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.

CarlisleIT Description		UT-031-LL	UT-047C-LL	UT-070-LL	UT-085C-LL
CarlisleIT 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[\1]	250[\1]	250[\1]	250[\1]
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	0.58	1.13	2.09
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
	90.0 GHz	471.3	314.4	-	-
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	-	-

[\1] 225 deg C for tin plated outer conductor