

CYCOLOY* HC1204HF Resin

Acrylonitrile Butadiene Styrene + PC

SABIC Innovative Plastics Europe

Product Description

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

Material Status	• Commercial: Active	
Availability	• Europe	
Features	• Biocompatible • Good Flow	• High Heat Resistance • High Impact Resistance
Uses	• Medical/Healthcare Applications	• Pharmaceuticals
Agency Ratings	• ISO 10993	• USP Class VI
RoHS Compliance	• RoHS Compliant	
Forms	• Pellets	
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			ASTM D955
--	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	%	

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 ³	47.0	MPa	ASTM D638
Break	45.0	MPa	ISO 527-2/5 ISO 527-2/50
Tensile Elongation			
Yield ³	5.0	%	ASTM D638
Yield	5.0	%	ISO 527-2/5
Yield	4.0	%	ISO 527-2/50
Break ³	100	%	ASTM D638
Break	100	%	ISO 527-2/5
Break	50	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁴	2300	MPa	ASTM D790
-- ⁵	2300	MPa	ISO 178
Flexural Strength			
-- ^{5, 6}	80.0	MPa	ISO 178
Yield, 50.0 mm Span ⁴	88.0	MPa	ASTM D790
Taber Abrasion Resistance			ASTM D1044
1000 Cycles, 1000 g, CS-17 Wheel	63.0	mg	



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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			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 ⁸	30.0	kJ/m ²	ISO 180/1A
23°C ⁸	50.0	kJ/m ²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
23°C, Total Energy	54.0	J	
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
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, Unannealed, 100 mm Span ⁹	122	°C	ISO 75-2/Be
1.8 MPa, Unannealed, 3.20 mm	112	°C	ASTM D648
1.8 MPa, Unannealed, 100 mm Span ⁹	102	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	130	°C	ASTM D1525 ¹⁰
--	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	0.000072	cm/cm/°C	ASTM E831
Flow: 23 to 60°C	0.000080	cm/cm/°C	ISO 11359-2
Transverse: -40 to 40°C	0.000072	cm/cm/°C	ASTM E831
Transverse: 23 to 60°C	0.000080	cm/cm/°C	ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohm·cm	IEC 60093
Relative Permittivity			IEC 60250
50 Hz	2.80		
60 Hz	2.80		
1E+6 Hz	2.70		
Dissipation Factor			IEC 60250
50 Hz	0.0020		
60 Hz	0.0020		
1E+6 Hz	0.0070		
Comparative Tracking Index	250	V	IEC 60112
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	



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Flammability	Nominal Value	Unit	Test Method
Flame Rating - UL			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
UL 746	Nominal Value	Unit	Test Method
RTI Str	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI Elec	60.0	°C	UL 746
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	

