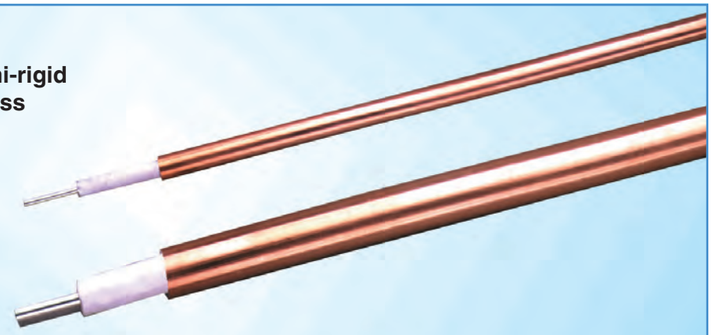
Coppersol® CLL

Low Loss Semirigid Coax

- Low Loss Microwave Interconnect
- Wireless Base Station Interconnect
- Low Passive Intermod
- High Temperature
- High Power

Features & Benefits

- Lower Loss than Standard Semi-rigid
- Excellent Shielding Effectiveness
- Low Passive Intermod (PIM)
- Stable Loss, Phase and VSWR



Coppersol-CLL employs a thin tubular copper outer conductor and low-density PTFE dielectric which provide the lowest loss and highest shielding giving it significant performance advantages over semirigid coax of similar size.

Coppersol-CLL was developed 25 years ago and have been widely adopted by the military OEM's.

Some of the key characteristics of Coppersol-CLL are:

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

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

Phase Stable – the solid outer conductor and low density PTFE minimizes electrical length change with temperature to yield 100 % improvement over standard CL semirigid coax.

Low Loss – can achieve up to 30 % less loss than standard CL semirigid coax.

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

Power Handling – higher operating temperature provides 200% increase in power handling vs standard CL semirigid.

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.

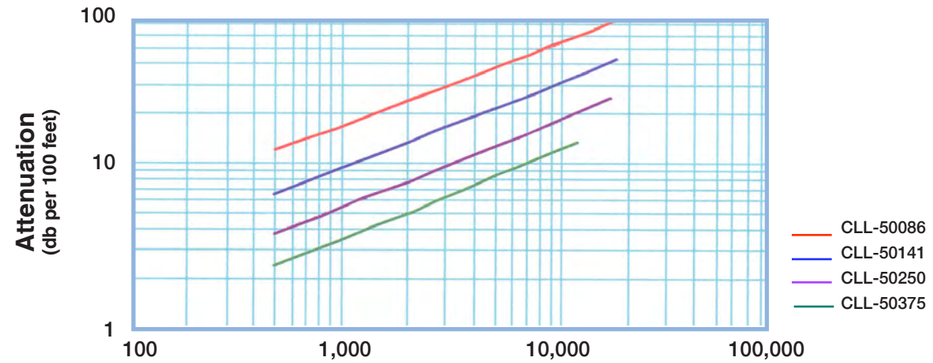
Connectors – are available from a variety of sources to fit Coppersol-CLL.

Coppersol CLL Low Loss Semirigid Coaxial Cables

TMS Numberinches (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 (/km) kvrms	Voltage F (C)in. (mm)	Oper. Range	Temp. Radius	Min, Bend Freq.	Test
CLL-50086	SCCS 0.022 (0.56)	LD PTFE 0.066 (1.68)	BC Tube 0.0860 (2.18)	0.0130 (0.019)	50+/-1.5 76		26.8 (87.9)	53.6 (175.9)	2.68 (8.8)	0.6	-85+482 (-65+250)	0.25 (6.4)	0.5-20 GHz
CLL-50141	SC 0.039 (0.99)	LD PTFE 0.1180 (3.00)	BC Tube 0.141 (3.58)	0.0290 (0.0431)	50+/-1 76		26.8 (87.9)	6.8 (22.4)	1.32 (4.3)	1.3	-85+482 (-65+250)	0.50 (12.7)	0.5-20 GHz
CLL-50250	SC 0.0700 (1.78)	LD PTFE 0.210 (5.33)	BC Tube 0.250 (6.35)	0.091 (0.136)	50+/-1 76		26.8 (87.95)	2.1 (7.0)	0.45 (1.5)	2.2	-85+482 (-65+250)	2.0 (50.8)	0.5-20 GHz
CLL-50375	SC 0.1120 (2.84)	LD PTFE 0.335 (8.51)	BC Tube 0.375 (9.535)	0.187 (0.279)	50+/-1 76		26.8 (87.9)	0.83 (2.7)	0.365 (1.2)	3.0	-85+482 (-65+250)	3.25 (82.6)	0.5-12 GHz

Tinned and Silver Plated Outer Conductors Available on Request

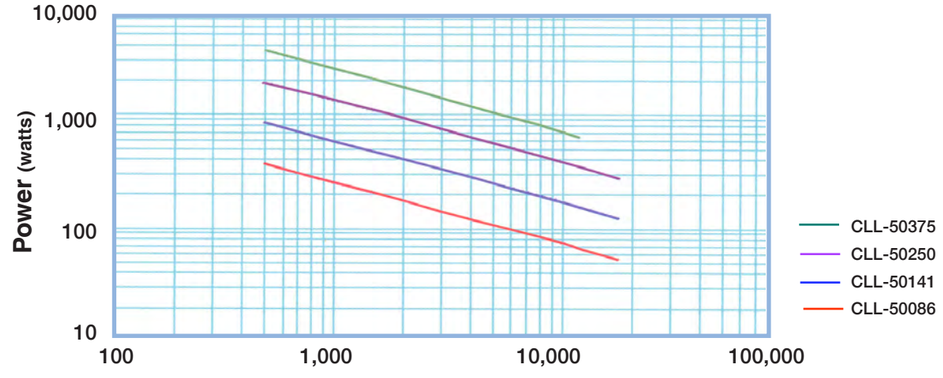
Attenuation vs. Frequency (Typical)



Frequency (MHz)	500	1,000	2,000	3,000	8,000	10,000	12,000	16,000	18,000	20,000	k1	k2
CLL-50086	11.8	16.8	23.9	29	48	54	60	69	74	78	0.525	0.00018
CLL-50141	6.7	9.5	13.5	16.6	28	31	34	40	43	45	0.293	0.00018
CLL-50250	3.8	5.4	7.8	9.6	16	18	20	24	25	27	0.165	0.00018
CLL-50375	2.4	3.5	5.0	6.2	11	12	14	-	-	-	0.104	0.00018

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
CLL-50375	3633	2525	1743	1397	805	707	635	-	-	-
CLL-50250	1908	1332	925	745	436	384	347	294	274	257
CLL-50141	834	584	407	329	194	171	155	131	123	116
CCL-50086	363	254	177	143	84	74	67	56	53	50

Watts; Sea Level; Ambient +40C; VSWR 1:1; Outer Conductor +250C