus	1.50 GPa	218 ksi	ISO 178
Izod Impact, Notched (ISO)	6.00 kJ/m ² @Thickness 4.00 mm, Temperature -20.0 °C	2.86 ft-lb/in ² @Thickness 0.157 in, Temperature -4.00 °F	ISO 180
	20.0 kJ/m ² @Thickness 4.00 mm, Temperature 23.0 °C	9.52 ft-lb/in ² @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
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	6.50 J/cm ² @Thickness 102 mm, Temperature -20.0 °C	30.9 ft-lb/in ² @Thickness 4.00 in, Temperature -4.00 °F	ISO 179
	NB @Thickness 102 mm, Temperature 23.0 °C	NB @Thickness 4.00 in, Temperature 73.4 °F	ISO 179
Charpy Impact, Notched	0.800 J/cm ² @Thickness 102 mm, Temperature -20.0 °C	3.81 ft-lb/in ² @Thickness 4.00 in, Temperature -4.00 °F	ISO 179
	2.50 J/cm ² @Thickness 102 mm, Temperature 23.0 °C	11.9 ft-lb/in ² @Thickness 4.00 in, Temperature 73.4 °F	ISO 179
Film Tensile Strength at Break, MD	31.0 MPa @Thickness 0.400 mm	4500 psi @Thickness 0.0157 in	ISO 527
Film Tensile Strength at Break, TD	40.0 MPa @Thickness 0.400 mm	5800 psi @Thickness 0.0157 in	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa	80.0 °C	176 °F	

(56 psi) Thermal Properties	Metric	English	75/Method Bf Comments
Vicat Softening Point	97.0 °C	207 °F	ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 10000 ohm-cm	<= 10000 ohm-cm	ISO D-257
	@Thickness 0.400 mm	@Thickness 0.0157 in	
Surface Resistance	<= 1.00e+6 ohm	<= 1.00e+6 ohm	ISO IEC 61340-5-1
	@Thickness 0.400 mm	@Thickness 0.0157 in	

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
	210 °C	410 °F	Cylinder
Zone 4	220 °C	428 °F	Die
	220 °C	428 °F	Cylinder
Zone 5	220 °C	428 °F	Die
	220 °C	428 °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	3 - 4 hour	3 - 4 hour	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Bending Strength, MD (cycles)	>1000	ISO 5626
Bending Strength, TD (cycles)	>1000	ISO 5626

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