Technical Datasheet

PRE-ELEC® TPU 18025

TPU extrusion compound
Electrically conductive

Applications: Cast film
Sensors

PRE-ELEC® TPU 18025 is a conductive thermoplastic compound based on polyether TPU. The very high conductivity is achieved by using special conductive carbon black. The material is designed for cast film production, but can also be injection moulded.

Special properties	Unit	Value	Method
Volume resistivity(*	Ω.cm	< 10	PRE021
Surface resistance(*	Ω	< 500	IEC 61340-2-3

General properties	Unit	Value	Method
Specific gravity(*	g/cm3	1,22	ISO 1183
Melt flow rate at 190°C	g/10 min		ISO 1133
10.0 kg		2	

Mechanical properties	Unit	Value	Method
Tensile strength(*	MPa	21	ISO 527
Tensile strain at break(*	%	900	ISO 527
Tensile stress at 100%(*	MPa	8	ISO 527
Tensile stress at 200%(*	MPa	10	ISO 527
Tensile stress at 300%(*	MPa	12	ISO 527
Tensile modulus(*	MPa	50	ISO 527
Hardness, Shore A(*	-	86	ISO 868
Hardness, Shore D(*	-	45	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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www.premixgroup.com/data-center-main

Processing instructions

		Unit	Processing range		
Extrusion					
	Cylinder temperature profile	°C	190	-	220
	Die temperature profile	°C	210	-	230
	Tool/Roll temperature	°C	80	-	60
Injection moulding					
	Material temperature	**°C**	**210**	**-**	**230**
	Mould temperature	**°C**	**20**	**-**	**40**
	Injection pressure	**Bar**	**300**	**-**	**600**
	Injection speed		**Slow**		

Notes

Drying of the product is recommended for 2-4 hours at 80°C prior to use.

Granulates' aging and excessive moisture or drying affects negatively to the product's processability and properties. The moisture content after drying should be less than 200 ppm, but excessive drying should be avoided. 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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