

## SABIC Innovative Plastics Cycloy® CM6210 PC+ABS (Europe-Africa-Middle East)

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

### Material Notes:

Cycloy\* 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. This data was supplied by SABIC-IP for the Europe-Africa-Middle East region.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_SABIC-Innovative-Plastics-Cycloy-CM6210-PCABS-Europe-Africa-Middle-East.php](http://www.lookpolymers.com/polymer_SABIC-Innovative-Plastics-Cycloy-CM6210-PCABS-Europe-Africa-Middle-East.php)

Physical Properties	Metric	English	Comments
Specific Gravity	1.28 g/cc	1.28 g/cc	ASTM D 792
Density	1.27 g/cc	0.0459 lb/in <sup>3</sup>	ISO 1183
Moisture Absorption at Equilibrium	0.10 %	0.10 %	23°C / 50% RH; ISO 62
Water Absorption at Saturation	0.30 % @Temperature 23.0 °C	0.30 % @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	9.0 g/10 min @Load 5.00 kg, Temperature 260 °C	9.0 g/10 min @Load 11.0 lb, Temperature 500 °F	[cm <sup>3</sup> /10 min] Melt Volume Rate; ISO 1133
	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 D 1238

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 D 638
	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 D 638

Elongation at Break Mechanical Properties	80 % Metric	80 % English	Type I, 5 mm/min; ASTM D 638 Comments
	97 %	97 %	50 mm/min; ISO 527
	101 %	101 %	5 mm/min; ISO 527
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 D 638
Tensile Modulus	3.57 GPa	518 ksi	5 mm/min; ASTM D 638
	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 D 790
Flexural Modulus	3.50 GPa	508 ksi	1.3 mm/min, 50 mm span; ASTM D 790
	3.56 GPa	516 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
	5.00 J/cm @Temperature 23.0 °C	9.37 ft-lb/in @Temperature 73.4 °F	ASTM D 256
Izod Impact, Notched (ISO)	10.0 kJ/m <sup>2</sup> @Temperature -30.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	80*10*3; ISO 180/1A
	45.0 kJ/m <sup>2</sup> @Temperature 23.0 °C	21.4 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	80*10*3; ISO 180/1A
Charpy Impact, Notched	1.00 J/cm <sup>2</sup> @Temperature -30.0 °C	4.76 ft-lb/in <sup>2</sup> @Temperature -22.0 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
	4.50 J/cm <sup>2</sup> @Temperature 23.0 °C	21.4 ft-lb/in <sup>2</sup> @Temperature 73.4 °F	V-notch Edgew 80*10*3 sp=62mm; ISO 179/1eA
Impact Test	45.0 J @Temperature 23.0 °C	33.2 ft-lb @Temperature 73.4 °F	Instrumented Impact Total Energy; ASTM D 3763

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	52.0 µm/m-°C	28.9 µin/in-°F	ISO 11359-2

Thermal Properties	@Temperature -40.0 - Metric 40.0 °C	@Temperature -40.0 - English 100 °F	Comments
	52.0 µm/m-°C	28.9 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	ISO 11359-2
	57.0 µm/m-°C	31.7 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTME 831
CTE, linear, Transverse to Flow	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ISO 11359-2
	60.0 µm/m-°C	33.3 µin/in-°F	
	@Temperature 23.0 - 60.0 °C	@Temperature 73.4 - 140 °F	ISO 11359-2
	70.0 µm/m-°C	38.9 µin/in-°F	
	@Temperature -40.0 - 40.0 °C	@Temperature -40.0 - 104 °F	ASTME 831
Thermal Conductivity	0.300 W/m-K	2.08 BTU-in/hr-ft <sup>2</sup> -°F	ISO 8302
Hot Ball Pressure Test	<= 95.0 °C	<= 203 °F	IEC 60695-10-2
Deflection Temperature at 0.46 MPa (66 psi)	99.0 °C	210 °F	Edgew 120*10*4 sp=100mm; ISO 75/Be
Deflection Temperature at 1.8 MPa (264 psi)	89.0 °C	192 °F	Edgew 120*10*4 sp=100mm; ISO 75/Ae
	90.0 °C	194 °F	
	@Thickness 3.20 mm	@Thickness 0.126 in	unannealed; ASTM D 648
Vicat Softening Point	106 °C	223 °F	Rate B/50; ASTM D 1525
	112 °C	234 °F	Rate B/50; ISO 306
	114 °C	237 °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	V-0	V-0	
	@Thickness 1.50 mm	@Thickness 0.0591 in	UL 94

Electrical Properties	Metric	English	Comments
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Electrical Properties	Metric	English	Comments
Dielectric Constant	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	IEC 60250
	2.9	2.9	IEC 60250
Dielectric Strength	@Frequency 50.0 - 60.0 Hz	@Frequency 50.0 - 60.0 Hz	IEC 60250
	17.0 kV/mm	432 kV/in	in oil; IEC 60243-1
	@Thickness 3.20 mm	@Thickness 0.126 in	
	26.0 kV/mm	660 kV/in	in oil; IEC 60243-1
Dielectric Strength	@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	
Dissipation Factor	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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