

CYCOLOY™ CY5100 resin

Polycarbonate + ABS

SABIC Innovative Plastics Asia Pacific

Message:

CY5100 is a Flame retardant PC blend using non-brominated and non-chlorinated flame retardant systems, offering excellent flow / impact balance for large size applications

General Information			
UL YellowCard	E207780-609711		
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Flow		
	Good Impact Resistance		
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/2.16 kg)	23.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.40 to 0.60	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.60	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2760	MPa	ASTM D638
--	2750	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	63.9	MPa	ASTM D638
Yield	63.1	MPa	ISO 527-2/50
Break ³	47.5	MPa	ASTM D638
Break	46.4	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	4.1	%	ASTM D638
Yield	4.0	%	ISO 527-2/50
Break ⁵	65	%	ASTM D638
Break	35	%	ISO 527-2/50
Flexural Modulus ⁶	2440	MPa	ISO 178
Flexural Stress	94.5	MPa	ISO 178

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁷			ISO 179/1eA
-30°C	10	kJ/m ²	
23°C	45	kJ/m ²	
Notched Izod Impact			
-30°C	80	J/m	ASTM D256
23°C	400	J/m	ASTM D256
-30°C ⁸	10	kJ/m ²	ISO 180/1A
23°C ⁹	45	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature ¹⁰ (1.8 MPa, Unannealed, 64.0 mm Span)	88.1	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	105	°C	ISO 306/B50
--	106	°C	ISO 306/B120
Ball Pressure Test (75°C)	Pass		IEC 60695-10-2
CLTE			ISO 11359-2
Flow : -40 to 40°C	8.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	8.0E-5	cm/cm/°C	
RTI Elec	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI Str	60.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+15	ohms · cm	IEC 60093
Electric Strength			IEC 60243-1
0.800 mm, in Oil	46	kV/mm	
1.60 mm, in Oil	31	kV/mm	
Relative Permittivity			IEC 60250
50 Hz	2.90		
60 Hz	2.90		
1 MHz	2.90		
Dissipation Factor			IEC 60250
50 Hz	2.0E-3		
60 Hz	2.0E-3		
1 MHz	7.0E-3		
Comparative Tracking Index (CTI)	PLC 2		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-1		
2.00 mm	V-0		

Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	825	°C	
2.00 mm	825	°C	
3.00 mm	825	°C	
Oxygen Index	31	%	ISO 4589-2
Injection	Nominal Value	Unit	
Drying Temperature	80.0 to 90.0	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	230 to 280	°C	
Middle Temperature	240 to 290	°C	
Front Temperature	250 to 300	°C	
Nozzle Temperature	250 to 300	°C	
Processing (Melt) Temp	250 to 300	°C	
Mold Temperature	60.0 to 85.0	°C	
Vent Depth	0.030 to 0.075	mm	
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*3 sp=62mm		
8.	80*10*3		
9.	80*10*3		
10.	80*10*4 mm		

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