

LEXANT™ FR RESIN LCF1506

DESCRIPTION

LEXAN LCF1506 compound is based on Polycarbonate (PC) resin containing 15% carbon fiber, 5% PTFE. Added features of this grade include: Electrically Conductive, Internally Lubricated, Wear Resistant and Flame Retardant

| GENERAL INFORMATION | |
|-----------------------|--|
| Features | Flame Retardant, Electrically Conductive, Wear resistant, Carbon fiber filled, High stiffness/Strength |
| Fillers | Carbon Fiber, PTFE |
| Polymer Types | Polycarbonate (PC) |
| Processing Techniques | Injection Molding |

| INDUSTRY | SUB INDUSTRY |
|----------------------------|-----------------------|
| Electrical and Electronics | Electronic Components |
| Industrial | Material Handling |

TYPICAL PROPERTY VALUES

Revision 20231109

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|---|----------------|-------|--------------|
| MECHANICAL ⁽¹⁾ | | | |
| Tensile Stress, yld, Type I, 5 mm/min | 111 | MPa | ASTM D638 |
| Tensile Stress, brk, Type I, 5 mm/min | 111 | MPa | ASTM D638 |
| Tensile Strain, brk, Type I, 5 mm/min | 4.1 | % | ASTM D638 |
| Flexural Stress, brk, 1.3 mm/min, 50 mm span | 160 | MPa | ASTM D790 |
| Flexural Stress, brk, 2.6 mm/min, 100 mm span | 154 | MPa | ASTM D790 |
| Flexural Modulus, 1.3 mm/min, 50 mm span | 9080 | MPa | ASTM D790 |
| Flexural Modulus, 2.6 mm/min, 100 mm span | 8410 | MPa | ASTM D790 |
| K-factor xE-10, PV=2000 psi-fpm vs Steel | 1000 | - | SABIC method |
| Coefficient of Friction on steel, Static | 0.41 | - | ASTM D1894 |
| Coefficient of Friction on steel, Kinetic | 0.19 | - | ASTM D1894 |
| IMPACT ⁽¹⁾ | | | |
| Izod Impact, unnotched, 23°C | 283 | J/m | ASTM D4812 |
| Izod Impact, notched, 23°C | 53 | J/m | ASTM D256 |
| Instrumented Dart Impact Energy @ peak, 23°C | 11 | J | ASTM D3763 |
| THERMAL ⁽¹⁾ | | | |
| HDT, 0.45 MPa, 3.2 mm, unannealed | 141 | °C | ASTM D648 |
| HDT, 1.82 MPa, 3.2mm, unannealed | 137 | °C | ASTM D648 |
| HDT, 0.45 MPa, 6.4 mm, unannealed | 144 | °C | ASTM D648 |
| HDT, 1.82 MPa, 6.4 mm, unannealed | 139 | °C | ASTM D648 |
| Relative Temp Index, Elec | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/impact | 80 | °C | UL 746B |
| Relative Temp Index, Mech w/o impact | 80 | °C | UL 746B |
| PHYSICAL ⁽¹⁾ | | | |

| PROPERTIES | TYPICAL VALUES | UNITS | TEST METHODS |
|--|--------------------------------|---------|--------------|
| Specific Gravity | 1.31 | - | ASTM D792 |
| Mold Shrinkage, flow, 3.2 mm ⁽²⁾ | 0.05 – 0.15 | % | SABIC method |
| Mold Shrinkage, xflow, 3.2 mm ⁽²⁾ | 0.2 – 0.3 | % | SABIC method |
| ELECTRICAL ⁽¹⁾ | | | |
| Surface Resistivity ⁽³⁾ | 1.E+04 | Ω | ASTM D257 |
| Static Decay, 5000V to <50V | <0.01 | Seconds | FTMS101B |
| FLAME CHARACTERISTICS ⁽⁴⁾ | | | |
| UL Yellow Card Link | E121562-220955 | - | - |
| UL Yellow Card Link 2 | E207780-228432 | - | - |
| UL Recognized, 94V-0 Flame Class Rating | ≥1.5 | mm | UL 94 |
| INJECTION MOLDING ⁽⁵⁾ | | | |
| Drying Temperature | 120 | °C | |
| Drying Time | 3 – 4 | Hrs | |
| Drying Time (Cumulative) | 48 | Hrs | |
| Maximum Moisture Content | 0.02 | % | |
| Melt Temperature | 290 – 315 | °C | |
| Nozzle Temperature | 290 – 315 | °C | |
| Front - Zone 3 Temperature | 290 – 315 | °C | |
| Middle - Zone 2 Temperature | 280 – 305 | °C | |
| Rear - Zone 1 Temperature | 275 – 295 | °C | |
| Mold Temperature | 70 – 105 | °C | |
| Back Pressure | 0.3 – 0.7 | MPa | |
| Screw Speed | 40 – 70 | rpm | |
| Shot to Cylinder Size | 40 – 60 | % | |
| Vent Depth | 0.025 – 0.076 | mm | |

- (1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
- (2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
- (3) Measurement meets requirements as specified in ASTM D4496.
- (4) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.
- (5) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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