

Toyobo Zylon® HM Poly(p-phenylene-2,6-benzobisoxazole) Fiber

Category : Polymer , Thermoset

Material Notes:

Property data below is for 1.5 denier fiber. Poly(p-phenylene-2,6-benzobisoxazole) (PBO) is a rigid-rod isotropic crystal polymer. Zylon is a new high performance fiber developed by TOYOBO using the latest material science and state of the art fiber technology. Zylon has superior tensile strength and modulus compared to p-Aramid fibers. It also has outstanding high flame resistance and thermal stability. Zylon shows excellent performance in such properties as creep, chemical resistance, cut/abrasion resistance and high temperature abrasion resistance, that far exceeds p-Aramid fibers. Zylon's moisture regain is low (0.6%) and it is dimensionally stable against humidity. Zylon is quite flexible and has a very soft hand, in spite of its extremely high mechanical properties. It can be processed into various product forms, such as continuous filament, staple fiber, spun yarn, woven and knitted fabrics, chopped fiber and pulp. Data provided by Toyobo Co., Ltd.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Toyobo-Zylon-HM-Polyp-phenylene-26-benzobisoxazole-Fiber.php

Physical Properties	Metric	English	Comments
Density	1.56 g/cc	0.0564 lb/in ³	
Moisture Absorption at Equilibrium	0.60 %	0.60 %	at 65% RH
	1.0 %	1.0 %	at 90% RH

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	5800 MPa	841000 psi	
Elongation at Break	2.5 %	2.5 %	
Tensile Modulus	280 GPa	40600 ksi	
Tenacity	3.71 N/tex	42.0 g/denier	

Thermal Properties	Metric	English	Comments
CTE, linear	-6.00 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	-3.33 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	
	@Temperature 20.0 $^\circ\text{C}$	@Temperature 68.0 $^\circ\text{F}$	
Decomposition Temperature	650 $^\circ\text{C}$	1200 $^\circ\text{F}$	
Oxygen Index	68 %	68 %	

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.0	3.0	
	@Frequency 100000 Hz	@Frequency 100000 Hz	
Dissipation Factor	0.0010	0.0010	

Electrical Properties

Metric

English

Comments

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