

ULTEM™ 4000 resin

Polyether Imide

SABIC Innovative Plastics

Message:

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

General Information			
Filler / Reinforcement	Glass fiber reinforced material		
Additive	PTFE lubricant		
	Graphite powder lubricant		
Features	Comply with ECO		
Agency Ratings	EU Eco		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.67	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	3.1	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.30	%	Internal method
Water Absorption (24 hr)	0.11	%	ASTM D570
K (wear) Factor			Internal method
-- ¹	62.0		Internal method
-- ²	1900		Internal method
PV Limit ³	2.1	MPa · m/s	Internal method
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	85		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength ⁴ (Break)	82.7	MPa	ASTM D638
Tensile Elongation ⁵ (Break)	1.2	%	ASTM D638
Flexural Modulus ⁶ (100 mm Span)	8830	MPa	ASTM D790
Flexural Strength ⁷			ASTM D790
Yield, 100mm span	114	MPa	ASTM D790
Fracture, 100mm span	138	MPa	ASTM D790
Coefficient of Friction			ASTM D1894
With steel-dynamic	0.24		ASTM D1894
With steel-static	0.25		ASTM D1894
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	33.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	64	J/m	ASTM D256
Unnotched Izod Impact (23°C)	160	J/m	ASTM D4812

Reverse Notch Izod Impact (3.20 mm)	170	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm)	212	°C	ASTM D648
Vicat Softening Temperature	234	°C	ASTM D1525 ⁸
CLTE - Flow			ASTM E831
-40 to 40°C	1.6E-5	cm/cm/°C	ASTM E831
-20 to 150°C	1.6E-5	cm/cm/°C	ASTM E831
RTI Elec	105	°C	UL 746
RTI Imp	105	°C	UL 746
RTI	105	°C	UL 746
Electrical	Nominal Value		Test Method
Comparative Tracking Index (CTI)	PLC 4		UL 746
Flammability	Nominal Value		Test Method
Flame Rating (0.838 mm)	V-0		UL 94
Injection	Nominal Value	Unit	
Drying Temperature	135	°C	
Drying Time	4.0 - 6.0	hr	
Drying Time, Maximum	10	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 - 60	%	
Rear Temperature	338 - 360	°C	
Middle Temperature	343 - 366	°C	
Front Temperature	349 - 371	°C	
Nozzle Temperature	349 - 371	°C	
Processing (Melt) Temp	349 - 371	°C	
Mold Temperature	135 - 163	°C	
Back Pressure	0.345 - 0.689	MPa	
Screw Speed	40 - 70	rpm	
Vent Depth	0.025 - 0.076	mm	
NOTE			
1.	xE-10, PV=2000 psi-fpm vs Steel		
2.	xE-10, PV=2000 psi-fpm vs Self		
3.	0.51 m/s		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 5.0 mm/min		
6.	2.6 mm/min		
7.	2.6 mm/min		
8.	标准 B (120°C/h), 载荷2 (50N)		

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