



HELIFLEX® 3" low loss air dielectric cable

FEATURES / BENEFITS

• Low Attenuation

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

• Complete Shielding

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

• Low VSWR

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

• Outstanding Intermodulation Performance

HELIFLEX® coaxial cable's solid inner and outer conductors virtually eliminate intermods.

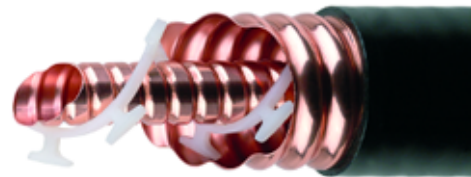
Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS factory.

• High Power Rating

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, HELIFLEX® 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.



3" HELIFLEX® Air Dielectric Coaxial Cable

Technical features

APPLICATIONS

| Applications | | TV & Radio | HF Defense | Cable Solutions |
|--------------|--|------------|------------|-----------------|
|--------------|--|------------|------------|-----------------|

STRUCTURE

| | | |
|--------------------------|---------|-----------------------------|
| Cable Type | | Air-Dielectric, Corrugated |
| Size | | 3 |
| Jacket Option | | Black |
| Inner Conductor Diameter | mm (in) | 29.3 (1.15) |
| Inner Conductor Material | | Corrugated Copper Tube |
| Dielectric Diameter | mm (in) | 63.5 (2.5) |
| Dielectric Material | | Helical Polyethylene Spacer |
| Outer Conductor Diameter | mm (in) | 72.4 (2.85) |
| Outer Conductor Material | | Corrugated Copper |
| Jacket Diameter | mm (in) | 76 (2.992) |
| Jacket Material | | Polyethylene, PE |

TESTING AND ENVIRONMENTAL

| | | |
|---------------------------------------|---------|---|
| Fire Performance | | Halogene Free |
| Flame Retardant Jacket Specifications | | Meets the requirements according to: IEC60754-1, IEC60754-2 |
| 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 | Ω | 50 +/- 0.5 |
| Maximum Frequency | GHz | 1.63 |
| Velocity | % | 96 |
| Capacitance | pF/m (pF/ft) | 66.6 (20.3) |
| Inductance | μ H/m (μ H/ft) | 0.167 (0.051) |
| Peak Power Rating | kW | 640 |
| RF Peak Voltage | Volts | 8000 |
| Jacket Spark | Volt RMS | 8000 |
| Inner Conductor dc Resistance | Ω /1000 m (Ω /1000 ft) | 0.39 (0.12) |
| Outer Conductor dc Resistance | Ω /1000 m (Ω /1000 ft) | 0.16 (0.05) |
| Return Loss (VSWR) Performance | | Standard |
| Min. Return Loss (Max. VSWR) | dB (VSWR) | Typical 20.8dB (1.2 VSWR) or better within the operation bands of most global frequency ranges. Premium also available. Contact factory for options in your specific 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) | 2.1 (1.41) |
| Minimum Bending Radius, Single Bend | mm (in) | 270 (11) |
| Minimum Bending Radius, Repeated Bends | mm (in) | 760 (30) |
| Bending Moment | Nm (lb-ft) | 145 (107) |
| Tensile Strength | N (lb) | 1800 (405) |
| Recommended / Maximum Clamp Spacing | m (ft) | 0.8 / 1.2 (2.75 / 4) |



ATTENUATION @ 20°C (68°F) AND POWER RATING @ 40°C (104°F)

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 0.5 | 0.03 | 0.01 | 596 |
| 1 | 0.04 | 0.01 | 421 |
| 1.5 | 0.05 | 0.02 | 343 |
| 2 | 0.06 | 0.02 | 297 |
| 10 | 0.13 | 0.04 | 132 |
| 20 | 0.18 | 0.06 | 92.30 |
| 30 | 0.22 | 0.07 | 74.90 |
| 50 | 0.29 | 0.09 | 57.40 |
| 88 | 0.39 | 0.12 | 42.80 |
| 100 | 0.42 | 0.13 | 40 |
| 108 | 0.44 | 0.13 | 38.40 |
| 150 | 0.52 | 0.16 | 32.20 |
| 174 | 0.56 | 0.17 | 29.80 |
| 200 | 0.61 | 0.18 | 27.70 |
| 300 | 0.75 | 0.23 | 22.20 |
| 400 | 0.88 | 0.27 | 19 |
| 450 | 0.94 | 0.29 | 17.80 |
| 500 | 1 | 0.31 | 16.80 |
| 512 | 1.01 | 0.31 | 16.60 |
| 600 | 1.11 | 0.34 | 15.20 |
| 700 | 1.21 | 0.37 | 13.90 |
| 800 | 1.30 | 0.40 | 13 |
| 824 | 1.33 | 0.40 | 12.70 |
| 894 | 1.39 | 0.42 | 12.10 |
| 900 | 1.40 | 0.43 | 12.10 |
| 925 | 1.42 | 0.43 | 11.90 |
| 960 | 1.45 | 0.44 | 11.60 |
| 1000 | 1.48 | 0.45 | 11.40 |
| 1250 | 1.69 | 0.52 | 10 |
| 1500 | 1.88 | 0.57 | 9.04 |
| 1700 | 2.03 | 0.62 | 8.39 |

External Document Links

Notes