ULTEM™ RESIN 4000

REGION AMERICAS

DESCRIPTION

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

TYPICAL PROPERTY VALUES

Revision 20170913

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	82	MPa	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	113	MPa	ASTM D 790
Flexural Stress, brk, 2.6 mm/min, 100 mm span	137	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	8820	MPa	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	160	J/m	ASTM D 4812
Izod Impact, notched, 23°C	64	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	170	J/m	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
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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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
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	

DISCLAIMER