

Nylene® 451

Polyamide 6

Custom Resins Group

Message:

Recommended for molding applications requiring both maximum durability and toughness

Exceptional fatigue and wear resistance insure long product life to gears, bearings, cams, fasteners, and other load bearing parts

Chemically resists oil and grease

Optimum processing conditions should provide a melt temperature of 460°F-480°F at the nozzle

| General Information | | | |
|-----------------------------------|----------------------|-------------------|-------------|
| UL YellowCard | E40081-231515 | | |
| Features | Durable | | |
| | Fatigue Resistant | | |
| | Good Toughness | | |
| | Good Wear Resistance | | |
| | Grease Resistant | | |
| | Oil Resistant | | |
| Uses | Bearings | | |
| | Cams | | |
| | Fasteners | | |
| | Gears | | |
| Processing Method | Injection Molding | | |
| Physical | Nominal Value | Unit | Test Method |
| Specific Gravity | 1.14 | g/cm ³ | ASTM D792 |
| Molding Shrinkage - Flow | 1.2 | % | ASTM D955 |
| Mechanical | Nominal Value | Unit | Test Method |
| Tensile Strength (23°C) | 82.7 | MPa | ASTM D638 |
| Tensile Elongation (Break, 23°C) | 70 | % | ASTM D638 |
| Flexural Modulus (23°C) | 2690 | MPa | ASTM D790 |
| Impact | Nominal Value | Unit | Test Method |
| Notched Izod Impact | | | ASTM D256 |
| -40°C | 21 | J/m | |
| 23°C | 37 | J/m | |
| Thermal | Nominal Value | Unit | Test Method |
| Deflection Temperature Under Load | | | ASTM D648 |
| 0.45 MPa, Unannealed | 175 | °C | |
| 1.8 MPa, Unannealed | 75.0 | °C | |
| Peak Melting Temperature | 216 | °C | ASTM D3418 |

| Injection | Nominal Value | Unit |
|------------------------|---------------|------|
| Processing (Melt) Temp | 238 to 249 | °C |

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