AmberStrand® fiber

syscom advanced materials

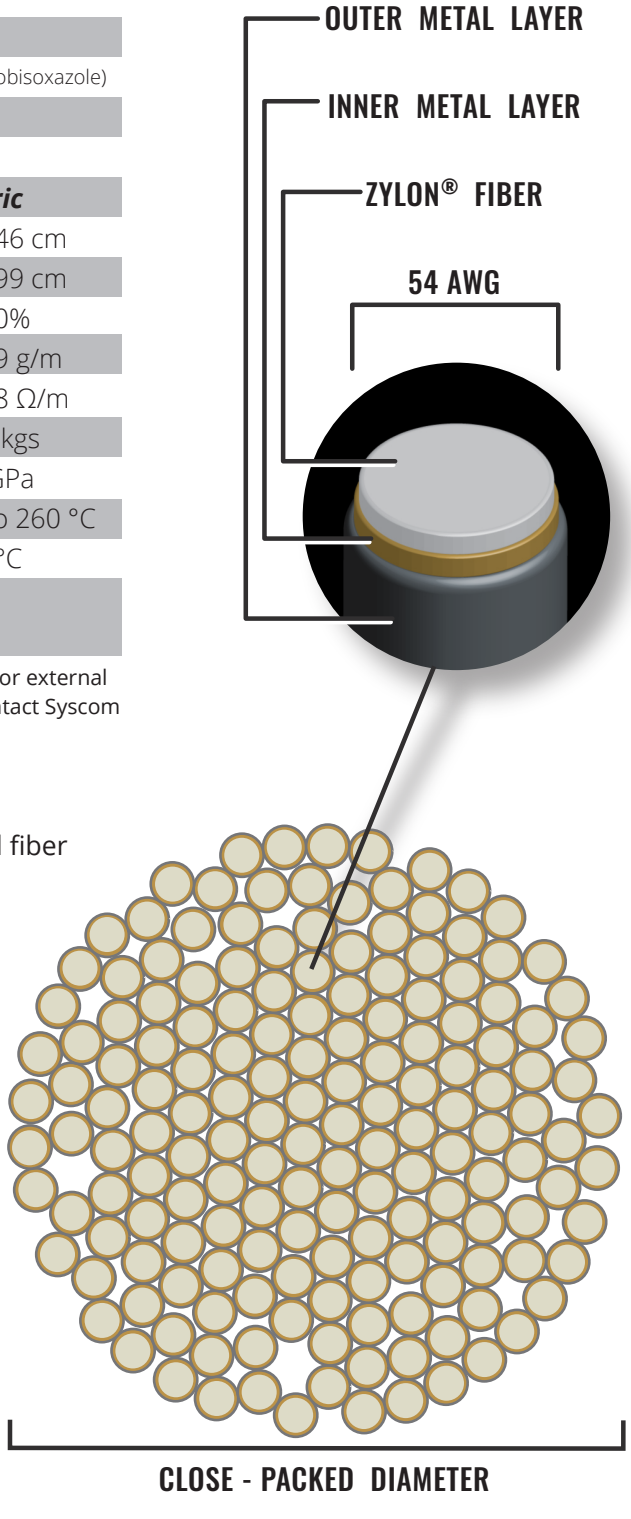
***AmberStrand*® Fiber is one of *Syscom Advanced Materials'* novel conductive metal-clad fibers. By pairing a light-weight, flexible, and high-strength *Zylon*® fiber core with a conductive metal outer layer, *AmberStrand*® Fiber gives freedom to design and manufacture outside the constraints of traditional wires. Designed to have excellent thermal stability, strength, cut resistance, and tailored electrical conductivity, *AmberStrand*® Fiber is optimized for use as a soft textile-like shielding braid, bare wire, or coated with insulation material. Further, *AmberStrand*® Fibers can be terminated by soldering or band connectors.**

AMBERSTRAND® 166

Fiber	Toyobo Zylon®	
Fiber Material	PBO Poly(p-phenylene-2, 6 benzobisoxazole)	
Filament count	166	
Outer Metallization Layers Available	Copper/Nickel/Silver	
Properties	***Imperial***	***Metric***
Yarn Diameter*	0.0097 in	0.0246 cm
Flat Width**	0.0275 in	0.0699 cm
% Metal by Weight	82.50%	82.50%
Weight	0.107 lbs/1,000 ft	0.159 g/m
DC Resistance	~1 Ω/ft	~3.28 Ω/m
Breaking Load	17.1 lbs	7.76 kgs
Tensile Strength	841.2 ksi	5.8 GPa
Operating Temperature	Up to 500 °F	Up to 260 °C
Melting point	1202 °F	650 °C

* Ideal close-packed calculated diameter
** Width of material as it lays in a braiding configuration

The data presented here is provided only as a guide and is based on internal and/or external testing of samples of standard production runs of Amberstrand® Fiber. Please contact Syscom Advanced Materials for additional property data or customization options.



PROPERTIES

- 65% lighter in weight than 30 AWG (stranded 40/46 Type C) copper wire
- Superior coverage results in up to 90% total weight savings in aerospace applications
- 6 times greater break strength than 30 AWG (stranded 40/46) copper wire
- Can be soldered or crimped
- Compatible with metal wire braiding equipment
- Supplied twisted or untwisted on braider bobbins
  - 1.7 twists/inch (TPI): Braiding Applications
  - 4.5 twists/inch (TPI): Sewing Applications

***AmberStrand*® metal clad fiber has excellent thermal stability, strength, cut resistance, and tailored electrical conductivity. *AmberStrand*® fiber utilizes *Zylon*® fiber and is available in 166 and 332 filaments metalized with nickel, copper or silver cladding.**

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