ULTEM™ RESIN 1010M

REGION ASIA

DESCRIPTION

ULTEM 1010M resin is an amorphous, transparent polyetherimide (PEI) plastic offering a glass transition temperature (Tg) of 217C. 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.

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Interiors, Bus, Automotive Under the Hood
Consumer	Home Appliance, Commercial Appliance
Electrical & Electronics	Electrical Devices & Displays, Lighting, Electrical Components & Infrastructure
Hydrocarbon & Energy	Fossil, Electric Vehicle, Energy Storage
Industrial	Defense, Electronic Material Handling, Industrial Material Handling, Composite, Electronic Material
Mass Transportation	Aircraft Interiors
Packaging	Consumer Packaging

TYPICAL PROPERTY VALUES

Revision 20181122

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D 638
Tensile Modulus, 5 mm/min	3580	MPa	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	165	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	3510	MPa	ASTM D 790
Hardness, Rockwell M	109	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D 1044
IMPACT			
Izod Impact, unnotched, 23°C	1335	J/m	ASTM D 4812
Izod Impact, notched, 23°C	32	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	1495	J/m	ASTM D 256
Gardner, 23°C	33	J	ASTM D 3029
THERMAL			
Vicat Softening Temp, Rate B/50	218	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	207	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	198	°C	ASTM D 648
CTE, -20°C to 150°C, flow	5.58E-05	1/°C	ASTM E 831
Thermal Conductivity	0.22	W/m-°C	ASTM C177
PHYSICAL			
Specific Gravity	1.27	-	ASTM D 792
Water Absorption, 24 hours	0.25	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.25	%	ASTM D 570

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	17.8	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in air, 1.6 mm	32.6	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	27.9	kV/mm	ASTM D 149
Relative Permittivity, 1 kHz	3.15	-	ASTM D 150
Dissipation Factor, 1 kHz	0.0013	-	ASTM D 150
Dissipation Factor, 2450 MHz	0.0025	-	ASTM D 150
FLAME CHARACTERISTICS			
Oxygen Index (LOI)	44	%	ASTM D 2863
NBS Smoke Density, Flaming, Ds 4 min	2	-	ASTM E 662

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