

Arlon® 1163 Sealing Solutions

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

Description (ASTM Standard)	Typical
Physical & Mechanical Properties	
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 ⁻¹⁰ in. ³ -min/ (lb-ft-hr) (G77)	175
Coefficient of Thermal Expansion < 300°F [149°C], 10 ⁻⁶ in./ (in°F) [10 ⁻⁶ cm/cm°C] (D696)	14 [25.2]
Coefficient of Thermal Expansion > 300°F [149°C], 10 ⁻⁶ in./ (in°F) [10 ⁻⁶ 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® 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.