

CYCOLOY™ HC1204HF resin

Polycarbonate + ABS

SABIC Innovative Plastics

Message:

High heat PC/ABS blend offering good flow and excellent impact. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO10993 or USP Class VI).

General Information			
UL YellowCard	E121562-221028		
Features	Biocompatible		
	Good Flow		
	High Heat Resistance		
	High Impact Resistance		
Uses	Medical/Healthcare Applications		
	Pharmaceuticals		
Agency Ratings	ISO 10993		
	USP Class VI		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	24	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR)			ISO 1133
260°C/2.16 kg	8.00	cm ³ /10min	
260°C/5.0 kg	22.0	cm ³ /10min	
Molding Shrinkage - Flow			Internal Method
-- ¹	0.50 to 0.70	%	
3.20 mm	0.50 to 0.70	%	
Water Absorption			ISO 62
Saturation, 23°C	0.60	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	115		ISO 2039-2
Ball Indentation Hardness (H 358/30)	96.0	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ²	2270	MPa	ASTM D638
--	2400	MPa	ISO 527-2/1

Tensile Strength			
Yield ³	57.0	MPa	ASTM D638
Yield	55.0	MPa	ISO 527-2/5, ISO 527-2/50
Break ⁴	47.0	MPa	ASTM D638
Break	45.0	MPa	ISO 527-2/5, ISO 527-2/50
Tensile Elongation			
Yield ⁵	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/5
Yield	4.0	%	ISO 527-2/50
Break ⁶	100	%	ASTM D638
Break	100	%	ISO 527-2/5
Break	> 50	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁷	2300	MPa	ASTM D790
-- ⁸	2300	MPa	ISO 178
Flexural Stress			
--	80.0	MPa	ISO 178
Yield, 50.0 mm Span ⁹	88.0	MPa	ASTM D790
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	63.0	mg	Internal Method
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰			ISO 179/1eA
-30°C	30	kJ/m ²	
23°C	50	kJ/m ²	
Notched Izod Impact			
-30°C	480	J/m	ASTM D256
23°C	580	J/m	ASTM D256
-30°C ¹¹	30	kJ/m ²	ISO 180/1A
23°C ¹²	50	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	54.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed, 100 mm Span ¹³	122	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	112	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ¹⁴	102	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	130	°C	ASTM D1525 ¹⁵
--	126	°C	ISO 306/B50
--	128	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
CLTE			
Flow : -40 to 40°C	7.2E-5	cm/cm/°C	ASTM E831

Flow : 23 to 60°C	8.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	7.2E-5	cm/cm/°C	ASTM E831
Transverse : 23 to 60°C	8.0E-5	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
RTI Elec	105	°C	UL 746
RTI Imp	80.0	°C	UL 746
RTI Str	105	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	35	kV/mm	
1.60 mm, in Oil	25	kV/mm	
3.20 mm, in Oil	17	kV/mm	
Relative Permittivity			IEC 60250
50 Hz	2.80		
60 Hz	2.80		
1 MHz	2.70		
Dissipation Factor			IEC 60250
50 Hz	2.0E-3		
60 Hz	2.0E-3		
1 MHz	7.0E-3		
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.20 mm	HB		
3.00 mm	HB		
Glow Wire Flammability Index (1.00 mm)	650	°C	IEC 60695-2-12
Oxygen Index	23	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	100 to 110	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	230 to 260	°C	
Middle Temperature	250 to 290	°C	
Front Temperature	250 to 290	°C	
Nozzle Temperature	240 to 280	°C	
Processing (Melt) Temp	260 to 290	°C	
Mold Temperature	60.0 to 90.0	°C	
NOTE			
1.	Tensile Bar		

2.	5.0 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	Type I, 50 mm/min
7.	1.3 mm/min
8.	2.0 mm/min
9.	1.3 mm/min
10.	80*10*3 sp=62mm
11.	80*10*3
12.	80*10*3
13.	120*10*4 mm
14.	120*10*4 mm
15.	Rate B (120°C/h), Loading 2 (50 N)

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