

PRE-ELEC® PE 1202

High Density Polyethylene

Premix Oy

Message:

PRE-ELEC® PE 1202 is a conductive thermoplastic compound based on PE-HD. The electrical conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity, PRE-ELEC® PE 1291 has an excellent balance of mechanical properties and is easy to extrude.

PRE-ELEC® PE 1202 may also be diluted with 15-25% virgin or recycled PE-HD. The actual amount should always be tested as it also depends on the processing parameters.

Typical applications include cost-effective blow moulded bottles, containers and canisters.

General Information			
Additive	Carbon black		
Features	Conductivity		
	High density		
	Workability, good		
Uses	Bottle		
	Container		
Forms	Particles		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.08	g/cm ³	ASTM D792
--	1.09	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/21.6 kg)	2.0	g/10 min	ISO 1133
Molding Shrinkage			
Flow	1.5 - 2.5	%	ASTM D955
Flow direction	1.5 - 2.5	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ISO 868
Shaw A	95		ISO 868
Shaw D	66		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	26.9	MPa	ASTM D638
Yield	31.0	MPa	ISO 527-2
--	13.1	MPa	ASTM D638
4.00 mm	13.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	10	%	ISO 527-2

Fracture, 4.00mm	30	%	ISO 527-2
Flexural Modulus (4.00 mm)	1200	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	23	kJ/m ²	ASTM D256
-20°C	24	kJ/m ²	ISO 179
23°C	36	kJ/m ²	ISO 179, 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			ASTM D256
-20°C, 4.00 mm	16.8	kJ/m ²	ASTM D256
23°C, 4.00 mm	44.1	kJ/m ²	ASTM D256
Notched Izod Impact ³			ISO 180
-20°C	18	kJ/m ²	ISO 180
23°C	43	kJ/m ²	ISO 180
Unnotched Izod Impact			ASTM D256
-20°C, 4.00 mm	No Break		ASTM D256
23°C, 4.00 mm	No Break		ASTM D256
Unnotched Izod Impact Strength ⁴			ISO 180
-20°C	No Break		ISO 180
23°C	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, not annealed	83.9	°C	ASTM D648B
0.45 MPa, not annealed	84.0	°C	ISO 75-2/Bf
1.8 MPa, not annealed	87.2	°C	ASTM D648A
1.8 MPa, not annealed	87.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	81.1	°C	ASTM D1525 ⁵
--	128	°C	ASTM D1525, ISO 306/A50 ⁶
--	81.0	°C	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+5	ohms	IEC 61340-2-3
Volume Resistivity	< 1.0E+4	ohms · cm	Internal method
Extrusion	Nominal Value	Unit	
Drying Temperature	60.0 - 80.0	°C	
Drying Time	2.0 - 4.0	hr	
Cylinder Zone 1 Temp.	200	°C	
Cylinder Zone 2 Temp.	210	°C	
Cylinder Zone 3 Temp.	220	°C	

Cylinder Zone 4 Temp.	220	°C
Cylinder Zone 5 Temp.	230	°C
Extrusion instructions		
Cylinder Zone 6: 230°C		
NOTE		
1.	4 mm thickness	
2.	4 mm thickness	
3.	4 mm thickness	
4.	4 mm thickness	
5.	标准 B (120°C/h), 载荷2 (50N)	
6.	速率 A (50°C/h), 载荷2 (50N)	

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