

## Ultrason<sup>®</sup> E 2010

### Polyethersulfone (PESU)

Ultrason E 2010 is an unreinforced, medium viscosity standard injection molding PESU grade. Ultrason E 2010 Natural 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 and other applications requiring high heat resistance.

PHYSICAL	ISO Test Method	Property Value
Density, g/cm <sup>3</sup>	1183	1.37
Mold Shrinkage, parallel, %	294-4	0.82
Mold Shrinkage, normal, %	294-4	0.86
<b>Moisture, %</b>	62	
(50% RH)		0.8
(Saturation)		2.2
RHEOLOGICAL	ISO Test Method	Property Value
Melt Volume Rate (360 °C/10 Kg), cc/10min.	1133	70
MECHANICAL	ISO Test Method	Property Value
<b>Tensile Modulus, MPa</b>	527	
23 °C		2,650
<b>Tensile stress at yield, MPa</b>	527	
23 °C		85
<b>Tensile strain at yield, %</b>	527	
23 °C		6.9
Ball Indentation, MPa	2039-1	154

IMPACT	ISO Test Method	Property Value
<b>Izod Notched Impact, kJ/m<sup>2</sup></b>	180	
-30°C		7.5
23°C		7
<b>Charpy Notched, kJ/m<sup>2</sup></b>	179	
-30°C		7.5
23°C		7
<b>Charpy Unnotched, kJ/m<sup>2</sup></b>	179	
-30°C		N
23°C		N
THERMAL	ISO Test Method	Property Value
HDT A, ° C	75	205
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 (Ohm-m)	IEC 60093	>1E13
Surface Resistivity (Ohm)	IEC 60093	>1E15
Dielectric Constant (100 Hz)	IEC 60250	3.9
Dielectric Constant (1 MHz)	IEC 60250	3.8
Dissipation Factor (100 Hz), E-4	IEC 60250	17
Dissipation Factor (1 MHz), E-4	IEC 60250	140
Dielectric Strength, KV/mm	IEC 60243-1	37
UL RATINGS	UL Test Method	Property Value
Flammability Rating, 1.5mm	UL94	V-0
<b>Relative Temperature Index, 1.5mm</b>	UL746B	
Mechanical w/o Impact, °C		190

Mechanical w/ Impact, °C		180
Electrical, °C		180
Flammability Rating, 3.0mm	UL94	V-0
<b>Relative Temperature Index, 3.0mm</b>	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°C (266-302°F) 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 340-390°C (644-734°F)

Mold Temperature 140-180°C (284-356°F)

Injection and Packing Pressure 35-125 bar (500-1500 psi)

### Mold Temperatures

A Mold temperature of 140-180°C (284-356°F) is recommended.

### Pressures

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.

### Fill Rate

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

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### **General Information**

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### **Technical Assistance**

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### **Web address**

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