CABLE ASSEMBLIES

## Flexible cable 11/75 D (RG216)



### P/N: C291 610 000 (MIL-C-17/77-RG216)

**APPLICATION NOTE**

Due to its 75 ohms characteristic impedance, RG 216 is better suited for TV/Video applications.

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Stranded TC[1] | 1.21 | 0.048 |
| Dielectric | Solid PE[2] | 7.24 | 0.285 |
| Inner shield | Copper braid | - | - |
| Outer shield | Copper braid | 8.89 | 0.350 |
| Jacket | Black PVC[3] | 10.80 | 0.425 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 75Ω ± 3Ω | |
| Operating frequency range | DC - 3 GHz | |
| Shielding effectiveness | 65 dB | |
| Voltage withstanding | 10 000 V rms | |
| Peak power | 5.3 kW | |
| Capacitance | 66 pF / m | 20 pF / ft |
| Velocity of propagation | 66 % (5 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 50 mm | 1.97 inch |
| Weight | 165 g / m | 0.1104 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -40 / +85 °C | -40 / +185 °F |
| Fire resistance | No | |
| Halogen free | No | |

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

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.1 | 0.09 | 0.03 | 395 |
| 0.2 | 0.13 | 0.04 | 280 |
| 0.3 | 0.17 | 0.05 | 228 |
| 0.5 | 0.22 | 0.07 | 177 |
| 1.0 | 0.32 | 0.10 | 125 |
| 1.5 | 0.40 | 0.12 | 102 |
| 2.0 | 0.48 | 0.14 | 88 |
| 2.5 | 0.54 | 0.16 | 79 |
| 3.0 | 0.60 | 0.18 | 72 |
| Attenuation calculation (dB/m) | (0.28 x √f GHz) + (0.04 x f GHz) | | |
| Power calculation (W) | 125 / √f GHz | | |

[1] TC = Tinned Copper
[2] PE = PolyEthylene
[3] PVC = PolyVinyl Chloride

## Flexible cable 2.6/50 S (ECO316: alternative to RG316)



**ECO-Friendly cable**
**Cost effective solution**

### P/N: C291 999 904

**APPLICATION NOTE**

**Designed by RADIALL, ECO316 is an advantageous alternative solution to RG316:**

- **Advantageous in term of electrical performance:** its optimized construction allows better attenuation and screening effectiveness than RG316 and RG 174.
- **Environmental advantages:** halogen and sulphur free, this cable does not emit any toxic substance when submitted to fire. The flame retardant jacket allows ECO316 to meet fire resistance standards.
- **Advantageous in term of price:** ECO316 design has integrated all Radiall knowledge to reach the best performance with a very competitive price.

ECO316 is UL style 1375 approved.

**This cable is compatible with a large range of connector series.**

### CONSTRUCTION / DIMENSIONS

| | Material | mm | Inches |
|---|---|---|---|
| Center conductor | Solid OFC[1] | 0.55 | 0.022 |
| Dielectric | Foam PE[2] | 1.55 | 0.061 |
| Inner shield | OFC[1] braid | 1.90 | 0.075 |
| Outer shield | - | - | - |
| Jacket | Black LSZH PE[3] | 2.45 | 0.096 |

### ELECTRICAL CHARACTERISTICS

| | | |
|---|---|---|
| Characteristic impedance | 50Ω ± 2Ω | |
| Operating frequency range | DC - 3 GHz | |
| Shielding effectiveness | 50 dB | |
| Voltage withstanding | 2 000 V rms | |
| Peak power | 1.4 kW | |
| Capacitance | 84 pF / m | 25.5 pF / ft |
| Velocity of propagation | 80 % (4.15 ns / m) | |

### MECHANICAL CHARACTERISTICS

| | | |
|---|---|---|
| Recommended minimum bending radius | 15 mm | 0.590 inch |
| Weight | 10 g / m | 0.0066 lbs / ft |

### ENVIRONMENTAL CHARACTERISTICS

| | | |
|---|---|---|
| Operating temperature range | -40 / +85 °C | -40 / +185 °F |
| Fire resistance | Yes (UL1581 VW1 / IEC 332-1) | |
| Halogen free | Yes (IEC 754-2) | |

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

| GHz | dB / m | dB / ft | Watts |
|---|---|---|---|
| 0.1 | 0.24 | 0.07 | 120 |
| 0.2 | 0.33 | 0.10 | 85 |
| 0.3 | 0.41 | 0.12 | 69 |
| 0.5 | 0.53 | 0.16 | 54 |
| 1.0 | 0.76 | 0.23 | 38 |
| 1.5 | 0.94 | 0.28 | 31 |
| 2.0 | 1.09 | 0.33 | 27 |
| 2.5 | 1.22 | 0.37 | 24 |
| 3.0 | 1.34 | 0.41 | 22 |
| Attenuation calculation (dB/m) | (0.74 x √f GHz) + (0.02 x f GHz) | | |
| Power calculation (W) | 38 / √f GHz | | |

[1] OFC = Oxygen Free Copper
[2] PE = PolyEthylene
[3] LSZH PE = Low Smoke Zero Halogen PolyEthylene

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