ULTEM™ RESIN 2200

REGION ASIA

DESCRIPTION

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing. NSF 51 listing, WRAS certification in recognized colors.

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Interiors, Bus, Automotive Under the Hood
Building and Construction	Outdoor, Lawn and Landscape, Construction
Consumer	Sport/Leisure, Personal Accessory, Home Appliance, Personal Recreation, Commercial Appliance, Recreational Vehicle
Electrical and Electronics	Electrical Devices and Displays, Lighting, Electrical Components and Infrastructure
Hydrocarbon and Energy	Fossil, Wind Energy, Energy Storage
Industrial	Defense, Semiconductors, Textile, Servomotor, Electronic Material Handling, Industrial Material Handling, Composite
Mass Transportation	Aircraft Interiors, Specialty Vehicles, Rail
Packaging	Rigid Packaging

TYPICAL PROPERTY VALUES

Revision 20190717

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	131	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Modulus, 5 mm/min	6890	MPa	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	227	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	6890	MPa	ASTM D 790
Hardness, Rockwell M	114	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	480	J/m	ASTM D 4812
Izod Impact, notched, 23°C	64	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	464	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
CTE, -20°C to 150°C, flow	2.52E-05	1/°C	ASTM E 831
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	1.42	-	ASTM D 792
Water Absorption, 24 hours	0.19	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.1	%	ASTM D 570

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.5	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	6	g/10 min	ASTM D 1238
ELECTRICAL			
Volume Resistivity	7.E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in oil, 1.6 mm	26.3	kV/mm	ASTM D 149
Relative Permittivity, 1 kHz	3.5	-	ASTM D 150
Dissipation Factor, 1 kHz	0.0015	-	ASTM D 150
Dissipation Factor, 2450 MHz	0.0049	-	ASTM D 150
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 D 495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E207780-100218986	-	-
UL Yellow Card Link 2	E207780-100218988	-	-
UL Yellow Card Link 3	E45587-236983	-	-
UL Recognized, 94-5VA Flame Class Rating	≥1.9	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.38	mm	UL 94
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	50	%	ASTM D 2863
NBS Smoke Density, Flaming, Ds 4 min	1.3	-	ASTM E 662
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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