

PRE-ELEC[®] PE 1291

PE-HD extrusion compound
Electrically conductive

Applications: Pipes
Sheets

PRE-ELEC[®] PE 1291 is a conductive thermoplastic compound based on PE-HD. The electrical conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity, it has an excellent balance of mechanical properties and is easy to extrude. This product is suitable for both mono- and co-extrusion of pipes and sheets. Typical applications also include blow moulded bottles, containers and canisters.

Special properties	Unit	Value	Method
Volume resistivity(*)	Ω.cm	50	PRE021
Surface resistance (*)	Ω	9E+02	IEC 61340-2-3

General properties	Unit	Value	Method
Specific gravity	g/cm ³	1.04	ISO 1183
Melt flow rate at 190°C	g/10 min		ISO 1133
10.0 kg		0.7	
21.6 kg		6.0	
Mould shrinkage	%	2.5 - 3.5	ISO 294-4
Vicat, Rate A	°C	126	ISO 306/A50
Vicat, Rate B	°C	60	ISO 306/B50
HDT, 0.45 MPa	°C	82	ISO 75/Bf
HDT, 1.80 MPa	°C	48	ISO 75/ Af

Mechanical properties	Unit	Value	Method
Tensile strength (*)	MPa	26	ISO 527
Yield strength (*)	MPa	25	ISO 527
Tensile strain at break (*)	%	650	ISO 527
Tensile strain at yield (*)	%	14	ISO 527
Flexural modulus	MPa	1200	ISO 178
Impact strength, Charpy	kJ/m ²		ISO 179
Unnotched, +23°C		NB	
Notched, +23°C		40	
Unnotched, -20°C		NB	
Notched, -20°C		23	
Hardness, Shore D	-	71	ISO 868

MFR is measured from granulates

Test specimen: injection moulded rod; Thickness: 10 mm, width: 4 mm

*) extruded tape; Thickness 600-800 µm

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This product is REACH and RoHS compliant

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Processing instructions

		Unit	Processing range	
Extrusion	Cylinder temperature profile	°C	200	- 230
	Die temperature profile	°C	220	- 240
	Tool/Roll temperature	°C	70	- 50

Notes

Drying of the product is recommended for 2-3 hours at 80°C prior to use.

Processing conditions as with filled PE-HD. 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.

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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