

Item Description

Item ID

PRE-ELEC[®] TPU 18600
TPU18600

TPU extrusion compound
Electrically conductive
Flexible

Typical end product
Applications

Flextubes
Profiles

PRE-ELEC[®] TPU 18600 is a conductive thermoplastic elastomer compound based on a polyester -based thermoplastic polyurethane (TPU). Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity, it has retained the excellent mechanical properties of the base elastomer.

Special properties	Unit	Value	Method
Volume resistivity(*)	Ω.cm	41	PRE021
Surface resistance(*)	Ω	6E+04	IEC 61340-2-3
General properties	Unit	Value	Method
Specific gravity	g/cm ³	1,28	ISO 1183
Melt flow rate at 190°C 10.0 kg	g/10 min	1	ISO 1133
Mechanical properties	Unit	Value	Method
Tensile strength(*)	MPa	32	ISO 527
Tensile strain at break(*)	%	1100	ISO 527
Tensile stress at 100%(*)	MPa	6,1	ISO 527
Tensile stress at 200%(*)	MPa	8,9	ISO 527
Tensile stress at 300%(*)	MPa	11,7	ISO 527
Tensile modulus(*)	MPa	15	ISO 527
Hardness, Shore A	-	87	ISO 868
Hardness, Shore D	-	35	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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Processing instructions

	Unit	Processing range
Extrusion		
Cylinder temperature profile	°C	145 - 180
Die temperature profile	°C	170 - 190
Tool/Roll temperature	°C	- - -

Notes

Drying of the product is recommended for 3-4 hours at 80°C prior to use.

TPU is a hygroscopic material. The moisture content after drying should be less than 200 ppm in order to avoid loss of properties. The use of desiccant / vacuum dryer is recommended. Extensive drying time may lead to degradation of the product. 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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