

ULTEMTM RESIN 2300

REGION AMERICAS

DESCRIPTION

30% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing, NSF 51 listing, WRAS certification, KTW 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 Appliances, 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 20201125

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	168	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	158	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D 638
Tensile Modulus, 5 mm/min	9300	MPa	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	227	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	8960	MPa	ASTM D790
Hardness, Rockwell M	114	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	427	J/m	ASTM D4812
Izod Impact, notched, 23°C	85	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	491	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	227	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	212	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
CTE, -20°C to 150°C, flow	1.98E-05	1/°C	ASTM E831
CTE, -20°C to 150°C, flow	1.8E-05	1/°C	ISO 11359-2
CTE, -20°C to 150°C, xflow	4.8E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec ⁽¹⁾	180	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽¹⁾	170	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽¹⁾	180	°C	UL 746B
PHYSICAL			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Specific Gravity	1.51	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.16	%	ASTM D570
Water Absorption, (23°C/Saturated)	0.9	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.4	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.2 – 0.4	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	5	g/10 min	ASTM D1238
ELECTRICAL			
Volume Resistivity	3.E+16	Ohm-cm	ASTM D257
Dielectric Strength, in air, 1.6 mm	24.8	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	30.3	kV/mm	ASTM D149
Relative Permittivity, 1 kHz	3.7	-	ASTM D150
Dissipation Factor, 1 kHz	0.0015	-	ASTM D150
Dissipation Factor, 2450 MHz	0.0053	-	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 3	≥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}	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E121562-221099	-	-
UL Yellow Card Link 2	E121562-470961	-	-
UL Recognized, 94-5VA Flame Class Rating	≥1.2	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.25	mm	UL 94
Glow Wire Ignitability Temperature, 2.0 mm	900	°C	IEC 60695-2-13
Glow Wire Flammability Index, 2.0 mm	960	°C	IEC 60695-2-12
UV-light, water exposure/immersion	F1	-	UL 746C
Oxygen Index (LOI)	50	%	ASTM D2863
NBS Smoke Density, Flaming, Ds 4 min	1.6	-	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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