CYCOLOY™ Resin C1200HF - Americas

Polycarbonate + ABS

SABIC

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Technical Data

Product Description			
PC+ABS, excellent flow/impact/high heat resistance. Low temperature ductility.			
General			
Material Status	• Commercial: Active		
UL Yellow Card [1]	• E121562-221028		
Search for UL Yellow Card	• SABIC • CYCOLOY™ Resin		
Availability	• Latin America	• North America	
Uses	• Additive Manufacturing (3D Printing) • Appliances • Automotive Applications • Automotive Exterior Parts • Automotive Interior Parts • Automotive Lighting • Automotive Under the Hood • Construction Applications • Decorative Parts • Electrical Parts • Electrical/Electronic Applications	• Electronic Displays • Fluid Handling • Glazing • Heavy Transportation • Industrial Applications • Lawn and Garden Equipment • Lighting Applications • Material Handling • Medical Devices • Medical/Healthcare Applications • Military/Defense Applications	• Non-specific Food Applications • Optical Applications • Outdoor Applications • Personal Care • Pharmaceuticals • Rail Applications • Recreational Vehicle Applications • Sporting Goods • Surgical Instruments • Water Management
Multi-Point Data	• Coefficient of Thermal Expansion vs. Temperature (ASTM E831) • Elastic Modulus vs. Temperature (ASTM D4065) • Flexural DMA (ASTM D5023) • Instrumented Impact (Energy) (ASTM D3763) • Instrumented Impact (Load) (ASTM D3763) • Shear DMA (ASTM D4065) • Specific Heat vs. Temperature (ASTM E1269) • Specific Volume vs. Temperature (PVT) • Tensile Creep (ASTM D2990) • Tensile Fatigue • Tensile Stress vs. Strain (ASTM D638) • Thermal Conductivity vs. Temperature (ASTM E1530) • Viscosity vs. Shear Rate (ASTM D3835)		
Also Available In	• Asia Pacific	• Europe	

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.15	g/cm³	ASTM D792
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	19	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (265°C/5.0 kg)	24	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [3]	2270	MPa	ASTM D638
--	2400	MPa	ISO 527-1/1
Tensile Strength			
Yield [4]	57.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/50

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Mechanical	Nominal Value	Unit	Test Method
Tensile Elongation			
Yield [4]	5.0	%	ASTM D638
Yield	4.8	%	ISO 527-2/50
Break [4]	150	%	ASTM D638
Break	110	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span [5]	2340	MPa	ASTM D790
--	2250	MPa	ISO 178
Flexural Stress			
--	86.0	MPa	ISO 178
Yield, 50.0 mm Span [5]	88.0	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
-30°C	480	J/m	ASTM D256
23°C	590	J/m	ASTM D256
-30°C [6]	34	kJ/m²	ISO 180/1A
23°C [6]	49	kJ/m²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	54.0	J	
23°C, Total Energy	54.0	J	

Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	129	°C	ASTM D648
0.45 MPa, Unannealed, 4.00 mm, 64.0 mm Span [7]	130	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	112	°C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 64.0 mm Span [7]	110	°C	ISO 75-2/Af
Vicat Softening Temperature	130	°C	ISO 306/B50
CLTE - Flow (-40 to 40°C)	7.2E-5	cm/cm/°C	ASTM E831
RTI Elec	105	°C	UL 746B
RTI Imp	80.0	°C	UL 746B
RTI Str	105	°C	UL 746B

Electrical	Nominal Value	Test Method
Comparative Tracking Index (CTI)	PLC 2	UL 746A
High Amp Arc Ignition (HAI) [8]	PLC 1	UL 746A
Hot-wire Ignition (HWI)	PLC 3	UL 746A

Flammability	Nominal Value	Test Method
Flame Rating (1.2 mm)	HB	UL 94

Injection	Nominal Value	Unit
Drying Temperature	100 to 110	°C
Drying Time	3.0 to 4.0	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	30 to 80	%
Hopper Temperature	60 to 80	°C
Rear Temperature	250 to 290	°C

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Injection	Nominal Value	Unit
Middle Temperature	255 to 295	°C
Front Temperature	260 to 300	°C
Nozzle Temperature	275 to 300	°C
Processing (Melt) Temp	275 to 300	°C
Mold Temperature	60 to 90	°C
Back Pressure	0.300 to 0.700	MPa
Screw Speed	40 to 70	rpm
Vent Depth	0.038 to 0.076	mm

Injection Notes

- Drying Time (Cumulative): 8 hr

Notes

[1] A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

[2] Typical properties: these are not to be construed as specifications.

[3] 50 mm/min

[4] Type I, 50 mm/min

[5] 1.3 mm/min

[6] 80*10*4 mm, Cut

[7] 80*10*4 mm

[8] Surface

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