ULTEM™ Resin 2312

REGION AMERICAS

DESCRIPTION

30% Milled glass filled, enhanced 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 20230725

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	103	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3.5	%	ASTM D638
Tensile Modulus, 5 mm/min	5990	MPa	ASTM D638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	179	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	6550	MPa	ASTM D790
IMPACT			
Izod Impact, notched, 23°C	32	J/m	ASTM D256
Izod Impact, Reverse Notched, 3.2 mm	309	J/m	ASTM D256
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D648
CTE, -40°C to 150°C, flow	2.3E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow	2.7E-05	1/°C	ISO 11359-2
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	1.51	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.18	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.98	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.4	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.45 – 0.55	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	10.1	g/10 min	ASTM D1238

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
ELECTRICAL			
Relative Permittivity, 1 kHz	3.7	-	ASTM D150
Relative Permittivity, 1 MHz	3.49	-	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	≥0.81	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥3	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥0.81	mm	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-221100	-	-
Glow Wire Flammability Index, 1.5 mm	960	°C	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.5 mm	875	°C	IEC 60695-2-13
UL Recognized, 94V-0 Flame Class Rating	≥0.81	mm	UL 94
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.

MORE INFORMATION

For curve data and CAE cards, please visit and register at https://materialfinder.sabic-specialties.com

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