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			
Filler / Reinforcement	Filler		
Additive	Flame Retardant		
Features	Bromine Free Chlorine Free Flame Retardant Good Flow Good Impact Resistance Good Stiffness Medium Heat Resistance		
Uses	Thin-walled 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 : 3.20 mm	0.30 to 0.50	%	
Across Flow : 3.20 mm	0.40 to 0.60	%	
Water Absorption			
24 hr, 50% RH	0.010	%	ASTM D570
24 hr	0.10	%	ASTM D570
Saturation, 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
Break [4]	50.0	MPa	ASTM D638
Break	50.0	MPa	ISO 527-2/5
Tensile Elongation			
Yield [5]	4.0	%	ASTM D638
Yield	3.5	%	ISO 527-2/5
Break [6]	100	%	ASTM D638
Break	15	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span [7]	3300	MPa	ASTM D790
-- [8]	3450	MPa	ISO 178
Flexural Stress			
--	97.0	MPa	ISO 178
Yield, 50.0 mm 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/m²	
23°C	10	kJ/m²	
Notched Izod Impact			
-30°C	88	J/m	ASTM D256
23°C	200	J/m	ASTM D256
-30°C [11]	5.0	kJ/m²	ISO 180/1A
23°C [12]	10	kJ/m²	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, 6.40 mm	97.0	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	83.0	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	89.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm 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
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	5.5E-5	cm/cm/°C	
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	
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		
0.800 mm	V-0		
1.50 mm	5VB		
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	
3.00 mm	800	°C	
Injection	**Nominal Value**	**Unit**	
Drying Temperature	90.0	°C	
Drying Time	> 4.0	hr	
Suggested Max Moisture	0.040	%	
Rear Temperature	275 to 300	°C	
Middle Temperature	275 to 300	°C	
Front Temperature	280 to 300	°C	
Nozzle Temperature	280 to 300	°C	
Processing (Melt) Temp	275 to 300	°C	
Mold Temperature	60.0 to 80.0	°C	

NOTE	
1.	5.0 mm/min
2.	Type I, 5.0 mm/min
3.	Type I, 50 mm/min
4.	Type I, 5.0 mm/min
5.	Type I, 5.0 mm/min
6.	Type I, 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.	Rate B (120°C/h), Loading 2 (50 N)

Recommended distributors for this material

Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

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