

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	E45329-236710		
Features	Impact resistance, high		
	Good liquidity		
	Heat resistance, high		
	Biocompatibility		
Uses	Drug		
	Medical/nursing supplies		
Agency Ratings	ISO 10993		
	USP Class VI		
RoHS Compliance	RoHS compliance		
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	ISO 1133
260°C/5.0 kg	22.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow			Internal method
-- ¹	0.50 - 0.70	%	Internal method
3.20 mm	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.60	%	ISO 62
Equilibrium, 23°C, 50% RH	0.20	%	ISO 62
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
Fracture ⁴	47.0	MPa	ASTM D638
Fracture	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
Fracture ⁶	100	%	ASTM D638
Fracture	100	%	ISO 527-2/5
Fracture	> 50	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁷	2300	MPa	ASTM D790
-- ⁸	2300	MPa	ISO 178
Flexural Stress			
--	80.0	MPa	ISO 178
Yield, 50.0mm 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
	18		
-30°C	18	kJ/m²	ISO 179/1eA
	45		
23°C	45	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength ¹¹			ISO 179/1eU
	No Break		
-30°C	No Break		ISO 179/1eU
	No Break		
23°C	No Break		ISO 179/1eU
Notched Izod Impact			

-30°C	480	J/m	ASTM D256
23°C	580	J/m	ASTM D256
	20		
-30°C ¹²	20	kJ/m ²	ISO 180/1A
	40		
23°C ¹³	40	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ¹⁴			ISO 180/1U
	No Break		
-30°C	No Break		ISO 180/1U
	No Break		
23°C	No Break		ISO 180/1U
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 ¹⁵	122	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	112	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹⁶	102	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	130	°C	ASTM D1525 ¹⁷
--	126	°C	ISO 306/B50
--	128	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
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
Lateral: -40 to 40°C	7.2E-5	cm/cm/°C	ASTM E831
Lateral: 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	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
Dielectric Strength			IEC 60243-1
0.800mm, in oil	35	kV/mm	IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.80		IEC 60250
60 Hz	2.80		IEC 60250
1 MHz	2.70		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	2.0E-3		IEC 60250
60 Hz	2.0E-3		IEC 60250
1 MHz	7.0E-3		IEC 60250
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.20 mm	HB		UL 94
3.00 mm	HB		UL 94
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 - 110	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	230 - 260	°C	
Middle Temperature	250 - 290	°C	
Front Temperature	250 - 290	°C	
Nozzle Temperature	240 - 280	°C	
Processing (Melt) Temp	260 - 290	°C	
Mold Temperature	60.0 - 90.0	°C	
NOTE			
1.	Tensile Bar		
2.	5.0 mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 50mm/min		
5.	Type 1, 50mm/min		
6.	Type 1, 50mm/min		
7.	1.3 mm/min		
8.	2.0 mm/min		
9.	1.3 mm/min		

10.	80*10*4 sp=62mm
11.	80*10*4 sp=62mm
12.	80*10*4
13.	80*10*4
14.	80*10*4
15.	120*10*4 mm
16.	120*10*4 mm
17.	标准 B (120°C/h), 载荷2 (50N)

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