



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

CELLFLEX® 1/2" low loss flexible cable; flame retardant/ halogen free jacket

## 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, Riser-rated In-Building, CPR classified cable |
|--------------|--|-----------------------------------------------------------------------------------------------------------|

### STRUCTURE

|                 |         |                                                      |
|-----------------|---------|------------------------------------------------------|
| Cable Type      |         | Foam-Dielectric, Corrugated                          |
| Size            |         | 1/2"                                                 |
| Jacket Option   |         | Black                                                |
| Inner Conductor | mm (in) | 4.8 (0.19) Copper-Clad Aluminum Wire                 |
| Dielectric      | mm (in) | 11.9 (0.47) Foam Polyethylene                        |
| Outer Conductor | mm (in) | 13.8 (0.54) Corrugated Copper                        |
| Jacket          | mm (in) | 15.8 (0.62) Polyethylene, PE, Metalhydroxite Filling |

### ELECTRICAL SPECIFICATIONS

|                                |                      |                                                                                       |
|--------------------------------|----------------------|---------------------------------------------------------------------------------------|
| Impedance                      | Ω                    | 50 +/- 1                                                                              |
| Maximum Frequency              | GHz                  | 8.8                                                                                   |
| Velocity                       | %                    | 88.0                                                                                  |
| Capacitance                    | pF/m (pF/ft)         | 76 (23.2)                                                                             |
| Inductance                     | μH/m (μH/ft)         | 0.19 (0.058)                                                                          |
| Peak Power Rating              | kW                   | 38.0                                                                                  |
| RF Peak Voltage                | Volts                | 1950.0                                                                                |
| Jacket Spark                   | Volt RMS             | 8000.0                                                                                |
| Inner Conductor dc Resistance  | Ω/1000 m (Ω/1000 ft) | 1.57 (0.48)                                                                           |
| Outer Conductor dc Resistance  | Ω/1000 m (Ω/1000 ft) | 2.7 (0.82)                                                                            |
| 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, Nominal                  | kg/m (lb/ft) | 0.23 (0.16)        |
| Minimum Bending Radius, Single Bend    | mm (in)      | 70 (3)             |
| Minimum Bending Radius, Repeated Bends | mm (in)      | 125 (5)            |
| Bending Moment                         | Nm (lb*ft)   | 6.5                |
| Tensile Strength                       | N (lb)       | 1100 (247)         |
| Recommended / Maximum Clamp Spacing    | m (ft)       | 0.6 / 1 (2 / 3.25) |



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## ATTENUATION AND POWER RATING

| Frequency<br>MHz | Attenuation<br>dB/100m    dB/100ft |       | Power<br>kW |
|------------------|------------------------------------|-------|-------------|
| 0.5              | 0.15                               | 0.045 | 38.00       |
| 1                | 0.21                               | 0.064 | 38.00       |
| 1.5              | 0.26                               | 0.079 | 32.90       |
| 2                | 0.30                               | 0.091 | 28.50       |
| 10               | 0.67                               | 0.204 | 12.70       |
| 20               | 0.95                               | 0.29  | 8.93        |
| 30               | 1.17                               | 0.356 | 7.26        |
| 50               | 1.51                               | 0.462 | 5.63        |
| 88               | 2.02                               | 0.616 | 4.21        |
| 100              | 2.16                               | 0.658 | 3.93        |
| 108              | 2.24                               | 0.684 | 3.79        |
| 150              | 2.66                               | 0.81  | 3.19        |
| 174              | 2.87                               | 0.875 | 2.96        |
| 200              | 3.08                               | 0.94  | 2.76        |
| 300              | 3.81                               | 1.16  | 2.23        |
| 400              | 4.43                               | 1.35  | 1.92        |
| 450              | 4.71                               | 1.44  | 1.80        |
| 500              | 4.98                               | 1.52  | 1.71        |
| 512              | 5.04                               | 1.54  | 1.69        |
| 600              | 5.48                               | 1.67  | 1.55        |
| 700              | 5.95                               | 1.81  | 1.43        |
| 750              | 6.17                               | 1.88  | 1.38        |
| 800              | 6.39                               | 1.95  | 1.33        |
| 824              | 6.49                               | 1.98  | 1.31        |
| 894              | 6.78                               | 2.07  | 1.25        |
| 900              | 6.80                               | 2.07  | 1.25        |
| 925              | 6.90                               | 2.10  | 1.23        |
| 960              | 7.04                               | 2.15  | 1.21        |
| 1000             | 7.20                               | 2.19  | 1.18        |
| 1250             | 8.12                               | 2.48  | 1.05        |
| 1400             | 8.64                               | 2.63  | 0.983       |
| 1500             | 8.97                               | 2.73  | 0.947       |
| 1700             | 9.61                               | 2.93  | 0.884       |
| 1800             | 9.91                               | 3.02  | 0.857       |
| 2000             | 10.50                              | 3.20  | 0.809       |
| 2100             | 10.80                              | 3.29  | 0.787       |
| 2200             | 11.10                              | 3.38  | 0.765       |
| 2400             | 11.60                              | 3.54  | 0.732       |
| 2500             | 11.90                              | 3.62  | 0.714       |
| 2600             | 12.20                              | 3.70  | 0.696       |
| 2700             | 12.40                              | 3.78  | 0.685       |
| 3000             | 13.20                              | 4.01  | 0.644       |
| 3500             | 14.40                              | 4.38  | 0.59        |
| 4000             | 15.50                              | 4.72  | 0.548       |
| 5000             | 17.60                              | 5.37  | 0.483       |
| 6000             | 19.60                              | 5.97  | 0.433       |
| 7000             | 21.40                              | 6.54  | 0.397       |
| 8000             | 23.20                              | 7.07  | 0.366       |
| 8800             | 24.60                              | 7.49  | 0.345       |

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

## TESTING AND ENVIRONMENTAL

|                                              |                                                                                                                                                        |
|----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Performance</b>                      | Flame Retardant, LS0H                                                                                                                                  |
| <b>Flame Retardant Jacket Specifications</b> | Meets/Exceeds: IEC 60754-1, -2; IEC 60332-1, -3.C; UL 1581;<br>UL 1666; NEC type CATVR, CPR (Hannover production):<br>EN50575:2017 class Cca s1a do a1 |
| <b>Installation Temperature</b>              | -25 to 60 (-13 to 140) °C(°F)                                                                                                                          |
| <b>Storage Temperature</b>                   | -70 to 85 (-94 to 185) °C(°F)                                                                                                                          |
| <b>Operation Temperature</b>                 | -50 to 85 (-58 to 185) °C(°F)                                                                                                                          |

## External Document Links

## Notes

Phase stabilized versions available upon request.