

CYCOLOY™ CY6414 resin

Polycarbonate + ABS

SABIC Innovative Plastics Europe

Message:

Flame retardant modified PC blend using non-brominated and non-chlorinated flame retardant systems, offering high heat for application in appliances, lighting and electrical market.

General Information			
UL YellowCard	E45329-100079921		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	High Heat Resistance		
Uses	Appliances		
	Electrical/Electronic Applications		
	Lighting Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Density	1.18	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	13.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.80	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.30	%	
Equilibrium, 23°C, 50% RH	0.10	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2330	MPa	ASTM D638
--	2430	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	64.0	MPa	ASTM D638
Yield	66.4	MPa	ISO 527-2/50
Break ³	62.0	MPa	ASTM D638
Break	67.9	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	6.0	%	ASTM D638
Yield	5.7	%	ISO 527-2/50

Break ⁵	85	%	ASTM D638
Break	> 100	%	ISO 527-2/50
Flexural Modulus ⁶	2470	MPa	ISO 178
Flexural Stress	96.7	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
	12		
-30°C	12	kJ/m ²	
	20		
23°C	20	kJ/m ²	
Charpy Unnotched Impact Strength ⁸			ISO 179/1eU
	No Break		
-30°C	No Break		
	No Break		
23°C	No Break		
Notched Izod Impact Strength ⁹			ISO 180/1A
-30°C	12	kJ/m ²	
23°C	50	kJ/m ²	
Unnotched Izod Impact Strength ¹⁰			ISO 180/1U
	No Break		
-30°C	No Break		
23°C	No Break		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 6.40 mm	118	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹¹	116	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	134	°C	ISO 306/B50
--	135	°C	ISO 306/B120
Ball Pressure Test			IEC 60695-10-2

125°C ¹²	Pass		
125°C	Pass		
CLTE			ISO 11359-2
Flow : -40 to 40°C	7.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	
RTI Elec	105	°C	UL 746
RTI Imp	95.0	°C	UL 746
RTI Str	100	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	4.0E+16	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Dielectric Constant			ASTM D150
1 kHz	3.01		
1 MHz	2.95		
Dissipation Factor			
1 kHz	1.7E-3		ASTM D150
1 MHz	8.8E-3		ASTM D150, IEC 60250
Comparative Tracking Index (CTI)	PLC 3		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
Hot-wire Ignition (HWI)	PLC 2		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.20 mm	V-0		
2.50 mm	5VB		
Glow Wire Flammability Index ¹³ (0.750 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature ¹⁴			IEC 60695-2-13
0.750 mm	775	°C	
1.50 mm	775	°C	
3.00 mm	775	°C	
Oxygen Index	32	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	90.0 to 100	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	210 to 260	°C	
Middle Temperature	230 to 290	°C	
Front Temperature	240 to 300	°C	
Nozzle Temperature	230 to 290	°C	
Processing (Melt) Temp	250 to 300	°C	
Mold Temperature	60.0 to 90.0	°C	

NOTE	
1.	5.0 mm/min
2.	Type I, 50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	2.0 mm/min
7.	80*10*4 sp=62mm
8.	80*10*4 sp=62mm
9.	80*10*4
10.	80*10*4
11.	80*10*4 mm
12.	by VDE
13.	by VDE
14.	by VDE

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