

SABIC Innovative Plastics Cycology® CE1810 PC+ABS (Asia Pacific)

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

Material Notes:

PC/ABS with high stiffness and low CTE.This data was supplied by SABIC-IP for the Asia Pacific region.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycology-CE1810-PCABS-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D 792
Density	1.30 g/cc	0.0470 lb/in ³	ISO 1183
Moisture Absorption at Equilibrium	0.050 %	0.050 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.20 % @Temperature 23.0 °C	0.20 % @Temperature 73.4 °F	ISO 62
Linear Mold Shrinkage, Flow	0.0040 - 0.0060 cm/cm @Thickness 3.20 mm	0.0040 - 0.0060 in/in @Thickness 0.126 in	SABIC Method
Melt Flow	6.0 g/10 min @Load 5.00 kg, Temperature 260 °C	6.0 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133
	7.0 g/10 min @Load 5.00 kg, Temperature 260 °C	7.0 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D 1238
	24 g/10 min @Load 5.00 kg, Temperature 300 °C	24 g/10 min @Load 11.0 lb, Temperature 572 °F	[cm ³ /10 min] Melt Volume Rate; ISO 1133

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	45.0 MPa	6530 psi	Type I, 5 mm/min; ASTM D 638
	45.0 MPa	6530 psi	5 mm/min; ISO 527
Tensile Strength, Yield	60.0 MPa	8700 psi	Type I, 5 mm/min; ASTM D 638
	60.0 MPa	8700 psi	5 mm/min; ISO 527
Elongation at Break	15 %	15 %	Type I, 5 mm/min; ASTM D 638
	15 %	15 %	5 mm/min; ISO 527
Elongation at Yield	4.0 %	4.0 %	Type I, 5 mm/min; ASTM D 638

Mechanical Properties	Metric	English	Comments
Tensile Modulus	4.65 GPa	674 ksi	5 mm/min; ASTM D 638
	4.65 GPa	674 ksi	1 mm/min; ISO 527
Flexural Yield Strength	105 MPa	15200 psi	1.3 mm/min, 50 mm span; ASTM D 790
	105 MPa	15200 psi	2 mm/min; ISO 178
Flexural Modulus	4.45 GPa	645 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	4.45 GPa	645 ksi	2 mm/min; ISO 178
Izod Impact, Notched	0.900 J/cm @Temperature -30.0 °C	1.69 ft-lb/in @Temperature -22.0 °F	ASTM D 256
	1.70 J/cm @Temperature 23.0 °C	3.18 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	10.0 kJ/m ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	80*10*3; ISO 180/1A
	20.0 kJ/m ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	80*10*3; ISO 180/1A
Charpy Impact, Notched	1.00 J/cm ² @Temperature -30.0 °C	4.76 ft-lb/in ² @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	2.00 J/cm ² @Temperature 23.0 °C	9.52 ft-lb/in ² @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	60.0 J @Temperature 23.0 °C	44.3 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	43.0 µm/m-°C @Temperature -40.0 - 40.0 °C	23.9 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831
	43.0 µm/m-°C @Temperature -40.0 - 40.0 °C	23.9 µin/in-°F @Temperature -40.0 - 104 °F	ISO 11359-2
CTE, linear, Transverse to Flow	59.0 µm/m-°C @Temperature -40.0 - 40.0 °C	32.8 µin/in-°F @Temperature -40.0 - 104 °F	ASTM E 831

Thermal Properties	Metric W/m·m/°C	English BTU-in/hr·ft²-°F	Comments
	@Temperature -40.0 - 40.0 °C	@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 1.8 MPa (264 psi)	122 °C	252 °F	Flatw 80*10*4 sp=64mm; ISO 75/Af
	121 °C	250 °F	unannealed; ASTM D 648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	139 °C	282 °F	Rate B/50; ASTM D 1525
	139 °C	282 °F	Rate B/50; ISO 306
	141 °C	286 °F	Rate B/120; ISO 306

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

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