

ULTEM™ 2100 resin

Polyether Imide
SABIC Innovative Plastics

Message:
10% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing. NSF 51 listing, WRAS certification in recognized colors.

General Information			
UL YellowCard	E121562-502535	E121562-221093	
Filler / Reinforcement	Glass Fiber,10% Filler by Weight		
Features	ECO Compliant		
Agency Ratings	EU Eco		
	NSF 51		
	WRAS Unspecified Rating		
Processing Method	Injection Molding		
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)		
	Elastic Modulus vs Temperature (ASTM D4065)		
	Flexural DMA (ASTM D4065)		
	Shear DMA (ASTM D4065)		
	Specific Heat vs. Temperature (ASTM D3417)		
	Tensile Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.34	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	7.0	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.60	%	Internal Method
Water Absorption			ASTM D570
24 hr	0.21	%	
Equilibrium, 23°C	1.2	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (M-Scale)	114		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	4690	MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	114	MPa	
Break	116	MPa	

Tensile Elongation ³ (Break)	6.0	%	ASTM D638
Flexural Modulus ⁴ (100 mm Span)	5170	MPa	ASTM D790
Flexural Strength ⁵ (Break, 100 mm Span)	200	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	53	J/m	ASTM D256
Unnotched Izod Impact (23°C)	480	J/m	ASTM D4812
Reverse Notch Izod Impact (3.20 mm)	460	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
0.45 MPa, Unannealed, 6.40 mm	210	°C	
1.8 MPa, Unannealed, 6.40 mm	209	°C	
Vicat Softening Temperature	223	°C	ASTM D1525 ⁶
CLTE - Flow (-20 to 150°C)	3.2E-5	cm/cm/°C	ASTM E831
RTI Elec	170	°C	UL 746
RTI Imp	170	°C	UL 746
RTI Str	170	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+17	ohms · cm	ASTM D257
Dielectric Strength (1.60 mm, in Oil)	28	kV/mm	ASTM D149
Dielectric Constant (1 kHz)	3.50		ASTM D150
Dissipation Factor			ASTM D150
1 kHz	1.4E-3		
2.45 GHz	4.6E-3		
Arc Resistance ⁷	PLC 6		ASTM D495
Comparative Tracking Index (CTI)	PLC 4		UL 746
High Amp Arc Ignition (HAI)	PLC 4		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 1		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.406 mm	V-0		
1.91 mm	5VA		
Oxygen Index	47	%	ASTM D2863
NBS Smoke Density - Flaming, Ds, 4 min	1.80		ASTM E662
Injection	Nominal Value	Unit	
Drying Temperature	149	°C	
Drying Time	4.0 to 6.0	hr	
Drying Time, Maximum	24	hr	
Suggested Max Moisture	0.020	%	
Suggested Shot Size	40 to 60	%	
Rear Temperature	332 to 399	°C	
Middle Temperature	338 to 399	°C	

Front Temperature	343 to 399	°C
Nozzle Temperature	343 to 399	°C
Processing (Melt) Temp	349 to 399	°C
Mold Temperature	135 to 163	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.025 to 0.076	mm

NOTE

1. 5.0 mm/min
2. Type I, 5.0 mm/min
3. Type I, 5.0 mm/min
4. 2.6 mm/min
5. 2.6 mm/min
6. Rate B (120°C/h), Loading 2 (50 N)
7. Tungsten Electrode

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