ULTEM™ Resin CRS5001

REGION AMERICAS

DESCRIPTION

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

INDUSTRY	SUB INDUSTRY
Automotive	Heavy Truck, Automotive Under the Hood, Aerospace, Motorcycle, Recreational/Specialty Vehicles
Building and Construction	Building Component
Consumer	Personal Accessory, Home Appliances, Commercial Appliance
Electrical and Electronics	Energy Management, Drone Solutions, Mobile Phone - Computer - Tablets, Circuit Boards/Additives, Printer Copier, Speaker - Earphone
Industrial	Electrical, Material Handling
Mass Transportation	Rail
Packaging	Industrial Packaging

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	99	MPa	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D638
Tensile Modulus, 5 mm/min	2890	MPa	ASTM D638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	137	MPa	ASTM D790
Flexural Modulus, 2.6 mm/min, 100 mm span	3100	MPa	ASTM D790
Hardness, Rockwell R	123	-	ASTM D785
Taber Abrasion, CS-17, 1 kg	10	mg/1000cy	ASTM D1044
IMPACT			
Izod Impact, unnotched, 23°C	1281	J/m	ASTM D4812
Izod Impact, notched, 23°C	64	J/m	ASTM D256
Izod Impact, Reverse Notched, 3.2 mm	2082	J/m	ASTM D256
THERMAL			
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D648
CTE, -40°C to 150°C, flow	5.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 150°C, xflow	5.7E-05	1/°C	ISO 11359-2
Relative Temp Index, Elec [1]	160	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	160	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	160	°C	UL 746B
PHYSICAL			
Specific Gravity	1.28	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.16	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm	0.4 – 0.7	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	4.2	g/10 min	ASTM D1238
ELECTRICAL			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Volume Resistivity	1.1E+17	Ω.cm	ASTM D257
Surface Resistivity	5.8E+16	Ω	ASTM D257
Dielectric Strength, in oil, 3.2 mm	17.9	kV/mm	ASTM D149
Relative Permittivity, 100 Hz	3.12	-	ASTM D150
Dissipation Factor, 100 Hz	0.0017	-	ASTM D150
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 0	≥1.5	mm	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D495
FLAME CHARACTERISTICS (1)			
UL Yellow Card Link	E121562-221114	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Drying Time (Cumulative)	24	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	365 – 390	°C	
Nozzle Temperature	360 – 380	°C	
Front - Zone 3 Temperature	365 – 390	°C	
Middle - Zone 2 Temperature	355 – 375	°C	
Rear - Zone 1 Temperature	345 – 365	°C	
Mold Temperature	135 – 165	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 – 70	rpm	
Shot to Cylinder Size	40 – 60	%	
Vent Depth	0.025 – 0.076	mm	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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