

# CYCOLAC™ RESIN MG47N

REGION AMERICAS

## DESCRIPTION

Multi-purpose, injection molding ABS providing a favorable balance of engineering properties. NSF Standard 61.

## TYPICAL PROPERTY VALUES

Revision 20170816

| PROPERTIES                                   | TYPICAL VALUES | UNITS    | TEST METHODS |
|----------------------------------------------|----------------|----------|--------------|
| MECHANICAL                                   |                |          |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 44             | MPa      | ASTM D 638   |
| Tensile Stress, brk, Type I, 5 mm/min        | 34             | 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 | 72             | MPa      | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 2340           | MPa      | ASTM D 790   |
| IMPACT                                       |                |          |              |
| Izod Impact, notched, 23°C                   | 320            | J/m      | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 31             | J        | ASTM D 3763  |
| THERMAL                                      |                |          |              |
| 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   |
| 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      |
| PHYSICAL                                     |                |          |              |
| Specific Gravity                             | 1.04           | -        | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)             | 0.5 – 0.8      | %        | SABIC method |
| Melt Flow Rate, 230°C/3.8 kgf                | 5.6            | g/10 min | ASTM D 1238  |
| Melt Viscosity, 240°C, 1000 sec-1            | 2250           | Poise    | ASTM D 3825  |
| Melt Flow Rate, 220°C/10.0 kg                | 18             | g/10 min | ISO 1133     |
| ELECTRICAL                                   |                |          |              |
| Arc Resistance, Tungsten {PLC}               | 6              | PLC Code | ASTM D 495   |



| PROPERTIES                                 | TYPICAL VALUES | UNITS    | TEST METHODS |
|--------------------------------------------|----------------|----------|--------------|
| 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 (3) | 1.52           | 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

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