

SABIC Innovative Plastics Cycoloy® CM6210 PC+ABS (Asia Pacific)

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

Material Notes:

Cycoloy* resin CM6210 is a high-modulus flame retardant PC/ABS with non-brominated and non-chlorinated FR system. It can be used for extrusion & thermoforming applications and also for injection molding applications where higher stiffness is needed.

Order this product through the following link:

http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycoloy-CM6210-PCABS-Asia-Pacific.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.28 g/cc	1.28 g/cc	ASTM D792
Density	1.27 g/cc	0.0459 lb/in ³	ISO 1183
Moisture Absorption	0.100 %	0.100 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.30 %	0.30 %	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	11.5 g/10 min @Load 5.00 kg, Temperature 260 °C	11.5 g/10 min @Load 11.0 lb, Temperature 500 °F	ASTM D1238
Melt Index of Compound	9.0 g/10 min @Load 5.00 kg, Temperature 260 °C	9.0 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	98	98	ISO 2039-2
Tensile Strength at Break	50.0 MPa	7250 psi	Type I, 5 mm/min; ASTM D638
	50.0 MPa	7250 psi	50 mm/min; ISO 527
	65.0 MPa	9430 psi	5 mm/min; ISO 527
Tensile Strength, Yield	59.0 MPa	8560 psi	5 mm/min; ISO 527
	63.0 MPa	9140 psi	50 mm/min; ISO 527
	64.0 MPa	9280 psi	Type I, 5 mm/min; ASTM D638
Elongation at Break	80 %	80 %	Type I, 5 mm/min; ASTM D638
	97 %	97 %	50 mm/min; ISO 527

Mechanical Properties	101 % Metric	101 % English	5 mm/min; ISO 527 Comments
Elongation at Yield	3.5 %	3.5 %	50 mm/min; ISO 527
	3.6 %	3.6 %	5 mm/min; ISO 527
	4.9 %	4.9 %	Type I, 5 mm/min; ASTM D638
Tensile Modulus	3.57 GPa	518 ksi	5 mm/min; ASTM D638
	3.66 GPa	531 ksi	1 mm/min; ISO 527
Flexural Yield Strength	106 MPa	15400 psi	2 mm/min; ISO 178
	110 MPa	16000 psi	1.3 mm/min, 50 mm span; ASTM D790
Flexural Modulus	3.50 GPa	508 ksi	1.3 mm/min, 50 mm span; ASTM D790
	3.56 GPa	516 ksi	2 mm/min; ISO 178
Izod Impact, Notched	5.00 J/cm	9.37 ft-lb/in	ASTM D256
	0.900 J/cm	1.69 ft-lb/in	ASTM D256
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Izod Impact, Notched (ISO)	45.0 kJ/m ²	21.4 ft-lb/in ²	80*10*3; ISO 180/1A
	10.0 kJ/m ²	4.76 ft-lb/in ²	80*10*3; ISO 180/1A
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Charpy Impact, Notched	4.50 J/cm ²	21.4 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	1.00 J/cm ²	4.76 ft-lb/in ²	Edgew 80*10*3 sp=62mm; ISO 179/1eA
	@Temperature -30.0 °C	@Temperature -22.0 °F	
Dart Drop, Total Energy	45.0 J	33.2 ft-lb	ASTM D3763
	@Temperature 23.0 °C	@Temperature 73.4 °F	

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.0 µm/m-°C	28.9 µin/in-°F	ISO 11359-2
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	
	52.0 µm/m-°C	28.9 µin/in-°F	ISO 11359-2
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	
	57.0 µm/m-°C	31.7 µin/in-°F	ASTM E 831

Thermal Properties	Metric	English	Comments
CTE, linear, Transverse to Flow	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
	60.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	33.3 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ISO 11359-2
	@Temperature 23.0 - 60.0 $^{\circ}\text{C}$	@Temperature 73.4 - 140 $^{\circ}\text{F}$	
	70.0 $\mu\text{m}/\text{m}\cdot^{\circ}\text{C}$	38.9 $\mu\text{in}/\text{in}\cdot^{\circ}\text{F}$	ASTM E 831
	@Temperature -40.0 - 40.0 $^{\circ}\text{C}$	@Temperature -40.0 - 104 $^{\circ}\text{F}$	
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft ² - $^{\circ}\text{F}$	ISO 8302
Hot Ball Pressure Test	≤ 95.0 $^{\circ}\text{C}$	≤ 203 $^{\circ}\text{F}$	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	99.0 $^{\circ}\text{C}$	210 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	89.0 $^{\circ}\text{C}$	192 $^{\circ}\text{F}$	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	90.0 $^{\circ}\text{C}$	194 $^{\circ}\text{F}$	unannealed; ASTM D648
	@Thickness 3.20 mm	@Thickness 0.126 in	
Vicat Softening Point	106 $^{\circ}\text{C}$	223 $^{\circ}\text{F}$	Rate B/50; ASTM D1525
	112 $^{\circ}\text{C}$	234 $^{\circ}\text{F}$	Rate B/50; ISO 306
	114 $^{\circ}\text{C}$	237 $^{\circ}\text{F}$	Rate B/120; ISO 306
UL RTI, Electrical	60.0 $^{\circ}\text{C}$	140 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical with Impact	60.0 $^{\circ}\text{C}$	140 $^{\circ}\text{F}$	UL 746B
UL RTI, Mechanical without Impact	60.0 $^{\circ}\text{C}$	140 $^{\circ}\text{F}$	UL 746B
Flammability, UL94	V-0	V-0	UL 94
	@Thickness 1.50 mm	@Thickness 0.0591 in	

Electrical Properties	Metric	English	Comments
Dielectric Constant	2.8	2.8	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
	2.9	2.9	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	

Electrical Properties	17.0 kV/mm Metric	432 kV/in English	Comments
Dielectric Strength	@Thickness 3.20 mm	@Thickness 0.126 in	in oil; IEC 60243-1
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	38.0 kV/mm	965 kV/in	in oil; IEC 60243-1
	@Thickness 0.800 mm	@Thickness 0.0315 in	
Dissipation Factor	0.0030	0.0030	IEC 60250
	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	
	0.0040	0.0040	IEC 60250
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Comparative Tracking Index	250 V	250 V	IEC 60112

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

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