



Air Dielectric Cable 5" low loss air dielectric cable

FEATURES / BENEFITS

• Low Attenuation

The low attenuation of Air Dielectric Cable coaxial cable results in highly efficient signal transfer in your RF system.

• Complete Shielding

The solid outer conductor of Air Dielectric Cable coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.

• Low VSWR

Special low VSWR versions of Air Dielectric Cable coaxial cables contribute to low system noise.

• Outstanding Intermodulation Performance

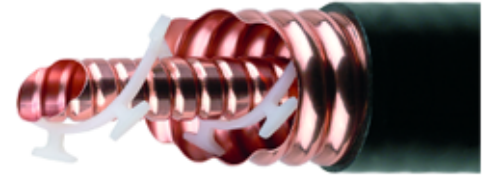
Air Dielectric Cable coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS Technologies factory.

• High Power Rating

Due to their low attenuation, outstanding heat transfer properties and temperature stabilized dielectric materials, Air Dielectric Cable 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.



5" Air Dielectric Cable® Air Dielectric Coaxial Cable

Technical features

APPLICATIONS

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

STRUCTURE

| | | |
|--------------------------|---------|-----------------------------|
| Size | | 5 |
| Jacket Option | | Black |
| Inner Conductor Diameter | mm (in) | 45 (1.77) |
| Inner Conductor Material | | Corrugated Copper Tube |
| Dielectric Diameter | mm (in) | 98.1 (3.86) |
| Dielectric Material | | Helical Polyethylene Spacer |
| Outer Conductor Diameter | mm (in) | 109.3 (4.3) |
| Outer Conductor Material | | Corrugated Copper |
| Jacket Diameter | mm (in) | 115.1 (4.53) |
| Jacket Material | | Polyethylene, PE |
| Cable Type | | Air-Dielectric, Corrugated |



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 |
| Velocity | % | 97 |
| Capacitance | pF/m (pF/ft) | 68 (20.7) |
| Inductance | uH/m (uH/ft) | 0.17 (0.052) |
| Peak Power Rating | kW | 1560 |
| RF Peak Voltage | Volts | 12500 |
| Jacket Spark | Volt RMS | 8000 |
| Inner Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 0.31 (0.095) |
| Outer Conductor dc Resistance | Ω/1000 m (Ω/1000 ft) | 0.094 (0.029) |
| Return Loss (VSWR) Performance | | 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) | 4.5 (3) |
| Minimum Bending Radius, Single Bend | mm (in) | 500 (20) |
| Minimum Bending Radius, Repeated Bends | mm (in) | 1200 (47) |
| Bending Moment | Nm (lb-ft) | 335 (247) |
| Tensile Strength | N (lb) | 3000 (674) |
| Recommended / Maximum Clamp Spacing | m (ft) | 1 / 2 (3.3 / 6.6) |



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

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 0.5 | 0.02 | 0.01 | 1200 |
| 1 | 0.03 | 0.01 | 848 |
| 1.5 | 0.03 | 0.01 | 692 |
| 2 | 0.04 | 0.01 | 599 |
| 10 | 0.09 | 0.03 | 266 |
| 20 | 0.13 | 0.04 | 187 |
| 30 | 0.15 | 0.05 | 153 |
| 50 | 0.20 | 0.06 | 118 |
| 88 | 0.27 | 0.08 | 88.30 |
| 100 | 0.28 | 0.09 | 82.70 |
| 108 | 0.30 | 0.09 | 79.70 |
| 150 | 0.35 | 0.11 | 67.30 |
| 174 | 0.38 | 0.12 | 62.40 |
| 200 | 0.41 | 0.12 | 58.10 |
| 300 | 0.50 | 0.15 | 47.10 |
| 400 | 0.59 | 0.18 | 40.70 |
| 450 | 0.62 | 0.19 | 38.30 |
| 500 | 0.66 | 0.20 | 36.30 |
| 512 | 0.67 | 0.20 | 35.90 |
| 600 | 0.73 | 0.22 | 33.10 |
| 700 | 0.79 | 0.24 | 30.50 |
| 800 | 0.85 | 0.26 | 28.50 |
| 824 | 0.86 | 0.26 | 28.10 |
| 894 | 0.90 | 0.27 | 27 |
| 900 | 0.90 | 0.28 | 26.90 |
| 925 | 0.92 | 0.28 | 26.50 |
| 960 | 0.94 | 0.29 | 26 |
| 1000 | 0.96 | 0.29 | 25.50 |

External Document Links

Notes