# Aircell®7


## Aircell®7 - ultraflexible, low loss coaxial cable for radio communications

Aircell 7 is a ultraflexible coaxial cable designed for frequencies up to 6 GHz. At a diameter of just 7,3 mm (0.287" OD) and a minimum bending radius of just 25 mm, it offers relatively low loss. The low attenuation of Aircell 7 is achieved through advanced manufacturing techniques and the use of a PE-LLC dielectric with a foaming rate of more than 70%.

The extreme flexibility of Aircell 7 is further enhanced through the use of a multi-stranded oxygen-free center conductor. Further advantages of this cable include the use of double shielding which is constructed of overlapping copperfoil plus an additional tightly woven copperbraid. The copperfoil has an applied PE-coating which prevents foil cracking due to short radius bends and the black PVC-sheath of Aircell 7 is UV-stabilized. A screening efficiency of > 85 dB @ 1GHz is realized. Aircell 7 is the right choice, when a super flexible, microwave rated cable is required. Aircell 7 is available from stock in the following standard drum sizes: 25 m, 50 m, 100 m, 200 m and 500 m.

**Aircell®7 characteristics**

| | |
|---|---|
| Diameter | 7,3 mm |
| Impedance | 50 Ω |
| Attenuation @ 1 GHz/100 m | 21,52 dB |
| fmax | 6 GHz |

**Grounding Clamp for Aircell®7,** Part.-No. 6811









**Technical data**

| | |
|---|---|
| Centre conductor ... | stran. copper, oxy. free, 19 x 0,37 mm |
| Centre conductor Ø | 1,85 mm |
| Dielectric | PE, low-loss compound |
| Dielectric Ø | 5,0 mm |
| Outer conductor 1 | copperfoil, PE-coated |
| Shielding factor | 100 % |
| Outer conductor 2 | copper braid |
| Shielding factor | 70 % |
| Sheath | black PVC, UV-resistant |
| Outer diameter Ø | 7,3 mm |
| Weight | 72 g/m |
| Min. bending radius .... | one single bending ..... 25 mm |
| | 15 repeated bendings..... 50 mm |
| Temperature range | -30 bis +80°C |
| Pulling strength | 2 daN |

**Typ. attenuation** (dB/100 m @ 20°C)

| | | | |
|---|---|---|---|
| 5 MHz | 1,6 | 1000 MHz | 21,52 |
| 10 MHz | 2,2 | 1296 MHz | 24,84 |
| 50 MHz | 4,52 | 1500 MHz | 27,08 |
| 100 MHz | 6,28 | 1800 MHz | 30,0 |
| 144 MHz | 7,6 | 2000 MHz | 31,88 |
| 200 MHz | 9,04 | 2400 MHz | 35,6 |
| 300 MHz | 11,2 | 3000 MHz | 40,88 |
| 432 MHz | 13,6 | 4000 MHz | 49,12 |
| 500 MHz | 14,72 | 5000 MHz | 57,04 |
| 800 MHz | 19,0 | 6000 MHz | 64,9 |

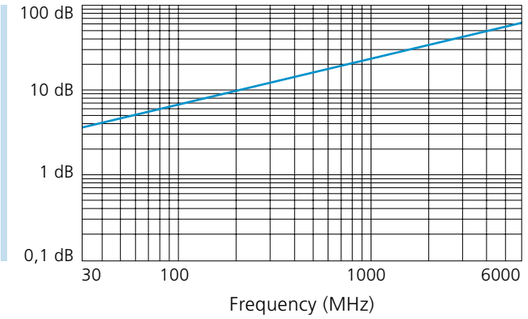
**Max. power handling** (W @ 40°C)

| | | | |
|---|---|---|---|
| 10 MHz | 2040 | 1000 MHz | 180 |
| 100 MHz | 620 | 2000 MHz | 120 |
| 500 MHz | 260 | 3000 MHz | 90 |

**Electrical specifications**

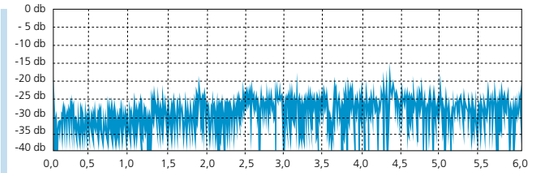
| | |
|---|---|
| Impedance | 50 Ω |
| Capacity | 75 pF/m |
| Velocity factor | 0,83 |
| fmax | 6 GHz |
| Screening efficiency @ 1 GHz | 83 dB |
| DC-resistance | |
| Centre conductor | 8,6 Ω/km |
| Outer conductor | 8,5 Ω/km |
| RF peak voltage | 0,7kV |

**Typ. Attenuation** (dB/100 m) @ 20°C




| | Aircell 7 | RG 213/U | RG 58/U |
|---|---|---|---|
| Capacity | 75 pF/m | 101 pF/m | 102 pF/m |
| Velocity factor | 0,83 | 0,66 | 0,66 |
| Attenuation (dB/100 m) | | | |
| 10 MHz | 2,2 | 2,0 | 5,0 |
| 100 MHz | 6,28 | 7,0 | 17,0 |
| 500 MHz | 14,72 | 17,0 | 39,0 |
| 1000 MHz | 21,52 | 22,5 | 54,6 |
| 3000 MHz | 40,88 | 58,5 | 118 |

**Typ. Return loss**




Due to production tolerances the RTL may have different characteristics.