Standard Dimensionally Stable Copper 50 ohm Semi-Rigid Cables

Dimensionally stable “M” and “DS” Semi-Rigid cables utilize a unique dielectric that provides significantly improved thermal stability. Besides virtually eliminating dielectric protrusion from the heat of soldering, this feature make them ideal for applications that must operate at the most extreme temperatures.

CarlisleIT Description		UT-020-M	UT-034-M	UT-047-M	UT-085-DS
CarlisleIT Description (Tin Plated)		UT-020-TP-M	UT-034-TP-M	UT-047-TP-M	UT-085-TP-DS
Dimensions	**Units**				
Outer Conductor Diameter (+ 0.001 inch for tin plate)	inch	0.023 ± 0.001	0.038 ± 0.001	0.050 ± 0.001	0.0865 ± 0.0010
	millimeter	0.584 ± 0.025	0.953 ± 0.025	1.257 ± 0.025	2.197 ± 0.025
Center Conductor Diameter	inch	0.0045 ± 0.0005	0.0080 ± 0.0005	0.0113 ± 0.0005	0.0201 ± 0.0005
	millimeter	0.1143 ± 0.0127	0.2032 ± 0.0127	0.2870 ± 0.0127	0.5105 ± 0.0127
Straight Length (Maximum)	feet	10	15	20	20
	meter	3.05	4.57	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		PTFE	PTFE	PTFE	PTFE
Center Conductor		SPCW	SPCW	SPCW	SPCW
RoHS Compliant		Yes	Yes	Yes	Yes
Mechanical Characteristics					
Outer Conductor Integrity Temp.	°C	250	225	250	250
Operating Temperature (Max.)	°C	225	200	225	250[\1]
Inside Bend Radius (Minimum)	inch	0.032	0.050	0.063	0.050
	millimeter	0.813	1.270	1.600	1.270
Weight	lbs/100 ft	0.10	0.22	0.42	1.42
	kg/100 m	0.15	0.33	0.63	2.13
Electrical Characteristics					
Characteristic Impedance	ohm	50.0 ± 6.0	50.0 ± 4.0	50.0 ± 4.0	50.0 ± 1.0
Capacitance	pF/ft	29.0	29.0	29.0	29.0
	pF/m	95.2	95.2	95.2	95.2
Velocity of Propagation	%	70	70	70	70
Corona Extinction Voltage	VRMS @ 60 Hz	250	750	750	1500
Voltage Withstanding	VRMS @ 60 Hz	1200	1800	3000	5400
Higher Order Mode Frequency	GHz	245	139	104	61
Attenuation (dB/100 ft, Typical)	0.5 GHz	51.6	29.4	22.4	13.6
	1.0 GHz	73.3	41.9	32.0	19.5
	5.0 GHz	166.1	95.9	73.8	46.0
	10.0 GHz	287.3	138.1	106.8	67.4
	18.0 GHz	322.2	189.0	147.1	94.3
	26.5 GHz	394.9	233.3	182.4	118.3
	40.0 GHz	491.3	292.8	230.3	151.5
	50.0 GHz	553.7	331.7	261.8	173.8
	65.0 GHz	638.0	384.8	305.2	-
	90.0 GHz	761.9	464.1	370.3	-
Power (Watts CW @ 20 °C, Maximum for non plated outer conductor)	0.5 GHz	30.9	75.8	125.4	306.9
	1.0 GHz	21.8	53.4	88.2	215.0
	5.0 GHz	9.6	23.4	38.5	92.5
	10.0 GHz	6.8	16.4	26.8	63.7
	18.0 GHz	5.0	12.0	19.6	46.0
	26.5 GHz	4.1	9.8	15.9	36.9
	40.0 GHz	3.3	7.8	12.7	29.1
	50.0 GHz	2.9	6.9	11.2	25.5
	65.0 GHz	2.6	6.0	9.6	-
	90.0 GHz	2.1	5.0	8.0	-

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