



## Cycoloy\* Resin CM6240

### Asia Pacific: COMMERCIAL

CYCOLOY CM6240 resin is a flame retardant PC/ABS blend featuring balanced properties of high modulus, good flow and ductility. It is of Br- & Cl-free flame retardant systems intended to meet thin wall flame resistance and various environmental requirements.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	55	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	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	35	%	ASTM D 638
Tensile Modulus, 5 mm/min	4350	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	96	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4400	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	56	MPa	ISO 527
Tensile Stress, break, 5 mm/min	29	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	4460	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	101	MPa	ISO 178
Flexural Modulus, 2 mm/min	4510	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	86	J/m	ASTM D 256
Izod Impact, notched, -30°C	60	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	56	J	ASTM D 3763
Instrumented Impact Total Energy, -30°C	35	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	97	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	90	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ASTM E 831

1) Typical values only. Variations within normal tolerances are possible for various colours. All values are measured at least after 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume rate are measured on injection moulded samples. All samples are prepared according to ISO 294.

2) Only typical data for material selection purpose. 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) Own measurement according to UL.  
 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.

Source, GMD, Last Update: 11/06/2007

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	UNIT	STANDARD
<b>THERMAL</b>			
CTE, -40°C to 40°C, flow	4.8E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.3E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	97	°C	ISO 306
Vicat Softening Temp, Rate B/120	100	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	86	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.3	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.3 - 0.4	%	SABIC Method
Mold Shrinkage, flow (5)	0.33	%	SABIC Method
Mold Shrinkage, xflow (5)	0.38	%	SABIC Method
Melt Flow Rate, 260°C/2.16 kgf	16.5	g/10 min	ASTM D 1238
Density	1.3	g/cm <sup>3</sup>	ISO 1183
Water Absorption, (23°C/sat)	0.1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Melt Volume Rate, MVR at 260°C/2.16 kg	15	cm <sup>3</sup> /10 min	ISO 1133
<b>FLAME CHARACTERISTICS</b>			
UL Compliant, 94V-0 Flame Class Rating (3)(4)	0.8	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VB Rating (3)(4)	1.5	mm	UL 94 by SABIC-IP

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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
<b>Injection Molding</b>		
Drying Temperature	80 - 90	°C
Drying Time	>4 - 6	hrs
Drying Time (Cumulative)	16	hrs
Maximum Moisture Content	0.04	%
Melt Temperature	255 - 285	°C
Nozzle Temperature	255 - 285	°C
Front - Zone 3 Temperature	255 - 285	°C
Middle - Zone 2 Temperature	230 - 275	°C
Rear - Zone 1 Temperature	220 - 255	°C
Mold Temperature	70 - 95	°C

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