

Premix Thermoplastics PRE-ELEC® ABS 1410

Category : Polymer , Film , Thermoplastic , ABS Polymer

Material Notes:

PRE-ELEC ABS 1410 is a conductive thermoplastic compound based on ABS. Conductivity is achieved by using special conductive carbon black. In addition to a low electrical resistivity PRE-ELEC ABS 1410 has excellent mechanical properties and is easy to extrude or injection mold. Typical applications include extrusion of multi-layer sheet for carrier tape production and the injection molding of technical pieces. Information provided by Premix Thermoplastics Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Premix-Thermoplastics-PRE-ELEC-ABS-1410.php

Physical Properties	Metric	English	Comments
Density	1.10 g/cc	0.0397 lb/in ³	
Thickness	406 microns	16.0 mil	
Linear Mold Shrinkage	0.0050 - 0.0080 cm/cm @Thickness 4.00 mm	0.0050 - 0.0080 in/in @Thickness 0.157 in	ISO 294-4
Melt Flow	15 g/10 min @Load 10.0 kg, Temperature 220 °C	15 g/10 min @Load 22.0 lb, Temperature 428 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Hardness, Shore D	76 @Thickness 4.00 mm	76 @Thickness 0.157 in	ISO 868
Film Tensile Strength at Yield, MD	36.0 MPa	5220 psi	ISO 527
Film Elongation at Break, MD	8.0 %	8.0 %	ISO 527
Film Elongation at Break, TD	4.0 %	4.0 %	ISO 527
Film Elongation at Yield, MD	4.0 %	4.0 %	ISO 527
Modulus of Elasticity	2.00 GPa @Thickness 4.00 mm	290 ksi @Thickness 0.157 in	10.0 mm wide molded rod; ISO 178
Izod Impact, Notched	0.900 J/cm @Thickness 4.00 mm, Temperature 23.0 °C	1.69 ft-lb/in @Thickness 0.157 in, Temperature 73.4 °F	ISO 180
Izod Impact, Unnotched	5.50 J/cm @Thickness 4.00 mm, Temperature 23.0 °C	10.3 ft-lb/in @Thickness 0.157 in, Temperature 73.4 °F	ISO 180

Film Tensile Strength at Break, MD Mechanical Properties	29.0 MPa Metric	4210 psi English	ISO 527 Comments
Film Tensile Strength at Break, TD	30.0 MPa	4350 psi	ISO 527

Thermal Properties	Metric	English	Comments
Deflection Temperature at 0.46 MPa (66 psi)	88.0 °C @Thickness 4.00 mm	190 °F @Thickness 0.157 in	ISO 75/Method Bf
Deflection Temperature at 1.8 MPa (264 psi)	73.0 °C @Thickness 4.00 mm	163 °F @Thickness 0.157 in	ISO 75/Method Af
Vicat Softening Point	91.0 °C @Thickness 4.00 mm	196 °F @Thickness 0.157 in	Rate A; ISO 306/B50
	104 °C @Thickness 4.00 mm	219 °F @Thickness 0.157 in	Rate A; ISO 306/A50

Electrical Properties	Metric	English	Comments
Volume Resistivity	<= 1e+05	<= 1e+05	400 um thick; ISO D-257
Surface Resistance	<= 1.00e+6 ohm	<= 1.00e+6 ohm	400 um thick sheet; ISO D-257

Processing Properties	Metric	English	Comments
Middle Barrel Temperature	200 °C	392 °F	Zone 1; Cylinder
	210 °C	410 °F	Zone 2; Cylinder
	220 °C	428 °F	Zone 3; Cylinder
	230 °C	446 °F	Zone 4; Cylinder
	240 °C	464 °F	Zone 6; Cylinder
	240 °C	464 °F	Zone 5; Cylinder
Die Temperature	220 °C	428 °F	Zone 3
	230 °C	446 °F	Zone 4
	230 °C	446 °F	Zone 2
	240 °C	464 °F	Zone 5
	240 °C	464 °F	Zone 1
Melt Temperature	220 - 260 °C	428 - 500 °F	
Mold Temperature	60.0 - 90.0 °C	140 - 194 °F	

Processing Properties	Metric	English	Comments
Roll Temperature	80.0 °C	176 °F	2nd Roll
	80.0 °C	176 °F	2nd Roll
	90.0 °C	194 °F	1st Roll
Drying Temperature	80.0 - 100 °C @Time 7200 - 14400 sec	176 - 212 °F @Time 2.00 - 4.00 hour	If stored for longer than 1 year
Moisture Content	<= 0.15 %	<= 0.15 %	When Produced
Injection Pressure	75.01 - 120.0 MPa	10880 - 17400 psi	
Shelf Life	12.0 Month	12.0 Month	Normal Storing Conditions

Descriptive Properties	Value	Comments
Appearance	Granule	
Color	Black	
Injection Speed	Moderate	

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