

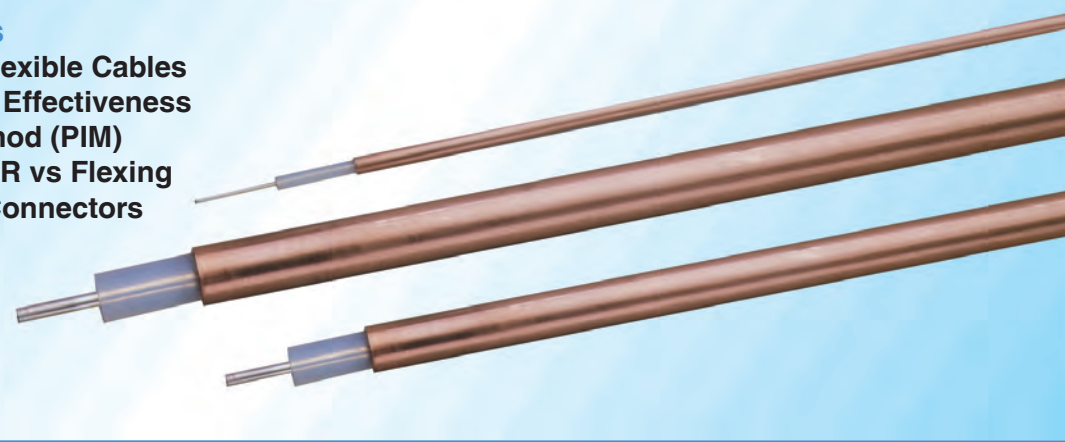
- Low Loss Microwave Interconnect
- Wireless Base Station Interconnect

- Low Passive Intermod
- High Temperature

- High Power

Features & Benefits

- Lower Loss than Flexible Cables
- Superior Shielding Effectiveness
- Low Passive Intermod (PIM)
- Stable Loss & VSWR vs Flexing
- Readily Available Connectors



Coppersol employs a thin tubular copper outer conductor and solid PTFE dielectric which provides the lowest attenuation and highest shielding giving it significant performance advantages over flexible coax of similar size.

Coppersol was developed 30-40 years ago and was subsequently adopted by the military and MIL-C-17 specification sheets and QPL status were achieved.

Some of the key characteristics of Coppersol are:

Shielding Effectiveness – the highest achievable for any cable and is estimated at >165 db, well below measurable limits..

Small/Lightweight – much smaller and therefore lighter weight than flexible coax having similar electrical performance.

Phase Stable – the solid outer conductor minimizes electrical length change with temperature to substantially lower levels than flexible coax cables.

Low Loss – can achieve up to 50% less loss than flexible cable of the same size.

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

Electrical Performance – has lowest VSWR and pulse reflection coefficient and exhibits very uniform characteristics to >20 GHz.

Corrosion Resistance – jacketing of the bare copper tube or plating with tin or silver is recommended when cable is deployed in a corrosive environment.

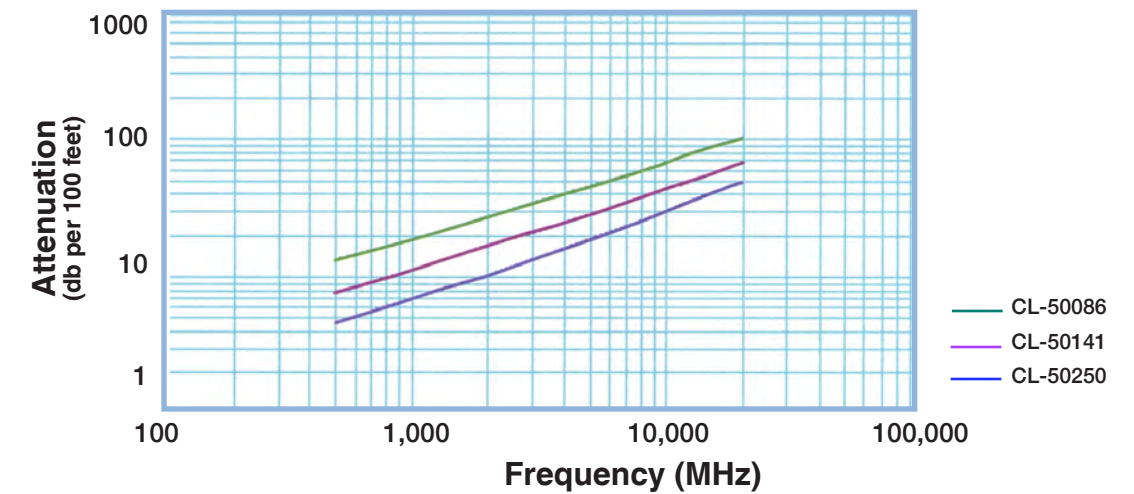
Formability – the solid copper tube enables the cable to be bent to any 3 dimensional configuration and have it retain its shape.

Connectors – standard inexpensive solder-on connectors are available from a variety of connector sources.

Coppersol Semirigid Coaxial Cables

| TMS Number | inches (mm) | Conductor inches (mm) | Dielectric inches (kg/m) | Shields lbs/foot Vp(%) | Weight ohms (pF/m) | Impedance pF/foot Cent. Cond. Shield(s) | Capacitance | DC Resistance ohms/1kft (kVrms) | Resistance Range F (C)in. (mm) | Oper. Temp. Range | Temp. Radius | Min. Bend Freq. | Test |
|------------|---------------|-----------------------|--------------------------|------------------------|--------------------|---|-------------|---------------------------------|--------------------------------|-------------------|--------------|-----------------|------------|
| CL-50086 | M17/133-RG405 | SCCS (0.51) | PTFE (1.68) | BC Tube (2.20) | 0.0153 (0.023) | 50+/-1.5 | 29.4 (96.5) | 64.8 (212.6) | 2.68 (8.86) | 1.5 (-40+125) | -40+194 | 0.125 (3.2) | 0.5-20 GHz |
| CL-50141 | M17/130-RG402 | SCCS (0.92) | PTFE (2.98) | BC Tube (3.58) | 0.0344 (0.051) | 50+/-1 | 29.4 (96.5) | 20.0 (65.6) | 1.32 (4.3) | 1.9 (-40+125) | -40+194 | 0.250 (6.4) | 0.5-20 GHz |
| CL-50250 | M17/129-RG401 | SC (1.63) | PTFE (5.31) | BC Tube (6.35) | 0.105 (0.156) | 50+/-0.5 | 29.4 (96.5) | 2.6 (8.4) | 0.45 (1.5) | 3.0 (-40+125) | -40+194 | 0.375 (9.5) | 0.5-20 GHz |

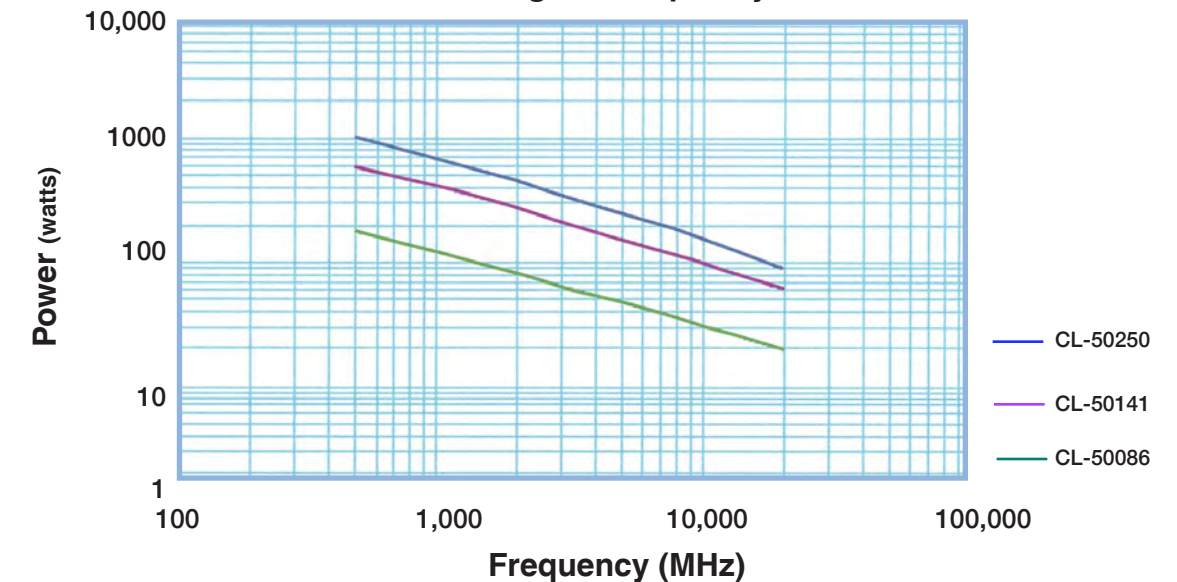
Attenuation vs. Frequency (Typical)



| Frequency (MHz) | 500 | 1,000 | 2,000 | 3,000 | 8,000 | 10,000 | 12,000 | 16,000 | 18,000 | 20,000 | k1 | k2 |
|-----------------|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|-------|---------|
| CL-50086 | 13.2 | 19.0 | 27.6 | 34 | 60 | 68 | 76 | 91 | 97 | 104 | 0.564 | 0.00120 |
| CL-50141 | 7.7 | 11.3 | 16.6 | 21.0 | 38 | 44 | 49 | 59 | 64 | 69 | 0.318 | 0.00120 |
| CL-50250 | 4.6 | 6.9 | 10.4 | 13.4 | 26 | 30 | 34 | 42 | 46 | 49 | 0.179 | 0.00120 |

Attenuation at Any Frequency = [k1 x SQRT (Fmhz)] + [k2 x Fmhz]; dB per 100 feet

Power Handling vs. Frequency (Maximum)



| Frequency (MHz) | 500 | 1,000 | 2,000 | 3,000 | 8,000 | 10,000 | 12,000 | 16,000 | 18,000 | 20,000 |
|-----------------|------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
| CL-50250 | 1024 | 685 | 449 | 347 | 179 | 152 | 133 | 107 | 97 | 90 |
| CL-50141 | 592 | 403 | 271 | 213 | 115 | 99 | 87 | 71 | 65 | 60 |
| CL-50086 | 174 | 120 | 82 | 65 | 36 | 31 | 28 | 23 | 21 | 20 |

Watts; Sea Level; Ambient +40C; VSWR 1:1; Outer Conductor +125C