SABIC Innovative Plastics Cycoloy® C1200HF PC+ABS (Europe-Africa-Middle East)

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

Material Notes:

CYCOLOY C1200HF is the improved version of CYCOLOY C1200 and has been developed to provide enhanced productivity and surface appearance for

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http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycoloy-C1200HF-PCABS-Europe-Africa-Middle-East.php

Physical Properties	Metric	English	Comments
Density	1.15 g/cc	0.0415 lb/in³	ISO 1183
Moisture Absorption	0.200 %	0.200 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.60 %	0.60 %	ISO 62
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm	0.0050 - 0.0070 in/in	on Tensile Bar; SABIC Method
Melt Index of Compound	8.0 g/10 min @Load 2.16 kg, Temperature 260 °C	8.0 g/10 min @Load 4.76 lb, Temperature 500 °F	MVR [cm^3/10 min]; ISO 1133
	22 g/10 min @Load 5.00 kg, Temperature 260 °C	22 g/10 min @Load 11.0 lb, Temperature 500 °F	MVR [cm^3/10 min]; ISO 1133

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	50 mm/min; ISO 527
	45.0 MPa	6530 psi	5 mm/min; ISO 527
Tensile Strength, Yield	55.0 MPa	7980 psi	50 mm/min; ISO 527
	55.0 MPa	7980 psi	5 mm/min; ISO 527
Elongation at Break	>= 50 %	>= 50 %	50 mm/min; ISO 527
	100 %	100 %	5 mm/min; ISO 527
Elongation at Yield	4.0 %	4.0 %	50 mm/min; ISO 527
	5.0 %	5.0 %	5 mm/min; ISO 527

Mechanical Properties	Metric	English	Comments
Tensile Modulus	2.40 GPa	348 ksi	1 mm/min; ISO 527
Flexural Yield Strength	80.0 MPa	11600 psi	2 mm/min; ISO 178
Flexural Modulus	2.30 GPa	334 ksi	2 mm/min; ISO 178
Izod Impact, Notched (ISO)	40.0 kJ/m²	19.0 ft-lb/in²	80*10*4; ISO 180/1A
	50.0 kJ/m²	23.8 ft-lb/in²	80*10*3; ISO 180/1A
	20.0 kJ/m² @Temperature -30.0 °C	9.52 ft-lb/in² @Temperature -22.0 °F	80*10*4; ISO 180/1A
	30.0 kJ/m² @Temperature -30.0 °C	14.3 ft-lb/in² @Temperature -22.0 °F	80*10*3; ISO 180/1A
Izod Impact, Unnotched (ISO)	NB	NB	80*10*4; ISO 180/1U
	NB	NB	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*3; ISO 180/1U
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	80*10*4; ISO 180/1U
Charpy Impact Unnotched	NB	NB	Edgew 80*10*3 sp=62mm; ISO 179/1eU
	NB	NB	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eU
	NB @Temperature -30.0 °C	NB @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eU
Charpy Impact, Notched	4.50 J/cm²	21.4 ft-lb/in²	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	5.00 J/cm²	23.8 ft-lb/in²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.80 J/cm² @Temperature -30.0 °C	8.57 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*4 sp=62mm; ISO 179/1eA
	3.00 J/cm² @Temperature -30.0 °C	14.3 ft-lb/in² @Temperature -22.0 °F	Edgew 80*10*3 sp=62mm; ISO 179/1eA
Taber Abrasion, mg/1000 Cycles	63	63	CS-17, 1 kg; SABIC Method

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	80.0 µm/m-°C @Temperature -40.0 - 40.0 °C	44.4 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
Thermal Conductivity	0.200 W/m-K	1.39 BTU-in/hr-ft²-°F	ISO 8302
Deflection Temperature at 0.46 MPa (66 psi)	128 °C	262 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	108 °C	226 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
Vicat Softening Point	132 °C	270 °F	Rate B/50; ISO 306
	134 °C	273 °F	Rate B/120; ISO 306
UL RTI, Electrical	105 °C	221 °F	UL 746B
UL RTI, Mechanical with Impact	80.0 °C	176 °F	UL 746B
UL RTI, Mechanical without Impact	105 °C	221 °F	UL 746B
Flammability, UL94	HB @Thickness 1.20 mm	HB @Thickness 0.0472 in	UL 94
	HB @Thickness 3.00 mm	HB @Thickness 0.118 in	UL 94
Oxygen Index	23 %	23 %	ISO 4589
Glow Wire Test	650 °C @Thickness 1.00 mm	1200 °F @Thickness 0.0394 in	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

Electrical Properties	Metric	English	Comments
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
	250 - 400 V	250 - 400 V	UL 746A

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

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