

# RT511F

## TECHNICAL DATA BULLETIN

**GRADE: RT511F**

**NEMA GRADE: G-11, type**

**U.L. LISTED: N**

DESCRIPTION: RT511F meets all of the requirements of NEMA G-10, with the added feature of having excellent strength at elevated temperatures. The fine weave fabric used in this version provides a better finish to the final part. Typical applications include bushings, spacers and structural parts for power generation equipment. RT511F also complies with MIL-I-24768/2, Type GEE, ASTM D709 Type IV Grade G-10 and IEC 61212-3-1 EP GC 21 & 22.

### TYPICAL PROPERTIES

|  |                                 | UNITS   | VALUE                     |               |
|--|---------------------------------|---------|---------------------------|---------------|
|  |                                 |         | Specimen Tested (ID x OD) |               |
|  |                                 |         |                           | 0.75" x 1.00" |
| <b>PHYSICAL PROPERTIES</b>                 |                                 |         |                           |               |
| <b>Specific Gravity</b><br>(ASTM D792)     |                                 | -       |                           | 1.90          |
| <b>Rockwell Hardness</b><br>(ASTM D785)    |                                 | M Scale |                           | 110           |
| <b>Moisture Absorption</b><br>(ASTM D570)  | Condition D <sub>1</sub> -24/23 | %       |                           | 0.07          |
| <b>Tensile Strength</b><br>(ASTM D638)     | Condition A                     | psi     |                           | 50,000        |
|  | Condition E-1/150: T-150        | psi     |                           | 41,250        |
| <b>Compressive Strength</b><br>(ASTM D695) | Condition A                     | psi     |                           | 44,000        |
|  | Condition E-1/150: T-150        | psi     |                           | 37,500        |
| <b>Compressive Modulus</b><br>(ASTM D695)  | Condition A                     | kpsi    |                           | 1,065         |

## RT511F - TYPICAL PROPERTIES (continued)

|   | UNITS                   | VALUE                     |               |  |
|---|-------------------------|---------------------------|---------------|--|
|   |                         | Specimen Tested (ID x OD) |               |  |
|   |                         |                           | 0.75" x 1.00" |  |
| <b>THERMAL PROPERTIES</b>                                     |                         |                           |               |  |
| <b>Temperature Index</b> <sup>1</sup>                         | Electrical / Mechanical | °C                        | 200 / 200     |  |
| <b>Tg by DMA</b>  | Condition A             | °C                        | ≥ 170         |  |
| <b>Flammability Rating</b><br>(UL Bulletin 94)                | Condition A             | Class                     | HB            |  |
| <b>ELECTRICAL PROPERTIES</b>                                  |                         |                           |               |  |
| <b>Dissipation Factor</b><br><b>@ 1 MHz</b><br>(ASTM D150)    | Condition A             | -                         | 0.024         |  |
|   | Condition D-24/23       | -                         | 0.034         |  |
| <b>Relative Permittivity</b><br><b>@ 1 MHz</b><br>(ASTM D150) | Condition A             | -                         | 4.39          |  |
|   | Condition D-24/23       | -                         | 4.46          |  |
| <b>Breakdown Voltage</b><br>(ASTM D149)                       | Condition A             | kVolts                    | 65            |  |
|   | Condition D-48/50       | kVolts                    | 75            |  |
| <b>Electric Strength</b><br>(ASTM D149)                       | Condition A             | Volts/mil                 | 475           |  |
|   | Condition D-48/50       | Volts/mil                 | 500           |  |

<sup>1</sup> NEMA LI-6: This temperature is a recommendation only, and based upon experience in various applications. The maximum operating temperature is dependent upon the application and should be investigated prior to use.

At this time G-11 tubing grades are not recognized by NEMA; however, they are recognized by IEC 61212-3-1; grade EP-GC-22. This grade has equivalent electrical properties to G-10 tubing but with higher mechanical strength at elevated temperatures.

This data, while believed to be accurate and based on reliable analytical methods, is for informational purposes only. The terms and conditions of the agreement under which it is sold will govern any sales of this product. Data supplied above are "typical values"; not to be considered "specification values".

To assure the material's performance is adequate for a specific application; customers should verify, independent of Norplex-Micarta, performance characteristics of interest.

It is the responsibility of the users of this information to make sure that they have the latest version of this TDB, and are urged to contact Customer Service, or preferably our web site, [www.norplex-micarta.com](http://www.norplex-micarta.com), to determine if information is the most current.

Specification writers: Contact Norplex-Micarta for specification values before submission.