PRE-ELEC® PA 1411

Polyamide 6

Premix Oy

Message:

PRE-ELEC® PA 1411 is a conductive thermoplastic compound based on polyamide 6. Conductivity is achieved by using conductive carbon black. PRE-ELEC® PA 1411 has a very low electrical resistivity. PRE-ELEC® 1411 is meant to be used as masterbatch and blended with PA 6. Typical applications include injection moulded housings, boxes and technical parts. PRE-ELEC® PA 1411 is well suited for applications where the good mechanical properties of polyamide are required.

General Information			
Filler / Reinforcement	Nylon Fiber,30% Filler by Weight		
Additive	Carbon Black		
Features	Conductive		
	Good Processability		
Uses	Containers		
	Crates		
	Housings		
	Masterbatch		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.25	g/cm ³	ASTM D792, ISO 1183
Molding Shrinkage - Flow	1.2 to 2.2	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	72		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	69.6	MPa	ASTM D638
Yield	70.0	MPa	ISO 527-2
	68.3	MPa	ASTM D638
4.00 mm	68.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	8.0	%	
Break, 4.00 mm	12	%	
Flexural Modulus (4.00 mm)	3100	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	6.3	kJ/m²	ASTM D256
-20°C	6.0	kJ/m²	ISO 179

23°C	6.0	kJ/m²	ISO 179
23°C	6.3	kJ/m²	ASTM D256
Charpy Unnotched Impact Strength ²			
-20°C	No Break		ASTM D256, ISO 179
23°C	No Break		ISO 179, ASTM D256
Notched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	4.20	kJ/m²	
23°C, 4.00 mm	6.30	kJ/m²	
Notched Izod Impact Strength ³			ISO 180
-20°C	5.0	kJ/m²	
23°C	6.0	kJ/m²	
Unnotched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	No Break		
23°C, 4.00 mm	No Break		
Unnotched Izod Impact Strength ⁴			ISO 180
-20°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	104	°C	ASTM D648B, ISO 75-2/Bf
1.8 MPa, Unannealed	58.9	°C	ASTM D648A
1.8 MPa, Unannealed	59.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
	218	°C	ASTM D1525, ISO 306/A50 3 ⁵
	188	°C	ASTM D1525, ISO 306/B50 4 ⁶
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+4	ohms	IEC 61340-2-3
Volume Resistivity	< 50	ohms·cm	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Processing (Melt) Temp	240 to 300	°C	
Mold Temperature	60.0 to 80.0	°C	
Injection Pressure	60.0 to 80.0	MPa	
Injection Rate	Moderate		
NOTE			
1.	4 mm thickness		
2.	4 mm thickness		
3.	4 mm thickness		
4.	4 mm thickness		
5.	Rate A (50°C/h), Loading 2 (50 N)		

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