ULTEM™ Resin 2210EPR

REGION AMERICAS

DESCRIPTION

20% Glass fiber filled, high flow Polyetherimide (Tg 217C) with internal mold release and enhanced electroplatability. ECO Conforming, UL94 V0 and 5VA listing.

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	137	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	137	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	6890	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	206	MPa	ASTM D790
Flexural Stress, brk, 2.6 mm/min, 100 mm span	206	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	6890	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	6890	MPa	ASTM D790
IMPACT			
Izod Impact, unnotched, 23°C	587	J/m	ASTM D4812
Izod Impact, notched, 23°C	80	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	14	J	ASTM D3763
THERMAL			
Vicat Softening Temp, Rate B/50	210	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	211	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	206	°C	ASTM D648
HDT, 0.45 MPa, 6.4 mm, unannealed	213	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	208	°C	ASTM D648
CTE, -40°C to 40°C, flow	3.6E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.2E-05	1/°C	ASTM E831
Relative Temp Index, Elec [1]	105	°C	UL 746B

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/impact [1]	105	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	105	°C	UL 746B
PHYSICAL			
Specific Gravity	1.39	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	13	g/10 min	ASTM D1238
ELECTRICAL			
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
Hot-Wire Ignition (HWI), PLC 3	≥0.75	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 4	≥0.4	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥0.4	mm	UL 746A
High Voltage Arc Track Rate {PLC}	4	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-221095	-	-
UL Yellow Card Link 2	E121562-221096	-	-
UL Recognized, 94V-0 Flame Class Rating	≥0.4	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.

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