

PRE-ELEC® PP 1381

Polypropylene

Premix Oy

Message:

PRE-ELEC® PP 1381 is a conductive thermoplastic compound based on polypropylene. Conductivity is achieved by using special conductive carbon black. PRE-ELEC® PP 1381 contains a high load of carbon black and it can be diluted up to 50% with virgin or recycled PP. The actual amount should always be tested as it also depends on the processing conditions.

PRE-ELEC® PP 1381 is intended for injection moulded products. It is cost-effective solution for big mouldings e.g. boxes, crates and pallets.

General Information			
Additive	Carbon Black		
Features	Conductive		
Uses	Containers		
	Crates		
	Pallets		
Forms	Granules		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.05	g/cm ³	ASTM D792
--	1.06	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (230°C/5.0 kg)	1.5	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage			
Flow	0.012 to 0.017	%	ASTM D955
--	1.2 to 1.7	%	ISO 294-4
Hardness	Nominal Value	Unit	Test Method
Durometer Hardness			ASTM D2240, ISO 868
Shore A	97		
Shore D	72		
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength			
--	26.2	MPa	ASTM D638
4.00 mm	26.0	MPa	ISO 527-2
Tensile Strain (Break, 4.00 mm)	5.0	%	ISO 527-2
Flexural Modulus			
4.00 mm	1930	MPa	ASTM D790
4.00 mm	1900	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-20°C	1.0	kJ/m ²	ASTM D256

-20°C	3.0	kJ/m ²	ISO 179
23°C	3.0	kJ/m ²	ASTM D256
23°C	8.0	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength			
-20°C	30	kJ/m ²	ASTM D256
-20°C	61	kJ/m ²	ISO 179
23°C	No Break		ASTM D256, ISO 179
Notched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	1.00	kJ/m ²	
23°C, 4.00 mm	1.00	kJ/m ²	
Notched Izod Impact Strength			ISO 180
-20°C	2.0	kJ/m ²	
23°C	3.0	kJ/m ²	
Unnotched Izod Impact (Area)			ASTM D256
-20°C, 4.00 mm	6.00	kJ/m ²	
23°C, 4.00 mm	48.3	kJ/m ²	
Unnotched Izod Impact Strength			ISO 180
-20°C	13	kJ/m ²	
23°C	49	kJ/m ²	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed	104	°C	ASTM D648B, ISO 75-2/Bf
1.8 MPa, Unannealed	57.8	°C	ASTM D648A
1.8 MPa, Unannealed	58.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	150	°C	ASTM D1525, ISO 306/A50 2 ¹
--	80.0	°C	ASTM D1525, ISO 306/B50 3 ²
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	< 1.0E+2	ohms	ESD STM11.11, IEC 61340-2-3
Volume Resistivity	< 5.0	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.	Rate A (50°C/h), Loading 2 (50 N)		
2.	Rate B (120°C/h), Loading 2 (50 N)		

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