

PRE-ELEC® PBT 1455

Polybutylene Terephthalate

Premix Oy

Message:

PRE-ELEC® PBT 1455 is a conductive thermoplastic compound based on PBT. Conductivity is achieved by using special conductive carbon black. PRE-ELEC PBT 1455 has excellent mechanical properties as well as good chemical and wear resistance. Typical applications include injection moulded technical parts for areas with explosive atmosphere. PRE- ELEC® PBT 1455 is ideal for the applications where the good mechanical properties of PBT are required.

General Information			
Additive	Carbon Black		
Features	Conductive		
	Good Chemical Resistance		
	Good Wear Resistance		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.33	g/cm ³	ASTM D792
--	1.32	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			ASTM D1238, ISO 1133
240°C/10.0 kg	14	g/10 min	
240°C/21.6 kg	60	g/10 min	
Molding Shrinkage - Flow	1.6 to 2.2	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	84		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	39.3	MPa	ASTM D638
Yield	39.0	MPa	ISO 527-2
--	37.2	MPa	ASTM D638
4.00 mm	37.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	7.0	%	
Break, 4.00 mm	14	%	
Flexural Modulus (4.00 mm)	2000	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	11	kJ/m ²	ASTM D256, ISO 179
23°C	12	kJ/m ²	ISO 179

23°C	11	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	No Break		
23°C, 4.00 mm	No Break		
Notched Izod Impact Strength ³			ISO 180
-20°C	No Break		
23°C	No Break		
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	150	°C	ASTM D648B, ISO 75-2/Bf
1.8 MPa, Unannealed	52.2	°C	ASTM D648A
1.8 MPa, Unannealed	52.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	219	°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	< 1.0E+3	ohms · cm	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	110 to 130	°C	
Drying Time	3.0 to 4.0	hr	
Processing (Melt) Temp	250 to 280	°C	
Mold Temperature	80.0 to 90.0	°C	
Injection Pressure	131 to 138	MPa	
Injection Rate	Moderate-Fast		
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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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

