



**MICRO-COAX**  <sup>®</sup>  
PROVEN RELIABLE

## MICROWAVE & RF CABLE

Semi-Rigid, hand-formable & flexible microwave cable

# STANDARD LOW LOSS COPPER 50 OHM Semi-Rigid CABLES

Low loss Semi-Rigid cables provide lower attenuation, better phase stability with temperature, and a higher operating temperature when compared to traditional solid PTFE Semi-Rigid cables.

Micro-Coax Description	UT-031-LL	UT-047C-LL	UT-070-LL	UT-085C-LL
Micro-Coax Description (Tin Plated)	UT-031-TP-LL	UT-047C-TP-LL	UT-070-TP-LL	UT-085C-TP-LL

## DIMENSIONS

		Units			
Outer Conductor Diameter (+ 0.001 inch for tin plate)	inch	0.031 ± 0.001	0.047 ± 0.001	0.070 ± 0.001	0.0865 ± 0.0010
	millimeter	0.787 ± 0.025	1.194 ± 0.025	1.778 ± 0.025	2.197 ± 0.025
Center Conductor Diameter	inch	0.0080 ± 0.0005	0.0126 ± 0.0005	0.0201 ± 0.0005	0.0226 ± 0.0005
	millimeter	0.2032 ± 0.0127	0.3200 ± 0.0127	0.5105 ± 0.0127	0.5740 ± 0.0127
Straight Length (Maximum)	feet	20	20	20	20
	meter	6.10	6.10	6.10	6.10

## MATERIALS

Outer Conductor	Copper	Copper	Copper	Copper
Outer Conductor Plating	None or Tin	None or Tin	None or Tin	None or Tin
Dielectric	LD PTFE	LD PTFE	LD PTFE	LD PTFE
Center Conductor	SPCW	SPC	SPCW	SPC
RoHS Compliant	Yes	Yes	Yes	Yes

## MECHANICAL CHARACTERISTICS

Outer Conductor Integrity Temp.	°C	250	250	250	250
Operating Temperature (Max.)	°C	250 <sup>\1</sup>	250 <sup>\1</sup>	250 <sup>\1</sup>	250 <sup>\1</sup>
Inside Bend Radius (Minimum)	inch	0.063	0.125	0.250	0.250
	millimeter	1.600	3.175	6.350	6.350
Weight	lbs/100 ft	0.17	0.39	0.75	1.39
	kg/100 m	0.26	0.59	1.13	2.09

\1 225 deg C for tin plated outer conductor

## ELECTRICAL CHARACTERISTICS

Characteristic Impedance	ohm	50.0 ± 2.0	50.0 ± 2.0	50.0 ± 1.5	50.0 ± 1.5
Capacitance	pF/ft	26.5	26.5	26.5	26.5
	pF/m	86.8	86.8	86.8	86.8
Velocity of Propagation	%	77	77	77	77
Corona Extinction Voltage	VRMS @ 60 Hz	500	1000	1200	1500
Voltage Withstanding	VRMS @ 60 Hz	1800	2700	4200	4800
Higher Order Mode Frequency	GHz	180	116	73	65
Attenuation (dB/100 ft, Typical)	0.5 GHz	33.6	21.9	13.8	12.4
	1.0 GHz	47.6	31.1	19.6	17.5
	5.0 GHz	107.1	70.2	44.5	39.9
	10.0 GHz	152.2	100.0	63.6	57.2
	18.0 GHz	205.4	135.2	86.4	77.8
	26.5 GHz	250.3	165.2	106.0	95.5
	40.0 GHz	309.3	204.8	132.0	119.2
	50.0 GHz	347.1	230.2	148.9	134.5
	65.0 GHz	397.7	264.4	171.7	155.3
Power (Watts CW @ 20 °C, Maximum for non plated outer conductor)	0.5 GHz	60.2	125.6	265.5	343.4
	1.0 GHz	42.5	88.7	187.2	242.1
	5.0 GHz	18.9	39.4	82.8	106.9
	10.0 GHz	13.3	27.7	58.1	74.9
	18.0 GHz	9.9	20.5	42.9	55.3
	26.5 GHz	8.1	16.8	35.1	45.1
	40.0 GHz	6.6	13.6	28.2	36.3
	50.0 GHz	5.9	12.1	25.1	32.3
	65.0 GHz	5.1	10.6	21.8	28
	90.0 GHz	4.3	8.9	-	-

# STANDARD LOW LOSS COPPER 50 OHM Semi-Rigid CABLES

Micro-Coax Description	UT-120C-LL	UT-141C-LL	UT-250C-LL
Micro-Coax Description (Tin Plated)	UT-120C-TP-LL	UT-141C-TP-LL	UT-250C-TP-LL

## DIMENSIONS

	Units			
Outer Conductor Diameter (+ 0.001 inch for tin plate)	inch	0.120 ± 0.001	0.141 ± 0.002	0.250 ± 0.002
	millimeter	3.048 ± 0.025	3.581 ± 0.051	6.350 ± 0.051
Center Conductor Diameter	inch	0.0359 ± 0.0005	0.0403 ± 0.0010	0.0720 ± 0.0010
	millimeter	0.9119 ± 0.0127	1.0236 ± 0.0254	1.8288 ± 0.0254
Straight Length (Maximum)	feet	20	20	20
	meter	6.10	6.10	6.10

## MATERIALS

Outer Conductor	Copper	Copper	Copper
Outer Conductor Plating	None or Tin	None or Tin	None or Tin
Dielectric	LD PTFE	LD PTFE	LD PTFE
Center Conductor	SPC	SPC	SPC
RoHS Compliant	Yes	Yes	Yes

## MECHANICAL CHARACTERISTICS

Outer Conductor Integrity Temp.	°C	250	250	250
Operating Temperature (Max.)	°C	250 <sup>1</sup>	250 <sup>1</sup>	250 <sup>1</sup>
Inside Bend Radius (Minimum)	inch	0.188	0.500	0.750
	millimeter	4.775	12.700	19.050
Weight	lbs/100 ft	2.01	3.18	9.40
	kg/100 m	3.02	4.77	14.11

<sup>1</sup> 225 deg C for tin plated outer conductor

## ELECTRICAL CHARACTERISTICS

Characteristic Impedance	ohm	50.0 ± 1.0	50.0 ± 1.5	50.0 ± 1.0
Capacitance	pF/ft	26.5	26.5	26.5
	pF/m	86.8	86.8	86.8
Velocity of Propagation	%	77	77	77
Corona Extinction Voltage	VRMS @ 60 Hz	1800	1900	3000
Voltage Withstanding	VRMS @ 60 Hz	7800	8400	15600
Higher Order Mode Frequency	GHz	41	37	20
Attenuation (dB/100 ft, Typical)	0.5 GHz	7.7	7.0	3.9
	1.0 GHz	11.0	10.0	5.6
	5.0 GHz	25.3	23.0	13.1
	10.0 GHz	36.4	33.2	19.3
	18.0 GHz	50.0	45.6	26.9
	26.5 GHz	61.8	56.5	-
	40.0 GHz	77.7	-	-
	50.0 GHz	-	-	-
	65.0 GHz	-	-	-
Power (Watts CW @ 20 °C, Maximum for non plated outer conductor)	0.5 GHz	683.1	839.4	2130.7
	1.0 GHz	480.8	590.4	1492.3
	5.0 GHz	210.8	258.3	641.5
	10.0 GHz	146.9	179.7	440.9
	18.0 GHz	107.6	131.5	318.1
	26.5 GHz	87.5	106.7	-
	40.0 GHz	70	-	-
	50.0 GHz	-	-	-
	65.0 GHz	-	-	-
90.0 GHz	-	-	-	