

# ULTEM™ RESIN CRS5011

REGION EUROPE

## DESCRIPTION

Transparent, Enhanced 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
<b>MECHANICAL</b>			
Tensile Stress, yield, 50 mm/min	100	MPa	ISO 527
Tensile Stress, break, 50 mm/min	85	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	8	%	ISO 527
Tensile Strain, break, 50 mm/min	50	%	ISO 527
Tensile Modulus, 1 mm/min	2900	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	110	MPa	ISO 178
Flexural Modulus, 2 mm/min	2900	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched 80*10*4 +23°C	5	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>			
CTE, 23°C to 150°C, flow	5.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/50	215	°C	ISO 306
Vicat Softening Temp, Rate B/120	215	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	210	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	200	°C	ISO 75/Ae
Relative Temp Index, Elec <sup>(1)</sup>	160	°C	UL 746B
Relative Temp Index, Mech w/impact <sup>(1)</sup>	155	°C	UL 746B
Relative Temp Index, Mech w/o impact <sup>(1)</sup>	160	°C	UL 746B
<b>PHYSICAL</b>			
Mold Shrinkage on Tensile Bar, flow	0.5 – 0.7	%	SABIC method

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Density	1.28	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/saturated)	1.2	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.2	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	20	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Volume Resistivity	2.5E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 3.2 mm	18.1	kV/mm	IEC 60243-1
Dissipation Factor, 50/60 Hz	0.0021	-	IEC 60250
Comparative Tracking Index <sup>(2)</sup>	150	V	IEC 60112
Comparative Tracking Index, M <sup>(2)</sup>	100	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.2	-	IEC 60250
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 0	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥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
<b>FLAME CHARACTERISTICS <sup>(1)</sup></b>			
UL Yellow Card Link	<a href="#">E121562-221115</a>	-	-
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at <sup>(2)</sup>	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	49	%	ISO 4589
<b>INJECTION MOLDING</b>			
Drying Temperature	150	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	360 – 400	°C	
Nozzle Temperature	360 – 400	°C	
Front - Zone 3 Temperature	370 – 410	°C	
Middle - Zone 2 Temperature	360 – 400	°C	
Rear - Zone 1 Temperature	340 – 380	°C	
Hopper Temperature	80 – 100	°C	
Mold Temperature	140 – 180	°C	

(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.

(2) Value shown here is based on internal measurement.

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