ULTEM™ Resin 4001
Americas: COMMERCIAL

PTFE filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing.

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1050	kgf/cm²	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	40	%	ASTM D 638
Tensile Modulus, 5 mm/min	34200	kgf/cm²	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	1540	kgf/cm²	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	34700	kgf/cm²	ASTM D 790
Hardness, Rockwell M	110	-	ASTM D 785
Taber Abrasion, CS-17, 1 kg	2	mg/1000cy	ASTM D 1044
PV Limit, 0.51 m/s	1.9	MPa-m/s	SABIC Method
K-factor xE-10, PV=2000 psi-fpm vs Steel	72	-	SABIC Method
K-factor xE-10, PV=2000 psi-fpm vs Self	27	-	SABIC Method
Coefficient of Friction on steel,Kinetic	0.25	-	ASTM D 1894
IMPACT			
Izod Impact, unnotched, 23°C	54	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	11	cm-kgf/cm	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	130	cm-kgf/cm	ASTM D 256
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	200	°C	ASTM D 648
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	1.33	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	9.5	g/10 min	ASTM D 1238

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
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}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.38	mm	UL 94
UL Recognized, 94-5VA Rating (3)	1.49	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