



**CYCOLOY™ Resin C1200HF**  
**Americas: COMMERCIAL**

PC+ABS, excellent flow/impact/high heat resistance. Low temperature ductility.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 50 mm/min	580	kgf/cm <sup>2</sup>	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	150	%	ASTM D 638
Tensile Modulus, 50 mm/min	23200	kgf/cm <sup>2</sup>	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	890	kgf/cm <sup>2</sup>	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23900	kgf/cm <sup>2</sup>	ASTM D 790
Tensile Stress, yield, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4.8	%	ISO 527
Tensile Strain, break, 50 mm/min	114	%	ISO 527
Tensile Modulus, 1 mm/min	2360	MPa	ISO 527
Flexural Stress	86	MPa	ISO 178
Flexural Modulus	2250	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	59	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	49	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	553	cm-kgf	ASTM D 3763
Instrumented Impact Total Energy, -30°C	553	cm-kgf	ASTM D 3763
Izod Impact, notched, 23°C, 80*10*4mm, Cut	49	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched, -30°C, 80*10*4mm, Cut	34	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>			
HDT, 0.45 MPa, 3.2 mm, unannealed	129	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	112	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.2E-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 <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	130	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	130	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	110	°C	ISO 75/Af
Relative Temp Index, Elec	105	°C	UL 746B
Relative Temp Index, Mech w/impact	80	°C	UL 746B
Relative Temp Index, Mech w/o impact	105	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.15	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 260°C/5.0 kgf	19	g/10 min	ASTM D 1238
Melt Volume Rate, MVR at 265°C/5.0 kg	24	cm <sup>3</sup> /10 min	ISO 1133
<b>ELECTRICAL</b>			
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	1	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating (3)	1.19	mm	UL 94

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	100 - 110	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	275 - 300	°C
Nozzle Temperature	275 - 300	°C
Front - Zone 3 Temperature	260 - 300	°C
Middle - Zone 2 Temperature	255 - 295	°C
Rear - Zone 1 Temperature	250 - 290	°C
Hopper Temperature	60 - 80	°C
Mold Temperature	60 - 90	°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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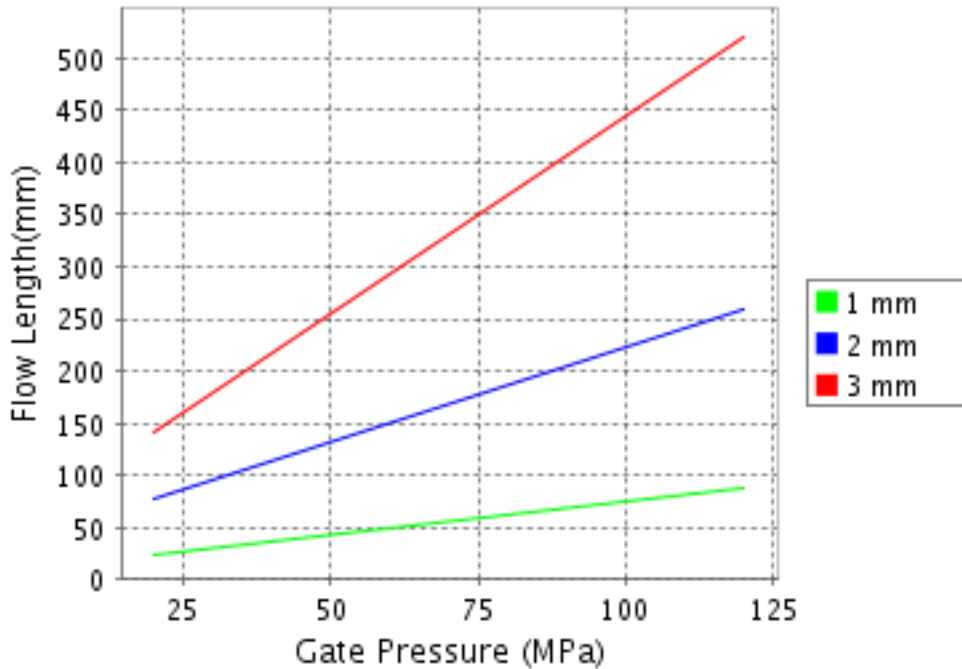
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**CALCULATED FLOW LENGTH INDICATION**  
**Moldflow® Radial Flow Analysis**  
**CYCOLOY® C1200HF**  
**Melt Temperature : 275°C**  
**Mold Temperature : 75°C**



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