

ULTEM™ CRS5001 resin

Polyether Imide
SABIC Innovative Plastics

Message:

Transparent, Standard flow Polyetherimide copolymer (Tg 225C) with enhanced chemical resistance to strong acids, bases, aromatics, and ketones. ECO conforming, UL94 V0 listing.

General Information			
UL YellowCard	E121562-221114		
Features	Acid Resistant		
	Base Resistant		
	Copolymer		
	ECO Compliant		
	Good Chemical Resistance		
Agency Ratings	EU Eco		
Appearance	Clear/Transparent		
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)		
	Instrumented Impact (Energy) (ASTM D3763)		
	Instrumented Impact (Load) (ASTM D3763)		
	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	1.28	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (337°C/6.6 kg)	4.2	g/10 min	ASTM D1238
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.70	%	Internal Method
Water Absorption (24 hr)	0.16	%	ASTM D570
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	123		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ¹	2900	MPa	ASTM D638
Tensile Strength ² (Yield)	100	MPa	ASTM D638

Tensile Elongation ³ (Break)	60	%	ASTM D638
Flexural Modulus ⁴ (100 mm Span)	3100	MPa	ASTM D790
Flexural Strength ⁵ (Yield, 100 mm Span)	138	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	10.0	mg	ASTM D1044
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (23°C)	64	J/m	ASTM D256
Unnotched Izod Impact (23°C)	1300	J/m	ASTM D4812
Reverse Notch Izod Impact (3.20 mm)	2100	J/m	ASTM D256
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load (1.8 MPa, Unannealed, 6.40 mm)	207	°C	ASTM D648
RTI Elec	160	°C	UL 746
RTI Imp	160	°C	UL 746
RTI Str	160	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	5.8E+16	ohms	ASTM D257
Volume Resistivity	1.1E+17	ohms · cm	ASTM D257
Dielectric Strength (3.20 mm, in Oil)	18	kV/mm	ASTM D149
Dielectric Constant (100 Hz)	3.12		ASTM D150
Dissipation Factor (100 Hz)	1.7E-3		ASTM D150
Arc Resistance ⁶	PLC 5		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 3		UL 746
Hot-wire Ignition (HWI)	PLC 0		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-0		UL 94
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	343 to 366	°C	
Middle Temperature	354 to 377	°C	
Front Temperature	366 to 388	°C	
Nozzle Temperature	360 to 382	°C	
Processing (Melt) Temp	366 to 388	°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.	Tungsten Electrode

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