

CYCOLACT™ RESIN MG47U

REGION AMERICAS

DESCRIPTION

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

TYPICAL PROPERTY VALUES

Revision 20220721

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---------------------------------------|----------------|-------------------|--------------|
| MECHANICAL | | | |
| Hardness, Rockwell R | 112 | - | ASTM D785 |
| 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 |
| IMPACT | | | |
| Izod Impact, notched 80*10*4 +23°C | 20 | kJ/m ² | ISO 180/1A |
| Izod Impact, notched 80*10*4 -30°C | 8 | kJ/m ² | ISO 180/1A |
| THERMAL | | | |
| Vicat Softening Temp, Rate B/50 | 99 | °C | ASTM D1525 |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 94 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 80 | °C | ASTM D648 |
| CTE, -40°C to 40°C, flow | 8.82E-05 | 1/°C | ASTM E831 |
| CTE, -40°C to 40°C, xflow | 8.82E-05 | 1/°C | ASTM E831 |
| 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 |
| PHYSICAL | | | |
| Specific Gravity | 1.04 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm | 0.5 – 0.8 | % | SABIC method |
| Melt Viscosity, 240°C, 1000 sec-1 | 2250 | Poise | ASTM D3825 |
| Density | 1.04 | g/cm ³ | ISO 1183 |
| Melt Flow Rate, 220°C/10.0 kg | 17 | g/10 min | ISO 1133 |
| INJECTION MOLDING | | | |
| 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 | |

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|---------------------------|----------------|-------|--------------|
| 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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