

CYCOLAC™ MG29 resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

Super high impact ABS. Good low temperature toughness. High gloss.

General Information			
UL YellowCard	E121562-220724		
Features	High Gloss		
	Low Temperature Toughness		
	Ultra High Impact Resistance		
Processing Method	Injection Molding		
Multi-Point Data	Coefficient of Thermal Expansion vs. Temperature (ASTM E831)		
	Flexural DMA (ASTM D4065)		
	Pressure-Volume-Temperature (PVT - Zoller Method)		
	Shear DMA (ASTM D4065)		
	Specific Heat vs. Temperature (ASTM D3417)		
	Tensile Creep (ASTM D2990)		
	Tensile Fatigue		
	Tensile Stress vs. Strain (ASTM D638)		
	Thermal Conductivity vs. Temperature (ASTM E1530)		
	Viscosity vs. Shear Rate (ASTM D3835)		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.04	g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	1.2	g/10 min	ASTM D1238
220°C/10.0 kg	8.0	g/10 min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.80	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2000	MPa	ASTM D638
--	2050	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	39.0	MPa	ASTM D638
Yield	42.0	MPa	ISO 527-2/50
Break ³	31.0	MPa	ASTM D638
Break	32.0	MPa	ISO 527-2/50
Tensile Elongation			

Yield ⁴	2.4	%	ASTM D638
Yield	2.8	%	ISO 527-2/50
Break ⁵	26	%	ASTM D638
Break	20	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2070	MPa	ASTM D790
-- ⁷	1990	MPa	ISO 178
Flexural Stress			
--	61.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	65.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact			
23°C	460	J/m	ASTM D256
-30°C ⁹	12	kJ/m ²	ISO 180/1A
23°C ¹⁰	37	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	29.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	94.0	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	79.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹¹	79.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	99.0	°C	ASTM D1525 ¹²
--	98.0	°C	ISO 306/B50
CLTE			
Flow : -40 to 40°C	9.5E-5	cm/cm/°C	
Transverse : -40 to 40°C	9.4E-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		Test Method
Arc Resistance ¹³	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Amp Arc Ignition (HAI)	PLC 1		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746
Flammability	Nominal Value		Test Method
Flame Rating (1.50 mm)	HB		UL 94
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (240°C, 1000 sec ⁻¹)	280	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	

Drying Temperature	87.8 to 93.3	°C
Drying Time	2.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Suggested Max Moisture	0.010	%
Suggested Shot Size	50 to 70	%
Rear Temperature	188 to 199	°C
Middle Temperature	210 to 221	°C
Front Temperature	227 to 238	°C
Nozzle Temperature	232 to 274	°C
Processing (Melt) Temp	232 to 274	°C
Mold Temperature	48.9 to 65.6	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	30 to 60	rpm
Vent Depth	0.038 to 0.051	mm

NOTE

1. 5.0 mm/min
2. Type I, 5.0 mm/min
3. Type I, 5.0 mm/min
4. Type I, 5.0 mm/min
5. Type I, 5.0 mm/min
6. 1.3 mm/min
7. 2.0 mm/min
8. 1.3 mm/min
9. 80*10*4
10. 80*10*4
11. 80*10*4 mm
12. Rate B (120°C/h), Loading 2 (50 N)
13. Tungsten Electrode

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