Technical Datasheet

PRE-ELEC® TPU 1512

Polyester-TPU extrusion compound
Electrically conductive

Applications: Hoses, conveyor belts
Profiles, Tape
TPU/ABS Sheets

PRE-ELEC® TPU 1512 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. The grade is suitable for extrusion and injection moulding applications.

Special properties	Unit	Value	Method
Volume resistivity(*	Ω.cm	10	PRE021
Surface resistance (*	Ω	8E+02	IEC 61340-2-3

General properties	Unit	Value	Method
Specific gravity	g/cm3	1.27	ISO 1183
Melt flow rate at 190°C	g/10 min		ISO 1133
10.0 kg		11.0	
Mould shrinkage	%	1.0 - 1.3	ISO 294-4

Mechanical properties	Unit	Value	Method
Tensile strength (*	MPa	23	ISO 527
Tensile strain at break (*	%	810	ISO 527
Tensile stress at 100% (*	MPa	7	ISO 527
Tensile stress at 200% (*	MPa	9	ISO 527
Tensile stress at 300% (*	MPa	11	ISO 527
Tensile modulus (*	MPa	35	ISO 527
Impact strength, Charpy	kJ/m2		ISO 179
Unnotched, +23°C		NB	
Notched, +23°C		NB	
Unnotched, -20°C		NB	
Notched, -20°C		NB	
Hardness, Shore A	-	87	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

Visit Premix Data Center for more detailed information of our products at
www.premixgroup.com/data-center-main

Processing instructions

		Unit	Processing range
Extrusion			
	Cylinder temperature profile	°C	145 - 170
	Die temperature profile	°C	170 - 170
	Tool/Roll temperature	°C	40 - 40
Injection moulding			
	Material temperature	°C	180 - 210
	Mould temperature	°C	30 - 50
	Injection pressure	Bar	200 - 800
	Injection speed		moderate / high

Notes

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

Processing conditions as with filled Polyester-TPU. The moisture content after drying should be less than 200 ppm in order to avoid loss of properties. The shelf life for this product is 1 year from the date of delivery with the same conditions as written below. 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.

Contact our Sales and Customer Service teams for more information
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