

BASF Ultrason® E 2010 MR SW 10111 PESU

Category : Polymer , Thermoplastic , Polyethersulfone (PES)

Material Notes:

Description: Unreinforced, medium viscosity standard injection molding grade, demolding optimized. Abbreviated designation according to ISO 1043-1: PESU. Information provided by BASF

Order this product through the following link:

http://www.lookpolymers.com/polymer_BASF-Ultrason-E-2010-MR-SW-10111-PESU.php

Physical Properties	Metric	English	Comments
Bulk Density	0.700 - 0.800 g/cc	0.0253 - 0.0289 lb/in ³	
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% RH; ISO 62
Viscosity Measurement	56	56	[cm³/g]; ISO 307
Linear Mold Shrinkage, Flow	0.0082 cm/cm	0.0082 in/in	ISO 2577, 294-4
Linear Mold Shrinkage, Transverse	0.0086 cm/cm	0.0086 in/in	ISO 2577, 294-4
Melt Flow	95.9 g/10 min @Load 10.0 kg, Temperature 360 °C	95.9 g/10 min @Load 22.0 lb, Temperature 680 °F	ISO 1133

Mechanical Properties	Metric	English	Comments
Ball Indentation Hardness	154 MPa @Load 36.5 kg, Time 30.0 sec	22300 psi @Load 80.5 lb, Time 0.00833 hour	ISO 2039-1
Tensile Strength, Yield	90.0 MPa	13100 psi	50mm/min; ISO 527-1/-2
Elongation at Yield	6.7 %	6.7 %	50mm/min; ISO 527-1/-2
Tensile Modulus	2.70 GPa	392 ksi	ISO 527-1/-2
Izod Impact, Notched (ISO)	6.50 kJ/m ² @Temperature 23.0 °C	3.09 ft-lb/in ² @Temperature 73.4 °F	ISO 180/A
	7.00 kJ/m ² @Temperature -30.0 °C	3.33 ft-lb/in ² @Temperature -22.0 °F	ISO 180/A
Charpy Impact Unnotched	NB @Temperature 23.0 °C	NB @Temperature 73.4 °F	ISO 179/1eU

Mechanical Properties	Metric	English	Comments
	@Temperature -30.0 °C	@Temperature -22.0 °F	ISO 179/1eU
Charpy Impact, Notched	0.650 J/cm²	3.09 ft-lb/in²	ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	0.700 J/cm²	3.33 ft-lb/in²	ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Tensile Creep Modulus, 1000 hours	2700 MPa	392000 psi	ISO 899-1
	@Strain <=0.500 %	@Strain <=0.500 %	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.0 µm/m-°C	28.9 µin/in-°F	ISO 75-1/-2
	@Temperature 23.0 - 80.0 °C	@Temperature 73.4 - 176 °F	
	59.0 µm/m-°C	32.8 µin/in-°F	DIN 53752
	@Temperature 180 °C	@Temperature 356 °F	
Maximum Service Temperature, Air	180 °C	356 °F	at 50% loss of tensile strength after 20000 hr
	220 °C	428 °F	
Deflection Temperature at 1.8 MPa (264 psi)	205 °C	401 °F	ISO 75-1/-2
Glass Transition Temp, Tg	225 °C	437 °F	ISO 11357-1/-2
Decomposition Temperature	>= 400 °C	>= 752 °F	
Flammability, UL94	V-0	V-0	
	@Thickness 3.05 mm	@Thickness 0.120 in	
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	

Optical Properties	Metric	English	Comments
Refractive Index	1.63	1.63	ISO 489
	@Thickness 1.00 mm	@Thickness 0.0394 in	
Transmission, Visible	88 %	88 %	DIN 5036-3
	@Thickness 2.00 mm	@Thickness 0.0787 in	

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+13 ohm-cm	>= 1.00e+13 ohm-cm	IEC 60093
Dielectric Constant	3.8	3.8	ISO 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	3.9	3.9	ISO 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
Dielectric Strength	37.0 kV/mm	940 kV/in	IEC 60243-1
Dissipation Factor	0.00170	0.00170	IEC 60250
	@Frequency 100 Hz	@Frequency 100 Hz	
	0.0140	0.0140	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	100 V	100 V	Test Liquid B; IEC 60112
	100 V	100 V	Test Liquid A; IEC 60112

Processing Properties	Metric	English	Comments
Processing Temperature	80.0 °C	176 °F	Hopper throat
Zone 1	340 °C	644 °F	Feed zone
Zone 2	350 °C	662 °F	Compression
Zone 3	360 °C	680 °F	Metering-zone
Zone 4	360 °C	680 °F	Nozzle
Melt Temperature	360 °C	680 °F	Optimal
	340 - 390 °C	644 - 734 °F	Injection molding/extrusion
Mold Temperature	160 °C	320 °F	Optimal
	140 - 180 °C	284 - 356 °F	Injection molding
Drying Temperature	140 °C	284 °F	
Dry Time	4 hour	4 hour	

Descriptive Properties	Value	Comments
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ColorLight Yellow to Brownish

Descriptive Properties	Value	Comments
Ignition Temperature	580-600°C	DIN 54836
Primary Processing Technique	Injection molding, Extrusion and Blow molding	

Contact Songhan Plastic Technology Co.,Ltd.

Website : www.lookpolymers.com
Email : sales@lookpolymers.com
Tel : +86 021-51131842
Mobile : +86 13061808058
Skype : lookpolymers
Address : United North Road 215,Fengxian District, Shanghai City,China