

CYCOLOY™ XCY620 resin

Polycarbonate + ABS

SABIC Innovative Plastics

Message:

PC+ ABS Automotive applications, High Impact and High Flow, ductility at low temperature, excellent properties retention after Hydrolytic and Heat Aging

General Information			
UL YellowCard	E207780-102010043		
Features	Impact resistance, high		
	Good heat aging resistance		
	High liquidity		
	Hydrolysis stability		
	ductility		
Uses	Application in Automobile Field		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.14	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	22	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	18.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.50 - 0.70	%	Internal method
Transverse flow: 3.20mm	0.50 - 0.70	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.40	%	ISO 62
Equilibrium, 23°C, 50% RH	0.15	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2300	MPa	ASTM D638
--	2200	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	55.0	MPa	ASTM D638
Yield	54.0	MPa	ISO 527-2/50
Fracture ³	52.0	MPa	ASTM D638
Fracture	51.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	4.7	%	ASTM D638
Yield	4.5	%	ISO 527-2/50
Fracture ⁵	120	%	ASTM D638

Fracture	120	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2300	MPa	ASTM D790
-- ⁷	2200	MPa	ISO 178
Flexural Stress			
--	83.0	MPa	ISO 178
Yield, 50.0mm span ⁸	89.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			
-30°C ⁹	45	kJ/m ²	ISO 179/1eA
23°C ¹⁰	60	kJ/m ²	ISO 179/1eA
23°C ¹¹	70	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	480	J/m	ASTM D256
23°C	640	J/m	ASTM D256
-30°C ¹²	45	kJ/m ²	ISO 180/1A
23°C ¹³	55	kJ/m ²	ISO 180/1A
23°C ¹⁴	70	kJ/m ²	ISO 180/1A
Instrumented Dart Impact			ASTM D3763
-30°C, Total Energy	70.0	J	ASTM D3763
23°C, Total Energy	56.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 64.0mm span ¹⁵	126	°C	ISO 75-2/Bf
1.8 MPa, unannealed, 3.20mm	107	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹⁶	105	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	127	°C	ASTM D1525, ISO 306/B50 ¹⁷
--	129	°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	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Thermal Conductivity	0.20	W/m/K	ISO 8302
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	> 1.0E+15	ohms	IEC 60093
Volume Resistivity	> 1.0E+15	ohms · cm	IEC 60093
Dielectric Strength			IEC 60243-1
0.800mm, in oil	35	kV/mm	IEC 60243-1
1.60mm, in oil	25	kV/mm	IEC 60243-1
3.20mm, in oil	17	kV/mm	IEC 60243-1

Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (260°C, 1500 sec ⁻¹)	195	Pa·s	ISO 11443
Injection	Nominal Value	Unit	
Drying Temperature	95.0 - 105	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	230 - 260	°C	
Middle Temperature	250 - 290	°C	
Front Temperature	250 - 290	°C	
Nozzle Temperature	240 - 280	°C	
Processing (Melt) Temp	260 - 290	°C	
Mold Temperature	60.0 - 90.0	°C	

NOTE	
1.	5.0 mm/min
2.	Type 1, 50mm/min
3.	Type 1, 50mm/min
4.	Type 1, 50mm/min
5.	Type 1, 50mm/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*4 sp=62mm
11.	80*10*3 sp=62mm
12.	80*10*3
13.	80*10*4
14.	80*10*3
15.	80*10*4 mm
16.	80*10*4 mm
17.	标准 B (120°C/h), 载荷2 (50N)

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