

PRE-ELEC® PP 1351

Compounded Polypropylene

Premix Oy

Message:

PRE-ELEC® PP 1351 is a dissipative thermoplastic compound based on polypropylene. The electrical dissipation is achieved by using special conductive carbon black. In addition to stable surface resistance between 10e5-10e8 ohms. PRE-ELEC® PP 1351 has an excellent balance of mechanical properties and is easy to injection mould.

Typical applications include injection moulded dissipative ESD products such as crates, boxes and tote bins.

General Information			
Additive	Carbon Black		
Features	Conductive		
	Good Processability		
Uses	Containers		
	Crates		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	0.996	g/cm ³	ASTM D792
--	0.990	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			ISO 1133
230°C/2.16 kg	6.0	g/10 min	
230°C/5.0 kg	28	g/10 min	
Molding Shrinkage - Flow	1.2 to 1.8	%	ASTM D955, ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shore A	98		
Shore D	74		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
Yield	25.0	MPa	ASTM D638, ISO 527-2
--	22.0	MPa	ASTM D638
4.00 mm	22.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	6.0	%	
Break, 4.00 mm	10	%	
Flexural Modulus			
4.00 mm	1380	MPa	ASTM D790

4.00 mm	1400	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹			
-20°C	2.1	kJ/m ²	ASTM D256
-20°C	2.0	kJ/m ²	ISO 179
23°C	9.0	kJ/m ²	ISO 179
23°C	8.4	kJ/m ²	ASTM D256
Charpy Unnotched Impact Strength ²			
-20°C	32	kJ/m ²	ASTM D256, ISO 179
23°C	No Break		ISO 179, ASTM D256
Notched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	2.10	kJ/m ²	
23°C, 4.00 mm	8.41	kJ/m ²	
Notched Izod Impact Strength ³			ISO 180
-20°C	3.0	kJ/m ²	
23°C	8.0	kJ/m ²	
Unnotched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	21.0	kJ/m ²	
23°C, 4.00 mm	No Break		
Unnotched Izod Impact Strength ⁴			ISO 180
-20°C	20	kJ/m ²	
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	83.9	°C	ASTM D648B
0.45 MPa, Unannealed	84.0	°C	ISO 75-2/Bf
1.8 MPa, Unannealed	47.8	°C	ASTM D648A
1.8 MPa, Unannealed	48.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	148	°C	ASTM D1525, ISO 306/A50 3 ⁵
--	82.2	°C	ASTM D1525 ⁶
--	82.0	°C	ISO 306/B50
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+5 to 1.0E+8	ohms	IEC 61340-2-3
Volume Resistivity	1.0E+3 to 1.0E+7	ohms · cm	Internal Method
Injection	Nominal Value	Unit	
Drying Temperature	90.0	°C	
Drying Time	2.0	hr	
Processing (Melt) Temp	200 to 260	°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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