ULTEM™ RESIN 1000E

REGION ASIA

DESCRIPTION

Transparent, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming. US FDA and EU Food Contact compliant, NSF 51 Listing. Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU1000E.

INDUSTRY	SUB INDUSTRY
Consumer	Personal Accessory, Home Appliances, Personal Recreation, Commercial Appliance
Electrical and Electronics	Electrical Devices and Displays, Electrical Components and Infrastructure
Industrial	Electronic Material Handling, Electronic Material
Packaging	Food & Beverage

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D 638
Tensile Modulus, 5 mm/min	3580	MPa	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	165	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	3510	MPa	ASTM D 790
IMPACT			
Izod Impact, unnotched, 23°C	1335	J/m	ASTM D 4812
Izod Impact, notched, 23°C	53	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	218	°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	201	°C	ASTM D 648
CTE, -20°C to 150°C, flow	5.58E-05	1/°C	ASTM E 831
CTE, -20°C to 150°C, xflow	5.4E-05	1/°C	ASTM E 831
Thermal Conductivity	0.22	W/m-°C	ASTM C177
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	1.27	-	ASTM D 792
Water Absorption, 24 hours	0.25	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.25	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	12	g/10 min	ASTM D 1238
Poisson's Ratio	0.36	-	ASTM E 132

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥0.75	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 4	≥0.4	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥0.4	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-101362417	-	-
UL Recognized, 94-5VA Flame Class Rating	≥3	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥3	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C
EXTRUSION BLOW MOLDING			
Drying Temperature	140 – 150	°C	
Drying Time	4 – 6	hrs	
Drying Time (Cumulative)	24	hrs	
Maximum Moisture Content	0.01 – 0.02	%	
Melt Temperature (Parison)	320 – 355	°C	
Barrel - Zone 1 Temperature	325 – 350	°C	
Barrel - Zone 2 Temperature	330 – 355	°C	
Barrel - Zone 3 Temperature	330 – 355	°C	
Barrel - Zone 4 Temperature	330 – 355	°C	
Adapter - Zone 5 Temperature	330 – 355	°C	
Head - Zone 6 - Top Temperature	330 – 355	°C	
Head - Zone 7 - Bottom Temperature	330 – 355	°C	
Screw Speed	10 – 70	rpm	
Mold Temperature	65 – 175	°C	
Die Temperature	325 – 355	°C	

(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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