ULTEM™ RESIN 2100

REGION ASIA

DESCRIPTION

Polyetherimide (PEI), 10% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Under the Hood, Aerospace, Motorcycle, Recreational/Specialty Vehicles
Building and Construction	Building Component, Water Management
Consumer	Consumer Goods, Sport/Leisure, Personal Accessory, Home Appliances, Commercial Appliance, Furniture
Electrical and Electronics	Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards/Additives, Lighting, Printer Copier, Speaker - Earphone, Wireless Communication
Hygiene and Healthcare	Personal and Professional Hygiene, Pharmaceutical Packaging and Drug Delivery, Surgical devices, General Healthcare, Patient Testing
Industrial	Electrical, Material Handling, Textile, Eyewear
Mass Transportation	Rail
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	115	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D638
Tensile Modulus, 5 mm/min	4680	MPa	ASTM D638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	199	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	5170	MPa	ASTM D790
Hardness, Rockwell M	114	-	ASTM D785
IMPACT			
Izod Impact, unnotched, 23°C	480	J/m	ASTM D4812
Izod Impact, notched, 23°C	53	J/m	ASTM D256
Izod Impact, Reverse Notched, 3.2 mm	459	J/m	ASTM D256
THERMAL			
Vicat Softening Temp, Rate B/50	223	°C	ASTM D1525
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	208	°C	ASTM D648
CTE, -20°C to 150°C, flow	3.0E-05	1/°C	ASTM E831
Relative Temp Index, Elec [1]	170	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	170	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	170	°C	UL 746B
PHYSICAL			
Specific Gravity	1.34	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.21	%	ASTM D570

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Water Absorption, (23°C/Saturated)	1.2	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.6	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	7	g/10 min	ASTM D1238
ELECTRICAL			
Volume Resistivity	1.E+17	Ω.cm	ASTM D257
Dielectric Strength, in oil, 1.6 mm	27.5	kV/mm	ASTM D149
Relative Permittivity, 1 kHz	3.5	-	ASTM D150
Dissipation Factor, 1 kHz	0.0014	-	ASTM D150
Dissipation Factor, 2450 MHz	0.0046	-	ASTM D150
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥3	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E45587-236982	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.38	mm	UL 94
Oxygen Index (LOI)	47	%	ASTM D2863
NBS Smoke Density, Flaming, Ds 4 min	1.8	-	ASTM E662
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	350 – 400	°C	
Nozzle Temperature	345 – 400	°C	
Front - Zone 3 Temperature	345 – 400	°C	
Middle - Zone 2 Temperature	340 – 400	°C	
Rear - Zone 1 Temperature	330 – 400	°C	
Mold Temperature	135 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

DISCLAIMER