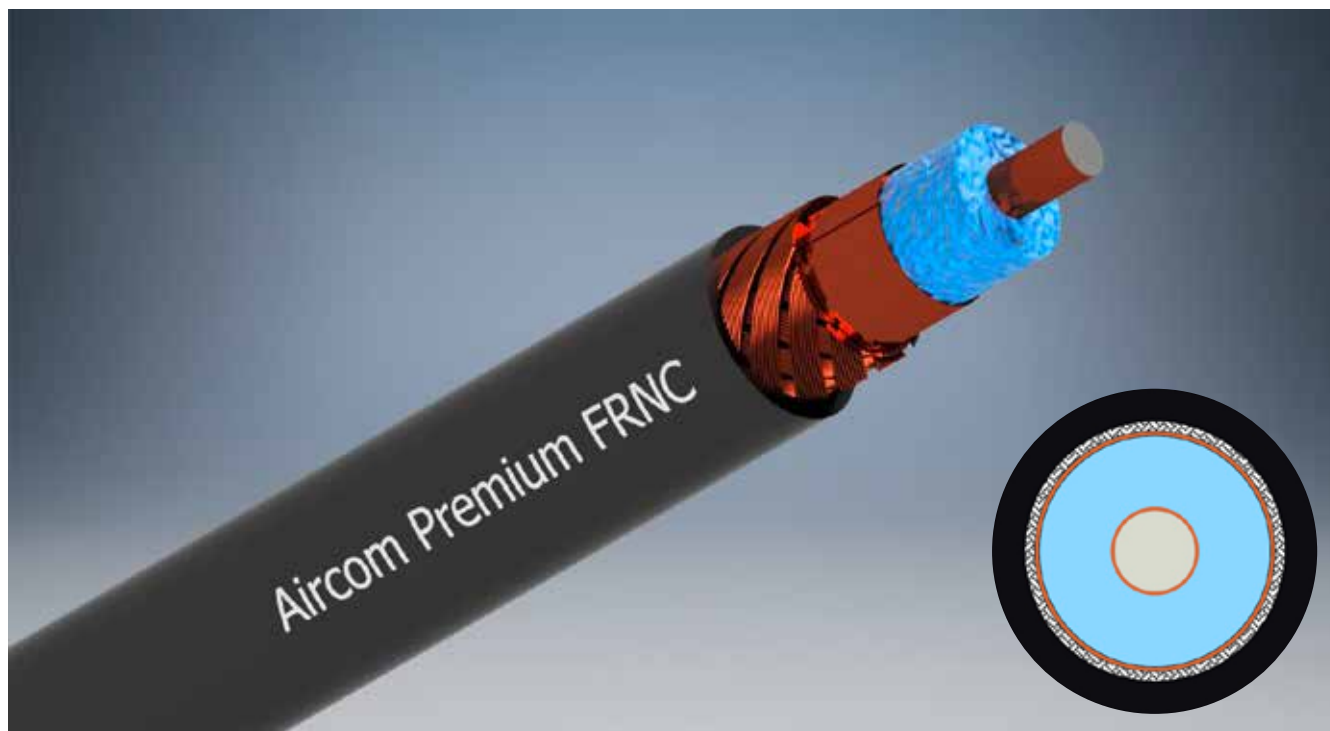


# Aircom® Premium FRNC

ultra low loss up to 12 GHz and free of halogen



Aircom Premium FRNC is an ultra low loss coaxial cable with the maximum frequency of 12 GHz. It is characterized by a very low weight and a very low attenuation. Manufactured highly precisely this cable has a hybrid inner conductor of copper-clad aluminium wire (CCA), where copper cladding is covering the inner aluminium core. Combining copper's good electrical conductivity and aluminium's light weight in a composite material makes Aircom Premium FRNC perfectly suited for most high frequency coaxial applications. The precise formability of the aluminum core is responsible for almost no impurities in the entire frequency range. The skin effect ensures a high performance RF line. In addition, the cable is highly suitable for digital transmission modes due to its outstanding PIM (passive intermodulation) performance.

The extremely low attenuation of Aircom Premium FRNC is achieved by a low loss PE dielectric. The material is also resistant to moisture. Another feature of Aircom Premium FRNC is its double shielding which is constructed of a thin, overlapping copper foil and an additional shield braiding of bare copper wires with 75 % coverage. The copper foil has an applied PE coating which prevents foil cracking due to short radius bends. The jacket of Aircom Premium FRNC is made of a special thermoplastic copolymer (FRNC: Flame Retardant Non Corrosive). Due to this flame retardant and halo-

gen-free material the cable has a low fire load, low flame propagation and limited smoke emission. The amount of toxic and corrosive gases is considerably reduced during combustion. Aircom Premium FRNC is the right choice, when a light, low loss, halogen-free and microwave rated cable is required. It can be used for numerous RF applications.

## Key features

|                                   |               |
|-----------------------------------|---------------|
| Diameter                          | 10,2 ± 0,2 mm |
| Impedance                         | 50 ± 2 Ω      |
| Attenuation at 1 GHz/100 m        | 11,88 dB      |
| <b>f max</b>                      | <b>12 GHz</b> |
| <b>Euroclass acc. to EN 50575</b> | <b>Fca</b>    |

## Characteristics

|   |
|---|
| Jacket material according to DIN EN 50290-2-27 (HD 624.7) |
| Flame retardant according to IEC 60332-1-2                |
| Manufactured according to DIN EN 45545-2 Table 5 R15 HL2  |
| RoHS compliant (Directive 2011/65/EC)                     |
| Low Smoke, Fire retardant, Zero Halogen (LSZH)            |
| Corrosivity of fumes according to IEC 60754-2             |
| Smoke density according to IEC 61034                      |
| UV-resistant  |

## Technical data

|                     |  |
|---------------------|--|
| Inner conductor     | Hybrid CCA – bare copper-clad aluminium wire                             |
| Inner conductor Ø   | 1 x 2,75 mm  |
| Dielectric          | blue foamed Polyethylene (PE) with skin                                  |
| Dielectric Ø        | 7,2 mm   |
| Outer conductor 1   | copper foil overlapped   |
| Shielding factor    | 100%   |
| Outer conductor 2   | shield braiding of bare copper wires                                     |
| Shielding factor    | 75%  |
| Outer conductor Ø   | 7,9 mm   |
| Jacket              | thermoplastic copolymer (FRNC) black                                     |
| Weight              | 108 kg/km  |
| Min. Bending radius | 4x Ø single, 8x Ø repeated   |
| Temperature range   | -55 to +85°C Transport & fixed installation<br>-40 to +85°C Flexible use |
| Pulling strength    | 650 N  |

## Electrical data at 20°C

|   |            |
|---|------------|
| Capacitance (1 kHz)                         | 78 nF/km   |
| Velocity factor                             | 0,85       |
| Screening attenuation 1 GHz                 | ≥ 90 dB    |
| DC-resistance Inner conductor               | ≤ 5,0 Ω/km |
| DC-resistance Outer conductor               | 7,3 Ω/km   |
| Insulation resistance                       | ≥ 10 GΩ*km |
| Test voltage (wire/screen rms 50 Hz 1 Min.) | 1000 V     |
| Max. Voltage                                | 7 kV       |

### Aircom Premium FRNC

|                       | Aircom Premium FRNC | RG 213/U | RG 58/U  |
|-----------------------|---------------------|----------|----------|
| Capacitance           | 78 pF/m             | 101 pF/m | 102 pF/m |
| Velocity factor       | 0,85                | 0,66     | 0,66     |
| Attenuation (dB/100m) |                     |          |          |
| 10 MHz                | 1,05                | 2,00     | 5,00     |
| 100 MHz               | 3,42                | 7,00     | 17,00    |
| 500 MHz               | 8,08                | 17,00    | 39,00    |
| 1000 MHz              | 11,88               | 22,50    | 54,60    |
| 3000 MHz              | 21,85               | 58,50    | 118,00   |

## Typ. Attenuation (db/100 m at 20°C)

|          |       |           |       |
|----------|-------|-----------|-------|
| 5 MHz    | 1,03  | 1500 MHz  | 14,28 |
| 10 MHz   | 1,05  | 1800 MHz  | 16,16 |
| 50 MHz   | 2,09  | 2000 MHz  | 17,29 |
| 100 MHz  | 3,42  | 2400 MHz  | 19,00 |
| 144 MHz  | 3,90  | 3000 MHz  | 21,85 |
| 200 MHz  | 4,51  | 4000 MHz  | 25,65 |
| 300 MHz  | 5,70  | 5000 MHz  | 29,45 |
| 432 MHz  | 7,22  | 6000 MHz  | 33,25 |
| 500 MHz  | 8,08  | 8000 MHz  | 42,75 |
| 800 MHz  | 10,55 | 10000 MHz | 57,00 |
| 1000 MHz | 11,88 | 12000 MHz | 71,25 |

## Max. Power handling (W at 40°C)

|          |       |           |     |
|----------|-------|-----------|-----|
| 10 MHz   | 4.700 | 3000 MHz  | 230 |
| 100 MHz  | 1400  | 4000 MHz  | 190 |
| 500 MHz  | 620   | 5000 MHz  | 170 |
| 1000 MHz | 420   | 6000 MHz  | 150 |
| 2000 MHz | 290   | 8000 MHz  | 130 |
| 2400 MHz | 260   | 10000 MHz | 100 |
|          |       | 12000 MHz | 80  |

## Typ. Attenuation (db/100 m at 20°C)

