

**ICA12-50JPLLR-ARMR**

PlenumShield Armored 1/2" ClearFill®Line Aluminum Plenum-Rated Air-Dielectric Coaxial Cable for In-Building Applications

PlenumShield Armored ClearFill®Line 1/2" low-loss air dielectric cable, Plenum-rated, CMP

**FEATURES / BENEFITS**

- **Complaint with NFPA 72 section 12.4.2 Pathway Survivability Level 1**

- **Supports Multiple RF Signals**

- **Complete Shielding**

The solid outer conductor of the ClearFill®Line coaxial cable creates a continuous RFI/EMI shield that minimizes system interference.

- **Outstanding Intermodulation Performance**

RFS Technologies 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.

- **Wide Range of Applications**

Typical areas of application are feedlines for plenum-space installations within occupied buildings or structures.



PlenumShield, Armor Dimension 23.11mm (0.91in)

**Technical features****APPLICATIONS**

|              |  |               |                      |                        |                 |
|--------------|--|---------------|----------------------|------------------------|-----------------|
| Applications |  | Public Safety | In-building DAS, BDA | Wireless Communication | Cable Solutions |
|--------------|--|---------------|----------------------|------------------------|-----------------|

**STRUCTURE**

|                          |         |                                                         |
|--------------------------|---------|---------------------------------------------------------|
| Size                     |         | 1/2                                                     |
| Inner Conductor Diameter | mm (in) | 4.8 (0.19)                                              |
| Inner Conductor Material |         | Copper-Clad Aluminum Wire                               |
| Dielectric Diameter      | mm (in) | 11.8 (0.464)                                            |
| Dielectric Material      |         | Extruded Polyethylene                                   |
| Outer Conductor Diameter | mm (in) | 13.8 (0.54)                                             |
| Outer Conductor Material |         | Corrugated Aluminum                                     |
| Jacket Diameter          | mm (in) | 15.93 (0.627)                                           |
| Jacket Material          |         | PVC, Plenum Rated / Color Red<br>Water-resistant        |
| Armor                    | mm(in)  | 23.11 (0.91)                                            |
| Cable Type               |         | PlenumShield, Air-Dielectric, Corrugated, Armored Cable |

**TESTING AND ENVIRONMENTAL**

|                                       |         |                                                                                          |                                                         |
|---------------------------------------|---------|------------------------------------------------------------------------------------------|---------------------------------------------------------|
| Fire Performance                      |         | Flame Retardant, Plenum-rated, CMP                                                       |                                                         |
| Flame Retardant Jacket Specifications |         | Meets/Exceeds Steiner Tunnel Test Method UL 910, NEC 820-53 (a) CMP, NFPA-262            |                                                         |
| Regulatory Compliance                 |         | NEC Article 800 Communication Circuits<br>ETL Listed to UL444<br>Canadian CSA C.22.2/FT6 | NFPA 72 section 12.4.2 Pathway Survivability<br>Level 1 |
| 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)                                                                   |                                                         |

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**ELECTRICAL SPECIFICATIONS**

|                                |                                          |                                                                                                                                                                          |
|--------------------------------|------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Impedance                      | $\Omega$                                 | 50 +/- 1                                                                                                                                                                 |
| Maximum Frequency              | GHz                                      | 6                                                                                                                                                                        |
| Velocity                       | %                                        | 88                                                                                                                                                                       |
| Capacitance                    | pF/m (pF/ft)                             | 75 (22.86)                                                                                                                                                               |
| Inductance                     | $\mu$ H/m ( $\mu$ H/ft)                  | 0.19 (0.058)                                                                                                                                                             |
| Peak Power Rating              | kW                                       | 40                                                                                                                                                                       |
| RF Peak Voltage                | Volts                                    | 2000                                                                                                                                                                     |
| Jacket Spark                   | Volt RMS                                 | 8000                                                                                                                                                                     |
| Inner Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 1.48 (0.45)                                                                                                                                                              |
| Outer Conductor dc Resistance  | $\Omega$ /1000 m<br>( $\Omega$ /1000 ft) | 2.29 (0.7)                                                                                                                                                               |
| 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 |
| Temperature & Power            |                                          | High Power Rating                                                                                                                                                        |

**MECHANICAL SPECIFICATIONS**

|                                           |              |                     |
|-------------------------------------------|--------------|---------------------|
| Cable Weight, Nominal                     | kg/m (lb/ft) | 0.34 (0.23)         |
| Minimum Bending Radius,<br>Repeated Bends | mm (in)      | 304.8 (12)          |
| Recommended / Maximum Clamp<br>Spacing    | m (ft)       | 0.5 / 0.9 (1.8 / 3) |

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

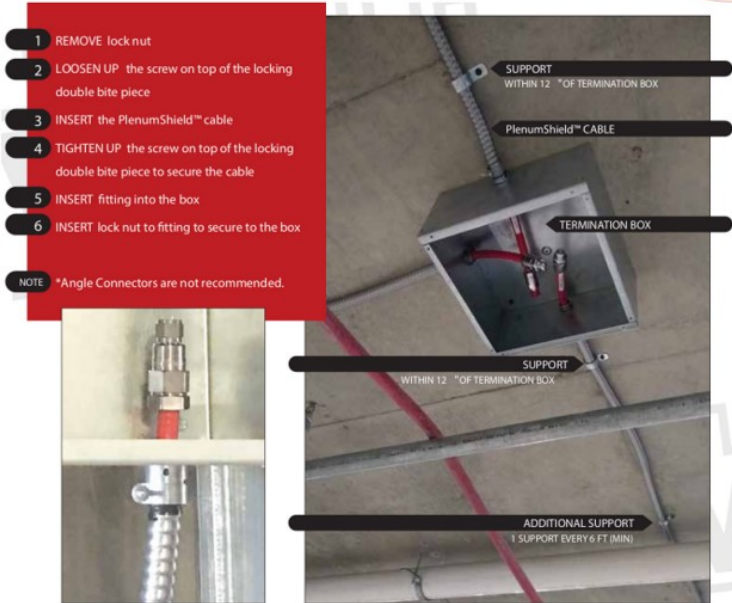
| Frequency, MHz | dB per 100m | dB per 100ft | Power, kW |
|----------------|-------------|--------------|-----------|
| 0.5            | 0.16        | 0.05         | 40        |
| 1              | 0.23        | 0.07         | 32.80     |
| 1.5            | 0.29        | 0.09         | 26.80     |
| 2              | 0.33        | 0.10         | 23.20     |
| 10             | 0.74        | 0.23         | 10.30     |
| 20             | 1.06        | 0.32         | 7.22      |
| 30             | 1.30        | 0.40         | 5.89      |
| 50             | 1.68        | 0.51         | 4.55      |
| 88             | 2.25        | 0.69         | 3.40      |
| 100            | 2.41        | 0.73         | 3.18      |
| 108            | 2.51        | 0.76         | 3.05      |
| 150            | 2.98        | 0.91         | 2.57      |
| 174            | 3.22        | 0.98         | 2.38      |
| 200            | 3.46        | 1.05         | 2.21      |
| 300            | 4.29        | 1.31         | 1.79      |
| 400            | 5           | 1.52         | 1.53      |
| 450            | 5.32        | 1.62         | 1.44      |
| 500            | 5.63        | 1.72         | 1.36      |
| 512            | 5.71        | 1.74         | 1.34      |
| 600            | 6.22        | 1.90         | 1.23      |
| 700            | 6.76        | 2.06         | 1.14      |
| 750            | 7.02        | 2.14         | 1.09      |
| 800            | 7.28        | 2.22         | 1.06      |
| 824            | 7.40        | 2.25         | 1.04      |
| 894            | 7.74        | 2.36         | 0.99      |
| 900            | 7.76        | 2.37         | 0.99      |
| 925            | 7.88        | 2.40         | 0.98      |
| 960            | 8.05        | 2.45         | 0.96      |
| 1000           | 8.23        | 2.51         | 0.93      |
| 1250           | 9.32        | 2.84         | 0.83      |
| 1400           | 9.93        | 3.03         | 0.78      |
| 1500           | 10.30       | 3.15         | 0.75      |
| 1700           | 11.10       | 3.38         | 0.70      |
| 1800           | 11.50       | 3.49         | 0.67      |
| 2000           | 12.20       | 3.71         | 0.63      |
| 2100           | 12.50       | 3.81         | 0.62      |



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|      |       |      |      |
|------|-------|------|------|
| 2200 | 12.80 | 3.92 | 0.61 |
| 2300 | 13.20 | 4.02 | 0.59 |
| 2400 | 13.50 | 4.12 | 0.57 |
| 2500 | 13.80 | 4.22 | 0.56 |
| 2600 | 14.20 | 4.31 | 0.55 |
| 2700 | 14.50 | 4.41 | 0.54 |
| 3000 | 15.40 | 4.69 | 0.51 |
| 3500 | 16.90 | 5.14 | 0.46 |
| 3600 | 17.10 | 5.22 | 0.46 |
| 4000 | 18.30 | 5.56 | 0.43 |
| 4500 | 19.60 | 5.97 | 0.40 |
| 5000 | 20.90 | 6.36 | 0.38 |
| 5500 | 22.10 | 6.74 | 0.36 |
| 6000 | 23.30 | 7.11 | 0.34 |



PlenumShield Typical Installation

External Document Links  
[LINK TO VEX FILE](#)

Notes  
**Armor Dimension mm(in), 23.11(0.91)**