

CYCOLOY™ CM6210 resin

Polycarbonate + ABS

SABIC Innovative Plastics

Message:

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.

General Information			
UL YellowCard	E121562-562442		
Additive	Flame retardancy		
Features	Chlorine Free		
	Rigidity, high		
	Bromine-free		
	Flame retardancy		
Processing Method	Sheet extrusion molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.28	g/cm ³	ASTM D792
--	1.27	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	12	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	9.00	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 - 0.60	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.30	%	ISO 62
Equilibrium, 23°C, 50% RH	0.10	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	98		ISO 2039-2
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3570	MPa	ASTM D638
--	3660	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	64.0	MPa	ASTM D638
Yield	59.7	MPa	ISO 527-2/5
Yield	63.0	MPa	ISO 527-2/50
Fracture ³	50.0	MPa	ASTM D638
Fracture	65.0	MPa	ISO 527-2/5
Fracture	50.0	MPa	ISO 527-2/50
Tensile Elongation			

Yield ⁴	4.9	%	ASTM D638
Yield	3.6	%	ISO 527-2/5
Yield	3.5	%	ISO 527-2/50
Fracture ⁵	80	%	ASTM D638
Fracture	100	%	ISO 527-2/5
Fracture	97	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	3500	MPa	ASTM D790
-- ⁷	3560	MPa	ISO 178
Flexural Stress			
--	106	MPa	ISO 178
Yield, 50.0mm span ⁸	110	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	10	kJ/m ²	ISO 179/1eA
23°C	45	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	90	J/m	ASTM D256
23°C	500	J/m	ASTM D256
-30°C ¹⁰	10	kJ/m ²	ISO 180/1A
23°C ¹¹	45	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	45.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 100 mm span ¹²	99.0	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	90.0	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹³	89.0	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	106	°C	ASTM D1525 ¹⁴
--	112	°C	ISO 306/B50
--	114	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2
75°C	Pass		IEC 60695-10-2
95°C ¹⁵	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			
Flow: -40 to 40°C	5.7E-5	cm/cm/°C	ASTM E831
Flow: -40 to 40°C	5.2E-5	cm/cm/°C	ISO 11359-2
Flow: 23 to 60°C	5.2E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831
Lateral: -40 to 40°C	6.0E-5	cm/cm/°C	ISO 11359-2
Lateral: 23 to 60°C	6.0E-5	cm/cm/°C	ISO 11359-2

Thermal Conductivity	0.30	W/m/K	ISO 8302
RTI Elec	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI	60.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Dielectric Strength			IEC 60243-1
0.800mm, in oil	38	kV/mm	IEC 60243-1
1.60mm, in oil	26	kV/mm	IEC 60243-1
3.20mm, in oil	17	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
50 Hz	2.90		IEC 60250
60 Hz	2.90		IEC 60250
1 MHz	2.80		IEC 60250
Dissipation Factor			IEC 60250
50 Hz	3.0E-3		IEC 60250
60 Hz	3.0E-3		IEC 60250
1 MHz	4.0E-3		IEC 60250
Comparative Tracking Index	250	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-0		UL 94
Extrusion	Nominal Value	Unit	
Drying Temperature	82.2 - 87.8	°C	
Drying Time	3.0 - 4.0	hr	
Cylinder Zone 1 Temp.	182 - 227	°C	
Cylinder Zone 2 Temp.	188 - 232	°C	
Cylinder Zone 3 Temp.	204 - 241	°C	
Cylinder Zone 4 Temp.	210 - 243	°C	
Adapter Temperature	210 - 243	°C	
Melt Temperature	221 - 243	°C	
Die Temperature	210 - 243	°C	
Extrusion instructions			
Drying Time (Cumulative): 12 hrsMinimum Moisture Content: 0.04 %Roll Stack Temp - Bottom: 66 - 88 °C Roll Stack Temp - Middle: 71 - 93 °C Roll Stack Temp - Top: 71 - 99 °C			
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 5.0 mm/min		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 5.0 mm/min		
6.	1.3 mm/min		
7.	2.0 mm/min		
8.	1.3 mm/min		

9.	80*10*3 sp=62mm
10.	80*10*3
11.	80*10*3
12.	120*10*4 mm
13.	120*10*4 mm
14.	标准 B (120°C/h), 载荷2 (50N)
15.	Approximate maximum

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