



**CYCOLAC™ Resin MG38N**  
**Americas: COMMERCIAL**

Very high impact ABS. Toughness/rigidity. Good fatigue resistance. NSF Standard 61 certified in limited colors (restrictions may apply)>

| TYPICAL PROPERTIES <sup>1</sup>              | TYPICAL VALUE | Unit                | Standard     |
|----------------------------------------------|---------------|---------------------|--------------|
| <b>MECHANICAL</b>                            |               |                     |              |
| Tensile Stress, yld, Type I, 5 mm/min        | 450           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Stress, brk, Type I, 5 mm/min        | 340           | kgf/cm <sup>2</sup> | ASTM D 638   |
| Tensile Strain, yld, Type I, 5 mm/min        | 2.1           | %                   | ASTM D 638   |
| Tensile Strain, brk, Type I, 5 mm/min        | 26            | %                   | ASTM D 638   |
| Tensile Modulus, 5 mm/min                    | 23100         | kgf/cm <sup>2</sup> | ASTM D 638   |
| Flexural Stress, yld, 1.3 mm/min, 50 mm span | 730           | kgf/cm <sup>2</sup> | ASTM D 790   |
| Flexural Modulus, 1.3 mm/min, 50 mm span     | 23900         | kgf/cm <sup>2</sup> | ASTM D 790   |
| <b>IMPACT</b>                                |               |                     |              |
| Izod Impact, notched, 23°C                   | 38            | cm-kgf/cm           | ASTM D 256   |
| Instrumented Impact Total Energy, 23°C       | 325           | cm-kgf              | ASTM D 3763  |
| <b>THERMAL</b>                               |               |                     |              |
| Vicat Softening Temp, Rate B/50              | 99            | °C                  | ASTM D 1525  |
| HDT, 0.45 MPa, 3.2 mm, unannealed            | 95            | °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                    | 8.64E-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      |
| <b>PHYSICAL</b>                              |               |                     |              |
| Specific Gravity                             | 1.05          | -                   | ASTM D 792   |
| Mold Shrinkage, flow, 3.2 mm (5)             | 0.5 - 0.8     | %                   | SABIC Method |
| Melt Flow Rate, 230°C/3.8 kgf                | 3.7           | g/10 min            | ASTM D 1238  |
| Melt Viscosity, 240°C, 1000 sec-1            | 2450          | poise               | ASTM D 3825  |





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|--------------------------------------------|---------------|----------|------------|
| <b>PHYSICAL</b>                            |               |          |            |
| Melt Flow Rate, 220°C/10.0 kg              | 15            | g/10 min | ISO 1133   |
| <b>ELECTRICAL</b>                          |               |          |            |
| Arc Resistance, Tungsten {PLC}             | 5             | PLC Code | ASTM D 495 |
| Hot Wire Ignition {PLC}                    | 3             | PLC Code | UL 746A    |
| High Voltage Arc Track Rate {PLC}          | 2             | 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      |





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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   |

