

# Arlon<sup>®</sup> 1163 Sealing Solutions

|  |  |  |                      |
|--|--|--|----------------------|
| Compound No./Material Name:<br><b>Arlon<sup>®</sup> 1163</b> | Material Description:<br><b>PEEK, Glass Filled, MIL-P-46183, Type II, Class 3</b><br>(With exceptions; Contact Greene Tweed Engineering) | Manufacturing Method:<br><b>Injection Molded</b> | Color:<br><b>Tan</b> |
|--|--|--|----------------------|

| Description (ASTM Standard)   | Typical              |
|---|----------------------|
| <b>Physical &amp; Mechanical Properties</b>   |                      |
| Specific Gravity (D792)   | 1.53                 |
| Hardness, Shore D (D2240)   | 90                   |
| Hardness, Rockwell M (D785)   | 107                  |
| Tensile Break Strength, psi [MPa] (D638)  | 27,000 [186.1]       |
| Tensile 0.5% Secant Modulus, psi [MPa] (D638)   | 1,720,000 [11,858.9] |
| Elongation, % (D638)  | 2.4                  |
| Flexural Strength, psi [MPa] (D790)   | 38,000 [262.0]       |
| Flexural 0.5% Secant Modulus, psi [MPa] (D790)  | 1,500,000 [10,342.1] |
| Shear Strength, Axial, psi [MPa] (D732)   | 15,300 [105.4]       |
| Shear Strength, Transverse, psi [MPa] (D732)  | 11,700 [80.6]        |
| Compressive Strength @ Break, psi [MPa] (D695)  | 35,000 [241.3]       |
| Deformation Under Load, % (D621)  | 0.08                 |
| Heat Deflection Temperature @ 264 psi [1.82 MPa], °F [°C] (D648)  | > 600 [>316]         |
| Coefficient of Dynamic Friction, PV=12,600 psi-ft/min (G77)   | 0.24                 |
| Wear Factor, Modified ASTM G77, 10 <sup>-10</sup> in. <sup>3</sup> -min/ (lb-ft-hr) (G77)                       | 175                  |
| Coefficient of Thermal Expansion < 300°F [149°C], 10 <sup>-6</sup> in./(in°F) [10 <sup>-6</sup> cm/cm°C] (D696) | 14 [25.2]            |
| Coefficient of Thermal Expansion > 300°F [149°C], 10 <sup>-6</sup> in./(in°F) [10 <sup>-6</sup> cm/cm°C] (D696) | 25 [45]              |

**Notes:**

1. Specification: MIL-P-46183, Type II, Class 3, with exceptions, contact Greene Tweed Engineering.
2. Properties of Arlon<sup>®</sup> 1163 are anisotropic. The published properties, unless otherwise noted, are measured in the axial flow direction of molded test specimens. Strength and stiffness, therefore, are at a maximum while elongation and thermal coefficient of expansion are at a minimum.
3. Reference GTC Material Code Number. Solid Code: 358; Split Code: 134; AGT Code: P23.