

# CYCOLAC<sup>TM</sup> RESIN MG47

REGION ASIA

## DESCRIPTION

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

## TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	44	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	33	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	24	%	ASTM D 638
Tensile Modulus, 5 mm/min	2270	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	70	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2300	MPa	ASTM D 790
Hardness, Rockwell R	112	-	ASTM D 785
Tensile Stress, yield, 50 mm/min	47	MPa	ISO 527
Tensile Stress, break, 50 mm/min	35	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	2.6	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	2370	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2200	MPa	ISO 178
<b>IMPACT</b>			
Izod Impact, notched, 23°C	320	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	30	J	ASTM D 3763
Izod Impact, notched 80°10'4 +23°C	22	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
Charpy 23°C, V-notch Edgew 80°10'4 sp=62mm	26	kJ/m <sup>2</sup>	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80°10'4 sp=62mm	9	kJ/m <sup>2</sup>	ISO 179/1eA
<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
Relative Temp Index, Elec	60	°C	UL 746B
Relative Temp Index, Mech w/impact	60	°C	UL 746B
Relative Temp Index, Mech w/o impact	60	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL</b>			
Specific Gravity	1.04	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 230°C/3.8 kg	5.6	g/10 min	ASTM D 1238
Melt Viscosity, 240°C, 1000 sec-1	2250	Poise	ASTM D 3825
Density	1.04	g/cm <sup>3</sup>	ISO 1183
Melt Flow Rate, 220°C/10.0 kg	18	g/10 min	ISO 1133
<b>ELECTRICAL</b>			
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94HB Flame Class Rating	1.5	mm	UL 94
<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	

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NON-INFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.