

SABIC Innovative Plastics Cycloy® C1204HF PC+ABS

Category : Polymer , Thermoplastic , ABS Polymer , Polycarbonate/ABS Alloy, Unreinforced , Polycarbonate (PC)

Material Notes:

High heat PC/ABS blend offering good flow and excellent impact. Food compliant according to FDA and European directive 2002/72/EC. Available in limited colors. Effective January 15th, 2008 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HC1204HF. This data was supplied by SABIC-IP for the Americas region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-C1204HF-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.15 g/cc	1.15 g/cc	ASTM D 792
Density	1.15 g/cc	0.0415 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.20 %	0.20 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.60 % @Temperature 23.0 °C	0.60 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on tensile bar; SABIC Method
	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	8.0 g/10 min @Load 2.16 kg, Temperature 260 °C	8.0 g/10 min @Load 4.76 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	22 g/10 min @Load 5.00 kg, Temperature 260 °C	22 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	24 g/10 min @Load 5.00 kg, Temperature 260 °C	24 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell R	115	115	ISO 2039-2
Hardness, H358/30	96.0 MPa	13900 psi	ISO 2039-1
Tensile Strength at Break	45.0 MPa	6530 psi	5 mm/min; ISO 527
	45.0 MPa	6530 psi	50 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Strength, Yield	55.0 MPa	7980 psi	5 mm/min; ISO 527
	55.0 MPa	7980 psi	50 mm/min; ISO 527
	57.0 MPa	8270 psi	Type I, 50 mm/min; ASTM D 638
Elongation at Break	>= 50 %	>= 50 %	50 mm/min; ISO 527
	100 %	100 %	Type I, 50 mm/min; ASTM D 638
	100 %	100 %	5 mm/min; ISO 527
Elongation at Yield	4.0 %	4.0 %	50 mm/min; ISO 527
	5.0 %	5.0 %	Type I, 50 mm/min; ASTM D 638
	5.0 %	5.0 %	5 mm/min; ISO 527
Tensile Modulus	2.27 GPa	329 ksi	5 mm/min; ASTM D 638
	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	80.0 MPa	11600 psi	2 mm/min; ISO 178
	88.0 MPa	12800 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched	4.80 J/cm	8.99 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.80 J/cm	10.9 ft-lb/in	ASTM D 256
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Izod Impact, Notched (ISO)	30.0 kJ/m ²	14.3 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	50.0 kJ/m ²	23.8 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Charpy Impact, Notched	3.00 J/cm ²	14.3 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.00 J/cm ²	23.8 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Mechanical Properties	54.0 J Metric	39.8 ft-lb English	Comments Unannealed Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Taber Abrasion, mg/1000 Cycles	63 @Load 1.00 kg	63 @Load 2.20 lb	CS-17; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
CTE, linear, Transverse to Flow	72.0 µm/m-°C	40.0 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft ² -°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	122 °C	252 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	102 °C	216 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	112 °C	234 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	126 °C	259 °F	Rate B/50; ISO 306
	128 °C	262 °F	Rate B/120; ISO 306
	130 °C	266 °F	Rate B/50; ASTM D 1525
UL RTI, Electrical	60.0 °C	140 °F	UL 746B
UL RTI, Mechanical with Impact	60.0 °C	140 °F	UL 746B
UL RTI, Mechanical without Impact	60.0 °C	140 °F	UL 746B
Flammability, UL94	HB	HB	UL 94
	@Thickness 1.20 mm	@Thickness 0.0472 in	
	HB	HB	

Thermal Properties	Metric	English	2nd value: IJL 94 Comments
Oxygen Index	23 % @Thickness 3.00 mm	23 % @Thickness 0.118 in	LOI; ISO 4589
Glow Wire Test	650 °C @Thickness 1.00 mm	1200 °F @Thickness 0.0394 in	Glow Wire Flammability Index; IEC 60695-2-12

Electrical Properties	Metric	English	Comments
Volume Resistivity	>= 1.00e+15 ohm-cm	>= 1.00e+15 ohm-cm	IEC 60093
Surface Resistance	>= 1.00e+15 ohm	>= 1.00e+15 ohm	ROA; IEC 60093
Dielectric Constant	2.7 @Frequency 1.00e+6 Hz	2.7 @Frequency 1.00e+6 Hz	IEC 60250
	2.8 @Frequency 50.0 - 60.0 Hz	2.8 @Frequency 50.0 - 60.0 Hz	IEC 60250
Dielectric Strength	17.0 kV/mm @Thickness 3.20 mm	432 kV/in @Thickness 0.126 in	in oil; IEC 60243-1
	25.0 kV/mm @Thickness 1.60 mm	635 kV/in @Thickness 0.0630 in	in oil; IEC 60243-1
	35.0 kV/mm @Thickness 0.800 mm	889 kV/in @Thickness 0.0315 in	in oil; IEC 60243-1
Dissipation Factor	0.0020 @Frequency 50.0 - 60.0 Hz	0.0020 @Frequency 50.0 - 60.0 Hz	IEC 60250
	0.0070 @Frequency 1.00e+6 Hz	0.0070 @Frequency 1.00e+6 Hz	IEC 60250
Comparative Tracking Index	250 V	250 V	IEC 60112

Descriptive Properties	Value	Comments
Ball Pressure Test, 125°C +/- 2°C	PASSES	IEC 60695-10-2

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