

CYCOLAC™ MG38 resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

Very high impact ABS. Toughness/rigidity. Good fatigue resistance.

General Information			
UL YellowCard	E45329-102071273	E45329-102071274	
Features	Ultra-high impact resistance		
	Rigidity, high		
	Fatigue resistance		
	Good toughness		
RoHS Compliance	RoHS compliance		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.05	g/cm ³	ASTM D792
--	1.04	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	3.7	g/10 min	ASTM D1238
220°C/10.0 kg	14	g/10 min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.80	%	Internal method
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	111		ASTM D785
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2270	MPa	ASTM D638
--	2270	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	44.0	MPa	ASTM D638
Yield	47.0	MPa	ISO 527-2/50
Fracture ³	33.0	MPa	ASTM D638
Fracture	34.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	2.1	%	ASTM D638
Yield	2.7	%	ISO 527-2/50
Fracture ⁵	26	%	ASTM D638
Fracture	17	%	ISO 527-2/50
Flexural Modulus			

50.0mm span ⁶	2340	MPa	ASTM D790
-- ⁷	2250	MPa	ISO 178
Flexural Stress			
--	71.0	MPa	ISO 178
Yield, 50.0mm span ⁸	72.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	10	kJ/m ²	ISO 179/1eA
23°C	28	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C	370	J/m	ASTM D256
-30°C ¹⁰	9.0	kJ/m ²	ISO 180/1A
23°C ¹¹	27	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	31.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, unannealed, 3.20mm	95.0	°C	ASTM D648
1.8 MPa, unannealed, 3.20mm	80.0	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹²	81.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	98.0	°C	ASTM D1525, ISO 306/B50 ¹¹ ¹³
--	100	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	8.8E-5	cm/cm/°C	ASTM E831
Lateral: -40 to 40°C	8.6E-5	cm/cm/°C	ASTM E831
RTI Elec	60.0	°C	UL 746
RTI Imp	60.0	°C	UL 746
RTI	60.0	°C	UL 746
Electrical	Nominal Value		Test Method
Arc Resistance ¹⁴	PLC 5		ASTM D495
Comparative Tracking Index (CTI)	PLC 0		UL 746
High Amp Arc Ignition (HAI)	PLC 0		UL 746
High Voltage Arc Tracking Rate (HVTR)	PLC 2		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)	245	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	82.2 - 93.3	°C	
Drying Time	2.0 - 4.0	hr	

Drying Time, Maximum	8.0	hr
Suggested Max Moisture	0.10	%
Suggested Shot Size	50 - 70	%
Rear Temperature	188 - 210	°C
Middle Temperature	204 - 227	°C
Front Temperature	216 - 238	°C
Nozzle Temperature	218 - 260	°C
Processing (Melt) Temp	218 - 260	°C
Mold Temperature	48.9 - 71.1	°C
Back Pressure	0.345 - 0.689	MPa
Screw Speed	30 - 60	rpm
Vent Depth	0.038 - 0.051	mm

NOTE

1.	5.0 mm/min
2.	Type 1, 5.0 mm/min
3.	Type 1, 5.0 mm/min
4.	Type 1, 5.0 mm/min
5.	Type 1, 5.0 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	标准 B (120°C/h), 载荷2 (50N)
14.	Tungsten electrode

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