

CYCOLOY™ C2950 resin

Polycarbonate + ABS
SABIC Innovative Plastics

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Technical Data

Product Description

Non-chlorinated and non-brominated flame retardant PC/ABS offering balanced flow and impact plus improved heat resistance intended for various applications.

General

Material Status	• Commercial: Active
Literature ¹	• Technical Datasheet
UL Yellow Card ²	• E121562-221034
Search for UL Yellow Card	• SABIC Innovative Plastics • CYCOLOY™
Availability	• North America
Additive	• Flame Retardant
Features	• Bromine Free • Chlorine Free • Flame Retardant • Good Flow • Good Impact Resistance • Medium Heat Resistance
Processing Method	• Injection Molding
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs Temperature (ASTM D4065) • Flexural DMA (ASTM D4065) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • Pressure-Volume-Temperature (PVT - Zoller Method) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM D3417) • 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 (English)	Nominal Value (SI)	Test Method
Specific Gravity			ASTM D792
--	1.18	1.18 g/cm ³	
-- ⁴	1.22	1.22 g/cm ³	
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	10 g/10 min	10 g/10 min	ASTM D1238
Molding Shrinkage			Internal Method
Flow : 0.126 in (3.20 mm)	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	
Across Flow : 0.126 in (3.20 mm)	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	
Water Absorption			ASTM D570
24 hr	0.10 %	0.10 %	
Equilibrium, 73°F (23°C)	0.40 %	0.40 %	

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength ⁵ (Yield)	9100 psi	62.7 MPa	ASTM D638
Tensile Elongation ⁵ (Break)	40 %	40 %	ASTM D638
Flexural Modulus ⁶ (3.94 in (100 mm) Span)	385000 psi	2650 MPa	ASTM D790
Flexural Strength ⁶			ASTM D790
Yield, 3.94 in (100 mm) Span	14800 psi	102 MPa	

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact			ASTM D256
-22°F (-30°C)	3.0 ft·lb/in	160 J/m	
73°F (23°C)	10 ft·lb/in	530 J/m	
Instrumented Dart Impact			ASTM D3763
-22°F (-30°C), Total Energy	480 in·lb	54.2 J	
73°F (23°C), Total Energy	540 in·lb	61.0 J	



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Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	123	123	ASTM D785
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
66 psi (0.45 MPa), Unannealed, 0.252 in (6.40 mm)	220 °F	104 °C	
264 psi (1.8 MPa), Unannealed, 0.126 in (3.20 mm)	195 °F	90.6 °C	
264 psi (1.8 MPa), Unannealed, 0.252 in (6.40 mm)	203 °F	95.0 °C	
Vicat Softening Temperature	235 °F	113 °C	ASTM D1525 ⁷
CLTE			ASTM D696
Flow : -22 to 86°F (-30 to 30°C)	4.0E-5 in/in/°F	7.2E-5 cm/cm/°C	
Transverse : -22 to 86°F (-30 to 30°C)	4.0E-5 in/in/°F	7.2E-5 cm/cm/°C	
Thermal Conductivity	1.4 Btu·in/hr/ft ² °F	0.20 W/m/K	ASTM C177
RTI Elec	185 °F	85.0 °C	UL 746
RTI Imp	185 °F	85.0 °C	UL 746
RTI Str	185 °F	85.0 °C	UL 746
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Surface Resistivity	> 1.0E+16 ohms	> 1.0E+16 ohms	ASTM D257
Volume Resistivity	1.0E+17 ohms·cm	1.0E+17 ohms·cm	ASTM D257
Dielectric Strength			ASTM D149
0.126 in (3.20 mm), in Oil	500 V/mil	19 kV/mm	
Dielectric Constant			ASTM D150
50 Hz	3.00	3.00	
60 Hz	3.00	3.00	
100 Hz	3.00	3.00	
Dissipation Factor			ASTM D150
50 Hz	5.0E-3	5.0E-3	
60 Hz	5.0E-3	5.0E-3	
100 Hz	4.9E-3	4.9E-3	
Arc Resistance ⁸	PLC 6	PLC 6	ASTM D495
Comparative Tracking Index (CTI)	PLC 1	PLC 1	UL 746
High Amp Arc Ignition (HAI)	PLC 0	PLC 0	UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2	PLC 2	UL 746
Hot-wire Ignition (HWI)	PLC 1	PLC 1	UL 746
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating			UL 94
0.0590 in (1.50 mm)	V-0	V-0	
0.0980 in (2.49 mm)	5VB	5VB	
Oxygen Index	32 %	32 %	ASTM D2863
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	180 to 190 °F	82.0 to 88.0 °C	
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr	
Drying Time, Maximum	8.0 hr	8.0 hr	
Suggested Max Moisture	0.040 %	0.040 %	
Suggested Shot Size	30 to 80 %	30 to 80 %	
Rear Temperature	430 to 489 °F	221 to 254 °C	
Middle Temperature	430 to 531 °F	221 to 277 °C	
Front Temperature	469 to 531 °F	243 to 277 °C	
Nozzle Temperature	469 to 531 °F	243 to 277 °C	
Processing (Melt) Temp	469 to 531 °F	243 to 277 °C	
Mold Temperature	140 to 180 °F	60.0 to 82.0 °C	
Back Pressure	50.0 to 100 psi	0.345 to 0.689 MPa	

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Injection	Nominal Value (English)	Nominal Value (SI)
Screw Speed	40 to 70 rpm	40 to 70 rpm
Vent Depth	1.5E-3 to 3.0E-3 in	0.038 to 0.076 mm

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² 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.

³ Typical properties: these are not to be construed as specifications.

⁴ Color

⁵ Type I, 2.0 in/min (50 mm/min)

⁶ 0.10 in/min (2.6 mm/min)

⁷ Rate B (120°C/h), Loading 2 (50 N)

⁸ Tungsten Electrode



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Where to Buy

Supplier

SABIC Innovative Plastics

Pittsfield, MA USA

Telephone: 800-845-0600

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

Distributor

Nexeo Solutions

Telephone: 888-594-6009

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

Availability: North America

