

Item Description

Item ID

PRE-ELEC[®] PC 1431
1431

PC injection moulding compound
Electrically conductive

Typical end product
Technical parts

Applications

PRE-ELEC[®] PC 1431 is a conductive thermoplastic compound based on polycarbonate. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity it has excellent mechanical properties and is easy to injection mould.

Special properties	Unit	Value	Method
Surface resistance	Ω	1E3-1E4	IEC 61340-2-3
Flammability	-	HB (3.0mm)	RD524

General properties	Unit	Value	Method
Density	g/cm ³	1,24	ISO 1183
Melt flow rate at 300°C	g/10 min		ISO 1133
2.16 kg		4	
Mould shrinkage	%	0,6	ISO 294-4
Vicat, Rate A	°C	145	ISO 306/A50
Vicat, Rate B	°C	139	ISO 306/B50
HDT, 0.45 MPa	°C	134	ISO 75/Bf
HDT, 1.80 MPa	°C	122	ISO 75/Af

Mechanical properties	Unit	Value	Method
Tensile strength	MPa	48	ISO 527
Yield strength	MPa	54	ISO 527
Tensile strain at break	%	13	ISO 527
Tensile strain at yield	%	5	ISO 527
Flexural modulus	MPa	2600	ISO 178
Tensile modulus	MPa	2200	ISO 527
Impact strength, Charpy	kJ/m ²		ISO 179
Unnotched, +23°C		NB	
Notched, +23°C		21	
Unnotched, -20°C		NB	
Notched, -20°C		12	
Hardness, Shore A	-	> 90	ISO 868
Hardness, Shore D	-	80	ISO 868

MFR is measured from granulates.

Test specimen: injection moulded rod; ISO 527 TYPE 1A; Thickness: 10 mm, width: 4 mm

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Processing instructions

	Unit	Processing range
Injection moulding		
Material temperature	°C	270 - 290
Mould temperature	°C	90 - 110
Injection pressure	Bar	1000 - 1500
Injection speed		moderate

Notes

Drying of the product is recommended for 2-4 hours at 100-120°C prior to use.

These parameters are for guidance only. The process parameters should always be optimized for the used equipment. The instructions of the equipment manufacturer should be followed. Caution should be taken when handling molten material as it is extremely hot and may cause severe burns. Overheated material can be cooled with e.g. water.

Storage

Product-specific details are mentioned in the notes above. The general minimum shelf life for Premix's product is 3 years with the following conditions: 1) original package is unopened, 2) the storage area and conditions provide protection from direct sunlight and significant changes in storage temperature, 3) the product is pre-dried accordingly before use.

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