

CYCOLAC™ MG47TG resin

Acrylonitrile Butadiene Styrene

SABIC Innovative Plastics

Message:

Multi-purpose, injection molding ABS providing a favorable balance of engineering properties. Improved Tg.

General Information			
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.05	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR)			
230°C/3.8 kg	5.6	g/10 min	ASTM D1238
220°C/10.0 kg	18	g/10 min	ISO 1133
Melt Volume-Flow Rate (MVR) (220°C/5.0 kg)			
	14.7	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.80	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	1.0	%	
Equilibrium, 23°C, 50% RH	0.20	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2280	MPa	ASTM D638
--	2530	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	44.1	MPa	ASTM D638
Yield	50.0	MPa	ISO 527-2/5
Break ³	33.8	MPa	ASTM D638
Break	35.3	MPa	ISO 527-2/5
Tensile Elongation			
Yield ⁴	2.0	%	ASTM D638
Yield	2.6	%	ISO 527-2/5
Break ⁵	24	%	ASTM D638
Break	25	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁶	2340	MPa	ASTM D790
-- ⁷	2410	MPa	ISO 178
Flexural Stress			
--	76.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	72.4	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method

Charpy Notched Impact Strength ⁹ (23°C)	19	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	130	J/m	ASTM D256
23°C	320	J/m	ASTM D256
-30°C ¹⁰	8.5	kJ/m ²	ISO 180/1A
23°C ¹¹	23	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, 3.20 mm	97.7	°C	ASTM D648
1.8 MPa, Unannealed, 3.20 mm	84.2	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	82.2	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	98.9	°C	ASTM D1525 ¹³
--	100	°C	ISO 306/B50, ISO 306/B120
CLTE			
Flow : -40 to 40°C	8.8E-5	cm/cm/°C	
Transverse : -40 to 40°C	8.8E-5	cm/cm/°C	
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (240°C, 1000 sec ⁻¹)	230	Pa · s	ASTM D3835
Injection	Nominal Value	Unit	
Drying Temperature	82.2 to 93.3	°C	
Drying Time	2.0 to 4.0	hr	
Drying Time, Maximum	8.0	hr	
Suggested Max Moisture	0.10	%	
Suggested Shot Size	50 to 70	%	
Rear Temperature	188 to 210	°C	
Middle Temperature	204 to 227	°C	
Front Temperature	216 to 238	°C	
Nozzle Temperature	218 to 260	°C	
Processing (Melt) Temp	218 to 260	°C	
Mold Temperature	48.9 to 71.1	°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 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	Rate B (120°C/h), Loading 2 (50 N)

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