

PRE-ELEC® PA 1408

Polyamide 6

Premix Oy

Message:

PRE-ELEC® PA 1408 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 1408 has an excellent balance of mechanical properties and is easy to injection mould. Typical applications include injection moulded housings, boxes and technical parts. PRE- ELEC® PA 1408 is ideal for the applications where the good mechanical properties of polyamide are required.

General Information			
Additive	Carbon Black		
Features	Conductive		
	Good Processability		
Uses	Containers		
	Crates		
	Housings		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.19	g/cm ³	ASTM D792
--	1.20	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
270°C/5.0 kg	0.70	g/10 min	
275°C/10.0 kg	13	g/10 min	
Molding Shrinkage - Flow	1.6 to 2.2	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Shore Hardness (Shore D)	85		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	60.0	MPa	ASTM D638, ISO 527-2
--	50.0	MPa	ASTM D638
4.00 mm	50.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	9.0	%	
Break, 4.00 mm	45	%	
Flexural Modulus			
4.00 mm	1970	MPa	ASTM D790
4.00 mm	1900	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	25	kJ/m ²	ASTM D256, ISO 179
23°C	30	kJ/m ²	ISO 179
23°C	27	kJ/m ²	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	21.0	kJ/m ²	
23°C, 4.00 mm	50.4	kJ/m ²	
Notched Izod Impact Strength ³			ISO 180
-20°C	20	kJ/m ²	
23°C	50	kJ/m ²	
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	152	°C	ASTM D648B, ISO 75-2/Bf
1.8 MPa, Unannealed	60.0	°C	ASTM D648A, ISO 75-2/Af
Vicat Softening Temperature			
--	210	°C	ASTM D1525, ISO 306/A50 3 ⁵
--	180	°C	ASTM D1525, ISO 306/B50 4 ⁶
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+8	ohms	IEC 61340-2-3
Volume Resistivity	< 1.0E+7	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)
6.	Rate B (120°C/h), Loading 2 (50 N)

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

