

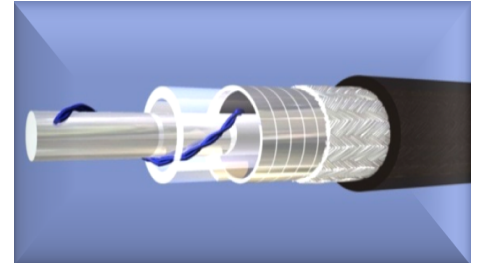
Temp-Flex® Air-Dielectric Ultra-Low-Loss Flexible Microwave Coaxial Cables



Delivering up to 88% velocity of propagation (VOP), Temp-Flex® Ultra-Low-Loss Flexible Microwave Cables exceed stringent military and aerospace specifications while achieving optimum phase stability and bandwidth

Temp-Flex® Air-Dielectric Ultra-Low-Loss Flexible Microwave Coaxial Cables, with air-enhanced phase-stable construction, are designed with a helically-wrapped (spiral) shield. The cables offer 100 dB or greater shielding effectiveness and protect signals from internal and external interference. Velocity of Propagation (up to 88%) results are amongst the highest in the marketplace with tight dimensional and electrical control, consistency for minimum Voltage Standing Wave Ratio (VSWR) and low insertion loss. These flexible microwave coaxial cables surpass the performance criteria required in these markets.

Combined with the option to connectorize, the cables provide solutions for a broad range of market requirements in applications including mil/aero, industrial/commercial and medical. Temp-Flex Air-Dielectric Ultra-Low-Loss Flexible Microwave Coaxial Cables are insulated with a fluoropolymer dielectric to ensure superior monitoring and control of radar, military vehicles, satellites, space, missile, radio frequency (RF) ablation and test and measurement equipment.



Temp-Flex® Air-Dielectric Ultra-Low-Loss Flexible Microwave Coaxial Cable With Patented Dual Monofilament Air Enhanced Design with 85 to 88% Velocity of Propagation (VOP)

Features and Benefits

Patented air-enhanced low-loss dielectric	Achieves 85 to 88% velocity of propagation (VOP) and bandwidth potential up to 110 GHz. Enables superior bandwidth and low insertion loss
Air-enhanced design with extruded fluoropolymer resin	Provides superior phase stability versus competitors' PTFE and ePTFE dielectrics (PTFE exhibits "knee" effect at room temperature due to molecular phase transition)
Highly consistent manufacturing process used to maintain the industry's smallest mechanical tolerances (0.047, 0.086, 0.141")	Yields extremely stable electrical performance. Ensures minimal change in electrical properties (impedance and insertion loss) in dynamic applications
Helically wrapped flat-wire shield with braid	Results in excellent shielding effectiveness greater than 100 dB. Provides enhanced flexibility and superior electrical performance versus competitors' semi-rigid microwave coaxial solutions
Highly reliable VSWR (Voltage Standing Wave Ratio) characteristics	Optimized return-loss performance
Available as complete assemblies with Molex RF connectors for select cable sizes and connector types	End-to-end solution for customers requiring signal integrity characterization reports

Applications

Military/Aerospace

- Radar
- Missiles
- Satellites
- Military Vehicles

Medical

- RF Ablation

Industrial —

Test and Measurement Equipment

- Device Under Test (DUT) cards



Satellite Dishes



Military Radar

Temp-Flex® Air-Dielectric Ultra-Low-Loss Flexible Microwave Coaxial Cables

molex®

Specifications

Reference Information

Packaging: 12-inch reels
UL File No.: E61522, Style: 1354
Mates With: High-Frequency RF Connectors
(i.e. SMA, 2.92mm, 2.4mm)
Use With: RF connectors
Designed In: Inches
RoHS: Yes
Halogen Free: Halogen-free coax jacket option available

Construction

Center Conductor: 31 to 19 AWG, solid or stranded,
silver-plated copper
Dielectric: FEP (high purity) or PFA
Inner Shield: Helically wound flat wire
(silver-plated copper)
Outer Shield: Braid (silver-plated copper)
Outer Jacket: FEP resin

Electrical

Impedance: 50 +/- 1 ohm (75 ohm option available)
Capacitance: Dependent on specific order number
Nominal Time Delay: 1.155 ns/ft to 1.196 ns/ft
depending on specific order number
Time Delay Tolerance: nominal +/- 10 ps/ft standard
with +/- 5 ps/ft option available
Insertion Loss: Dependent on specific order number
Cut off frequency: Dependent on specific order number
Shielding effectiveness: >100 dB
Phase Change vs. Temperature: Dependent on
specific order number
Phase Change vs. Flexure: Dependent on specific
order number
Continuous Power: Dependent on specific order
number

Mechanical

Minimum static bend radius: Dependent on specific
order number
Minimum dynamic bend radius: Dependent on
specific order number
Weight: Dependent on specific order number

Physical

Fire Resistance: V-0 (UL 1351)
Operating Temperature: -65 to +125°C

www.molex.com/link/tempflex/microwavecoax.html