

PRE-ELEC® PA 1406

Polyamide 6

Premix Oy

Message:

PRE-ELEC® PA 1406 is a conductive thermoplastic compound based on polyamide 6. Conductivity is achieved by using conductive carbon fibre. In addition to a low electrical resistivity PRE-ELEC® PA 1406 has an excellent balance of mechanical properties and is easy to injection mould. Typical applications include injection moulded technical parts and housings for electronic components and other static sensitive devices (SSD) when high rigidity is needed.

General Information			
Filler / Reinforcement	Carbon Fiber		
Features	Conductive		
	Good Processability		
	High Rigidity		
Uses	Electrical Parts		
	Electrical/Electronic Applications		
	Housings		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.13	g/cm ³	ASTM D792
--	1.14	g/cm ³	ISO 1183
Molding Shrinkage - Flow	0.20 to 0.40	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	82		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
--	91.7	MPa	ASTM D638
4.00 mm	92.0	MPa	ISO 527-2
Tensile Strain (Break, 4.00 mm)	10	%	ISO 527-2
Flexural Modulus			
4.00 mm	4960	MPa	ASTM D790
4.00 mm	5000	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	2.1	kJ/m ²	ASTM D256
-20°C	3.0	kJ/m ²	ISO 179
23°C	7.0	kJ/m ²	ISO 179

23°C	6.3	kJ/m ²	ASTM D256
Charpy Unnotched Impact Strength ²			
-20°C	8.4	kJ/m ²	ASTM D256
-20°C	10	kJ/m ²	ISO 179
23°C	20	kJ/m ²	ISO 179
23°C	19	kJ/m ²	ASTM D256
Notched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	8.41	kJ/m ²	
23°C, 4.00 mm	8.41	kJ/m ²	
Notched Izod Impact Strength ³			ISO 180
-20°C	8.0	kJ/m ²	
23°C	9.0	kJ/m ²	
Unnotched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	37.8	kJ/m ²	
23°C, 4.00 mm	39.9	kJ/m ²	
Unnotched Izod Impact Strength ⁴			ISO 180
-20°C	38	kJ/m ²	
23°C	40	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	214	°C	ASTM D648B, ISO 75-2/Bf
1.8 MPa, Unannealed	193	°C	ASTM D648A, ISO 75-2/Af
Vicat Softening Temperature	217	°C	ISO 306/A50, ASTM D1525 5
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+7	ohms	IEC 61340-2-3
Volume Resistivity	< 1.0E+5	ohms·cm	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	80.0	°C	
Drying Time	2.0 to 4.0	hr	
Processing (Melt) Temp	220 to 280	°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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