

ULTEM™ RESIN 2100R

REGION AMERICAS

DESCRIPTION

10% Glass fiber filled, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, UL94 V0 and 5VA listing.

TYPICAL PROPERTY VALUES

Revision 20180524

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	114	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	115	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	6	%	ASTM D 638
Tensile Modulus, 5 mm/min	4680	MPa	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	199	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	5170	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	85	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	507	J/m	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	223	°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	208	°C	ASTM D 648
CTE, -20°C to 150°C, flow	3.24E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	170	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
PHYSICAL			
Specific Gravity	1.34	-	ASTM D 792
Water Absorption, 24 hours	0.21	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.2	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.5 – 0.6	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	7.8	g/10 min	ASTM D 1238
ELECTRICAL			

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Volume Resistivity	1.E+17	Ohm-cm	ASTM D 257
Dielectric Strength, in oil, 1.6 mm	27.5	kV/mm	ASTM D 149
Relative Permittivity, 1 kHz	3.5	-	ASTM D 150
Dissipation Factor, 1 kHz	0.0014	-	ASTM D 150
Dissipation Factor, 2450 MHz	0.0046	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.41	mm	UL 94
UL Recognized, 94-5VA Rating (3)	1.9	mm	UL 94
Oxygen Index (LOI)	47	%	ASTM D 2863
NBS Smoke Density, Flaming, Ds 4 min	1.8	-	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	

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