



CELLFLEX® 1/2" low loss flexible cable

FEATURES / BENEFITS

• **Low Attenuation**

The low attenuation of CELLFLEX® coaxial cable results in highly efficient signal transfer in your RF system.

• **Complete Shielding**

The solid outer conductor of CELLFLEX® coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.

• **Low VSWR**

Special low VSWR versions of CELLFLEX® coaxial cables contribute to low system noise.

• **Outstanding Intermodulation Performance**

CELLFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.

• **High Power Rating**

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric

materials, CELLFLEX® cable provides safe long term operating life at high transmit power levels.

• **Wide Range of Application**

Typical areas of application are: feedlines for broadcast and terrestrial microwave antennas, wireless cellular, PCS and ESMR base stations, cabling of antenna arrays, and radio equipment interconnects.



1/2" CELLFLEX® Low-Loss Foam Dielectric Coaxial Cable

Technical features

APPLICATIONS

| | |
|---------------------|--|
| Applications | OEM jumpers, Main feed transitions to equipment, GPS lines, intended for outdoor usage |
|---------------------|--|

STRUCTURE

| | | |
|---------------------------------|---------|-----------------------------|
| Size | | 1/2 |
| Jacket Option | | Black |
| Inner Conductor | mm (in) | 4.8 (0.19) |
| Inner Conductor Material | | Copper-Clad Aluminum Wire |
| Dielectric | mm (in) | 11.3 (0.44) |
| Dielectric Material | | Foam Polyethylene |
| Outer Conductor | mm (in) | 13.8 (0.54) |
| Outer Conductor Material | | Corrugated Copper |
| Jacket | mm (in) | 15.8 (0.62) |
| Jacket Material | | Polyethylene, PE |
| Cable Type | | Foam-Dielectric, Corrugated |

TESTING AND ENVIRONMENTAL

| | | |
|---------------------------------|--------|-----------------------------|
| Fire Performance | | Halogen free, outdoor-rated |
| Installation Temperature | °C(°F) | -40 to 60 (-40 to 140) |
| Storage Temperature | °C(°F) | -70 to 85 (-94 to 185) |
| Operation Temperature | °C(°F) | -50 to 85 (-58 to 185) |



ELECTRICAL SPECIFICATIONS

| | | |
|---|----------------------|---|
| Impedance, Ohm | Ω | 50 +/- 1 |
| Maximum Frequency | GHz | 8.8 |
| Velocity, percent | % | 87 |
| Capacitance | pF/m (pF/ft) | 76 (23.2) |
| Inductance, uH/m (uH/ft) | μH/m (μH/ft) | 0.19 (0.058) |
| Peak Power Rating | kW | 38 |
| RF Peak Voltage | Volts | 1950 |
| Jacket Spark | Volt RMS | 8000 |
| Inner Conductor dc Resistance, Ω/km (Ω/kft) | Ω/1000 m (Ω/1000 ft) | 1.62 (0.5) |
| Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) | Ω/1000 m (Ω/1000 ft) | 3.55 (1.08) |
| Return Loss (VSWR) Performance | | Standard or Premium according to B-Class |
| Min. Return Loss (Max. VSWR) | dB (VSWR) | Standard 20 (1.222), Premium 24 (1.135) / 23 (1.152) |
| Phase Stabilized | | Phase stabilized and phase matched cables and accessories are available upon request. |
| Temperature & Power | | Standard |

MECHANICAL SPECIFICATIONS

| | | |
|--|--------------|--------------------|
| Cable Weight, Nominal | kg/m (lb/ft) | 0.18 (0.125) |
| Minimum Bending Radius, Single Bend | mm (in) | 70 (3) |
| Minimum Bending Radius, Repeated Bends | mm (in) | 125 (5) |
| Bending Moment, Nm (lb-ft) | Nm (lb*ft) | 6.5 (4.79) |
| Tensile Strength | N (lb) | 1050 (236) |
| Recommended / Maximum Clamp Spacing | m (ft) | 0.6 / 1 (2 / 3.25) |



ATTENUATION AND POWER RATING

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 1 | 0.21 | 0.07 | 35.30 |
| 1.5 | 0.26 | 0.08 | 28.80 |
| 2 | 0.30 | 0.09 | 25 |
| 10 | 0.68 | 0.21 | 11.10 |
| 20 | 0.96 | 0.29 | 7.83 |
| 30 | 1.18 | 0.36 | 6.37 |
| 50 | 1.53 | 0.47 | 4.91 |
| 88 | 2.04 | 0.62 | 3.68 |
| 100 | 2.18 | 0.66 | 3.45 |
| 108 | 2.27 | 0.69 | 3.31 |
| 150 | 2.69 | 0.82 | 2.80 |
| 174 | 2.90 | 0.88 | 2.59 |
| 200 | 3.12 | 0.95 | 2.41 |
| 300 | 3.85 | 1.17 | 1.95 |
| 400 | 4.48 | 1.37 | 1.68 |
| 450 | 4.77 | 1.45 | 1.57 |
| 500 | 5.04 | 1.54 | 1.49 |
| 512 | 5.11 | 1.56 | 1.47 |
| 600 | 5.56 | 1.69 | 1.35 |
| 700 | 6.03 | 1.84 | 1.24 |
| 750 | 6.26 | 1.91 | 1.20 |
| 800 | 6.48 | 1.98 | 1.16 |
| 824 | 6.58 | 2.01 | 1.14 |
| 894 | 6.88 | 2.10 | 1.09 |
| 900 | 6.91 | 2.10 | 1.09 |
| 925 | 7.01 | 2.14 | 1.07 |
| 960 | 7.15 | 2.18 | 1.05 |
| 1000 | 7.31 | 2.23 | 1.03 |
| 1250 | 8.25 | 2.52 | 0.91 |
| 1400 | 8.78 | 2.68 | 0.86 |
| 1500 | 9.12 | 2.78 | 0.82 |
| 1700 | 9.77 | 2.98 | 0.77 |
| 1800 | 10.10 | 3.07 | 0.75 |
| 2000 | 10.70 | 3.26 | 0.70 |
| 2100 | 11 | 3.35 | 0.68 |
| 2200 | 11.30 | 3.44 | 0.67 |
| 2400 | 11.80 | 3.61 | 0.63 |
| 2500 | 12.10 | 3.69 | 0.62 |
| 2600 | 12.40 | 3.78 | 0.61 |
| 2700 | 12.70 | 3.86 | 0.59 |



| | | | |
|-------------|-------|------|------|
| 3000 | 13.40 | 4.09 | 0.56 |
| 3500 | 14.70 | 4.47 | 0.51 |
| 4000 | 15.80 | 4.83 | 0.47 |
| 5000 | 18 | 5.50 | 0.42 |
| 6000 | 20.70 | 6.30 | 0.37 |
| 7000 | 22 | 6.70 | 0.34 |
| 8000 | 23.80 | 7.26 | 0.32 |
| 8800 | 25.20 | 7.69 | 0.30 |

External Document Links

Notes