

PRE-ELEC® PE 1201

High Density Polyethylene

Premix Oy

Message:

PRE-ELEC® PE 1201 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 1201 has an excellent balance of mechanical properties and is easy to extrude. Typical applications include extrusion of monolayer pressure pipes (PE 80) for areas with explosive atmosphere and sheets which can be welded or vacuum formed without pre-drying.

General Information			
Additive	Carbon black		
Features	Conductivity		
	Workability, good		
Uses	Piping system		
	Sheet		
Forms	Particles		
Processing Method	Extrusion		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.996	g/cm ³	ASTM D792
--	1.00	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/21.6 kg)	3.0	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage			
Flow	3.0 - 4.0	%	ASTM D955
Flow direction	3.0 - 4.0	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness (Shore D)	70		ASTM D2240, ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	26.0	MPa	ASTM D638, ISO 527-2
--	12.0	MPa	ASTM D638
4.00 mm	12.0	MPa	ISO 527-2
Tensile Elongation			
Yield	12	%	ASTM D638, ISO 527-2
Fracture	26	%	ASTM D638
Fracture, 4.00mm	26	%	ISO 527-2
Flexural Modulus (4.00 mm)	1150	MPa	ASTM D790, ISO 178
Impact	Nominal Value	Unit	Test Method

Notched Izod Impact			ASTM D256
-20°C, 4.00 mm	6.30	kJ/m ²	ASTM D256
23°C, 4.00 mm	12.6	kJ/m ²	ASTM D256
Notched Izod Impact ¹			ISO 180
-20°C	5.7	kJ/m ²	ISO 180
23°C	12	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 ²			ISO 180
-20°C	No Break		ISO 180
23°C	No Break		ISO 180
Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	77.2	°C	ASTM D1525 ³
--	126	°C	ASTM D1525, ISO 306/A50 ⁴
--	77.0	°C	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+5	ohms	ESD STM11.11, IEC 61340-2-3
Volume Resistivity	< 1.0E+3	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.	标准 B (120°C/h), 载荷2 (50N)		
4.	速率 A (50°C/h), 载荷2 (50N)		

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