

HGE055D

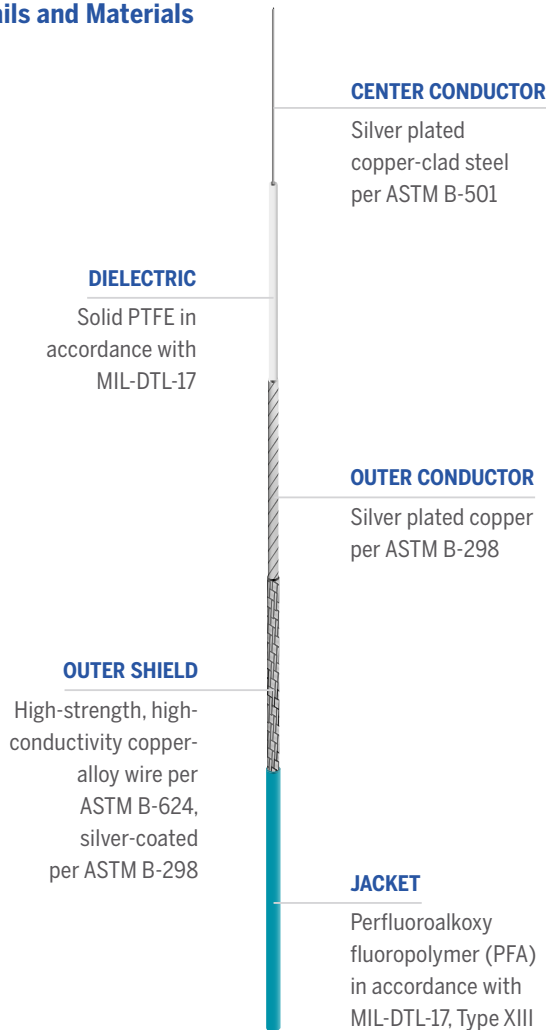
M-FLEX®



M-FLEX® Microwave Coaxial Cables are designed to accept semi-rigid cable connectors. Unlike other single or double-braided “RG”-type flexible cables, M-FLEX are true MIL-DTL-17 compliant microwave cables, a result of a precision helically-wrapped, silver-plated, copper-foil inner shield which allows for outstanding flexibility while providing 100% coverage.

 **Impedance**
50 Ohms
  **Operating Temperature**
-65°C to +125°C
  **RoHS**
Compliant

Details and Materials



Mechanical/Physical Properties

Jacket Diameter	in	0.055
	mm	1.40
Weight	grams/ft	≤ 1.5
	grams/m	≤ 4.9
Min Static Bend Radius	in	0.125
	mm	3.18
Center Conductor Strands		1

Electrical Properties

Velocity of Propagation	(%)	71
RF Shielding	(dB) at 1 GHz	≥ 70
Capacitance	pF/ft	28.36
	pF/m	93.04
Maximum Frequency	GHz	112
Corona Extinction Voltage	VRMS @ 60Hz	2000
Dielectric Withstanding Voltage	VRMS @ 60Hz	5000
Insertion Loss Stability	% Change ²	≤ 15
K1	Ft (m)	37.99 (1.246)
K2	Ft (m)	0.87 (0.029)

Maximum Attenuation¹, Power and VSWR

(at 20°C and Sea Level)

Frequency	Attenuation		Power	VSWR	
	GHz	dB/100ft			
0.5		27	0.90	98	≤ 1.35:1
1		39	1.27	69	≤ 1.35:1
5		89	2.93	30	≤ 1.35:1
10		129	4.23	21	≤ 1.35:1
18		177	5.80	15	≤ 1.35:1
26.5		219	7.17	13	≤ 1.35:1
40		275	9.03	10	≤ 1.35:1

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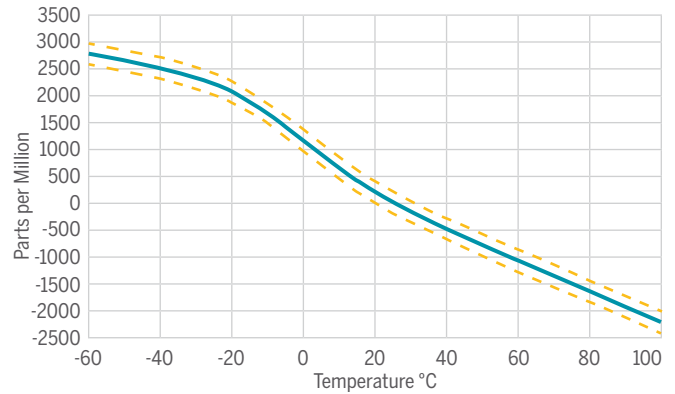
Environmental Properties

Thermal Shock	MIL-STD-202, Method 107, 20 Cycles, -65 to 125 °C (cable and SMA connectors only)
Aging Stability	MIL-DTL-17, Paragraph 4.8.16, +125 °C for 168 hours (cable and SMA connectors only)
Vibration	MIL-STD-202, Method 204, Test Condition B
High Pressure	Pressure increased ≤ 10 bar/min to 100 +/- 2 bar for 12 hrs
Low Pressure	SAE-AS-13441, Method 1004.1
Humidity	MIL-STD-810, Method 507.5, Procedure I and II
Salt Fog	MIL-STD-810, Method 509
Sand and Dust	MIL-STD-810, Method 510, Procedure I
Stress Crack Resistance	MIL-DTL-17, Paragraph 4.8.17
Cold Bend Test	MIL-DTL-17, Paragraph 4.8.19
Flammability	14 CFR Part 25, Appendix F, Part I (b) (7), 60° flammability test

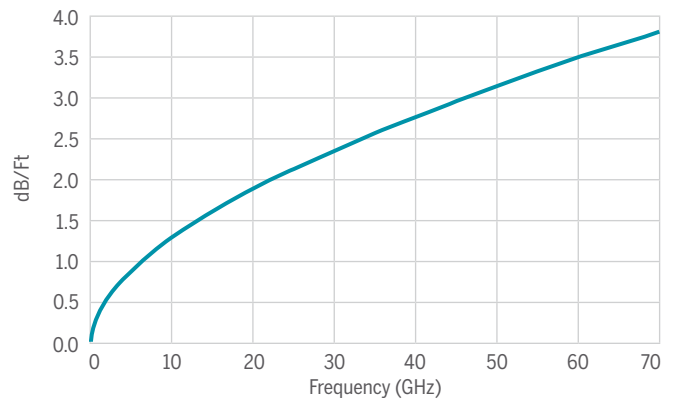
Notes

1. Maximum Attenuation (db./100Ft) = K1VF + K2F where F is Frequency in GHz.
2. Insertion Loss change, while vibrated at a frequency of 6 Hz and an amplitude of 1 inch.
3. Snake test. One end of a 3-ft sample is fixed. The other end is moved inward along the axis of the sample forcing the cable into a "U" shape. It then returns to straight configuration for one flex cycle.
4. Cable assemblies of equal length and connectors made from the same cable manufacturing lot shall phase track within 200 PPM of each other.
5. Test Plots required with Shipment (Attenuation and VSWR).
6. VSWR testing to be performed on 6-foot minimum lengths with gating used to remove connector contributions. Minimum frequency points shall be 1601.

Typical Phase Change vs. Temperature⁴



Maximum Insertion Loss



Maximum Power Handling

