CABLE ASSEMBLIES

Corrugated cable 3/8" (Cellflex 3/8" Spiral)



P/N: C291 996 170 (Cellflex HCF 3/8" CuH-50 AlCu)

APPLICATION NOTE

The outer conductor of this cable is made up of a corrugated tube (spiral winding).

This construction allows perfect shielding and bendability while enabling large bending radius.

The foam dielectric provides excellent loss and low return loss levels.

This cable is suitable for feeder and jumper assemblies in cellular networks as well as applications requiring high performance level on long distances.

The anti-UV LSZH (Low Smoke Zero Halogen) material is also flame retardant and allows this cable to be used for indoor public areas as well as outoor installations.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid AlCC[1]	2.60	0.102
Dielectric	Foam PE[2]	6.30	0.248
Corrugated inner shield	Spiral copper tube	9.10	0.358
Outer shield	-	-	-
Jacket	Black LSZH PE[3]	10.20	0.402

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 1Ω	
Operating frequency range	DC - 13.4 GHz	
Shielding effectiveness	110 dB	
Voltage withstanding	4 500 V rms	
Peak power	11.9 kW	
Capacitance	82 pF / m	24.8 pF / ft
Velocity of propagation	82 % (4.1 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	25.0 mm	0.984 inch
Weight	120 g / m	0.080 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-40 / +85 °C	-40 / +185 °F
Fire resistance	Yes (UL 1581 VW1 / IEC 332-1)	
Halogen free	Yes (IEC 754-2)	

FREQUENCY / ATTENUATION (typ. / 25 °C) / CW MAX POWER (sea level / 40 °C)

GHz	dB / m	dB / ft	Watts
0.5	0.09	0.03	810
1.0	0.13	0.04	560
1.5	0.17	0.05	449
2.0	0.19	0.06	384
3.0	0.24	0.07	306
4.0	0.29	0.09	260
6.0	0.36	0.11	205
8.0	0.43	0.13	173
10.0	0.49	0.15	152
12.4	0.56	0.17	133
Attenuation calculation (dB/m)	(0.123 x √f GHz) + (0.01 x f GHz)		

[1] AlCC = Aluminum Covered Copper
[2] PE = PolyEthylene
[3] LSZH PE = Low Smoke Zero Hallogen PolyEthylene

Corrugated cable 1/2" (Cellflex 1/2" Spiral)



P/N: C291 994 170 (Cellflex HCF 1/2" CuH-50 AlCu)

APPLICATION NOTE

The outer conductor of this cable is made up of a corrugated tube (spiral winding).

This construction allows perfect shielding and bendability while enabling large bending radius.

The foam dielectric provides excellent loss and low return loss levels.

This cable will be advised for feeder and jumper assemblies in cellular networks as well as applications requiring high performance level on long distances.

The anti-UV LSZH (Low Smoke Zero Halogen) material is also flame retardant and allows this cable to be used for indoor public areas as well as outoor installations.

CONSTRUCTION / DIMENSIONS

	Material	mm	Inches
Center conductor	Solid AlCC[1]	3.60	0.142
Dielectric	Foam PE[2]	8.30	0.327
Corrugated inner shield	Spiral copper tube	12.30	0.484
Outer shield	-	-	-
Jacket	Black LSZH PE[3]	13.50	0.531

ELECTRICAL CHARACTERISTICS

Characteristic impedance	50Ω ± 1Ω	
Operating frequency range	DC - 11.7 GHz	
Shielding effectiveness	110 dB	
Voltage withstanding	5 845 V rms	
Peak power	20.5 kW	
Capacitance	82 pF / m	24.8 pF / ft
Velocity of propagation	82 % (4.1 ns / m)	

MECHANICAL CHARACTERISTICS

Recommended minimum bending radius	32.0 mm	1.260 inch
Weight	210 g / m	0.140 lbs / ft

ENVIRONMENTAL CHARACTERISTICS

Operating temperature range	-40 / +85 °C	-40 / +185 °F
Fire resistance	Yes (UL 1581 VW1 / IEC 332-1)	
Halogen free	Yes (IEC 754-2)	

FREQUENCY / ATTENUATION (typ. / 25 °C) / CW MAX POWER (sea level / 40 °C)

GHz	dB / m	dB / ft	Watts
0.5	0.08	0.02	1 120
1.0	0.11	0.03	770
1.5	0.14	0.04	616
2.0	0.16	0.05	525
2.5	0.18	0.06	461
3.0	0.20	0.06	417
4.0	0.24	0.07	353
6.0	0.30	0.09	278
8.0	0.36	0.11	234
10.0	0.42	0.13	204
Attenuation calculation (dB/m)	(0.10 x √f GHz) + (0.01 x f GHz)		

[1] AlCC = Aluminum Covered Copper
[2] PE = PolyEthylene
[3] LSZH PE = Low Smoke Zero Hallogen PolyEthylene

Note:
Typical attenuation for a couple of connectors (dB) = 0.045 x √f (GHz)