

Penn Fibre Pennite® 4512 Nylon 6, 12% Glass Fiber Reinforced (PA6)

Category : Polymer , Thermoplastic , Nylon , Nylon 6 , Nylon 6, 10% Glass Fiber Filled

Material Notes:

PENNITE® 4512 is a 12% glass fiber reinforced, black pigmented, thermally modified, type 6 nylon, available in sheets and rolls for high performance thermoforming and fabrication applications. PENNITE® 4512 offers an excellent balance of engineering properties combined with a superior melt strength ideally suited to engineered thermoforming products. PENNITE® 4512 exhibits improved strength, stiffness, and creep resistance compared to other nylons used in thermoforming and fabrication. PENNITE® 4512 provides outstanding permeability and chemical resistance to oils, hydrocarbons, and most solvents. PENNITE® 4512 is designed as a cost effective thermoplastic for metal replacement and is ideal for automotive applications such as air ducts, radiator shrouds, fuel cells, covers, structural components and reservoirs. Information provided by Ensinger/PennFibre Plastics, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Penn-Fibre-Pennite-4512-Nylon-6-12-Glass-Fiber-Reinforced-PA6.php

Physical Properties	Metric	English	Comments
Density	1.22 g/cc	0.0441 lb/in ³	ASTM D792

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	110 MPa	15900 psi	ASTM D638
	115 MPa @Temperature -40.0 °C	16700 psi @Temperature -40.0 °F	ASTM D638
Tensile Strength, Ultimate	45.0 MPa	6520 psi	ASTM D638
	@Temperature 121 °C	@Temperature 250 °F	
Elongation at Break	3.0 %	3.0 %	ASTM D638
	2.0 % @Temperature -40.0 °C	2.0 % @Temperature -40.0 °F	ASTM D638
	15 % @Temperature 121 °C	15 % @Temperature 250 °F	ASTM D638
Flexural Strength	165 MPa	23900 psi	ASTM D790
	50.0 MPa @Temperature 121 °C	7250 psi @Temperature 250 °F	ASTM D790
	200 MPa @Temperature -40.0 °C	29000 psi @Temperature -40.0 °F	ASTM D790
Flexural Modulus	4.65 GPa	674 ksi	ASTM D790

Mechanical Properties	0.993 GPa Metric	144 ksi English	Comments
	@Temperature 121 °C	@Temperature 250 °F	
	5.20 GPa	754 ksi	ASTM D790
	@Temperature -40.0 °C	@Temperature -40.0 °F	
Izod Impact, Notched	0.427 J/cm	0.800 ft-lb/in	ASTM D256
	0.374 J/cm	0.700 ft-lb/in	ASTM D256
	@Temperature -40.0 °C	@Temperature -40.0 °F	

Thermal Properties	Metric	English	Comments
Melting Point	220 °C	428 °F	ASTM D3418
Deflection Temperature at 1.8 MPa (264 psi)	197 °C	386 °F	ASTM D648
Flammability, UL94	HB	HB	

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