

ULTEM™ 1010M resin

Polyether Imide

SABIC Innovative Plastics

Message:

ULTEM 1010M resin is an amorphous, transparent polyetherimide (PEI) plastic offering a glass transition temperature (Tg) of 217°C. This inherently flame retardant resin is RoHS compliant. ULTEM 1010M resin is an unreinforced general purpose grade offering high heat resistance, high strength and modulus and broad chemical resistance up to high temperatures with enhanced flow and optimized mold release for metallized reflectors.

General Information			
Features	High strength		
	Good liquidity		
	Good chemical resistance		
	Heat resistance, high		
	General		
	Good demoulding performance		
	amorphous		
	Flame retardancy		
Uses	General		
Appearance	Clear/transparent		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.27	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	18	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.70	%	Internal method
Water Absorption			ASTM D570
24 hr	0.25	%	ASTM D570
Equilibrium, 23°C	1.3	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	109		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	3590	MPa	ASTM D638
Tensile Strength ² (Yield)	110	MPa	ASTM D638
Tensile Elongation ³			ASTM D638
Yield	7.0	%	ASTM D638
Fracture	60	%	ASTM D638
Flexural Modulus ⁴ (100 mm Span)	3520	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 100 mm Span)	165	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	32	J/m	ASTM D256

Unnotched Izod Impact (23°C)	1300	J/m	ASTM D4812
Reverse Notch Izod Impact (3.20 mm)	1500	J/m	ASTM D256
Dart Drop Impact (23°C)	33.9	J	ASTM D3029
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, unannealed, 6.40mm	207	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	199	°C	ASTM D648
Vicat Softening Temperature	219	°C	ASTM D1525 ⁶
CLTE - Flow (-20 to 150°C)	5.6E-5	cm/cm/°C	ASTM E831
Thermal Conductivity	0.22	W/m/K	ASTM C177
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
1.60 mm, in Air	33	kV/mm	ASTM D149
1.60 mm, in Oil	28	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	3.15		ASTM D150
Dissipation Factor			ASTM D150
1 kHz	1.3E-3		ASTM D150
2.45 GHz	2.5E-3		ASTM D150
Flammability	Nominal Value	Unit	Test Method
Oxygen Index	44	%	ASTM D2863
NBS Smoke Density - Flaming, Ds, 4 min	2.00		ASTM E662
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 5.0 mm/min		
4.	2.6 mm/min		
5.	2.6 mm/min		
6.	标准 B (120°C/h), 载荷2 (50N)		

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