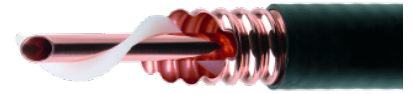


1-1/8" HELIFLEX® Air-Dielectric Coaxial Cable

Product Description

HELIFLEX® 1-1/8" low loss air dielectric cable; standard, self-healing jacket

Application: UHF, VHF, Broadcast



1-1/8" HELIFLEX® Air Dielectric Coaxial 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.

Technical Features

Structure

| | | | |
|------------------|-----------------------------------|-----------|--------------|
| Inner conductor: | Copper Tube | [mm (in)] | 12 (0.47) |
| Dielectric: | Helical Polyethylene Spacer | [mm (in)] | 27.2 (1.069) |
| Outer conductor: | Corrugated Copper | [mm (in)] | 33.2 (1.3) |
| Jacket: | Polyethylene, PE, Bitumen Filling | [mm (in)] | 36.4 (1.43) |

Mechanical Properties

| | | |
|--|----------------|---------------------|
| Weight, approximately | [kg/m (lb/ft)] | 1.1 (0.74) |
| Minimum bending radius, single bending | [mm (in)] | 130 (5) |
| Minimum bending radius, repeated bending | [mm (in)] | 400 (16) |
| Bending moment | [Nm (lb-ft)] | 42 (31) |
| Max. tensile force | [N (lb)] | 2200 (495) |
| Recommended / maximum clamp spacing | [m (ft)] | 0.5 / 0.9 (1.8 / 3) |

Electrical Properties

| | | |
|-------------------------------|-------------------|---------------|
| Characteristic impedance | [Ω] | 50 +/- 0.5 |
| Relative propagation velocity | [%] | 92 |
| Capacitance | [pF/m (pF/ft)] | 73 (22.3) |
| Inductance | [μH/m (μH/ft)] | 0.183 (0.056) |
| Max. operating frequency | [GHz] | 3 |
| Jacket spark test RMS | [V] | 8000 |
| Peak power rating | [kW] | 137 |
| RF Peak voltage rating | [V] | 3700 |
| DC-resistance inner conductor | [Ω/km (Ω/1000ft)] | 0.64 (0.195) |
| DC-resistance outer conductor | [Ω/km (Ω/1000ft)] | 0.5 (0.152) |

Recommended Temperature Range

| | | |
|--------------------------|-----------|-------------------------|
| Storage temperature | [°C (°F)] | -70 to 85 (-94 to 185) |
| Installation temperature | [°C (°F)] | -25 to 60 (-13 to 140) |
| Operation temperature | [°C (°F)] | -50 to 85 (-58 to 185) |

Other Characteristics

Fire Performance: Halogene Free

VSWR Performance: Standard [dB (VSWR)]

Other Options: Phase stabilized and phase matched cables and assemblies are available upon request.

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.

| Frequency [MHz] | Attenuation [dB/100m] [dB/100ft] | | Power [kW] |
|----------------------|---|--------|-----------------|
| 0.5 | 0.0623 | 0.0190 | 137 |
| 1.0 | 0.0882 | 0.0269 | 125 |
| 1.5 | 0.108 | 0.0330 | 102 |
| 2.0 | 0.125 | 0.0381 | 88.0 |
| 10 | 0.281 | 0.0857 | 39.2 |
| 20 | 0.399 | 0.122 | 27.6 |
| 30 | 0.491 | 0.150 | 22.4 |
| 50 | 0.637 | 0.194 | 17.3 |
| 88 | 0.852 | 0.260 | 13.0 |
| 100 | 0.910 | 0.277 | 12.1 |
| 108 | 0.947 | 0.289 | 11.7 |
| 150 | 1.12 | 0.342 | 9.89 |
| 174 | 1.21 | 0.370 | 9.16 |
| 200 | 1.31 | 0.398 | 8.47 |
| 300 | 1.62 | 0.492 | 6.88 |
| 400 | 1.88 | 0.574 | 5.96 |
| 450 | 2.0 | 0.611 | 5.61 |
| 500 | 2.12 | 0.646 | 5.31 |
| 512 | 2.15 | 0.655 | 5.24 |
| 600 | 2.34 | 0.713 | 4.83 |
| 700 | 2.54 | 0.775 | 4.47 |
| 800 | 2.73 | 0.833 | 4.18 |
| 824 | 2.78 | 0.847 | 4.11 |
| 894 | 2.91 | 0.886 | 3.93 |
| 900 | 2.92 | 0.889 | 3.92 |
| 925 | 2.96 | 0.902 | 3.87 |
| 960 | 3.02 | 0.921 | 3.80 |
| 1000 | 3.09 | 0.942 | 3.72 |
| 1250 | 3.50 | 1.07 | 3.32 |
| 1500 | 3.87 | 1.18 | 3.04 |
| 1700 | 4.15 | 1.27 | 2.86 |
| 1800 | 4.29 | 1.31 | 2.77 |
| 2000 | 4.55 | 1.39 | 2.64 |
| 2200 | 4.81 | 1.46 | 2.52 |
| 2300 | 4.93 | 1.50 | 2.46 |
| 3000 | 5.75 | 1.75 | 2.17 |

Attenuation at 20°C (68°F) cable temperature
Mean power rating at 40°C (104°F) ambient temperature