SABIC Innovative Plastics™

Cycoloy* Resin XCM830

Americas: COMMERCIAL

PC/ABS with high stiffness and impact performance

TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	610	kgf/cm²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	560	kgf/cm²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	100	%	ASTM D 638
Tensile Modulus, 5 mm/min	34600	kgf/cm²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	960	kgf/cm²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	31600	kgf/cm²	ASTM D 790
Tensile Stress, yield, 5 mm/min	56	MPa	ISO 527
Tensile Stress, break, 5 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	5	%	ISO 527
Tensile Strain, break, 5 mm/min	100	%	ISO 527
Tensile Modulus, 1 mm/min	3100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	3100	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	50	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	12	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	662	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*3 +23°C	45	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*3 -30°C	10	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*3 sp=62mm	45	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*3 sp=62mm	10	kJ/m²	ISO 179/1eA

(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.

Source GMD, last updated:

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TYPICAL PROPERTIES[1]	TYPICAL VALUE	Unit	Standard
THERMAL			
Vicat Softening Temp, Rate B/50	138	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	118	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -40°C to 40°C, flow	6.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°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	138	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	118	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.22	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.7 - 0.8	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	11	g/10 min	ASTM D 1238
Density	1.22	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.4	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.1	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	9	cm³/10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120 - 110	°C
Drying Time	2 - 6	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

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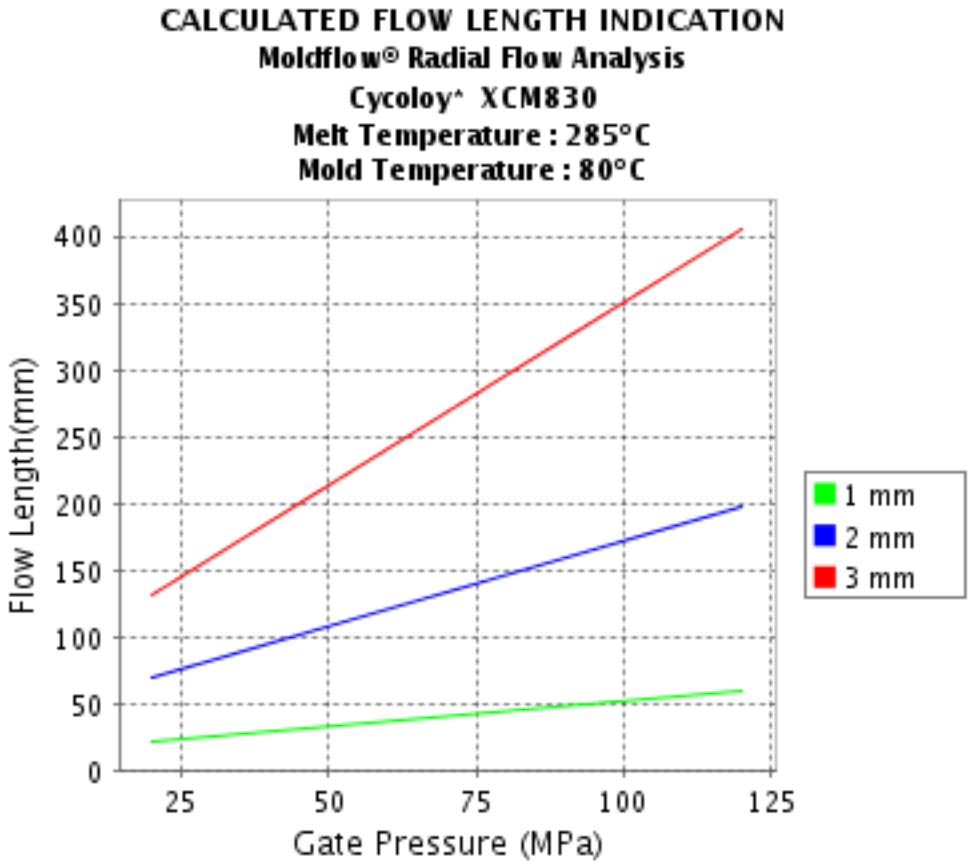

Note: Technical support is recommended if Gate Pressure is greater than 80 MPa. Contact your local representative.

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