

CYCOLOY™ FR RESIN RCY6713

DESCRIPTION

CYCOLOY RCY6713 resin is based on high heat Polycarbonate (PC) with non-brominated and non-chlorinated flame retardant. It contains 30% post consumer recycle content with a UL-94 VO rating @ 1.5 mm. This grade is suitable for thin wall applications that require high flow and high stiffness performance.

GENERAL INFORMATION

Features	Thin Wall, Sustainable (Mechanical Recycling), Non Cl/Br flame retardant, High temperature resistance
Fillers	Unreinforced
Polymer Types	Polycarbonate (PC)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Consumer	Consumer Goods, Home Appliances, Commercial Appliance
Electrical and Electronics	Electronic Components
Industrial	Electrical

TYPICAL PROPERTY VALUES

PROPERTIES **TYPICAL VALUES** UNITS **TEST METHODS** MECHANICAL⁽¹⁾ Tensile Stress, yld, Type I, 50 mm/min 60 MPa ASTM D638 54 ASTM D638 Tensile Stress, brk, Type I, 50 mm/min MPa Tensile Strain, yld, Type I, 50 mm/min 5.5 % ASTM D638 Tensile Strain, brk, Type I, 50 mm/min ASTM D638 76 % Tensile Modulus, 50 mm/min 2300 MPa ASTM D638 Flexural Stress, yld, 1.3 mm/min, 50 mm span 93 MPa ASTM D790 Flexural Modulus, 1.3 mm/min, 50 mm span 2320 MPa ASTM D790 Tensile Stress, yield, 5 mm/min 58 ISO 527 MPa Tensile Stress, break, 5 mm/min 50 MPa ISO 527 Tensile Strain, yield, 5 mm/min 5 % ISO 527 72 % ISO 527 Tensile Strain, break, 5 mm/min Tensile Modulus, 1 mm/min 2300 MPa ISO 527 Flexural Stress, yield, 2 mm/min 90 MPa ISO 178 Flexural Modulus, 2 mm/min 2300 MPa ISO 178 IMPACT (1) 750 ASTM D256 Izod Impact, notched, 23°C J/m Instrumented Dart Impact Total Energy, 23°C 70 ASTM D3763 I Izod Impact, notched 80*10*3 +23°C 65 kJ/m² ISO 180/1A Izod Impact, notched 80*10*3 0°C 51 kJ/m² ISO 180/1A Izod Impact, notched 80*10*3 -30°C 17 kJ/m² ISO 180/1A Izod Impact, notched 80*10*4 +23°C 43 kJ/m² ISO 180/1A

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Revision 20231109



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 0°C	15	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	13	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	48	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	13	kJ/m²	ISO 179/1eA
THERMAL ⁽¹⁾			
HDT, 0.45 MPa, 3.2 mm, unannealed	126	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	112	°C	ASTM D648
CTE, -40°C to 40°C, flow	7.74E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	5.94E-05	1/°C	ASTM E831
CTE, 23°C to 60°C, flow	7.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	7.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	133	°C	ISO 306
Vicat Softening Temp, Rate B/120	135	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	126	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	113	°C	ISO 75/Ae
Relative Temp Index, Elec ⁽²⁾	60	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽²⁾	60	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽²⁾	60	°C	UL 746B
PHYSICAL ⁽¹⁾			
Specific Gravity	1.19	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm ⁽³⁾	0.4 - 0.6	%	SABIC method
Melt Flow Rate, 260°C/2.16 kgf	6.3	g/10 min	ASTM D1238
Density	1.2	g/cm ³	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	16	cm ³ /10 min	ISO 1133
ELECTRICAL ⁽²⁾			
Hot-Wire Ignition (HWI), PLC 2	≥3	mm	UL 746A
FLAME CHARACTERISTICS (2)			
UL Yellow Card Link	E207780-100960579		
UL Recognized, 94V-1 Flame Class Rating	≥1	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING ⁽⁴⁾			
Drying Temperature	90 – 100	°C	
Drying Time	2 - 4	Hrs	
Drying Time (Cumulative)	8	Hrs	
Maximum Moisture Content	0.04	%	
Melt Temperature	270 – 300	°C	
Nozzle Temperature	265 – 300	°C	
Front - Zone 3 Temperature	265 – 300	°C	
Middle - Zone 2 Temperature	260 – 300	°C	
Rear - Zone 1 Temperature	260 – 300	°C	
Mold Temperature	60 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	40 - 70	rpm	
Shot to Cylinder Size	40 - 80	%	

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Vent Depth	0.038 - 0.076	mm	

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) 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.
- (3) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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