



HELIFLEX® 7/8" low loss air dielectric cable; standard, self-healing jacket

**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**

|                     |                        |            |            |              |                 |
|---------------------|------------------------|------------|------------|--------------|-----------------|
| <b>Applications</b> | Wireless Communication | TV & Radio | HF Defense | Mobile Radio | Cable Solutions |
|---------------------|------------------------|------------|------------|--------------|-----------------|

**STRUCTURE**

|                                 |         |                                   |
|---------------------------------|---------|-----------------------------------|
| <b>Size</b>                     |         | 7/8                               |
| <b>Jacket Option</b>            |         | Black Self healing                |
| <b>Inner Conductor</b>          | mm (in) | 9 (0.35)                          |
| <b>Inner Conductor Material</b> |         | Copper Tube                       |
| <b>Dielectric</b>               | mm (in) | 20.2 (0.79)                       |
| <b>Dielectric Material</b>      |         | Helical Polyethylene Spacer       |
| <b>Outer Conductor</b>          | mm (in) | 25.5 (1)                          |
| <b>Outer Conductor Material</b> |         | Corrugated Copper                 |
| <b>Jacket</b>                   | mm (in) | 28 (1.103)                        |
| <b>Jacket Material</b>          |         | Polyethylene, PE, Bitumen Filling |
| <b>Cable Type</b>               |         | Air-Dielectric, Corrugated        |

**TESTING AND ENVIRONMENTAL**

|                                 |        |                        |
|---------------------------------|--------|------------------------|
| <b>Fire Performance</b>         |        | Halogene Free          |
| <b>Installation Temperature</b> | °C(°F) | -25 to 60 (13 to 140)  |
| <b>Storage Temperature</b>      | °C(°F) | -70 to 85 (-94 to 185) |
| <b>Operation Temperature</b>    | °C(°F) | -50 to 85 (-58 to 185) |



**ELECTRICAL SPECIFICATIONS**

|   |                      |  |
|---|----------------------|--|
| Impedance, Ohm  | Ω                    | 50 +/- 0.5   |
| Maximum Frequency                                       | GHz                  | 3  |
| Velocity, percent                                       | %                    | 93   |
| Capacitance   | pF/m (pF/ft)         | 71 (21.6)  |
| Inductance, uH/m (uH/ft)                                | μH/m (μH/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/km (Ω/kft)             | Ω/1000 m (Ω/1000 ft) | 1.1 (0.34)   |
| Outer Conductor dc Resistance, ohm/1000 m (Ohm/1000 ft) | 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)             | 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 AND POWER RATING**

| 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