

CYCOLOY™ CM6140 resin

Polycarbonate + ABS

SABIC Innovative Plastics

Message:

CYCOLOY resin grade CM6140 is a flame retardant, filled PC/ABS blend. It is of non-brominated & non-chlorinated FR system to meet UL94 V0 at 0.8mm. Key features include thin wall FR, higher stiffness, balanced properties in flow, impact and heat designed for various thin wall applications.

General Information			
UL YellowCard	E207780-306005		
Filler / Reinforcement	Filler		
Additive	Flame retardancy		
Features	Chlorine Free		
	Rigid, good		
	Impact resistance, good		
	Good liquidity		
	Heat resistance, medium		
	Bromine-free		
	Flame retardancy		
Uses	Thin wall parts		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.26	g/cm³	ASTM D792
--	1.25	g/cm³	ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	18	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/5.0 kg)	14.0	cm³/10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.30 - 0.50	%	Internal method
Transverse flow: 3.20mm	0.40 - 0.60	%	Internal method
Water Absorption			
24 hr	0.10	%	ASTM D570
24 hr, 50% RH	0.010	%	ASTM D570
Saturated, 23°C	0.090	%	ISO 62
Equilibrium, 23°C, 50% RH	0.010	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3500	MPa	ASTM D638
--	3200	MPa	ISO 527-2/1

Tensile Strength			
Yield ²	65.0	MPa	ASTM D638
Yield ³	65.0	MPa	ASTM D638
Fracture ⁴	50.0	MPa	ASTM D638
Fracture	50.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁵	4.0	%	ASTM D638
Yield	3.5	%	ISO 527-2/5
Fracture ⁶	100	%	ASTM D638
Fracture	15	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁷	3300	MPa	ASTM D790
-- ⁸	3450	MPa	ISO 178
Flexural Stress			
--	97.0	MPa	ISO 178
Yield, 50.0mm span ⁹	100	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ¹⁰			ISO 179/1eA
-30°C	5.0	kJ/m ²	ISO 179/1eA
23°C	10	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	88	J/m	ASTM D256
23°C	200	J/m	ASTM D256
-30°C ¹¹	5.0	kJ/m ²	ISO 180/1A
23°C ¹²	10	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	50.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 6.40mm	97.0	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	83.0	°C	ASTM D648
1.8 MPa, unannealed, 6.40mm	89.0	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹³	80.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	91.0	°C	ASTM D1525 ¹⁴
--	98.0	°C	ISO 306/B50
--	102	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
Linear thermal expansion coefficient			ASTM E831, ISO 11359-2
Flow: -40 to 40°C	5.5E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Electrical	Nominal Value	Unit	Test Method

Surface Resistivity	3.5E+15	ohms	ASTM D257
Volume Resistivity	2.7E+16	ohms·cm	ASTM D257
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.600 mm	V-1		UL 94
0.800 mm	V-0		UL 94
1.50 mm	5VB		UL 94
Glow Wire Flammability Index (0.800 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	850	°C	IEC 60695-2-13
3.00 mm	800	°C	IEC 60695-2-13
Injection	Nominal Value	Unit	
Drying Temperature	90.0	°C	
Drying Time	> 4.0	hr	
Suggested Max Moisture	0.040	%	
Rear Temperature	275 - 300	°C	
Middle Temperature	275 - 300	°C	
Front Temperature	280 - 300	°C	
Nozzle Temperature	280 - 300	°C	
Processing (Melt) Temp	275 - 300	°C	
Mold Temperature	60.0 - 80.0	°C	
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 50mm/min		
4.	Type 1, 5.0 mm/min		
5.	Type 1, 5.0 mm/min		
6.	Type 1, 5.0 mm/min		
7.	1.3 mm/min		
8.	2.0 mm/min		
9.	1.3 mm/min		
10.	80*10*3 sp=62mm		
11.	80*10*3		
12.	80*10*3		
13.	80*10*4 mm		
14.	标准 B (120°C/h), 载荷2 (50N)		

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