



CYCOLOY™ Resin XCY620S
Americas: COMMERCIAL

PC/ABS, hydrolytically stable, natural only.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Flexural Stress, yld, 1.3 mm/min, 50 mm span	870	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23400	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	54	MPa	ISO 527
Tensile Stress, break, 50 mm/min	56	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.5	%	ISO 527
Tensile Strain, break, 50 mm/min	100	%	ISO 527
Tensile Modulus, 1 mm/min	2200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	82	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
IMPACT			
Instrumented Impact Total Energy, 23°C	560	cm-kgf	ASTM D 3763
Instrumented Impact Total Energy, -30°C	662	cm-kgf	ASTM D 3763
Izod Impact, unnotched 80*10*3 +23°C	PASSES	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	55	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	40	kJ/m ²	ISO 180/1A
Charpy 23°C, Unnotch Edgew 80*10*3 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	60	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	45	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	129	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	128	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	108	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.E-05	1/°C	ASTM E 831

(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.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ASTM E 831
Ball Pressure Test, 75°C +/- 2°C	PASSES	-	IEC 60695-10-2
Ball Pressure Test, approximate maximum	100	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/120	130	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	126	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	106	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.14	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Density	1.14	g/cm ³	ISO 1183
Water Absorption, 23°C/24hrs	0.3	%	ISO 62-1
Water Absorption, (23°C/sat)	0.4	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.13	%	ISO 62
Melt Volume Rate, MVR at 260°C/5.0 kg	20	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	25	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1.E+16	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+16	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	39	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	17	kV/mm	IEC 60243-1

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	95 - 105	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	6 - 8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	260 - 290	°C
Nozzle Temperature	240 - 280	°C
Front - Zone 3 Temperature	250 - 290	°C
Middle - Zone 2 Temperature	250 - 290	°C
Rear - Zone 1 Temperature	230 - 260	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Shot to Cylinder Size	30 - 80	%

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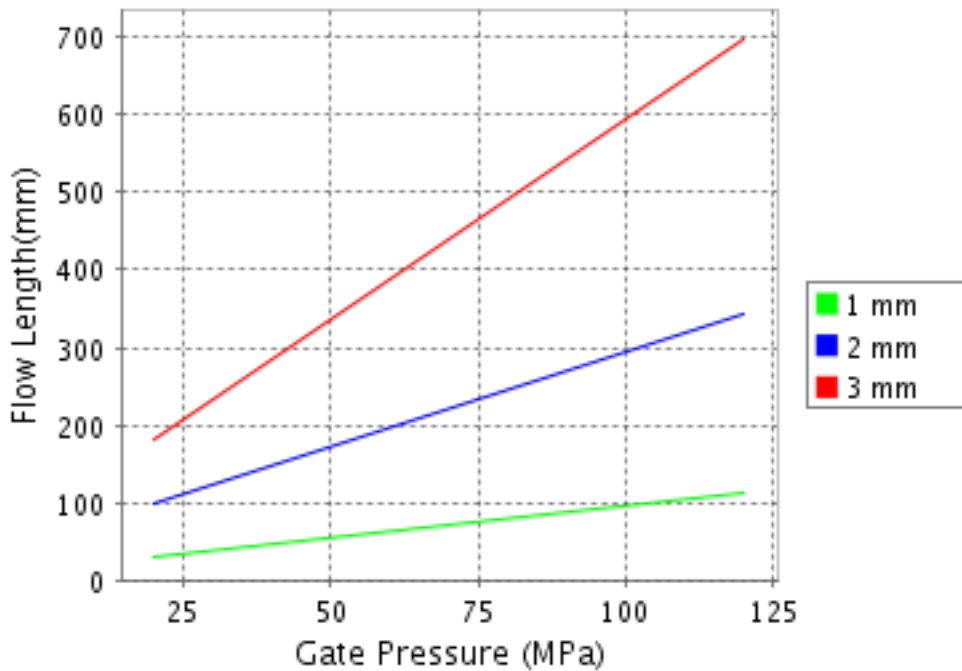
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CALCULATED FLOW LENGTH INDICATION
Moldflow® Radial Flow Analysis
CYCOLOY® XCY620S
Melt Temperature : 275°C
Mold Temperature : 75°C



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