

CYCOLOY™ FR Resin C6200 - Americas

Polycarbonate + ABS
SABIC

PROSPECTOR®

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Technical Data

Product Description

Non-chlorinated, nombrominated flame retardant PC/ABS offering balanced heat, flow and impact to meet various application needs.

General

Material Status	• Commercial: Active		
UL Yellow Card ¹	• E121562-221037		
Search for UL Yellow Card	• SABIC		
Availability	• Latin America	• North America	
Uses	• Appliances • Construction Applications • Electrical Parts • Electrical/Electronic Applications • Electronic Displays • Fluid Handling	• Lighting Applications • Medical Devices • Medical/Healthcare Applications • Military/Defense Applications • Nuclear Power Applications • Optical Applications	• Personal Care • Pharmaceuticals • Rail Applications • Recreational Vehicle Applications • Surgical Instruments • Water Management
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs. Temperature (ASTM D4065) • Flexural DMA (ASTM D5023) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM E1269) • Specific Volume vs. Temperature (PVT) • Tensile Creep (ASTM D2990) • 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
Density / Specific Gravity	1.18 g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	15 g/10 min	ASTM D1238
Spiral Flow ^{3, 4}	68.6 cm	
Molding Shrinkage		Internal Method
Across Flow : 3.20 mm	0.40 to 0.60 %	
Flow : 3.20 mm	0.40 to 0.60 %	
Mechanical	Nominal Value Unit	Test Method
Tensile Strength ⁵ (Yield)	66.0 MPa	ASTM D638
Tensile Elongation ⁵ (Break)	50 %	ASTM D638
Flexural Modulus ⁶ (100 mm Span)	2680 MPa	ASTM D790
Flexural Strength ⁶ (Yield, 100 mm Span)	103 MPa	ASTM D790
Impact	Nominal Value Unit	Test Method
Notched Izod Impact (23°C)	530 J/m	ASTM D256
Instrumented Dart Impact		ASTM D3763
-30°C, Energy at Peak	54.0 J	
23°C, Energy at Peak	61.0 J	



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Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
1.8 MPa, Unannealed, 3.20 mm	87.0 °C	
1.8 MPa, Unannealed, 6.40 mm	90.0 °C	
RTI Elec	85.0 °C	UL 746B
RTI Imp	85.0 °C	UL 746B
RTI Str	85.0 °C	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	> 1.0E+15 ohms	IEC 60093
Volume Resistivity	> 1.0E+15 ohms·cm	IEC 60093
Electric Strength		IEC 60243-1
0.800 mm, in Oil	35 kV/mm	
1.60 mm, in Oil	25 kV/mm	
3.20 mm, in Oil	17 kV/mm	
Relative Permittivity		IEC 60250
50 Hz	2.80	
60 Hz	2.80	
1 MHz	2.70	
Dissipation Factor		IEC 60250
50 Hz	4.0E-3	
60 Hz	4.0E-3	
1 MHz	8.0E-3	
Arc Resistance ⁷	PLC 6	ASTM D495
Comparative Tracking Index (CTI)	PLC 2	UL 746A
High Amp Arc Ignition (HAI) ⁸	PLC 0	UL 746A
High Voltage Arc Resistance to Ignition (HVAR)	PLC 3	UL 746A
Hot-wire Ignition (HWI)	PLC 2	UL 746A
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
0.71 mm	HB	
1.2 mm	V-1	
1.5 mm	V-0	
2.0 mm	5VB	
3.4 mm	5VA	
Injection	Nominal Value Unit	
Drying Temperature	80 to 90 °C	
Drying Time	3.0 to 4.0 hr	
Suggested Max Moisture	0.040 %	
Suggested Shot Size	30 to 80 %	
Rear Temperature	220 to 255 °C	
Middle Temperature	220 to 275 °C	
Front Temperature	245 to 275 °C	
Nozzle Temperature	245 to 275 °C	
Processing (Melt) Temp	245 to 275 °C	
Mold Temperature	60 to 80 °C	



Injection	Nominal Value Unit
Back Pressure	0.300 to 0.700 MPa
Screw Speed	40 to 70 rpm
Vent Depth	0.038 to 0.076 mm
Injection Notes	

- Drying Time (Cumulative): 8 hr

Notes

¹ A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

² Typical properties: these are not to be construed as specifications.

³ Mold Temperature: 260°C

⁴ 10 ips, 3.175 x 1524 mm

⁵ Type I, 50 mm/min

⁶ 2.6 mm/min

⁷ Tungsten Electrode

⁸ Surface



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Where to Buy

Supplier

SABIC

Web: <http://www.sabic.com/>

Distributor

Bamberger Amco Polymers

Telephone: 800-262-6685

Web: <https://bapolymers.com/>

Availability: North America

Bamberger Polymers, Inc.

Bamberger Polymers is a global distribution company. Contact Bamberger Polymers for availability of individual products by country.

Telephone: 516-622-3600

Web: <http://www.bambergerpolymers.com/>

Availability: Canada, Mexico, United States

Conventus Polymers

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Web: <http://www.conventuspolymers.com/>

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Availability: North America

