



HELIFLEX® 7/8" 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.



7/8" HELIFLEX® Air Dielectric Coaxial Cable

Technical features

APPLICATIONS

| Applications | | Wireless Communication | TV & Radio | HF Defense | Mobile Radio | Cable Solutions |
|--------------|--|------------------------|------------|------------|--------------|-----------------|
|--------------|--|------------------------|------------|------------|--------------|-----------------|

STRUCTURE

| | | |
|--------------------------|---------|-----------------------------|
| Cable Type | | Air-Dielectric, Corrugated |
| Size | | 7/8 |
| Jacket Option | | Black |
| Inner Conductor Diameter | mm (in) | 9 (0.35) |
| Inner Conductor Material | | Copper Tube |
| Dielectric Diameter | mm (in) | 20.2 (0.79) |
| Dielectric Material | | Helical Polyethylene Spacer |
| Outer Conductor Diameter | mm (in) | 25.5 (1) |
| Outer Conductor Material | | Corrugated Copper |
| Jacket Diameter | mm (in) | 28 (1.103) |
| 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 | 3 |
| Velocity | % | 93 |
| Capacitance | pF/m (pF/ft) | 71 (21.6) |
| Inductance | uH/m (uH/ft) | 0.178 (0.054) |
| Peak Power Rating | kW | 73 |
| RF Peak Voltage | Volts | 2700 |
| Jacket Spark | Volt RMS | 8000 |
| Inner Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 1.1 (0.34) |
| Outer Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 0.88 (0.27) |
| 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) | 0.68 (0.46) |
| Minimum Bending Radius, Single Bend | mm (in) | 100 (4) |
| Minimum Bending Radius, Repeated Bends | mm (in) | 250 (10) |
| Bending Moment | Nm (lb-ft) | 27 (20) |
| Tensile Strength | N (lb) | 1600 (360) |
| Recommended / Maximum Clamp Spacing | m (ft) | 0.5 / 0.9 (1.8 / 3) |



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

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 0.5 | 0.08 | 0.03 | 73 |
| 1 | 0.12 | 0.04 | 73 |
| 1.5 | 0.14 | 0.04 | 70.90 |
| 2 | 0.16 | 0.05 | 61.40 |
| 10 | 0.37 | 0.11 | 27.30 |
| 20 | 0.52 | 0.16 | 19.20 |
| 30 | 0.64 | 0.19 | 15.70 |
| 50 | 0.83 | 0.25 | 12.10 |
| 88 | 1.10 | 0.34 | 9.11 |
| 100 | 1.18 | 0.36 | 8.49 |
| 108 | 1.23 | 0.37 | 8.15 |
| 150 | 1.45 | 0.44 | 6.92 |
| 174 | 1.57 | 0.48 | 6.39 |
| 200 | 1.69 | 0.51 | 5.94 |
| 300 | 2.08 | 0.63 | 4.84 |
| 400 | 2.42 | 0.74 | 4.17 |
| 450 | 2.57 | 0.79 | 3.93 |
| 500 | 2.72 | 0.83 | 3.71 |
| 512 | 2.76 | 0.84 | 3.66 |
| 600 | 3 | 0.91 | 3.37 |
| 700 | 3.25 | 0.99 | 3.12 |
| 800 | 3.49 | 1.07 | 2.91 |
| 824 | 3.55 | 1.08 | 2.86 |
| 894 | 3.71 | 1.13 | 2.74 |
| 900 | 3.72 | 1.13 | 2.74 |
| 925 | 3.78 | 1.15 | 2.69 |
| 960 | 3.85 | 1.17 | 2.65 |
| 1000 | 3.94 | 1.20 | 2.59 |
| 1250 | 4.45 | 1.36 | 2.30 |
| 1500 | 4.91 | 1.50 | 2.10 |
| 1700 | 5.26 | 1.60 | 1.97 |
| 1800 | 5.43 | 1.65 | 1.91 |
| 2000 | 5.75 | 1.75 | 1.81 |
| 2200 | 6.07 | 1.85 | 1.72 |
| 2300 | 6.22 | 1.90 | 1.68 |
| 3000 | 7.22 | 2.20 | 1.47 |

External Document Links

Notes