

Greene Tweed Arlon® 1000 Polyketone

Category : Polymer , Thermoplastic , Polyketone , Polyetheretherketone (PEEK)

Material Notes:

Arlon® is a tough, high-temperature, semi-crystalline, thermoplastic presenting a unique combination of mechanical, thermal, chemical and electrical properties. Greene, Tweed uses several proprietary manufacturing and machining processes to ensure that Arlons properties consistently outperform the competition. Greene, Tweed offers several different Arlon materials, and all provide high tensile strength and elongation properties, excellent shear strength and creep resistance, outstanding fatigue resistance, broad chemical and radiation resistance, and no susceptibility to hydrolysis (steam/hot water). Our engineers work one on one with customers to find the right solution for each specific application. Information provided by Greene Tweed.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Greene-Tweed-Arlon-1000-Polyketone.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.30 g/cc	1.30 g/cc	ASTM D792
Deformation	0.090 %	0.090 %	ASTM D621

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	104	104	ASTM D785
Hardness, Shore D	88	88	ASTM D2240
Tensile Strength at Break	96.5 MPa	14000 psi	ASTM D368
	29.6 MPa	4300 psi	
	@Temperature 316 °C	@Temperature 600 °F	
Tensile Strength, Ultimate	51.7 MPa	7500 psi	
	@Temperature 149 °C	@Temperature 300 °F	
Tensile Strength, Yield	108 MPa	15600 psi	ASTM D638
Elongation at Break	35 %	35 %	ASTM D638
Flexural Strength	174 MPa	25300 psi	ASTM D790
	4.83 MPa	700 psi	
	@Temperature 316 °C	@Temperature 600 °F	
	72.4 MPa	10500 psi	
	@Temperature 149 °C	@Temperature 300 °F	
Flexural Modulus	4.14 GPa	600 ksi	Flexural 0.5% Secant Modulus; ASTM D790

Compressive Strength Mechanical Properties	131 MPa Metric	19000 psi English	ASTM D695 Comments
Shear Strength	85.5 MPa	12400 psi	Axial; ASTM D732
	85.5 MPa	12400 psi	Transverse; ASTM D732
	15.9 MPa	2300 psi	
	@Temperature 316 Â°C	@Temperature 600 Â°F	
	46.9 MPa	6800 psi	
	@Temperature 149 Â°C	@Temperature 300 Â°F	
Secant Modulus	4.24 GPa	615 ksi	Tensile 0.5% Secant Modulus; ASTM D638
Coefficient of Friction, Dynamic	0.29	0.29	PV=12600 psi-fi./min.; ASTM G77
K (wear) Factor	105 x 10 ⁻⁸ mmÂ³/N-M	52.0 x 10 ⁻¹⁰ inÂ³- min/ft-lb-hr	ASTM G77

Thermal Properties	Metric	English	Comments
CTE, linear	46.8 Âµm/m-Â°C	26.0 Âµin/in-Â°F	ASTM E228
	@Temperature <=149 Â°C	@Temperature <=300 Â°F	
	135 Âµm/m-Â°C	75.0 Âµin/in-Â°F	ASTM E228
	@Temperature >=149 Â°C	@Temperature >=300 Â°F	
Deflection Temperature at 1.8 MPa (264 psi)	177 Â°C	350 Â°F	

Descriptive Properties	Value	Comments
Color	Tan	

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