

BASF Ultrason E 1010 PES

Category : Polymer , Thermoplastic , Polyethersulfone (PES)

Material Notes:

Ultrason E 1010 is an unreinforced, low viscosity injection molding PES grade. It flows readily and offers outstanding heat resistance and dimensional stability.

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-E-1010-PES.php

Physical Properties	Metric	English	Comments
Density	1.37 g/cc	0.0495 lb/in ³	ISO 1183
Water Absorption	2.2 %	2.2 %	ISO 62
Moisture Absorption at Equilibrium	0.80 %	0.80 %	23°C/50% R.H.; ISO 62
Viscosity Test	48 cm ³ /g	48 cm ³ /g	Viscosity number
Linear Mold Shrinkage	0.0070 cm/cm	0.0070 in/in	ASTM Data; MD
Linear Mold Shrinkage, Flow	0.0079 cm/cm	0.0079 in/in	ISO Data
Linear Mold Shrinkage, Transverse	0.0082 cm/cm	0.0082 in/in	ISO Data
Melt Flow	150 g/10 min @Load 10.0 kg, Temperature 360 °C	150 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	154 MPa	22300 psi	ISO 2039-1
Tensile Strength at Break	90.0 MPa	13100 psi	5mm/min; ISO 527-2
Tensile Strength, Yield	90.0 MPa	13100 psi	50mm/min; ISO 527-2
Elongation at Break	6.7 %	6.7 %	5mm/min; ISO 527-2
Elongation at Yield	6.7 %	6.7 %	50mm/min; ISO 527-2
Tensile Modulus	2.70 GPa	392 ksi	ISO 527-2
Shear Modulus	0.200 GPa @Temperature 225 °C	29.0 ksi @Temperature 437 °F	ISO 6721
	0.900 GPa @Temperature 200 °C	131 ksi @Temperature 392 °F	ISO 6721
	0.950 GPa	138 ksi	

Mechanical Properties	Metric @ Temperature 100 °C	English @ Temperature 212 °F	ISO 6721 Comments
	1.00 GPa	145 ksi	ISO 6721
	@Temperature 50.0 °C	@Temperature 122 °F	
Izod Impact, Notched (ISO)	7.00 kJ/m ²	3.33 ft-lb/in ²	ISO 180/A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Unnotched (ISO)	6.50 kJ/m ²	3.09 ft-lb/in ²	ISO 180/A
Charpy Impact Unnotched	NB	NB	ISO 179/1eU
	NB	NB	ISO 179/1eU
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	0.650 J/cm ²	3.09 ft-lb/in ²	ISO 179/1eA
	0.700 J/cm ²	3.33 ft-lb/in ²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Creep Modulus, 1000 hours	2700 MPa	392000 psi	elongation <0.5%, 23°C; ISO 899-1

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.0 µm/m-°C	28.9 µin/in-°F	ISO 11359-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
	59.0 µm/m-°C	32.8 µin/in-°F	ISO 11359-1/-2
	@Temperature 140 - 180 °C	@Temperature 284 - 356 °F	
Maximum Service Temperature, Air	200 °C	392 °F	short cycle operations
Deflection Temperature at 1.8 MPa (264 psi)	200 °C	392 °F	ISO 75-2
Glass Transition Temp, Tg	222 °C	432 °F	ISO 11357-1/-2
UL RTI, Electrical	190 °C	374 °F	50% decrease of tensile strength after 20000h; 746B
Flammability, UL94	V-1	V-1	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	V-0	V-0	
	@Thickness 3.20 mm	@Thickness 0.126 in	

Optical Properties	Metric	English	Comments
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Refractive Index Optical Properties	1.65 Metric	1.65 English	Comments
Transmission, Visible	88 % @Thickness 2.00 mm	88 % @Thickness 0.0787 in	ASTM D 1003

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+14 ohm	>= 1.00e+14 ohm	IEC 60093
Dielectric Constant	3.8 @Frequency 1.00e+6 Hz	3.8 @Frequency 1.00e+6 Hz	IEC 60250
	3.9 @Frequency 100 Hz	3.9 @Frequency 100 Hz	IEC 60250
Dielectric Strength	37.0 kV/mm	940 kV/in	IEC 60243-1
Dissipation Factor	0.0017 @Frequency 100 Hz	0.0017 @Frequency 100 Hz	IEC 60250
	0.014 @Frequency 1.00e+6 Hz	0.014 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	125 V	125 V	Test liquid A & B; IEC 60112

Processing Properties	Metric	English	Comments
Melt Temperature	340 - 390 °C	644 - 734 °F	Injection molding
Mold Temperature	140 - 180 °C	284 - 356 °F	Injection molding

Descriptive Properties	Value	Comments
Color	Natural	
Commercial Status	North America and Europe	
Impact Modified	No	
Primary Processing Technique	Injection Molding, Extrusion	

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