

SiO₂ Coaxial RF Cable

Reliability in Extreme Environments

What Sets Our Cable Apart

The attenuation of SiO₂ cables manufactured by other companies are exceptionally sensitive to moisture. Change in attenuation will increase signal transmission loss, potentially compromising a sensitive system. T-Axel's SiO₂ cable is very resistant to moisture and attenuation will experience very little change when exposed to moisture/open air. *

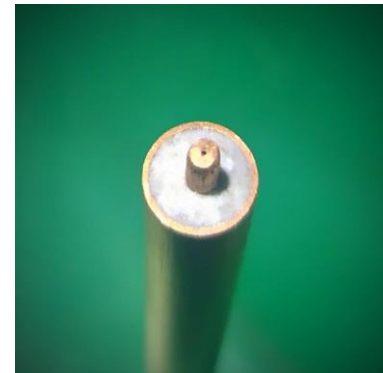
Because SiO₂ cables manufactured by other companies are very susceptible to moisture ingress, it must be encapsulated within a completely hermetic cable assembly. Due to our unique resistance to moisture, our cable can accommodate non-hermetically sealed connectors or even no connector.



Wide Applications

Whether it be in hypersonic missiles or satellites deep in space, T-Axel's cables are uniquely suited to endure the most demanding environments. It can withstand RF transmission power 5-20 times that of PTFE cables of comparable size. From absolute zero to over 1000° C, this cable provides extremely stable performance and minimizes loss.

Our SiO₂ cables can be hand-formed in the field or engineered for "drop-in" installations. The tight bending radius of 1.5X of the diameter also enables easier routing and less packing size.

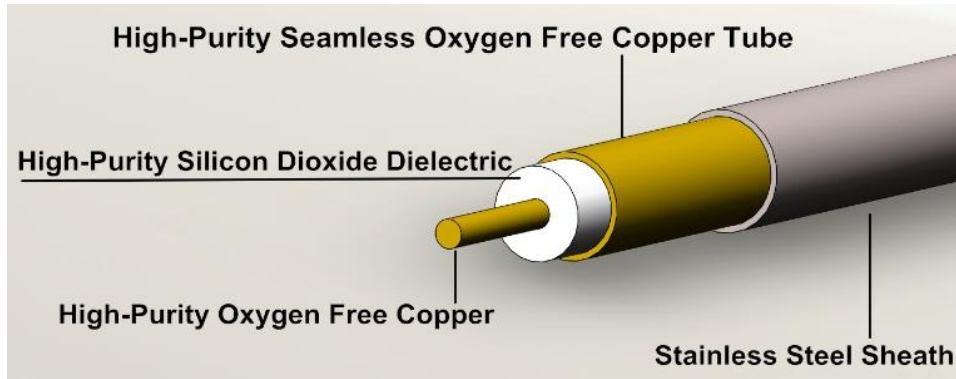


Mechanical Advantages

In addition to weighing significantly less than organic-cables, T-Axel's coaxial cables can last 40-60 years in harsh environments. It can withstand up to 20,000 PSI of pressure, a tensile force between 45 to 225 Kg, and accelerations of 45 g on the ground and 110 g in space.

Ultra-Lightweight SiO₂ Cable

Our Ultra-lightweight SiO₂ cable is **>50% lighter than a SiO₂ coax cable of similar size** and can operate from absolute zero to 350-450°C for applications that consider every ounce.

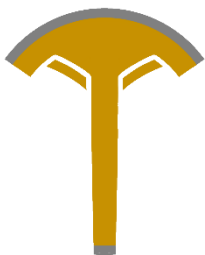


Performance Specifications

Outside Diameter (inches) ± 0.001	0.090	0.142	0.200	0.270
Weight (lb/ft)	0.016	0.026	0.048	0.081
Minimum Bend Radius (in)	0.30	0.45	0.70	1.00
Characteristic Impedance (ohms)	50	50	50	50
Capacitance (pF/ft)	28.5	28.5	28.5	28.5
Cut-off Frequency (GHz)	63	36	23	17.5
Insertion Loss at 12 GHz (dB/ft)	0.750	0.475	0.335	0.235
Maximum Voltage Withstand (kV) RMS	0.75	1.5	2.0	2.5
EMI Shielding	> 120 dB	> 120 dB	> 120 dB	> 120 dB

Environmental Specifications

Operating Temperature Range (Cable)	-273 to over 1000°C
Operating Temperature Range (Standard Conectors)	-273 to +200°C
Operating Temperature Range (High Temp Connectors)	-273 to +600°C
Operating Pressure Range	0 to 20,000 PSI
Chemical Resistance	Excellent
Radiation Resistance	Excellent



T-Axel

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