



ULTEM™ Resin 4000
Americas: COMMERCIAL

Glass fiber, PTFE, and Graphite filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 listing.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	840	kgf/cm ²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	1.2	%	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1160	kgf/cm ²	ASTM D 790
Flexural Stress, brk, 2.6 mm/min, 100 mm span	1400	kgf/cm ²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	89900	kgf/cm ²	ASTM D 790
Hardness, Rockwell M	85	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	33	mg/1000cy	ASTM D 1044
PV Limit, 0.51 m/s	2.1	MPa-m/s	SABIC Method
K-factor xE-10, PV=2000 psi-fpm vs Steel	62	-	SABIC Method
K-factor xE-10, PV=2000 psi-fpm vs Self	1900	-	SABIC Method
Coefficient of Friction on steel, Static	0.25	-	ASTM D 1894
Coefficient of Friction on steel, Kinetic	0.24	-	ASTM D 1894
IMPACT			
Izod Impact, unnotched, 23°C	16	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	17	cm-kgf/cm	ASTM D 256
THERMAL			
Vicat Softening Temp, Rate B/50	233	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	212	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.62E-05	1/°C	ASTM E 831
CTE, -20°C to 150°C, flow	1.62E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	105	°C	UL 746B
Relative Temp Index, Mech w/impact	105	°C	UL 746B





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THERMAL			
Relative Temp Index, Mech w/o impact	105	°C	UL 746B
PHYSICAL			
Specific Gravity	1.67	-	ASTM D 792
Water Absorption, 24 hours	0.11	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm (5)	0.2 - 0.3	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	3.1	g/10 min	ASTM D 1238
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.83	mm	UL 94





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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	10	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	350 - 370	°C
Nozzle Temperature	350 - 370	°C
Front - Zone 3 Temperature	350 - 370	°C
Middle - Zone 2 Temperature	345 - 365	°C
Rear - Zone 1 Temperature	340 - 360	°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

