Premix Thermoplastics PRE-ELEC® ESD 1100 (discontinued **)

Category : Polymer , Film , Thermoplastic , Polyester, TP , Polyethylene Terephthalate (PET)

Material Notes:

PRE-ELEC ESD 1100 is a static dissipative thermoplastic compound based on PETG. The dissipative property is permanent and built into the polymer chain. PRE-ELEC ESD 1100 has been developed for the extrusion of mono- or multi-layer sheet for thermoforming. The thermoformed products of PRE-ELEC ESD 1100 are washable, reusable and recyclable. Surface resistance values of 108 ohms (EOS/ESD S11.11-1993, IEC 61340-5-1) can be achieved with optimum processing parameters.Typical applications are extruded sheet for vacuum forming of trays which give permanent ESD protection for the electronics (hard disk), medical and pharmaceutical industries. PRE-ELEC ESD 1100 can also be injection molded and colored into various bright colors.Information provided by Premix Thermoplastics Inc.

Order this product through the following link:
http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-ESD-1100-nbspdiscontinued-.php

Physical Properties	Metric	English	Comments
Density	1.25 g/cc	0.0452 lb/in³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	0.0040 - 0.0060 cm/cm @Thickness 4.00 mm	0.0040 - 0.0060 in/in @Thickness 0.157 in	10.0 mm wide molded rod; ISO 294-4
Melt Flow	5.0 g/10 min @Load 5.00 kg, Temperature 200 °C	5.0 g/10 min @Load 11.0 lb, Temperature 392 °F	ISO 1133
High Load Melt Index	35 g/10 min @Load 21.6 kg, Temperature 200 °C	35 g/10 min @Load 47.6 lb, Temperature 392 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	99 @Thickness 4.00 mm	99 @Thickness 0.157 in	10.0 mm wide molded rod; ISO 868
Film Tensile Strength at Yield, MD	40.0 MPa	5800 psi	ISO 527
Film Tensile Strength at Yield, TD	30.0 MPa	4350 psi	ISO 527
Film Elongation at Break, MD	350 %	350 %	ISO 527
Film Elongation at Break, TD	300 %	300 %	ISO 527
Film Elongation at Yield, MD	5.0 %	5.0 %	ISO 527
Film Elongation at Yield, TD	4.0 %	4.0 %	ISO 527
	1.65 GPa	239 ksi	

Mechanical Properties	Metric	English	Comments
Modulus of Elasticity	@Thickness 4.00 mm	@Thickness 0.157 in	10.0 mm wide molded rod; ISO 178
Izod Impact, Notched	0.230 J/cm @Thickness 4.00 mm, Temperature 23.0 °C	0.431 ft-lb/in @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched	NB @Thickness 4.00 mm, Temperature 23.0 °C	NB @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Film Tensile Strength at Break, MD	50.0 MPa	7250 psi	ISO 527
Film Tensile Strength at Break, TD	35.0 MPa	5080 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	67.0 °C @Thickness 4.00 mm	153 °F @Thickness 0.157 in	10.0 mm wide molded rod; ISO 75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	60.0 °C @Thickness 4.00 mm	140 °F @Thickness 0.157 in	10.0 mm wide molded rod; ISO 75/Method Af
Vicat Softening Point	72.0 °C @Thickness 4.00 mm	162 °F @Thickness 0.157 in	Rate A; 10.0 mm wide molded rod; ISO 306/B50
	82.0 °C @Thickness 4.00 mm	180 °F @Thickness 0.157 in	Rate A; 10.0 mm wide molded rod; ISO 306/A50
Flammability, UL94	HB @Thickness 1.00 mm	HB @Thickness 0.0394 in	ISO RD524
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	ISO RD524

Electrical Properties	Metric	English	Comments
Surface Resistance	<= 1.00e+10 ohm	<= 1.00e+10 ohm	400 um thick sheet; ISO IEC 61340-5-1
Static Decay	<= 1.0 sec	<= 1.0 sec	400 um thick sheet; ISO IEC 61340-5-1

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	190 °C	374 °F	Zone 2; Cylinder
	190 °C	374 °F	Zone 1; Cylinder
	200 °C	392 °F	Zone 6; Cylinder

Processing Properties	Metric	English	Comments
	200 °C	392 °F	Zone 5; Cylinder
	200 °C	392 °F	Zone 3; Cylinder
Die Temperature	179 °C	355 °F	Zone 3
	188 °C	370 °F	Zone 4
	188 °C	370 °F	Zone 1
	188 °C	370 °F	Zone 2
	188 °C	370 °F	Zone 5
Melt Temperature	180 - 210 °C	356 - 410 °F	
Mold Temperature	30.0 - 70.0 °C	86.0 - 158 °F	
Roll Temperature	30.0 °C	86.0 °F	3rd Roll
	40.0 °C	104 °F	2nd Roll
	50.0 °C	122 °F	1st Roll
Drying Temperature	<= 70.0 °C @Time 10800 - 14400 sec	<= 158 °F @Time 3.00 - 4.00 hour	Pre-drying in a dehumidifier
Moisture Content	<= 0.15 %	<= 0.15 %	When Produced
Injection Pressure	75.2 - 120 MPa	10900 - 17400 psi	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Appearance	Granule	
Color	Whitish	
Injection Speed	Moderate	
Post Pressure, psi	5800 - 8700	

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