

# Ultrason® E 2010 G4

## PESU (Polyethersulfone)



### Product Description

Ultrason E 2010 G4 is a 20% glass reinforced, medium viscosity injection molding PESU grade with high rigidity and strength.

### Applications

Typical applications include circuit breaker parts, lamp holders, heat shields, impellers, and printer cartridges.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.50
Mold Shrinkage, parallel, %	294-4	0.36
Mold Shrinkage, normal, %	294-4	0.61
Moisture, %	62	
(50% RH)		0.6
(Saturation)		1.6
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (360 C/10 Kg), cc/10min.	1133	29
MECHANICAL	ISO Test Method	Property Value
Tensile Modulus, MPa	527	
23C		6,900
Tensile stress at break, MPa	527	
23C		130
Tensile strain at break, %	527	
23C		3.2
Ball Indentation, MPa	2039-1	205
IMPACT	ISO Test Method	Property Value
Izod Notched Impact, kJ/m <sup>2</sup>	180	
-30C		8
23C		8
Charpy Notched, kJ/m <sup>2</sup>	179	
-30C		8
23C		8
Charpy Unnotched, kJ/m <sup>2</sup>	179	
-30C		65
23C		60
THERMAL	ISO Test Method	Property Value
HDT A, C	75	222
Coef. of Linear Thermal Expansion, Parallel, mm/mm C		0.2 X10-4
ELECTRICAL	ISO Test Method	Property Value
Comparative Tracking Index	IEC 60112	125
Volume Resistivity (Ohm-m)	IEC 60093	>1E13
Surface Resistivity (Ohm)	IEC 60093	>1E15

Dielectric Constant (100 Hz)	IEC 60250	4.2
Dielectric Constant (1 MHz)	IEC 60250	4.2
Dissipation Factor (100 Hz), E-4	IEC 60250	20
Dissipation Factor (1 MHz), E-4	IEC 60250	100
Dielectric Strength, KV/mm	IEC 60243-1	37

UL RATINGS	UL Test Method	Property Value
Flammability Rating, 1.6mm	UL94	V-0
Relative Temperature Index, 1.6mm	UL746B	
Mechanical w/o Impact, C		190
Mechanical w/ Impact, C		180
Electrical, C		180
Flammability Rating, 3.0mm	UL94	V-0
Relative Temperature Index, 3.0mm	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 130-150C (266-302F) is recommended. Circulating air ovens are unsuitable. Drying time is dependent on moisture level, however the materials must be dried at least 4 hours. Further information concerning safe handling procedures can be obtained from the Safety Data Sheet. Alternatively, please contact your BASF representative.

**Typical Profile**

Melt Temperature 350-390C (662-734F)

Mold Temperature 150-190C (302-374F)

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.

**Note**

## Note

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