TFlex®

- **Low Loss Microwave Interconnect**
- **Wireless Base Station Interconnect**

Flexible alternative to Semirigid Coax

Features & Benefits

- **Meets all MIL-C-17 Requirements**
- **Excellet Shielding Effectiveness**
- **Low Passive Intermod (PIM)**
- **Stable Loss, Phase, & VSWR vs Flexing**
- **Uses Standard Solder-on Semirigid Connectors**

TFlex employs a thin helical wrap of silver plated copper tape and overall braid sized such that standard solder-on connectors can be used.

TFlex was developed 10 years ago and have been widely adopted by the commercial and military OEM's.

Some of the key characteristics of TFlex are:

Passive Intermod – typically > -150dBc (2x 20 watt carriers)

Shielding Effectiveness – comparable to standard semirigid and like semirigid is beyond measurable limits.

Small/Lightweight – same size but lighter weight than standard CL semirigid coax.

Phase Stable – the helical tape outer conductor minimizes electrical length change with temperature to yield substantial improvement over equivalent size flexible cables.

Low Loss – can achieve loss comparable to standard CL semirigid coax.

Attenuation Stability – silver plated outer conductor prevents oxidation of the conductors thereby minimizing attenuation change vs time.

Power Handling – comparable to standard CL semirigid.

Corrosion Resistance – jacketing of the cable with FEP provides excellent protection when cable is deployed in a corrosive environment.

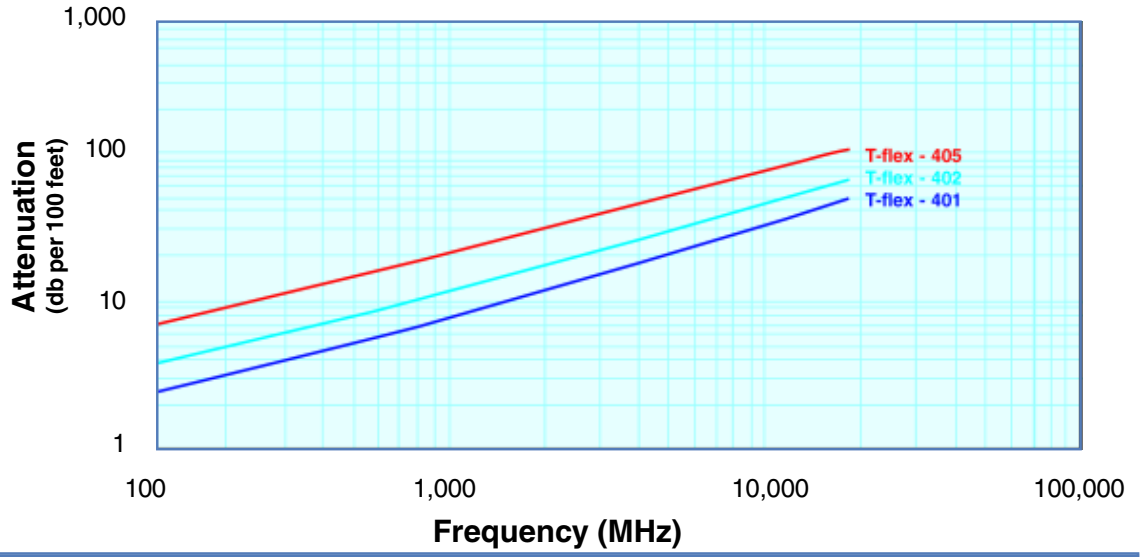
Formability – the flexible nature of TFlex eliminates the need for hand or precision machine bending. TFlex is preterminated in it's approximate desired length and just 'plugged in' using the most convenient/desirable routing.

Connectors (solder-on) – are available from a variety of sources to fit standard Coppersol CL and TFlex.

TMS Number	Conductor inches (mm)	Dielectric inches (mm)	Shields inches (mm)	Jacket inches (mm)	Weight lbs/foot (kg/m)	Impedance ohms Vp(%)	Capacitance pF/foot (pF/m)	Max Oper. Voltage vrms	Temperature Range F (C)	Shielding Effectiveness (dB)	Minimum Bend Rad. (in)	Frequency Range Attenuation
TFlex-405	SCCS 0.0201 (0.51)	PTFE 0.064 (1.63)	SC tape+braid 0.085 (2.16)	Blue FEP 0.104 (2.64)	0.015 (0.022)	50 +/- 1 69.5	29.3 (96.1)	1,500	-85 +257 (-65 +125)	>100	0.125	.05 to 18 GHz 106 dB/100' @ 18 Ghz
TFlex-402	SC 0.036 (0.91)	PTFE 0.118 (3.00)	SC tape+braid 0.141 (3.58)	Blue FEP 0.160 (4.06)	0.033 (0.049)	50 +/- 1 69.5	29.3 (96.1)	1,900	-85 +257 (-65 +125)	>100	0.200	.05 to 18 GHz 66 dB/100' @ 18 Ghz
TFlex-401	SC 0.0641 (1.63)	PTFE 0.208 (5.28)	SC tape+braid 0.249 (6.32)	Blue FEP 0.270 (6.9)	0.095 (0.142)	50 +/- 1 69.5	29.3 (96.1)	3,000	-85 +257 (-65 +125)	>100	1.250	.05 to 18 GHz 50 dB/100' @ 18 Ghz

- **Low Passive Intermod**
- **Phase Stable**
- **All Semirigid Coax Applications**

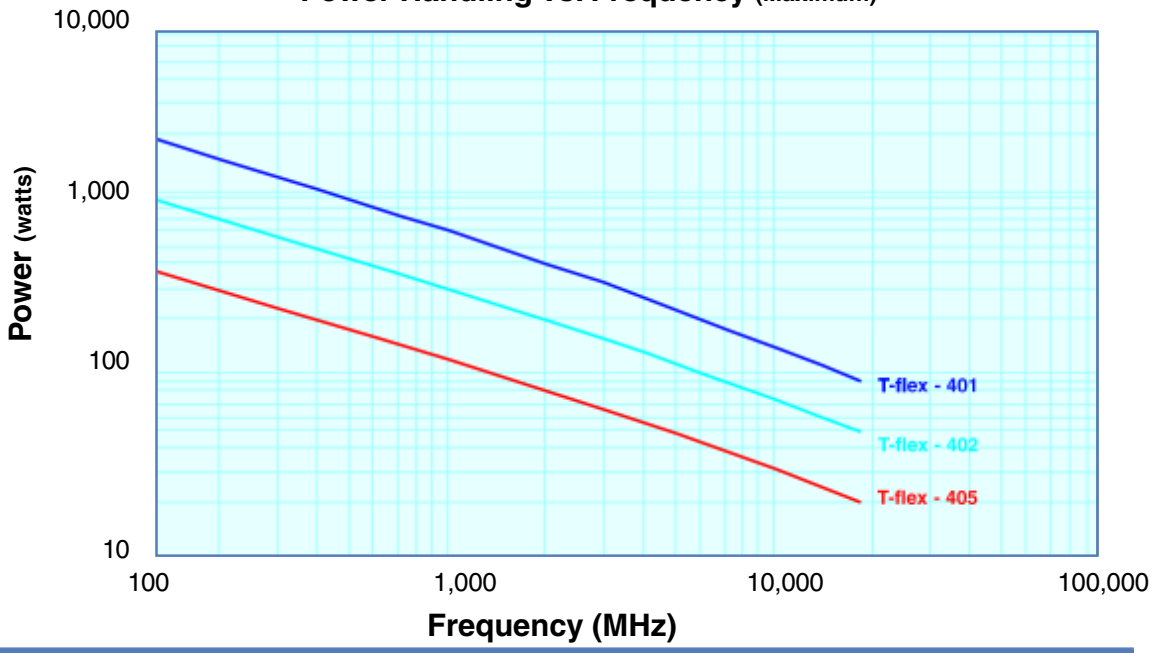
Attenuation vs. Frequency (Typical)



Frequency (MHz)	100	400	1,000	2,000	3,000	10,000	12,000	13,500	16,000	18,000	k1	k2
TFlex-405	6.4	13.1	21.1	31	38	75	83	89	99	106	0.630	0.00120
TFlex-402	3.4	7.1	11.6	17	22	45	51	55	61	66	0.330	0.00120
TFlex-401	2.2	4.7	7.8	12	15	33	37	41	46	50	0.210	0.00120

Attenuation at Any Frequency = [k1 x $\sqrt{\text{Fmhz}}$] + [k2 x Fmhz]; dB per 100 feet

Power Handling vs. Frequency (Maximum)



Frequency (MHz)	100	400	1,000	2,000	3,000	10,000	12,000	13,500	16,000	18,000
TFlex-401	2119	1002	595	394	306	136	120	110	97	88
TFlex-402	999	480	290	195	154	72	63	58	52	48
TFlex-405	401	195	119	81	65	31	28	26	23	21

Watts; Sea Level; Ambient +40C; VSWR 1:1