

# Item Description

## Item ID

PRE-ELEC<sup>®</sup> PE 18500  
PE18500

PE extrusion compound  
Semiconductive  
Good adhesion to metals

Typical end product  
Polymer-to-metal adhesive

Applications  
Cables  
Laminated structures

PRE-ELEC<sup>®</sup> PE 18500 is a conductive thermoplastic adhesive compound based on PE. The grade has good adhesion to aluminium and copper. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity it has a balance of mechanical properties and is easy to extrude. It can be used as adhesive layer between PE and metal surface.

Special properties	Unit	Value	Method
Volume resistivity(*)	Ω.cm	15	PRE021
Surface resistance(*)	Ω	<5E3	IEC 61340-2-3
General properties	Unit	Value	Method
Specific gravity	g/cm <sup>3</sup>	1,05	ISO 1183
Melt flow rate at 190°C 5.0 kg	g/10 min	2	ISO 1133
Vicat, Rate A	°C	82	ISO 306/A50
Vicat, Rate B	°C	55	ISO 306/B50
Mechanical properties	Unit	Value	Method
Tensile strength(*)	MPa	30	ISO 527
Tensile strain at break(*)	%	230	ISO 527
Tensile modulus(*)	MPa	200	ISO 527
Hardness, Shore D(*)	-	60	ISO 868

MFR is measured from granulates.

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

(\* extruded tape; ISO 527-2 Type 1B, thickness 400 - 800 µm



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### Processing instructions

	Unit	Processing range
Extrusion		
Cylinder temperature profile	°C	140 - 200
Die temperature profile	°C	160 - 200
Tool/Roll temperature	°C	50 - 30

### Notes

Metal surfaces in direct contact with the compound should be corrosion resistant or nickel/chrome plated. Flush the extrusion line before and after the run with LDPE or suitable cleaning compound. 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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