

**ICA38-50JPLB**

3/8" Plenum-Rated Corrugated Coaxial Cable, 50 ohm, Up to 6GHz, Black Color

**Plenum-Rated 3/8" Air Dielectric Cable**

RFS Technologies' 3/8" air dielectric cable is specifically engineered to meet stringent plenum requirements in both the United States and Canada, ensuring compliance with NEC and NFPA safety standards for use in air-handling spaces. Designed for exceptional RF performance and low loss, this cable is widely used in Distributed Antenna System (DAS) projects for in-building wireless communication, including commercial buildings, airports, hospitals, and other high-density venues. Its flexible construction allows for easy routing in tight plenum spaces, while its robust shielding ensures minimal signal interference. Ideal for applications requiring high signal integrity and regulatory compliance.

**FEATURES / BENEFITS**

- **High-Frequency Performance up to 6 GHz.** Engineered to support RF signals across a broad frequency range—including up to 6 GHz—this cable meets the demands of today's advanced wireless communication systems, including 5G and future-ready networks.
- **Superior Shielding for Maximum Interference Protection.** The solid outer conductor provides complete 360° RFI/EMI shielding, significantly reducing signal leakage and minimizing system interference in high-density RF environments.
- **Exceptional Intermodulation Performance.** With both solid inner and outer conductors, the cable virtually eliminates passive intermodulation (PIM), ensuring clean signal transmission.
- **Optimized for Plenum-Space Installations.** Engineered to meet plenum-rated safety standards in the U.S. and Canada, this cable is ideal for indoor DAS applications in office buildings, hospitals, airports, and other public venues requiring strict fire safety compliance.

3/8" Plenum-Rated DAS Cable

**Technical features****APPLICATIONS**

| Applications |  | Wireless Communication | Mobile Radio | In Building | DAS |
|--------------|--|------------------------|--------------|-------------|-----|
|--------------|--|------------------------|--------------|-------------|-----|

**STRUCTURE**

|                          |         |                                 |
|--------------------------|---------|---------------------------------|
| Size                     |         | 3/8                             |
| Inner Conductor Diameter | mm (in) | 3.1 (0.122)                     |
| Inner Conductor Material |         | Copper-Clad Aluminum Wire       |
| Dielectric Diameter      | mm (in) | 7.5 (0.295)                     |
| Dielectric Material      |         | Extruded Polyethylene           |
| Outer Conductor Diameter | mm (in) | 9.5 (0.374)                     |
| Outer Conductor Material |         | Corrugated Copper               |
| Jacket Diameter          | mm (in) | 11.2 (0.441)                    |
| Jacket Material          |         | PVC, Plenum Rated / Color Black |
| Cable Type               |         | Air-Dielectric, Corrugated      |

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**TESTING AND ENVIRONMENTAL**

|                                       |         |                                                                  |
|---------------------------------------|---------|------------------------------------------------------------------|
| Fire Performance                      |         | Flame Retardant, Plenum Rated                                    |
| Flame Retardant Jacket Specifications |         | CMP (Communications Multipurpose Plenum)                         |
| Regulatory Compliance                 |         | NFPA 262 (UL910) / CATVP / CMP / UL444 / Canadian CSA C.22.2/FT6 |
| Installation Temperature              | °C(°F)  | -20 to 60 (-4 to 140)                                            |
| Storage Temperature                   | °C (°F) | -40 to 85 (-40 to 185)                                           |
| Operation Temperature                 | °C(°F)  | -40 to 85 (-40 to 185)                                           |

**ELECTRICAL SPECIFICATIONS**

|                                |                                          |                                                                                                                                                                          |
|--------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impedance                      | $\Omega$                                 | 50 +/- 1                                                                                                                                                                 |
| Maximum Frequency              | GHz                                      | 6                                                                                                                                                                        |
| Velocity                       | %                                        | 86                                                                                                                                                                       |
| Capacitance                    | pF/m (pF/ft)                             | 76 (23.2)                                                                                                                                                                |
| Peak Power Rating              | kW                                       | 12.8                                                                                                                                                                     |
| RF Peak Voltage                | Volts                                    | 2500                                                                                                                                                                     |
| Jacket Spark                   | Volt RMS                                 | 3000                                                                                                                                                                     |
| Inner Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 3.95 (1.20)                                                                                                                                                              |
| Outer Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 4.30 (1.31)                                                                                                                                                              |
| Return Loss (VSWR) Performance |                                          | 24 (1.13) @ 698-960 MHz<br>24 (1.13) @ 1395-1432 MHz<br>24 (1.13) @ 1700-2155 MHz<br>20 (1.22) @ 2300-2700 MHz<br>18 (1.29) @ 3550-4200 MHz<br>18 (1.29) @ 5150-6000 MHz |

**MECHANICAL SPECIFICATIONS**

|                                        |               |                     |
|----------------------------------------|---------------|---------------------|
| Minimum Bending Radius, Single Bend    | mm (in)       | 60 (2.36)           |
| Minimum Bending Radius, Repeated Bends | mm (in)       | 110 (4.33)          |
| Bending Moment                         | Nm (lb-ft)    | 1.9 (1.4)           |
| Tensile Strength                       | N (lb)        | 260 (58.5)          |
| Recommended / Maximum Clamp Spacing    | m (ft)        | 0.5 / 0.9 (1.8 / 3) |
| Crush Strength                         | kg/mm (lb/in) | 1.53 (85.65)        |



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

| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 200            | 5.03        | 1.53         |           |
| 450            | 7.66        | 2.33         |           |
| 800            | 10.48       | 3.19         |           |
| 900            | 11.12       | 3.39         |           |
| 1500           | 14.92       | 4.55         |           |
| 1800           | 16.56       | 5.05         |           |
| 2000           | 17.58       | 5.36         |           |
| 2200           | 18.40       | 5.61         |           |
| 2500           | 19.96       | 6.08         |           |
| 2700           | 20.92       | 6.38         |           |
| 3000           | 22.11       | 6.74         |           |
| 3400           | 23.83       | 7.26         |           |
| 4000           | 26.05       | 7.94         |           |
| 5000           | 29.81       | 9.09         |           |
| 6000           | 32.80       | 10           |           |

External Document Links

[LINK TO VEX FILE](#)

Notes