



5-1/2" low loss air dielectric cable

#### FEATURES / BENEFITS

- **Low Attenuation**

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

- **Complete Shielding**

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

- **Low VSWR**

Special low VSWR versions of air dielectric coaxial cables contribute to low system noise.

- **Outstanding Intermodulation Performance**

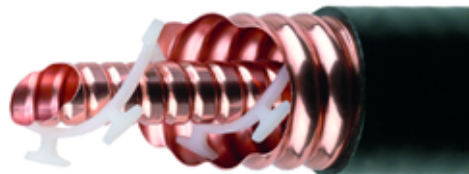
Air dielectric coaxial cable's solid inner and outer conductors virtually eliminate intermods. Intermodulation performance is also confirmed with state-of-the-art equipment at the RFS Technologies factory.

- **High Power Rating**

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



5-1/2" Air Dielectric Coaxial Cable

## Technical features

#### APPLICATIONS

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

#### STRUCTURE

|                          |         |                             |
|--------------------------|---------|-----------------------------|
| Size                     |         | 5-1/2                       |
| Jacket Option            |         | Black                       |
| Inner Conductor Diameter | mm (in) | 58 (2.28)                   |
| Inner Conductor Material |         | Corrugated Copper Tube      |
| Dielectric Diameter      | mm (in) | 127 (5)                     |
| Dielectric Material      |         | Helical Polyethylene Spacer |
| Outer Conductor Diameter | mm (in) | 140.5 (5.53)                |
| Outer Conductor Material |         | Corrugated Copper           |
| Jacket Diameter          | mm (in) | 147.1 (5.79)                |
| 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                      | $\Omega$                              | 50 +/- 0.5                                                                                                                                                                           |
| Maximum Frequency              | GHz                                   | 0.86                                                                                                                                                                                 |
| Velocity                       | %                                     | 96                                                                                                                                                                                   |
| Capacitance                    | pF/m (pF/ft)                          | 70 (21.3)                                                                                                                                                                            |
| Inductance                     | $\mu$ H/m ( $\mu$ H/ft)               | 0.175 (0.053)                                                                                                                                                                        |
| Peak Power Rating              | kW                                    | 2250                                                                                                                                                                                 |
| RF Peak Voltage                | Volts                                 | 15000                                                                                                                                                                                |
| Jacket Spark                   | Volt RMS                              | 8000                                                                                                                                                                                 |
| Inner Conductor dc Resistance  | $\Omega$ /1000 m ( $\Omega$ /1000 ft) | 0.2 (0.06)                                                                                                                                                                           |
| Outer Conductor dc Resistance  | $\Omega$ /1000 m ( $\Omega$ /1000 ft) | 0.057 (0.017)                                                                                                                                                                        |
| 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) | 7.5 (5)           |
| Minimum Bending Radius, Single Bend    | mm (in)      | 800 (31)          |
| Minimum Bending Radius, Repeated Bends | mm (in)      | 1500 (59)         |
| Bending Moment                         | Nm (lb-ft)   | 580 (428)         |
| Tensile Strength                       | N (lb)       | 4000 (900)        |
| 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         | 1890      |
| 1              | 0.02        | 0.01         | 1330      |
| 1.5            | 0.03        | 0.01         | 1090      |
| 2              | 0.03        | 0.01         | 940       |
| 10             | 0.07        | 0.02         | 418       |
| 20             | 0.10        | 0.03         | 294       |
| 30             | 0.12        | 0.04         | 239       |
| 50             | 0.15        | 0.05         | 184       |
| 88             | 0.21        | 0.06         | 138       |
| 100            | 0.22        | 0.07         | 129       |
| 108            | 0.23        | 0.07         | 124       |
| 150            | 0.27        | 0.08         | 105       |
| 174            | 0.29        | 0.09         | 97.70     |
| 200            | 0.31        | 0.10         | 91.10     |
| 300            | 0.39        | 0.12         | 74        |
| 400            | 0.46        | 0.14         | 64        |
| 450            | 0.49        | 0.15         | 60.30     |
| 500            | 0.51        | 0.16         | 57.20     |
| 512            | 0.52        | 0.16         | 56.50     |
| 600            | 0.57        | 0.17         | 52.20     |
| 700            | 0.62        | 0.19         | 48.50     |
| 800            | 0.66        | 0.20         | 45.40     |
| 824            | 0.67        | 0.21         | 44.70     |
| 894            | 0.71        | 0.22         | 43        |

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