

PRE-ELEC[®] PP 1350

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PRE-ELEC[®] PP 1350 is a conductive thermoplastic compound based on polypropylene. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC[®] PP 1350 has an excellent balance of mechanical properties and is easy to injection mould.

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

Processing

PRE-ELEC[®] PP 1350 compound can be processed in the injection moulding machines using normal processing conditions as with polypropylene:

Injection moulding:

Material temperature	200 - 260 °C (390 - 500 °F)
Mould temperature	40 - 80 °C (140 - 180 °F)
Injection pressure	600 - 800bar (8700 - 11600psi)
Injection speed	moderate

These temperatures can be used for guidance purposes. They will also depend on the equipment used. The instructions of the equipment manufacturer should be followed.

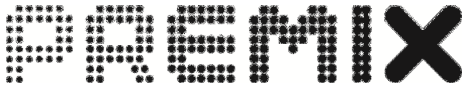
Carbon black network is sensitive to shear forces. Avoid high shear conditions during the processing.

Pre-drying is recommended for 2 hours at 90 °C (194 °F).

Packaging and Storage

PRE-ELEC[®] PP 1350 is supplied in granule form, 1000kg on one-way pallet (polyethylene valve bags) or in 1000kg octabin.

The product can be stored one year in its original package. Packages should be stored indoors.



Physical Properties

PRE-ELEC® PP 1350	ISO	Unit	ASTM	Unit
Specific gravity		g/cm ³		
Density				lb/in ³
				0.037
Melt Flow Index	1133		D-1238	
230°C / 2.16 kg		g/10min		3.5
230°C / 5.0 kg		g/10min		21
Tensile strength	527	MPa	D-638	psi
				2600
Yield strength	527	MPa	D-638	psi
				3800
Elongation at break	527	%	D-638	
				30
Elongation at yield	527	%	D-638	
				10
Flexural modulus	178	MPa	D-790	10 ³ psi
				189
Impact strength, unnotched Izod	180	kJ/m ²	D-256	ft-lb/in ²
4.0 mm (0.156-in) thickness, 23°C/73°F				NB
4.0 mm (0.156-in) thickness, -20°C/-4°F				NB
Impact strength, notched Izod	180	kJ/m ²	D-256	ft-lb/in ²
4.0 mm (0.156-in) thickness, 23°C/73°F				NB
4.0 mm (0.156-in) thickness, -20°C/-4°F				3
Impact strength, unnotched Charpy	179	kJ/m ²	D-256	ft-lb/in ²
4.0 mm (0.156-in) thickness, 23°C/73°F				NB
4.0 mm (0.156-in) thickness, -20°C/-4°F				NB
Impact strength, notched Charpy	179	kJ/m ²	D-256	ft-lb/in ²
4.0 mm (0.156-in) thickness, 23°C/73°F				33
4.0 mm (0.156-in) thickness, -20°C/-4°F				13
Vicat softening point	306/		D-1525	
Rate A	A50	°C		°F
				300
Rate B	B50	°C		°F
				-
Deflection temperature	75/		D-648	
0.45 MPa (66 psi) - load	Method Bf	°C		°F
				176
1.8 MPa (264 psi) - load	Method Af	°C		°F
				126
Volume resistivity	PRE021	Ω cm	PRE021	Ωcm
				<10³
Surface resistance	IEC	Ω	ANSI/ES	Ω
	61340-2-3		D STM	
		<10⁴	11.11	<10⁴
Mould shrinkage	294-4	%	D-955	in/in
				0.012-0.018
Hardness Shore A	868		D-2240	
		96		96
Shore D		71		71

test specimen: 4.0 mm (0.156 in) thick, 10.0 mm (0.391 in) wide moulded rod

The information in this data sheet represents typical values obtained by us and should not be regarded as a specification.

We condition that the product will be inspected and qualified by the customer for his process to meet the specific requirements set by application, processing equipment and end product.

PRE-ELEC® is a registered trademark of Premix.