

Cycoloy* Resin RCM6123

Asia Pacific: COMMERCIAL

Cycoloy* RCM6123 resin is an injection moldable filled PC/ABS blend with non-brominated and non-chlorinated flame retardant. It contains 30% post consumer recycle content with a UL-94 V0 rating @ 1.2mm. Developed for thin wall applications that require high flow and high stiffness performance. Limited availability and restricted to dark color only.

Property

TYPICAL PROPERTIES ⁽¹⁾			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	50	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	40	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.3	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	26	%	ASTM D 638
Tensile Modulus, 5 mm/min	4400	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	97	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4300	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	55	MPa	ISO 527
Tensile Stress, break, 5 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.8	%	ISO 527
Tensile Strain, break, 5 mm/min	30	%	ISO 527
Tensile Modulus, 1 mm/min	4500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	97	MPa	ISO 178
Flexural Modulus, 2 mm/min	4400	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	60	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	56	J	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	5	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	5	kJ/m ²	ISO 179/1eA
THERMAL	Value	Unit	Standard
HDT, 0.45 MPa, 3.2 mm, unannealed	91	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	82	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	4.9E-05	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	6.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	7.8E-05	1/°C	ISO 11359-2
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	85	°C	ISO 75/Af
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.3 - 0.4	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	11	g/10 min	ASTM D 1238
Density	1.3	g/cm ³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.04	%	ISO 62
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-0 Flame Class Rating (3)	1.2	mm	UL 94

Source GMD, last updated:2010/02/25

Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	80 - 90	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	245 - 275	°C
Nozzle Temperature	245 - 275	°C
Front - Zone 3 Temperature	245 - 275	°C
Middle - Zone 2 Temperature	220 - 265	°C
Rear - Zone 1 Temperature	220 - 255	°C
Mold Temperature	60 - 80	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	30 - 80	%
Vent Depth	0.038 - 0.076	mm

Source GMD, last updated:2010/02/25

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

(5) 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.

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