

Premix Thermoplastics PRE-ELEC® PA 1412 Conductive Thermoplastic Compound

Category : Polymer , Thermoplastic , Nylon , Nylon 6

Material Notes:

PRE-ELEC® PA 1412 is a conductive thermoplastic compound based on polyamide 6. Conductivity is achieved by using conductive carbon black. In addition to a low electrical resistivity PRE-ELEC® PA 1412 has an excellent balance of mechanical properties and is easy to injection mould. Applications: Injection moulded housings, boxes and technical parts. PRE-ELEC® PA 1412 is well suited for applications where the good mechanical properties of polyamide are required. PRE-ELEC® PA 1412 can also be extruded. Processing: PRE-ELEC® PA 1412 compound can be processed in the injection moulding machines using normal processing conditions as with polyamide. 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-PA-1412-Conductive-Thermoplastic-Compound.php

Physical Properties	Metric	English	Comments
Density	1.20 g/cc	0.0434 lb/in ³	
Thickness	102 microns	4.00 mil	
Linear Mold Shrinkage	0.016 - 0.022 cm/cm	0.016 - 0.022 in/in	ISO 294-4
Melt Flow	4.5 g/10 min	4.5 g/10 min	ISO 1133
	@Load 5.00 kg, Temperature 275 °C	@Load 11.0 lb, Temperature 527 °F	
	26 g/10 min	26 g/10 min	ISO 1133
	@Load 10.0 kg, Temperature 275 °C	@Load 22.0 lb, Temperature 527 °F	

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	85	85	ISO 868
Tensile Strength	55.0 MPa	7980 psi	ISO 527
Tensile Strength, Yield	63.0 MPa	9140 psi	ISO 527
Elongation at Break	35 %	35 %	ISO 527
Elongation at Yield	9.0 %	9.0 %	ISO 527
Flexural Modulus	1.50 GPa	218 ksi	ISO 178
Izod Impact, Notched (ISO)	10.0 kJ/m ²	4.76 ft-lb/in ²	ISO 180
	@Thickness 4.00 mm, Temperature -20.0 °C	@Thickness 0.157 in, Temperature -4.00 °F	

Mechanical Properties	Metric	English	Comments
	15.0 kJ/m ²	7.14 ft-lb/in ²	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	3.00 J/cm ²	14.3 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature 23.0 °C	@Thickness 4.00 in, Temperature 73.4 °F	
	4.00 J/cm ²	19.0 ft-lb/in ²	ISO 179
	@Thickness 102 mm, Temperature -20.0 °C	@Thickness 4.00 in, Temperature -4.00 °F	

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	152 °C	306 °F	75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	60.0 °C	140 °F	75/Method Af
Vicat Softening Point	180 °C	356 °F	ISO 306/B50
	210 °C	410 °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	250 °C	482 °F	Cylinder
	270 °C	518 °F	Die

Processing Properties	Metric	English	Comments
	270 °C	518 °F	Die
Zone 3	260 °C	500 °F	Die
	260 °C	500 °F	Cylinder
Zone 4	260 °C	500 °F	Cylinder
	270 °C	518 °F	Die
Zone 5	270 °C	518 °F	Die
	270 °C	518 °F	Cylinder
Melt Temperature	220 - 280 °C	428 - 536 °F	
Mold Temperature	60.0 - 80.0 °C	140 - 176 °F	
Roll Temperature	70.0 °C	158 °F	3rd Roll
	80.0 °C	176 °F	2nd Roll
	90.0 °C	194 °F	1st Roll
Drying Temperature	80.0 °C	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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