



**CYCOLAC™ Resin MG47U**  
**Americas: COMMERCIAL**

Improved UV performance, multi-purpose, injection molding ABS providing a favorable balance of engineering properties.

TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>MECHANICAL</b>			
Hardness, Rockwell R	112	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	45	MPa	ISO 527
Tensile Stress, break, 50 mm/min	33	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	2.4	%	ISO 527
Tensile Strain, break, 50 mm/min	20	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	68	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched 80*10*4 +23°C	20	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m <sup>2</sup>	ISO 180/1A
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	99	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	94	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	80	°C	ASTM D 648
CTE, -40°C to 40°C, flow	8.82E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.82E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	98	°C	ISO 306
Vicat Softening Temp, Rate B/120	100	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	81	°C	ISO 75/Af
<b>PHYSICAL</b>			
Specific Gravity	1.04	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.8	%	SABIC Method
Melt Viscosity, 240°C, 1000 sec-1	2250	poise	ASTM D 3825

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES <sup>1</sup>	TYPICAL VALUE	Unit	Standard
<b>PHYSICAL</b>			
Density	1.04	g/cm <sup>3</sup>	ISO 1183
Melt Flow Rate, 220°C/10.0 kg	17	g/10 min	ISO 1133

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
<b>Injection Molding</b>		
Drying Temperature	80 - 95	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.1	%
Melt Temperature	220 - 260	°C
Nozzle Temperature	220 - 260	°C
Front - Zone 3 Temperature	215 - 240	°C
Middle - Zone 2 Temperature	205 - 225	°C
Rear - Zone 1 Temperature	190 - 210	°C
Mold Temperature	50 - 70	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	30 - 60	rpm
Shot to Cylinder Size	50 - 70	%
Vent Depth	0.038 - 0.051	mm

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