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)

Plot no. 845, DSIIDC Industrial Area KHASRA NO. 33/23 (0-7) & 37/4 (0-10)Gali no. 6, near Harnandi dharam kanta Mundka Industrial Area, New Delhi, Delhi, 110041