

MIL-DTL-17 APPROVED CABLES

MIL-DTL-17 APPROVED

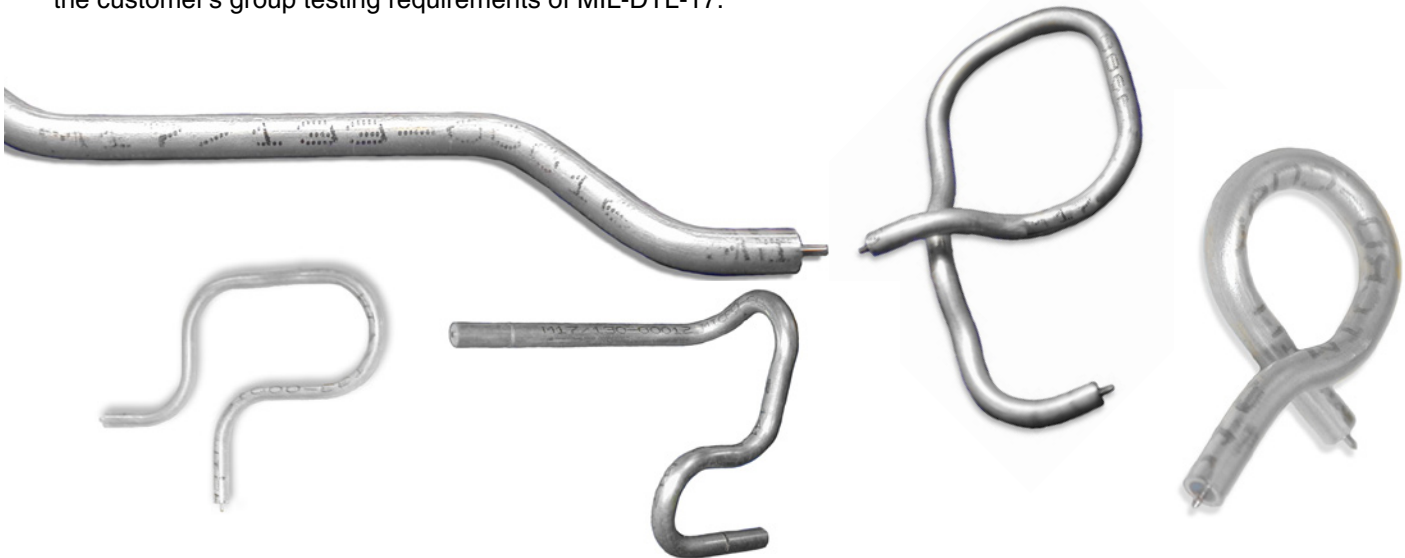
Many Micro-Coax Semi-Rigid coaxial cables have successfully completed qualification and have been approved under the MIL-DTL-17 Qualified Products List (QPL).

HOW MIL-DTL-17 APPROVAL BENEFITS CUSTOMERS

Under MIL-DTL-17, all Micro-Coax M17 qualified cables are inspected for quality and optimum performance prior to being put in stock. This eliminates the need for special purchasing specifications and costly, time consuming "customized" inspection previously required to conform to the customer's group testing requirements of MIL-DTL-17.

Tests ensure cable conformance with broadband performance requirements for attenuation and SWR (structural return loss), coaxial concentricity, conductor adhesion, dimensional stability and weight.

- "M17" part numbers supercede familiar "RG" part numbers. RG specifications have been deleted by the Defense Electronics Supply Center (DESC).
- Cables designated M17/129, 130 and 133 are marked continuously for visual cable identification
- Stocks of all M17 cables are carried at Micro-Coax and Micro-Coax distributor locations



ATTENUATION AND POWER RATINGS

MIL-DTL-17/129			MIL-DTL-17/130				MIL-DTL-17/133			MIL-DTL-17/151			MIL-DTL-17/154		
Maximum Attenuation		Power	Maximum Attenuation		Power		Maximum Attenuation		Power		Maximum Attenuation		Power		
MHz	dB/100ft	Watts	MHz	dB ¹ /100ft	dB ² /100ft	Watts	MHz	dB/100ft	Watts	MHz	dB/100ft	Watts	MHz	dB/100ft	Watts
400	4.5	1900	500	8.0	8.3	600.0	500	15.0	180.0	500	28.0	45.0	500	42.0	14.0
1000	7.5	1400	1000	12.0	12.1	450.0	1000	22.0	130.0	1000	40.0	32.0	1000	60.0	10.0
3000	16.0	750	3000	21.0	22.5	250.0	5000	50.0	54.0	3000	70.0	18.0	3000	100.0	6.0
10000	33.0	350	5000	29.0	30.1	180.0	1000	80.0	35.0	5000	90.0	13.0	5000	140.0	4.5
18000	48.0	200	10000	45.0	45.5	120.0	20000	130.0	20.0	10000	130.0	9.0	10000	190.0	3.1
—	—	—	20000	70.0	70.0	70.0	—	—	—	20000	190.0	6.5	20000	280.0	2.0
Structural Return Loss		Structural Return Loss		Structural Return Loss		Structural Return Loss		Structural Return Loss		Structural Return Loss		Structural Return Loss			
MHz	dB	-MHz	dB	MHz	dB	MHz	dB	MHz	dB	MHz	dB	MHz	dB		
500	26.0	500	30.0	500	28.0	1000	22.0	500	22.0	500	22.0	500	22.0		
5000	21.0	5000	23.0	5000	23.0	10000	18.0	5000	21.0	5000	21.0	5000	21.0		
10000	19.0	18000	21.0	20000	15.0	20000	14.0	20000	15.0	20000	15.0	20000	15.0		
18000	16.0	—	—	—	—	—	—	—	—	—	—	—	—		

M17 Approved Cables

DIMENSIONS	M17/154-00001 UT-034-M17	M17/154-00002 UT-034-TP-M17	M17/151-00001 UT-047-M17	M17/151-00002 UT-047-TP-M17
Outer Conductor Diameter				
[in]	0.034 ± 0.001	0.034 + 0.002/ -0.001	0.047 ± 0.001	0.047 + 0.002/ -0.001
[mm]	0.864 ± 0.025	0.864 + 0.051/ -0.025	1.194 ± 0.025	1.194 + 0.051/ -0.025
Dielectric Diameter				
[in]	0.026 ± 0.001	0.026 ± 0.001	0.037 ± 0.001	0.037 ± 0.001
[mm]	0.660 ± 0.025	0.660 ± 0.025	0.941 ± 0.025	0.941 ± 0.025
Center Conductor Diameter				
[in]	0.0080 ± 0.0005	0.0080 ± 0.0005	0.0113 ± 0.0005	0.0113 ± 0.0005
[mm]	0.8640 ± 0.0127	0.8640 ± 0.0127	0.2870 ± 0.0127	0.8640 ± 0.0127

MATERIALS

Outer Conductor	COPPER	TIN/COPPER	COPPER	TIN/COPPER
Dielectric	PTFE	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPCW	SPCW
RoHS Compliant	YES	YES	YES	YES

MECHANICAL CHARACTERISTICS

Operating Temp. Range [°C]	-40 to 100	-40 to 100	-40 to 100	-40 to 100
Min. Inside Bend Diameter				
[in]	0.250	0.250	0.250	0.250
[mm]	6.350	6.350	6.350	6.350
Weight				
[lbs/100ft]	0.26	0.28	0.45	0.48
[kg/100m]	0.39	0.42	0.67	0.71
Dimensional Stability				
Temperature [°C]	100	100	125	125
Maximum Dimension				
[in]	0.015	0.015	0.015	0.015
[mm]	0.381	0.381	0.381	0.381
Center Conductor Adhesion				
Minimum lbs	0.50	0.50	2.00	2.00
Minimum kg	0.23	0.23	0.91	0.91
Maximum lbs	5.50	5.50	10.00	10.00
Maximum kg	2.50	2.50	4.54	4.54

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 3.0	50 ± 3.0	50 ± 2.5	50 ± 2.5
Capacitance [Maximum]				
[pF/ft]	32.2	32.2	32.2	32.2
[pF/m]	105.0	105.0	105.0	105.0
Corona Extinction Voltage [VRMS @ 60Hz]	750	750	1000	1000
Voltage Withstanding [VRMS @ 60Hz]	2000	2000	2000	2000
Operating Frequency [GHz]	20	20	20	20
Attenuation	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/151)	See Table Page 12 (MIL-DTL-17/151)
Power	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/151)	See Table Page 12 (MIL-DTL-17/151)
Structural Loss	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/154)	See Table Page 12 (MIL-DTL-17/151)	See Table Page 12 (MIL-DTL-17/151)

M17 Approved Cables

DIMENSIONS	M17/133-RG-405 UT-085-H-M17	M17/133-00001 UT-085-H-TP-M17	M17/133-00002 UT-085C-H-M17	M17/133-00003 UT-085C-H-TP-M17
Outer Conductor Diameter				
[in]	0.087 ± 0.001	0.087 + 0.002/ -0.001	0.087 ± 0.001	0.087 + 0.002/ -0.001
[mm]	2.197 ± 0.025	2.197 + 0.051/ -0.025	2.197 ± 0.025	2.197 + 0.051/ -0.025
Dielectric Diameter				
[in]	0.066 ± 0.002	0.066 ± 0.002	0.066 ± 0.002	0.066 ± 0.002
[mm]	1.676 ± 0.051	1.676 ± 0.051	1.676 ± 0.051	1.676 ± 0.051
Center Conductor Diameter				
[in]	0.0201 ± 0.0005	0.0201 ± 0.0005	0.0201 ± 0.0005	0.0201 ± 0.0005
[mm]	0.5110 ± 0.0127	0.5110 ± 0.0127	0.5110 ± 0.0127	0.5110 ± 0.0127

MATERIALS

Outer Conductor	COPPER	TIN/COPPER	COPPER	TIN/COPPER
Dielectric	PTFE	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPC	SPC
RoHS Compliant	YES	YES	YES	YES

MECHANICAL CHARACTERISTICS

Operating Temp. Range [°C]	-40 to 125	-40 to 125	-40 to 125	-40 to 125
Min. Inside Bend Diameter				
[in]	0.25	0.25	0.25	0.25
[mm]	6.35	6.35	6.35	6.35
Weight				
[lbs/100ft]	1.53	1.58	1.52	1.57
[kg/100m]	2.28	2.35	2.26	2.34
Dimensional Stability				
Temperature [°C]	125	125	125	125
Maximum Dimension				
[in]	0.015	0.015	0.015	0.015
[mm]	0.380	0.380	0.380	0.380
Center Conductor Adhesion				
Minimum lbs	4.00	4.00	4.00	4.00
Minimum kg	1.81	1.81	1.81	1.81
Maximum lbs	25.00	25.00	25.00	25.00
Maximum kg	11.34	11.34	11.34	11.34

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 1.5	50 ± 1.5	50 ± 1.5	50 ± 1.5
Capacitance [Maximum]				
[pF/ft]	32.0	32.0	32.0	32.0
[pF/m]	105.0	105.0	105.0	105.0
Corona Extinction Voltage [VRMS @ 60Hz]	1500	1500	1500	1500
Voltage Withstanding [VRMS @ 60Hz]	5000	5000	5000	5000
Operating Frequency [GHz]	20	20	20	20
Attenuation	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Power	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Structural Loss	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)

M17 Approved Cables

DIMENSIONS

	M17/133-00006 UT-085-M17	M17/133-00007 UT-085-TP-M17	M17/133-00016 UT-085-SP-M17
Outer Conductor Diameter			
[in]	0.0865 ± 0.0010	0.0865 + 0.0020/ -0.0010	0.0865 + 0.0020/ -0.0010
[mm]	2.1971 ± 0.0254	2.1971 + 0.0508/ -0.0254	2.1971 + 0.0508/ -0.0254
Dielectric Diameter			
[in]	0.066 ± 0.002	0.066 ± 0.002	0.066 ± 0.002
[mm]	1.676 ± 0.051	1.676 ± 0.051	1.676 ± 0.051
Center Conductor Diameter			
[in]	0.0201 ± 0.0005	0.0201 ± 0.0005	0.0201 ± 0.0005
[mm]	0.5110 ± 0.0127	0.5110 ± 0.0127	0.5110 ± 0.0127

MATERIALS

Outer Conductor	COPPER	TIN/COPPER	SILVER/COPPER
Dielectric	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPCW
RoHS Compliant	YES	YES	YES

MECHANICAL CHARACTERISTICS

Operating Temp. Range [°C]	-40 to 125	-40 to 125	-40 to 125
Min. Inside Bend Diameter			
[in]	0.10	0.10	0.10
[mm]	2.54	2.54	2.54
Weight			
[lbs/100ft]	1.53	1.58	1.58
[kg/100m]	2.28	2.35	2.35
Dimensional Stability			
Temperature [°C]	125	125	125
Maximum Dimension			
[in]	0.015	0.015	0.015
[mm]	0.380	0.380	0.380
Center Conductor Adhesion			
Minimum lbs	4.00	4.00	4.00
Minimum kg	1.81	1.81	1.81
Maximum lbs	25.00	25.00	25.00
Maximum kg	11.34	11.34	11.34

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 1.5	50 ± 1.5	50 ± 1.5
Capacitance [Maximum]			
[pF/ft]	32.0	32.0	32.0
[pF/m]	105.0	105.0	105.0
Corona Extinction Voltage [VRMS @ 60Hz]	1500	1500	1500
Voltage Withstanding [VRMS @ 60Hz]	5000	5000	5000
Operating Frequency [GHz]	20	20	20
Attenuation	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Power	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Structural Loss	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)

M17 Approved Cables

DIMENSIONS

	M17/133-00012 UT-085-AL-M17	M17/133-00013 UT-085-AL-TP-M17
Outer Conductor Diameter		
[in]	0.087 ± 0.001	0.087 + 0.002/ -0.001
[mm]	2.197 ± 0.025	2.197 + 0.051/ -0.025
Dielectric Diameter		
[in]	0.066 ± 0.002	0.066 ± 0.002
[mm]	1.676 ± 0.051	1.676 ± 0.051
Center Conductor Diameter		
[in]	0.0201 ± 0.0005	0.0201 ± 0.0005
[mm]	0.5110 ± 0.0127	0.5110 ± 0.0127

MATERIALS

Outer Conductor	1100 ALUMINUM	TIN/1100 ALUMINUM
Dielectric	PTFE	PTFE
Center Conductor	SPCW	SPCW
RoHS Compliant	YES	YES

MECHANICAL CHARACTERISTICS

Max Operating Temp. [°C]	125	125
Min. Inside Bend Radius		
[in]	0.07	0.07
[mm]	1.78	1.78
Weight		
[lbs/100ft]	0.75	0.80
[kg/100m]	1.13	1.19
Dimensional Stability		
Temperature [°C]	125	125
Maximum Dimension		
[in]	0.015	0.015
[mm]	0.380	0.380
Center Conductor Adhesion		
Minimum lbs	4.00	4.00
Minimum kg	1.81	1.81
Maximum lbs	25.00	25.00
Maximum kg	11.34	11.34

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 1.5	50 ± 1.5
Capacitance [Maximum]		
[pF/ft]	32.0	32.0
[pF/m]	105.0	105.0
Corona Extinction Voltage [VRMS @ 60Hz]	1500	1500
Voltage Withstanding [VRMS @ 60Hz]	5000	5000
Operating Frequency [GHz]	20	20
Attenuation	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Power	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)
Structural Loss	See Table Page 12 (MIL-DTL-17/133)	See Table Page 12 (MIL-DTL-17/133)

M17 Approved Cables

DIMENSIONS	M17/130-RG-402 UT-141-HA-M17	M17/130-00001 UT-141-HA-TP-M17	M17/130-00004 UT-141-SA-M17	M17/130-00005 UT-141-SA-TP-M17
Outer Conductor Diameter				
[in]	0.141 ± 0.001	0.141 + 0.002/ -0.001	0.141 ± 0.001	0.141 + 0.002/ -0.001
[mm]	3.581 ± 0.025	3.581 + 0.051/ -0.025	3.581 ± 0.025	3.581 + 0.051/ -0.025
Dielectric Diameter				
[in]	0.118 ± 0.001	0.118 ± 0.001	0.118 ± 0.001	0.118 ± 0.001
[mm]	2.985 ± 0.025	2.985 ± 0.025	2.985 ± 0.025	2.985 ± 0.025
Center Conductor Diameter				
[in]	0.0362 ± 0.0007	0.0362 ± 0.0007	0.0362 ± 0.0007	0.0362 ± 0.0007
[mm]	0.9195 ± 0.0178	0.9195 ± 0.0178	0.9195 ± 0.0178	0.9195 ± 0.0178

MATERIALS

Outer Conductor	COPPER	TIN/COPPER	COPPER	TIN/COPPER
Dielectric	PTFE	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPCW	SPCW
RoHS Compliant	YES	YES	YES	YES

MECHANICAL CHARACTERISTICS

Operating Temp. Range [°C]	-40 to 125	-40 to 125	-40 to 125	-40 to 125
Min. Inside Bend Diameter				
[in]	0.5	0.5	0.15	0.15
[mm]	12.7	12.7	3.81	3.81
Weight				
[lbs/100ft]	3.44	3.51	3.44	3.51
[kg/100m]	5.12	5.22	5.12	5.22
Dimensional Stability				
Temperature [°C]	125	125	125	125
Maximum Dimension				
[in]	0.015	0.015	0.015	0.015
[mm]	0.380	0.380	0.380	0.380
Center Conductor Adhesion				
Minimum lbs	4.00	4.00	4.00	4.00
Minimum kg	1.81	1.81	1.81	1.81
Maximum lbs	65.00	65.00	65.00	65.00
Maximum kg	29.48	29.48	29.48	29.48

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 1.0	50 ± 1.0	50 ± 1.0	50 ± 1.0
Capacitance [Maximum]				
[pF/ft]	29.9	29.9	29.9	29.9
[pF/m]	98.1	98.1	98.1	98.1
Corona Extinction Voltage [VRMS @ 60Hz]	1900	1900	1900	1900
Voltage Withstanding [VRMS @ 60Hz]	5000	5000	5000	5000
Operating Frequency [GHz]	20	20	20	20
Attenuation	See Table Page 12 (MIL-DTL-17/130) (dB1)	See Table Page 12 (MIL-DTL-17/130) (dB1)	See Table Page 12 (MIL-DTL-17/130) (dB1)	See Table Page 12 (MIL-DTL-17/130) (dB1)
Power	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)
Structural Loss	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)

M17 Approved Cables

DIMENSIONS	M17/130-00012 UT-141-SA-SP-M17	M17/130-00008 UT-141-SA-AL-M17	M17/130-00009 UT-141-AL-TP-M17
Outer Conductor Diameter			
[in]	0.141 + 0.002/ -0.001	0.141 ± 0.001	0.141 + 0.002/ -0.001
[mm]	3.581 + 0.051/ -0.025	3.581 ± 0.025	3.581 + 0.051/ -0.025
Dielectric Diameter			
[in]	0.118 ± 0.001	0.118 ± 0.001	0.118 ± 0.001
[mm]	2.985 ± 0.025	2.985 ± 0.025	2.985 ± 0.025
Center Conductor Diameter			
[in]	0.0362 ± 0.0007	0.0362 ± 0.0007	0.0362 ± 0.0007
[mm]	0.9195 ± 0.0178	0.9195 ± 0.0178	0.9195 ± 0.0127

MATERIALS

Outer Conductor	SILVER/COPPER	1100 ALUMINUM	TIN/ALUMINUM
Dielectric	PTFE	PTFE	PTFE
Center Conductor	SPCW	SPCW	SPCW
RoHS Compliant	YES	YES	YES

MECHANICAL CHARACTERISTICS

Max Operating Temp. [°C]	125	125	125
Min. Inside Bend Radius			
[in]	0.075	0.125	0.125
[mm]	1.910	3.175	3.175
Weight			
[lbs/100ft]	3.51	1.88	2.05
[kg/100m]	5.22	2.82	3.08
Dimensional Stability			
Temperature [°C]	125	125	125
Maximum Dimension			
[in]	0.015	0.015	0.015
[mm]	0.380	0.380	0.380
Center Conductor Adhesion			
Minimum lbs	4.00	4.00	4.00
Minimum kg	1.81	1.81	1.81
Maximum lbs	65.00	65.00	65.00
Maximum kg	29.48	29.48	29.48

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 1.0	50 ± 1.0	50 ± 1.0
Capacitance [Maximum]			
[pF/ft]	29.9	29.0	29.0
[pF/m]	98.1	95.1	95.1
Corona Extinction Voltage [VRMS @ 60Hz]	1900	1900	1900
Voltage Withstanding [VRMS @ 60Hz]	5000	5000	5000
Operating Frequency [GHz]	20	34	34
Attenuation	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)
Power	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)
Structural Loss	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)	See Table Page 12 (MIL-DTL-17/130)

M17 Approved Cables

DIMENSIONS

	M17/129-RG-401 UT-250A-M17	M17/129-00001 UT-250A-TP-M17
Outer Conductor Diameter		
[in]	0.250 ± 0.001	0.250 + 0.002/ -0.001
[mm]	6.350 ± 0.025	6.350 + 0.051/ -0.025
Dielectric Diameter		
[in]	0.209 ± 0.002	0.209 ± 0.002
[mm]	5.309 ± 0.051	5.309 ± 0.051
Center Conductor Diameter		
[in]	0.064 ± 0.001	0.064 ± 0.001
[mm]	1.628 ± 0.025	1.628 ± 0.025

MATERIALS

Outer Conductor	COPPER	TIN/COPPER
Dielectric	PTFE	PTFE
Center Conductor	SPC	SPC
RoHS Compliant	YES	YES

MECHANICAL CHARACTERISTICS

Operating Temp. Range [°C]	-40 to 90	-40 to 90
Min. Inside Bend Diameter		
[in]	0.75	0.75
[mm]	19.05	19.05
Weight		
[lbs/100ft]	10.5	10.6
[kg/100m]	15.6	15.8
Dimensional Stability		
Temperature [°C]	125	125
Maximum Dimension		
[in]	0.015	0.015
[mm]	0.380	0.380
Center Conductor Adhesion		
Minimum lbs	4.0	4.0
Minimum kg	1.8	1.8
Maximum lbs	100.0	100.0
Maximum kg	45.4	45.4

ELECTRICAL CHARACTERISTICS

Characteristic Impedance [ohms]	50 ± 0.5	50 ± 0.5
Capacitance [Maximum]		
[pF/ft]	29.6	29.6
[pF/m]	97.1	97.1
Corona Extinction Voltage [VRMS @ 60Hz]	3000	3000
Voltage Withstanding [VRMS @ 60Hz]	7500	7500
Operating Frequency [GHz]	18	18
Attenuation	See Table Page 12 (MIL-DTL-17/129)	See Table Page 12 (MIL-DTL-17/129)
Power	See Table Page 12 (MIL-DTL-17/129)	See Table Page 12 (MIL-DTL-17/129)
Structural Loss	See Table Page 12 (MIL-DTL-17/129)	See Table Page 12 (MIL-DTL-17/129)