



**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<br/>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                                          | $1.80 \times 10^6$ psi                  | 12411 MPa                             | D 638                |
| Flexural Strength                                        | 13000 psi                               | 90 MPa                                | D 790                |
| Flexural Modulus                                         | $1.85 \times 10^6$ 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*                                     |                                         |                                       |                      |
| Flammability**                                           | V-0 @ 1/16 in                           | V-0 @ 1.5 mm                          | D 3801               |
| Coefficient of Linear Thermal Expansion                  |                                         |                                       |                      |
| Flow Direction                                           | $1.0 \times 10^{-5}/^{\circ}\text{F}$   | $1.7 \times 10^{-5}/^{\circ}\text{C}$ | E 831                |
| Transverse Direction                                     | $3.8 \times 10^{-5}/^{\circ}\text{F}$   | $6.9 \times 10^{-5}/^{\circ}\text{C}$ | 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.