

RapidCast™ RC-510

Polyurethane Thermoset Elastomer

Innovative Polymers, Inc.

Message:

RC-510 is a rigid polyurethane formulated for room temperature meter-mix dispensing systems and short mold cycle times. Excellent physical properties can be obtained with a room temperature cure without the utilization of mercury, MOCA, or TDI.

| General Information | | | |
|-----------------------------------|---|-------------------|-------------|
| Features | Fast Molding Cycle High Heat Resistance High Rigidity | | |
| RoHS Compliance | RoHS Compliant | | |
| Appearance | Black | | |
| Processing Method | Casting | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | | | |
| Hardener | 1.08 | g/cm ³ | |
| Cured | 1.12 | g/cm ³ | |
| Base Resin | 1.20 | g/cm ³ | |
| Molding Shrinkage - Flow | 0.20 to 0.60 | % | ASTM D2566 |
| Mechanical | Nominal Value | Unit | Test Method |
| Flexural Modulus | 1860 | MPa | ASTM D790 |
| Flexural Strength | 87.6 | MPa | ASTM D790 |
| Compressive Modulus | 4000 | MPa | ASTM D695 |
| Compressive Strength | 63.4 | MPa | ASTM D695 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | 21 | J/m | ASTM D256 |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load | | | |
| 0.45 MPa, Unannealed | 157 | °C | |
| 1.8 MPa, Unannealed | 135 | °C | |
| Thermoset | Nominal Value | Unit | Test Method |
| Thermoset Components | | | |
| | Mix Ratio by Volume: 100 | | |
| Hardener | Mix Ratio by Weight: 90 | | |

Mix Ratio by Weight: 100

| Resin | Mix Ratio by Volume: 100 | | |
|-----------------------------|--------------------------|------|-------------|
| Demold Time | 20 to 30 | min | |
| Uncured Properties | Nominal Value | Unit | Test Method |
| Viscosity | | | |
| 25°C ¹ | 0.10 | Pa·s | |
| 25°C ² | 0.70 | Pa·s | |
| 25°C ³ | 2.0 | Pa·s | |
| Curing Time (25°C) | 24 | hr | |
| Gel Time | 0.67 to 1.0 | min | |
| Cured Properties | Nominal Value | Unit | Test Method |
| Shore Hardness (Shore D) | 80 to 90 | | ASTM D2240 |
| Tensile Strength | 62.1 | MPa | ASTM D638 |
| Tensile Elongation at Break | 5.0 | % | ASTM D638 |
| NOTE | | | |
| 1. | Resin | | |
| 2. | Mixed | | |
| 3. | Hardener | | |

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