

ULTEM™ 4001 resin

Polyether Imide

SABIC Innovative Plastics

Message:

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

General Information			
Additive	PTFE lubricant		
Features	Comply with ECO		
Agency Ratings	EU Eco		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.33	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	9.5	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.70	%	Internal method
K (wear) Factor			Internal method
-- ¹	27.0		Internal method
-- ²	72.0		Internal method
PV Limit ³	1.9	MPa · m/s	Internal method
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	110		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ⁴	3360	MPa	ASTM D638
Tensile Strength ⁵ (Yield)	103	MPa	ASTM D638
Tensile Elongation ⁶ (Break)	40	%	ASTM D638
Flexural Modulus ⁷ (100 mm Span)	3410	MPa	ASTM D790
Flexural Strength ⁸ (Yield, 100 mm Span)	152	MPa	ASTM D790
Coefficient of Friction (vs. Steel - Dynamic)	0.25		ASTM D1894
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	2.00	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	120	J/m	ASTM D256
Unnotched Izod Impact (23°C)	530	J/m	ASTM D4812
Reverse Notch Izod Impact (3.20 mm)	1300	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm)	200	°C	ASTM D648
RTI Elec	170	°C	UL 746
RTI Imp	170	°C	UL 746
RTI	170	°C	UL 746
Electrical	Nominal Value		Test Method

Arc Resistance ⁹	PLC 6	ASTM D495
Comparative Tracking Index (CTI)	PLC 4	UL 746
High Amp Arc Ignition (HAI)	PLC 0	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2	UL 746
Hot-wire Ignition (HWI)	PLC 1	UL 746

Flammability	Nominal Value	Test Method
Flame Rating		UL 94
0.381 mm	V-0	UL 94
1.50 mm	5VA	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 Self	
2.	xE-10, PV=2000 psi-fpm vs Steel	
3.	0.51 m/s	
4.	5.0 mm/min	
5.	Type 1, 5.0 mm/min	
6.	Type 1, 5.0 mm/min	
7.	2.6 mm/min	
8.	2.6 mm/min	
9.	Tungsten electrode	

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Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

