



ULTEM™ Resin 2200F
Americas: COMMERCIAL

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming. US FDA Food Contact compliant in recognized colors.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1330	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	1330	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4	%	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, yld, 1.3 mm/min, 50 mm span	2290	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	69800	kgf/cm ²	ASTM D 790
Hardness, Rockwell M	114	-	ASTM D 785
Tensile Stress, yield, 5 mm/min	131	MPa	ISO 527
Tensile Stress, break, 5 mm/min	131	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4	%	ISO 527
Tensile Strain, break, 5 mm/min	4	%	ISO 527
Tensile Modulus, 1 mm/min	6890	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	228	MPa	ISO 178
Flexural Modulus, 2 mm/min	6890	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	49	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	7	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	47	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	81	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	64	kJ/m ²	ISO 180/1A





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IMPACT			
Izod Impact, notched 80*10*4 -30°C	70	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	65	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	208	°C	ASTM D 648
CTE, -40°C to 150°C, xflow	5.E-05	1/°C	ASTM E 831
CTE, -20°C to 150°C, flow	2.5E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	212	°C	ISO 306
Vicat Softening Temp, Rate B/120	218	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	205	°C	ISO 75/Ae
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
Mold Shrinkage, xflow, 3.2 mm (5)	0.3 - 0.5	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	6	g/10 min	ASTM D 1238
Density	1.42	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.55	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	7	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	7.E+16	Ohm-cm	ASTM D 257





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ELECTRICAL			
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
FLAME CHARACTERISTICS			
Oxygen Index (LOI)	50	%	ASTM D 2863





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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

