

## Cycloloy\* Resin XCM840

Americas: COMMERCIAL

High stiffness PC/ABS blend offering practical impact, low CTE, high heat resistance, with good aesthetics suitable for injection molding

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
	Value	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	60	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	59	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.7	%	ASTM D 638
Tensile Modulus, 5 mm/min	4700	MPa	ASTM D 638
Tensile Stress, yield, 5 mm/min	59	MPa	ISO 527
Tensile Stress, break, 5 mm/min	47	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.6	%	ISO 527
Tensile Strain, break, 5 mm/min	64	%	ISO 527
Tensile Modulus, 1 mm/min	4470	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	100	MPa	ISO 178
Flexural Modulus, 2 mm/min	4200	MPa	ISO 178
<b>IMPACT</b>			
Instrumented Impact Total Energy, 23°C	60	J	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	14	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	37	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
HDT, 1.82 MPa, 3.2mm, unannealed	124	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	4.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	122	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.27	-	ASTM D 792
Density	1.27	g/cm <sup>3</sup>	ISO 1183
Melt Volume Rate, MVR at 260°C/5.0 kg	10	cm <sup>3</sup> /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	12	cm <sup>3</sup> /10 min	ISO 1133

Source GMD, last updated:2009/08/20

### Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	100 - 110	°C
Drying Time	3 - 4	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	270 - 300	°C

Nozzle Temperature	260 - 290	°C
Front - Zone 3 Temperature	270 - 300	°C
Middle - Zone 2 Temperature	265 - 290	°C
Rear - Zone 1 Temperature	260 - 270	°C
Mold Temperature	60 - 100	°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:2009/08/20

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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