

CYCOLOY™ FR Resin C2950 - Americas

Polycarbonate + ABS
SABIC

PROSPECTOR®

www.ulprospector.com

Technical Data

Product Description

CYCOLOY C2950 Polycarbonate/Acrylonitrile Butadiene Styrene (PC/ABS) resin is a standard high heat grade that can be injection molded. This non-chlorinated, non-brominated flame retardant high heat PC/ABS has a UL V0 & 5VB flame rating. CYCOLOY C2950 resin is an excellent candidate for a wide variety of applications including appliances, lighting and electrical.

General

Material Status	• Commercial: Active
UL Yellow Card ¹	• E121562-221034
Search for UL Yellow Card	• SABIC
Availability	• Latin America • North America
Uses	<ul style="list-style-type: none"> • Appliances • Automotive Exterior Parts • Construction Applications • Electric Vehicle (EV) Applications • Electrical Parts • Electrical/Electronic Applications • Electronic Displays • Fluid Handling • Heavy Transportation • Lawn and Garden Equipment • Lighting Applications • Medical Devices • Medical/Healthcare Applications • Military/Defense Applications • Non-specific Food Applications • Outdoor Applications • Surgical Instruments • Water Management
Multi-Point Data	<ul style="list-style-type: none"> • Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs. Temperature (ASTM D4065) • Flexural DMA (ASTM D5023) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • 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)
Also Available In	• Asia Pacific • Europe

Physical	Nominal Value Unit	Test Method
Density / Specific Gravity		ASTM D792
--	1.18 g/cm ³	
-- ³	1.22 g/cm ³	
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	10 g/10 min	ASTM D1238
Molding Shrinkage		Internal Method
Across Flow : 3.20 mm	0.40 to 0.60 %	
Flow : 3.20 mm	0.40 to 0.60 %	
Water Absorption		ASTM D570
24 hr, 23°C	0.10 %	
Saturation, 23°C	0.40 %	

Mechanical	Nominal Value Unit	Test Method
Tensile Strength ⁴ (Yield)	62.0 MPa	ASTM D638
Tensile Elongation ⁴ (Break)	40 %	ASTM D638
Flexural Modulus ⁵ (100 mm Span)	2650 MPa	ASTM D790
Flexural Strength ⁵ (Yield, 100 mm Span)	102 MPa	ASTM D790



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Impact	Nominal Value Unit	Test Method
Notched Izod Impact		ASTM D256
-30°C	160 J/m	
23°C	530 J/m	
Instrumented Dart Impact		ASTM D3763
-30°C, Total Energy	54.0 J	
23°C, Total Energy	61.0 J	
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness (R-Scale)	123	ASTM D785
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
0.45 MPa, Unannealed, 6.40 mm	104 °C	
1.8 MPa, Unannealed, 3.20 mm	90.0 °C	
1.8 MPa, Unannealed, 6.40 mm	95.0 °C	
Vicat Softening Temperature	112 °C	ASTM D1525 ⁶
CLTE		ASTM D696
Flow : -30 to 30°C	7.2E-5 cm/cm/°C	
Transverse : -30 to 30°C	7.2E-5 cm/cm/°C	
Thermal Conductivity	0.20 W/m/K	ASTM C177
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+16 ohms	ASTM D257
Volume Resistivity	1.0E+17 ohms·cm	ASTM D257
Dielectric Strength (3.20 mm, in Oil)	19 kV/mm	ASTM D149
Dielectric Constant		ASTM D150
60 Hz	3.00	
100 Hz	3.00	
50 kHz	3.00	
Dissipation Factor		ASTM D150
50 Hz	5.0E-3	
60 Hz	5.0E-3	
100 Hz	4.9E-3	
Arc Resistance ⁷	PLC 6	ASTM D495
Comparative Tracking Index (CTI)	PLC 0	UL 746A
High Amp Arc Ignition (HAI) ⁸	PLC 0	UL 746A
High Voltage Arc Resistance to Ignition (HVAR)	PLC 2	UL 746A
Hot-wire Ignition (HWI)	PLC 1	UL 746A
Flammability	Nominal Value Unit	Test Method
Flame Rating		UL 94
1.5 mm	V-0	
2.5 mm	5VB	
Oxygen Index	32 %	ASTM D2863



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
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 Color

⁴ Type I, 50 mm/min

⁵ 2.6 mm/min

⁶ Rate A (50°C/h), Loading 2 (50 N)

⁷ Tungsten Electrode

⁸ Surface

