Product Information

Ultrason® E 1010
Polyether Sulfone (PES)

BASF
The Chemical Company

Product Description

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

Applications

Typical applications include automotive applications such as fuse encapsulation, connectors, heating system and headlight components and household applications such as microwave dishes, baby bottles and other applications requiring high heat resistance.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm	1183	1.37
Mold Shrinkage, parallel, %	294-4	0.79
Mold Shrinkage, normal, %	294-4	0.82
Moisture, %	62	
(50% RH)		0.8
(Saturation)		2.2
RHEOLOGICAL	**ISO Test Method**	**Property Value**
Melt Volume Rate (360 C/10 Kg), cc/10min.	1133	150
MECHANICAL	**ISO Test Method**	**Property Value**
Tensile Modulus, MPa	527	
23C		2,700
Tensile stress at yield, MPa	527	
23C		90
Tensile strain at yield, %	527	
23C		6.7
Ball Indentation, MPa	2039-1	154
Tensile Creep Modulus (1000h), MPa	899	2,700
IMPACT	**ISO Test Method**	**Property Value**
Izod Notched Impact, kJ/m^2	180	
23C		6.5
Charpy Notched, kJ/m^2	179	
23C		6.5
-30C		7
Charpy Unnotched, kJ/m^2	179	
23C		N
-30C		N
THERMAL	**ISO Test Method**	**Property Value**
HDT A, C	75	200
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.52 X10-4
ELECTRICAL	**ISO Test Method**	**Property Value**
Comparative Tracking Index	IEC 60112	125
Volume Resistivity	IEC 60093	>1E13

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Surface Resistivity	IEC 60093	>1E14
Dielectric Constant (100 Hz)	IEC 60250	3.9
Dielectric Constant (1 MHz)	IEC 60250	3.8
Dissipation Factor (100 Hz)	IEC 60250	17
Dissipation Factor (1 MHz)	IEC 60250	140
Dielectric Strength, KV/mm	IEC 60243-1	37
UL RATINGS	**UL Test Method**	**Property Value**
Flammability Rating, 1.5mm	UL94	V-1
Relative Temperature Index, 1.5mm	UL746B	
Mechanical w/o Impact, C		190
Mechanical w/ Impact, C		180
Electrical, C		180

Processing Guidelines

Material Handling
Max. Water content: 0.02%
Ultrason pellets can absorb moisture very rapidly and must be dried before processing. A vacuum or dry air oven operating at 130-150 degC (266-302 degF) is recommended. Circulating air ovens are unsuitable. Drying time is dependent on moisture level, but the materials must be dried at least 4 hours. Further information concerning safe handling procedures can be obtained from the Material Safety Data Sheet. Alternatively, please contact your BASF representative.

Typical Profile
Melt Temperature 340-390 degC (644-734 degF)
Mold Temperature 140-180 degC (284-356 degF)
Injection and Packing Pressure 35-125 bar (500-1500 psi)

Mold Temperatures
Injection pressure controls the filling of the part and should be applied for 90% of ram travel. Packing pressure affects the final part and can be used effectively in controlling sink marks and shrinkage. It should be applied and maintained until the gate area is completely frozen off.

Back pressure can be utilized to provide uniform melt consistency and reduce trapped air and gas. Minimal back pressure should be utilized to prevent glass breakage.

Pressures
Fast fill rates are recommended to ensure uniform melt delivery to the cavity and prevent premature freezing. Surface appearance is directly affected by injection rate.