

TriStar Ultracomp UC-300 Composite Bearing

Category : Polymer , Thermoplastic

Material Notes:

Ultracomp UC-300 - Similar in construction to UC-200. Containing special fillers that reduce its coefficient of friction, UC-300 is designed to handle higher rotational and linear speeds. This family of composite materials offers the combination of high compressive strength, low coefficient of friction, and excellent abrasion and corrosion resistance while running without lubrication. They are used in bearing and seal applications from temperature extremes of cryogenic to over 360°F with and without additional lubricants. Ultracomp Bearing Grade Composite: Laminates composed of synthetic fabrics impregnated by thermosetting resins and solid lubricant fillers. Material is available in tubes and sheets. Ideally suited for non-lubricated ultra high-load/low-speed applications that require a low coefficient of friction. Operates well in demanding and destructive environments. Suitable for use in steam, wet, dry, or vacuum environments. Rc 35 or higher steel mating surface. Markets for Ultracomp Bearing Grade Composite include Agricultural, Appliances, Automotive, Construction, Industrial, and Transportation.

Order this product through the following link:

http://www.lookpolymers.com/polymer_TriStar-Ultracomp-UC-300-Composite-Bearing.php

Physical Properties	Metric	English	Comments
Specific Gravity	1.35 g/cc	1.35 g/cc	
Water Absorption	<= 0.10 %	<= 0.10 %	24 hrs
Water Absorption at Saturation	<= 0.10 %	<= 0.10 %	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell M	100	100	
Tensile Strength, Yield	121 MPa	17500 psi	
Elongation at Break	26 %	26 %	
Tensile Modulus	3.92 GPa	569 ksi	
Flexural Strength	96.5 MPa	14000 psi	
Flexural Modulus	3.68 GPa	534 ksi	
Compressive Yield Strength	96.5 MPa	14000 psi	Perpendicular to Laminate
	248 MPa	36000 psi	10% deformation
Ultimate Compressive Strength	310 MPa	45000 psi	Perpendicular to Laminate
Compressive Modulus	4.48 GPa	650 ksi	Perpendicular to Laminate
	5.17 GPa	750 ksi	
Ultimate Bearing Strength	310 MPa	45000 psi	Static Bearing

Mechanical Properties <i>Izod Impact, Notched</i>	Metric <i>= 10.7 J/cm</i>	English <i>= 20.0 ft-lb/in</i>	Comments
Coefficient of Friction, Dynamic	0.080	0.080	Dry vs. Steel
Limiting Pressure Velocity	0.525 MPa-m/sec	15000 psi-ft/min	Unlubricated

Thermal Properties	Metric	English	Comments
CTE, linear	59.4 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	33.0 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Parallel to Laminates
	112 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	62.4 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	Perpendicular to Laminates
Maximum Service Temperature, Air	130 $^\circ\text{C}$	266 $^\circ\text{F}$	Continuous
	163 $^\circ\text{C}$	325 $^\circ\text{F}$	Short Term
Minimum Service Temperature, Air	-226 $^\circ\text{C}$	-375 $^\circ\text{F}$	Embrittlement Temp

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