



**Product Data Sheet &  
General Processing Conditions**

**RTP 3499-3 X 102947 B  
Liquid Crystal Polymer (LCP)  
Thermally Conductive  
Electrically Insulative**

**PROPERTIES & AVERAGE VALUES OF INJECTION MOLDED SPECIMENS**

| <b>PERMANENCE</b>   | <b>English</b>                          | <b>SI Metric</b>           | <b>ASTM TEST</b> |
|---|---|----------------------------|------------------|
| Specific Gravity  | 2.70                                    | 2.70                       | D 792            |
| Molding Shrinkage<br>1/8 in (3.2 mm) section              | 0.0040 in/in                            | 0.40 %                     | D 955            |
| <b>MECHANICAL</b>   |   |                            |                  |
| Impact Strength, Izod<br>notched 1/8 in (3.2 mm) section  | 0.6 ft-lbs/in                           | 32 J/m                     | D 256            |
| unnotched 1/8 in (3.2 mm) section                         | 2.5 ft-lbs/in                           | 133 J/m                    | D 4812           |
| Tensile Strength  | 9000 psi                                | 62 MPa                     | D 638            |
| Tensile Elongation  | 0.7 %                                   | 0.7 %                      | D 638            |
| Tensile Modulus   | 1.80 x 10 <sup>6</sup> psi              | 12411 MPa                  | D 638            |
| Flexural Strength   | 13000 psi                               | 90 MPa                     | D 790            |
| Flexural Modulus  | 1.85 x 10 <sup>6</sup> psi              | 12756 MPa                  | D 790            |
| <b>ELECTRICAL</b>   |   |                            |                  |
| Volume Resistivity  | > 1E12 ohm.cm                           | > 1E12 ohm.cm              | D 257            |
| <b>THERMAL</b>  |   |                            |                  |
| Deflection Temperature<br>@ 264 psi (1820 kPa)            | 465 °F                                  | 241 °C                     | D 648            |
| Ignition Resistance*<br>Flammability**                    | V-0 @ 1/16 in                           | V-0 @ 1.5 mm               | D 3801           |
| Coefficient of Linear Thermal Expansion<br>Flow Direction | 1.0 x 10 <sup>-5</sup> /°F              | 1.7 x 10 <sup>-5</sup> /°C | E 831            |
| Transverse Direction                                      | 3.8 x 10 <sup>-5</sup> /°F              | 6.9 x 10 <sup>-5</sup> /°C | E 831            |
| Thermal Conductivity<br>Through-plane                     | 11.10 (BTU.in)/(hr.ft <sup>2</sup> .°F) | 1.60 W/(m.K)               | E 1530           |

**PROPERTY NOTES**

Data herein is typical and not to be construed as specifications.

Unless otherwise specified, all data listed is for natural or black colored materials. Pigments can affect properties.

\* This rating is not intended to reflect hazards of this or any other material under actual fire conditions.

\*\* Values per RTP Company testing.

**GENERAL PROCESSING FOR INJECTION MOLDING**

|                    | <b>English</b>    | <b>SI Metric</b> |
|--------------------|-------------------|------------------|
| Injection Pressure | 12000 - 18000 psi | 83 - 124 MPa     |
| Melt Temperature   | 630 - 690 °F      | 332 - 366 °C     |
| Mold Temperature   | 150 - 250 °F      | 66 - 121 °C      |
| Drying             | 8 hrs @ 300 °F    | 8 hrs @ 149 °C   |
| Dew Point          | -20 °F            | -29 °C           |

**PROCESSING NOTES**

The key to successfully molding this material is to start mold open cycles as soon as the screw reaches its retracted position.

This information is intended to be used only as a guideline for designers and processors of modified thermoplastics. Because design and processing is complex, a set solution will not solve all problems. Observation on a "trial and error" basis may be required to achieve desired results.

Data are obtained from specimens molded under carefully controlled conditions from representative samples of the compound described herein. Properties may be materially affected by molding techniques applied and by the size and shape of the item molded. No assurance can be implied that all molded articles will have the same properties as those listed.

No information supplied by RTP Company constitutes a warranty regarding product performance or use. Any information regarding performance or use is only offered as suggestion for investigation for use, based upon RTP Company or other customer experience. RTP Company makes no warranties, expressed or implied, concerning the suitability or fitness of any of its products for any particular purpose. It is the responsibility of the customer to determine that the product is safe, lawful and technically suitable for the intended use. The disclosure of information herein is not a license to operate under, or a recommendation to infringe any patents.

RTP COMPANY • 580 EAST FRONT STREET • WINONA, MN 55987 • 507-454-6900