



## 1/2" CELLFLEX® Superflexible Foam-Dielectric Coaxial Cable

CELLFLEX® 1/2" superflexible 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.



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### Technical Features

#### APPLICATIONS

|              |  |
|--------------|--|
| Applications | OEM jumpers, Main feed transitions to equipment, GPS lines |
|--------------|--|

#### STRUCTURE

|                 |         |                                       |
|-----------------|---------|---------------------------------------|
| Cable Type      |         | Foam-Dielectric, Superflexible        |
| Size            |         | 1/2"                                  |
| Jacket Option   |         | Black                                 |
| Inner Conductor | mm (in) | 3.56 (0.14) Copper-Clad Aluminum Wire |
| Dielectric      | mm (in) | 9.3 (0.366) Foam Polyethylene         |
| Outer Conductor | mm (in) | 12.3 (0.48) Corrugated Copper         |
| Jacket          | mm (in) | 13.75 (0.54) Polyethylene, PE         |

#### ELECTRICAL SPECIFICATIONS

|                                |                      |   |
|--------------------------------|----------------------|---|
| Impedance                      | Ω                    | 50 +/- 1  |
| Maximum Frequency              | GHz                  | 10.6  |
| Velocity                       | %                    | 77  |
| Capacitance                    | pF/m (pF/ft)         | 86 (26)   |
| Inductance                     | μH/m (μH/ft)         | 0.215 (0.066)   |
| Peak Power Rating              | kW                   | 24  |
| RF Peak Voltage                | Volts                | 1550  |
| Jacket Spark                   | Volt RMS             | 5000  |
| Inner Conductor dc Resistance  | Ω/1000 m (Ω/1000 ft) | 2.9 (0.88)  |
| Outer Conductor dc Resistance  | Ω/1000 m (Ω/1000 ft) | 4.5 (1.37)  |
| Return Loss (VSWR) Performance |                      | Standard  |
| Maximum Return Loss            | dB (VSWR)            | Contact RFS for your VSWR performance specification for your required frequency band. |
| Phase Stabilized               |                      | Phase stabilized and phase matched cables and assemblies are available upon request.  |
| Temperature & Power            |                      | Standard  |

#### MECHANICAL SPECIFICATIONS

|  |              |                      |
|--|--------------|----------------------|
| Cable Weight                           | kg/m (lb/ft) | 0.17 (0.11)          |
| Minimum Bending Radius, Repeated Bends | mm (in)      | 32 (1.3)             |
| Bending Moment                         | Nm (lb*ft)   | 1.8 (1.33)           |
| Tensile Strength                       | N (lb)       | 650 (146)            |
| Recommended / Maximum Clamp Spacing    | m (ft)       | 0.3 / 0.5 (1 / 1.64) |



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### ATTENUATION AND POWER RATING

| Frequency<br>MHz | Attenuation |          | Power<br>kW |
|------------------|-------------|----------|-------------|
|                  | dB/100m     | dB/100ft |             |
| 0.5              | 0.22        | 0.067    | 24.00       |
| 1                | 0.31        | 0.095    | 22.60       |
| 1.5              | 0.38        | 0.117    | 18.40       |
| 2                | 0.44        | 0.135    | 16.00       |
| 10               | 1.00        | 0.303    | 7.10        |
| 20               | 1.41        | 0.43     | 5.01        |
| 30               | 1.73        | 0.529    | 4.08        |
| 50               | 2.25        | 0.686    | 3.14        |
| 88               | 3.01        | 0.916    | 2.35        |
| 100              | 3.21        | 0.978    | 2.20        |
| 108              | 3.34        | 1.02     | 2.11        |
| 150              | 3.96        | 1.21     | 1.78        |
| 174              | 4.27        | 1.30     | 1.65        |
| 200              | 4.60        | 1.40     | 1.53        |
| 300              | 5.68        | 1.73     | 1.24        |
| 400              | 6.61        | 2.01     | 1.07        |
| 450              | 7.04        | 2.14     | 1.00        |
| 500              | 7.44        | 2.27     | 0.949       |
| 512              | 7.53        | 2.30     | 0.938       |
| 600              | 8.20        | 2.50     | 0.861       |
| 700              | 8.91        | 2.71     | 0.792       |
| 750              | 9.24        | 2.82     | 0.764       |
| 800              | 9.57        | 2.92     | 0.738       |
| 824              | 9.72        | 2.96     | 0.726       |
| 894              | 10.20       | 3.10     | 0.692       |
| 900              | 10.20       | 3.11     | 0.692       |
| 925              | 10.40       | 3.16     | 0.679       |
| 960              | 10.60       | 3.22     | 0.666       |
| 1000             | 10.80       | 3.29     | 0.654       |
| 1250             | 12.20       | 3.72     | 0.579       |
| 1400             | 13.00       | 3.96     | 0.543       |
| 1500             | 13.50       | 4.11     | 0.523       |
| 1700             | 14.50       | 4.41     | 0.487       |
| 1800             | 14.90       | 4.55     | 0.474       |
| 2000             | 15.80       | 4.82     | 0.447       |
| 2100             | 16.30       | 4.96     | 0.433       |
| 2200             | 16.70       | 5.09     | 0.423       |
| 2400             | 17.50       | 5.35     | 0.403       |
| 2500             | 17.90       | 5.47     | 0.394       |
| 2600             | 18.40       | 5.59     | 0.384       |
| 2700             | 18.80       | 5.72     | 0.376       |
| 3000             | 19.90       | 6.07     | 0.355       |
| 3500             | 21.80       | 6.63     | 0.324       |
| 4000             | 23.50       | 7.16     | 0.30        |
| 5000             | 26.80       | 8.16     | 0.263       |
| 6000             | 29.80       | 9.09     | 0.237       |
| 7000             | 32.70       | 9.97     | 0.216       |
| 8000             | 35.50       | 10.80    | 0.199       |
| 9000             | 38.10       | 11.60    | 0.185       |
| 10000            | 40.60       | 12.40    | 0.174       |

Attenuation at 20°C (68°F) cable temperature;  
tolerance +/- 5% max.; Mean power rating at  
40°C (104°F) ambient temperature

### TESTING AND ENVIRONMENTAL

|                          |                               |
|--------------------------|-------------------------------|
| Fire Performance         | Halogene Free                 |
| Installation Temperature | -40 to 60 (-40 to 140) °C(°F) |
| Storage Temperature      | -70 to 85 (-94 to 185) °C(°F) |
| Operation Temperature    | -50 to 85 (-58 to 185) °C(°F) |

### External Document Links

### Notes

Phase stabilized versions available upon request.