

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. Resin is RoHS compliant. UL94 V0 listing.

General Information			
Features	Copolymer		
	Good chemical resistance		
	alkali resistance		
	acid resistance		
RoHS Compliance	RoHS compliance		
Appearance	Clear/transparent		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.28	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	7.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow ¹	0.60 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	1.2	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	135	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus	3200	MPa	ISO 527-2/1
Tensile Stress			ISO 527-2/50
Yield	100	MPa	ISO 527-2/50
Fracture	95.0	MPa	ISO 527-2/50
Tensile Strain			ISO 527-2/50
Yield	8.0	%	ISO 527-2/50
Fracture	50	%	ISO 527-2/50
Flexural Modulus ²	2500	MPa	ISO 178
Flexural Stress ³			ISO 178
-- ⁴	105	MPa	ISO 178
-- ⁵	110	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact ⁶			ISO 180/1A
-30°C	8.0	kJ/m ²	ISO 180/1A

23°C	8.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁷			ISO 180/1U
-30°C	No Break		ISO 180/1U
23°C	No Break		ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ⁸			
0.45 MPa, unannealed, 100 mm span	210	°C	ISO 75-2/Be
1.8 MPa, unannealed, 100 mm span	200	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	225	°C	ISO 306/A50
--	220	°C	ISO 306/B50
--	222	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ISO 11359-2
Flow: 23 to 150°C	5.0E-5	cm/cm/°C	ISO 11359-2
Horizontal: 23 to 150°C	6.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.29	W/m/K	ISO 8302
RTI Elec	105	°C	UL 746
RTI Imp	105	°C	UL 746
RTI	105	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Dielectric Strength			IEC 60243-1
1.60mm, in oil	26	kV/mm	IEC 60243-1
3.20mm, in oil	16	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	3.20		IEC 60250
60 Hz	3.20		IEC 60250
1 MHz	3.00		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.6E-3		IEC 60250
60 Hz	1.6E-3		IEC 60250
1 MHz	4.3E-3		IEC 60250
Comparative Tracking Index			IEC 60112
--	175	V	IEC 60112
Solution B	125	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-0		UL 94
Glow Wire Flammability Index (3.20 mm)	960	°C	IEC 60695-2-12
Oxygen Index	47	%	ISO 4589-2
Injection	Nominal Value	Unit	

Drying Temperature	150	°C
Drying Time	4.0 - 6.0	hr
Suggested Max Moisture	0.020	%
Hopper Temperature	80.0 - 120	°C
Rear Temperature	325 - 365	°C
Middle Temperature	350 - 390	°C
Front Temperature	370 - 410	°C
Nozzle Temperature	360 - 400	°C
Processing (Melt) Temp	360 - 410	°C
Mold Temperature	120 - 170	°C

NOTE

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|----|-------------|
| 1. | Tensile Bar |
| 2. | 2.0 mm/min |
| 3. | 2.0 mm/min |
| 4. | Break |
| 5. | Yield |
| 6. | 80*10*4 |
| 7. | 80*10*4 |
| 8. | 120*10*4 mm |

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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



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