Ultrason® E 1010

Polyether Sulfone

BASF Corporation

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.

General			
Material Status	• Commercial: Active		
Availability	• Europe	• North America	
Additive	• Heat Stabilizer	• Impact Modifier	
Features	• Flame Retardant • Good Dimensional Stability • Good Flow	• Heat Stabilized • High Heat Resistance • High Rigidity	• Impact Modified • Low Viscosity • Platable
Uses	• Automotive Applications		
Agency Ratings	• NSF 14	• NSF 61	
RoHS Compliance	• RoHS Compliant		
Appearance	• Clear/Transparent	• Colors Available	• Natural Color
Forms	• Pellets		
Processing Method	• Injection Molding		
Multi-Point Data	• Creep Modulus vs. Time (ISO 11403-1) • Isochronous Stress vs. Strain (ISO 11403-1)	• Isothermal Stress vs. Strain (ISO 11403-1) • Secant Modulus vs. Strain (ISO 11403-1)	• Specific Volume vs Temperature (ISO 11403-2) • Viscosity vs. Shear Rate (ISO 11403-2)
Resin ID (ISO 1043)	• PESU		

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.37	g/cm³	ASTM D792
--	1370	kg/m³	ISO 1183[2]
Melt volume-flow rate (360°C/10.0 kg)	150	cm³/10min	ISO 1133[2]
Molding Shrinkage			
Flow: 3.18 mm	0.70	%	ASTM D955
Across Flow	0.79	%	ISO 294-4
Flow	0.82	%	ISO 294-4
Water Absorption			
Saturation	2.1	%	ASTM D570 ISO 62[2]
Equilibrium, 50% RH	0.70	%	ASTM D570
Equilibrium	0.70	%	ISO 62[2]

Mechanical	Nominal Value	Unit	Test Method
Tensile modulus	2700	MPa	ISO 527-2[2]
Tensile Strength			
Yield, 23°C	90.0	MPa	ASTM D638
Yield	90.0	MPa	ISO 527-2[2]
Tensile Elongation			
Yield, 23°C	6.7	%	ASTM D638
Yield	6.7	%	ISO 527-2[2]
Break, 23°C	40	%	ASTM D638
Nominal strain at break	40	%	ISO 527-2[2]
Tensile Creep Modulus			ISO 899-1[2]
1 hr	2800	MPa	
1000 hr	2700	MPa	
Flexural Modulus			
23°C	2600	MPa	ASTM D790
23°C	2880	MPa	ISO 178
Flexural Strength (23°C)	135	MPa	ISO 178

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Impact	Nominal Value	Unit	Test Method
Charpy notched impact strength			ISO 179/1eA [2]
-30°C	7.00	kJ/m²	
23°C	6.50	kJ/m²	
Charpy Unnotched Impact Strength			ISO 179
-30°C	No Break		
23°C	No Break		
Notched Izod Impact (23°C)	59.0	J/m	ASTM D256
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			
0.45 MPa, Unannealed	208	°C	ASTM D648
1.8 MPa, Unannealed	195	°C	ASTM D648
1.8 MPa	195	°C	ISO 75-2 [2]
CLTE - Flow	0.000055	cm/cm/°C	ISO 11359-2
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity [3]	1.0E+14	ohms	ASTM D257 IEC 60093 [2]
Volume Resistivity			
1.50 mm	> 1.0E+13	ohm·cm	ASTM D257
--	> 1.0E+11	ohm·m	IEC 60093 [2]
Relative Permittivity			IEC 60250 [2]
100 Hz	3.90		
1 MHz	3.80		
Dissipation Factor			IEC 60250 [2]
100 Hz	17		
1 MHz	140		
Comparative tracking index	125		IEC 60112 [2]
Electric strength	37	kV/mm	IEC 60243-1 [2]
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating - UL (1.50 mm)	V-1		UL 94
UL 746	**Nominal Value**	**Unit**	**Test Method**
RTI Str (1.50 mm)	190	°C	UL 746
RTI Imp (1.50 mm)	180	°C	UL 746
RTI Elec (1.50 mm)	180	°C	UL 746

Injection	Nominal Value	Unit
Drying Temperature	130 to 150	°C
Drying Time	2.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Processing (Melt) Temp	330 to 390	°C
Mold Temperature	120 to 160	°C
Injection Pressure	3.50 to 12.5	MPa
Injection Rate	Fast	

Notes

[1] Typical properties: these are not to be construed as specifications.

[2] Tested in accordance with ISO 10350. 23°C/50%r.h. unless otherwise noted.

[3] 1.5 mm