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Standard Ultra Low Loss Copper 50 ohm Semi-Rigid Cables

Ultra low loss Semi-Rigid cables provide the lowest attenuation, better phase stability with temperature, and a higher operating temperature when compared to traditional Semi-Rigid cables. Due to their compact size and minimum bend radius, these cables are ideal for tight configurations where low insertion loss is critical.

CarlisleIT Description		UT-047C-ULL	UT-085C-ULL	UT-141C-ULL	UT-250C-ULL
CarlisleIT Description (Tin Plated)		UT-047C-TP-ULL	UT-085C-TP-ULL	UT-141C-TP-ULL	UT-250C-TP-ULL
Dimensions		Units			
Outer Conductor Diameter (+ 0.001 inch for tin plate)	inch	0.047 ± 0.001	0.0865 ± 0.0010	0.141 ± 0.001	0.250 ± 0.001
	millimeter	1.194 ± 0.025	2.197 ± 0.025	3.581 ± 0.025	6.350 ± 0.025
Center Conductor Diameter	inch	0.0142 ± 0.0005	0.0253 ± 0.0005	0.0453 ± 0.0005	0.0808 ± 0.0010
	millimeter	0.3607 ± 0.0127	0.6426 ± 0.0127	1.1506 ± 0.0127	2.0523 ± 0.0254
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		ULD PTFE	ULD PTFE	ULD PTFE	ULD PTFE
Center Conductor		SPC	SPC	SPC	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	0.250	0.375	0.500	0.625
	millimeter	6.350	9.525	12.700	15.875
Weight	lbs/100 ft	0.36	1.27	2.53	8.53
	kg/100 m	0.54	1.91	3.80	12.81
¹⁾ 225 deg C for tin plated outer conductor					
Electrical Characteristics					
Characteristic Impedance	ohm	50.0 ± 2.0	50.0 ± 1.5	50.0 ± 1.0	50.0 ± 1.0
Capacitance	pF/ft	24.5	24.5	24.5	24.5
	pF/m	80.5	80.5	80.5	80.5
Velocity of Propagation	%	83	83	83	83
Corona Extinction Voltage	VRMS @ 60 Hz	700	1400	2500	4300
Voltage Withstanding	VRMS @ 60 Hz	2100	3900	7500	12900
Higher Order Mode Frequency	GHz	119	66	36	21
Attenuation (dB/100 ft, Typical)	0.5 GHz	20.2	11.2	6.1	3.6
	1.0 GHz	28.6	15.9	8.7	5.1
	5.0 GHz	64.5	36.1	19.9	11.9
	10.0 GHz	91.8	51.5	28.6	17.3
	18.0 GHz	124.0	70.0	39.2	24.0
	26.5 GHz	151.2	85.7	48.4	-
	40.0 GHz	187.1	106.6	-	-
	50.0 GHz	210.1	120.1	-	-
	65.0 GHz	241.0	138.3	-	-
	90.0 GHz	285.9	-	-	-
Power (Watts CW @ 20 °C, Maximum for non plated outer conductor)	0.5 GHz	131.7	358.3	888.5	2113.2
	1.0 GHz	93.0	252.8	625.5	1482.9
	5.0 GHz	41.4	111.9	274.6	642.7
	10.0 GHz	29.1	78.6	191.6	444.2
	18.0 GHz	21.6	58	140.6	322.6
	26.5 GHz	20.5	55	132.9	304.3
	40.0 GHz	14.4	38.3	-	-
	50.0 GHz	12.8	34.1	-	-
	65.0 GHz	11.2	29.6	-	-
90.0 GHz	9.4	-	-	-	