



ULTEM™ Resin 2200R
Americas: COMMERCIAL

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

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	1330	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Modulus, 5 mm/min	70300	kgf/cm ²	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	2320	kgf/cm ²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	70300	kgf/cm ²	ASTM D 790
Hardness, Rockwell M	114	-	ASTM D 785
IMPACT			
Izod Impact, unnotched, 23°C	49	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	9	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	52	cm-kgf/cm	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	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	1.42	-	ASTM D 792
Water Absorption, 24 hours	0.19	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.1	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.3 - 0.5	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	6.5	g/10 min	ASTM D 1238



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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
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)	0.4	mm	UL 94
UL Recognized, 94-5VA Rating (3)	1.9	mm	UL 94
Oxygen Index (LOI)	50	%	ASTM D 2863
NBS Smoke Density, Flaming, Ds 4 min	1.3	-	ASTM E 662



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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