

SABIC Innovative Plastics Cycology® CY9650 PC+ABS

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

Material Notes:

PC+ABS, High Impact and High Flow, ductility at low temperature, excellent properties retention after Hydrolytic and Heat Aging 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-Cycology-CY9650-PCABS.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.14 g/cc	1.14 g/cc	ASTM D 792
Density	1.14 g/cc	0.0412 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.15 %	0.15 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.40 % @Temperature 23.0 °C	0.40 % @Temperature 73.4 °F	ISO 62
Viscosity	170000 cP @Temperature 260 °C	170000 cP @Temperature 500 °F	melt; 1500 sec-1; ISO 11443
Linear Mold Shrinkage, Flow	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Linear Mold Shrinkage, Transverse	0.0050 - 0.0070 cm/cm @Thickness 3.20 mm	0.0050 - 0.0070 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	25 g/10 min @Load 5.00 kg, Temperature 260 °C	25 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	26 g/10 min @Load 5.00 kg, Temperature 260 °C	26 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D 1238

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	53.0 MPa	7690 psi	Type I, 50 mm/min; ASTM D 638
	53.0 MPa	7690 psi	50 mm/min; ISO 527
Tensile Strength, Yield	54.0 MPa	7830 psi	Type I, 50 mm/min; ASTM D 638
	54.0 MPa	7830 psi	50 mm/min; ISO 527
Elongation at Break	120 %	120 %	Type I, 50 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments : ISO 527
Elongation at Yield	4.5 %	4.5 %	Type I, 50 mm/min; ASTM D 638
	4.5 %	4.5 %	50 mm/min; ISO 527
Tensile Modulus	2.25 GPa	326 ksi	1 mm/min; ISO 527
	2.30 GPa	334 ksi	5 mm/min; ASTM D 638
Flexural Yield Strength	82.0 MPa	11900 psi	2 mm/min; ISO 178
	89.0 MPa	12900 psi	1.3 mm/min, 50 mm span; ASTM D 790
Flexural Modulus	2.20 GPa	319 ksi	2 mm/min; ISO 178
	2.30 GPa	334 ksi	1.3 mm/min, 50 mm span; ASTM D 790
Izod Impact, Notched	4.30 J/cm	8.06 ft-lb/in	ASTM D 256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	5.90 J/cm	11.1 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	
	65.0 kJ/m ²	30.9 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	
	6.50 J/cm ²	30.9 ft-lb/in ²	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature 23.0 °C	@Temperature 73.4 °F	
Impact Test	55.0 J	40.6 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	
	67.0 J	49.4 ft-lb	Instrumented Impact Total Energy; ASTM D 3763
	@Temperature -30.0 °C	@Temperature -22.0 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	70.0 μm/m-°C	38.9 μin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	

Thermal Properties	80.0 µm/m-°C Metric	44.4 µin/in-°F English	Comments ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
CTE, linear, Transverse to Flow	70.0 µm/m-°C	38.9 µin/in-°F	ASTM E 831
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	80.0 µm/m-°C	44.4 µin/in-°F	ISO 11359-2
	@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)	126 °C	259 °F	Flatw 80*10*4 sp=64mm; ISO 75/Bf
Deflection Temperature at 1.8 MPa (264 psi)	105 °C	221 °F	Flatw 80*10*4 sp=64mm; ISO 75/ Af
	107 °C	225 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	126 °C	259 °F	Rate B/50; ASTM D 1525
	126 °C	259 °F	Rate B/50; ISO 306
	127 °C	261 °F	Rate B/120; ISO 306
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 1.50 mm	@Thickness 0.0591 in	
	HB	HB	2nd value; UL 94
	@Thickness 3.00 mm	@Thickness 0.118 in	

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 Strength	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	25.0 kV/mm	635 kV/in	in oil; IEC 60243-1

Electrical Properties	@Thickness 1.60 mm Metric	@Thickness 0.0630 in English	Comments
	35.0 kV/mm	889 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	

Descriptive Properties	Value	Comments
Ball Pressure Test, 75°C +/- 2°C	Pass	IEC 60695-10-2

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