

PRE-ELEC® PE 1296

High Density Polyethylene

Premix Oy

Message:

PRE-ELEC® PE 1296 is a conductive thermoplastic concentrate based on PE-HD. Conductivity is achieved by using a special conductive carbon black. PRE-ELEC® PE 1296 contains a high load of carbon black and it can be diluted up to 50% with virgin or recycled PE-HD. The actual amount should always be tested as it also depends on the processing conditions.

Typical applications for PRE-ELEC® PE 1296 include blow moulded canisters and containers and mono- or co-extruded pipes and sheets. It can also be used in injection molding.

General Information			
Additive	Carbon black		
Features	Conductivity		
	High density		
Uses	Piping system		
	Sheet		
	Container		
Forms	Particles		
Processing Method	Extrusion		
	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.11	g/cm ³	ASTM D792
--	1.12	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (190°C/21.6 kg)	0.60	g/10 min	ISO 1133
Molding Shrinkage			
Flow	2.5 - 3.5	%	ASTM D955
Flow direction	2.5 - 3.5	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ISO 868
Shaw A	95		ISO 868
Shaw D	65		ISO 868
Mechanical	Nominal Value	Unit	Test Method
Tensile Stress			
Yield	24.0	MPa	ISO 527-2
--	13.1	MPa	ASTM D638
4.00 mm	13.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2

Yield	12	%	ISO 527-2
Fracture, 4.00mm	40	%	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	61	kJ/m ²	ASTM D256
-20°C	60	kJ/m ²	ISO 179
23°C	65	kJ/m ²	ISO 179
23°C	67	kJ/m ²	ASTM D256
Charpy Unnotched Impact Strength ²			
-20°C	No Break		ASTM D256, ISO 179
2°C	No Break		ISO 179
23°C	No Break		ASTM D256
Notched Izod Impact			ASTM D256
-20°C, 4.00 mm	60.9	kJ/m ²	ASTM D256
23°C, 4.00 mm	73.6	kJ/m ²	ASTM D256
Notched Izod Impact ³			ISO 180
-20°C	60	kJ/m ²	ISO 180
23°C	71	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	76.7	°C	ASTM D648B
0.45 MPa, not annealed	77.0	°C	ISO 75-2/Bf
1.8 MPa, not annealed	43.3	°C	ASTM D648A
1.8 MPa, not annealed	43.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	76.1	°C	ASTM D1525 ⁵
--	129	°C	ASTM D1525, ISO 306/A50 ⁶
--	73.0	°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
Injection	Nominal Value	Unit	
Drying Temperature	60.0 - 80.0	°C	
Drying Time	2.0 - 4.0	hr	

Processing (Melt) Temp	210 - 250	°C
Mold Temperature	40.0 - 80.0	°C
Injection Pressure	60.0 - 80.0	MPa
Injection Rate	Moderate	
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 thick	
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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