

Aircell® 7

ultraflexible, low loss and stray radiation resistant



Aircell 7 is an ultraflexible coaxial cable designed for frequencies up to 6 GHz. Due to its low loss in relation to the outer diameter and the small bending radius the cable can be used for numerous RF applications.

The low attenuation of Aircell 7 is achieved by using advanced manufacturing techniques and low loss PE-LLC dielectric with a foaming rate of more than 70%. This unique dielectric also offers water resistance and long term stability. The inner conductor containing 19 stranded bare copper wires of low oxygen copper (OFC) provide the cable its remarkable flexibility. Further advantages of this cable include the use of double shielding which is constructed of overlapping 100 % tight copper foil and an additional shield braiding of bare copper wires with 85 % coverage. The copper foil has an applied PE coating which prevents foil cracking due to short radius bends. The black PVC jacket of Aircell 7 is UV-stabilized. Aircell 7 is the right choice, when a super flexible, low loss and microwave rated cable is required. It can be used for numerous RF applications.

Key features

Diameter	7,3 ± 0,2 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	20,44 dB
f max	6 GHz
Euroclass acc. to EN 50575	Eca

Characteristics

Conductor/screen material according to DIN EN 13602 Cu-ETP-A
Jacket material according to DIN EN 50290-2-22 (VDE 0819), compound type TM 52 (HD 624.2)
Flame retardant according to IEC 60332-1-2
Flame retardant according to ECE-R 118 Amendment 02, Paragraph 6.2.6 with the ISO 6722-1:2012 Paragraph 12
RoHS compliant (Directive 2011/65/EC)
UV-resistant

Technical data

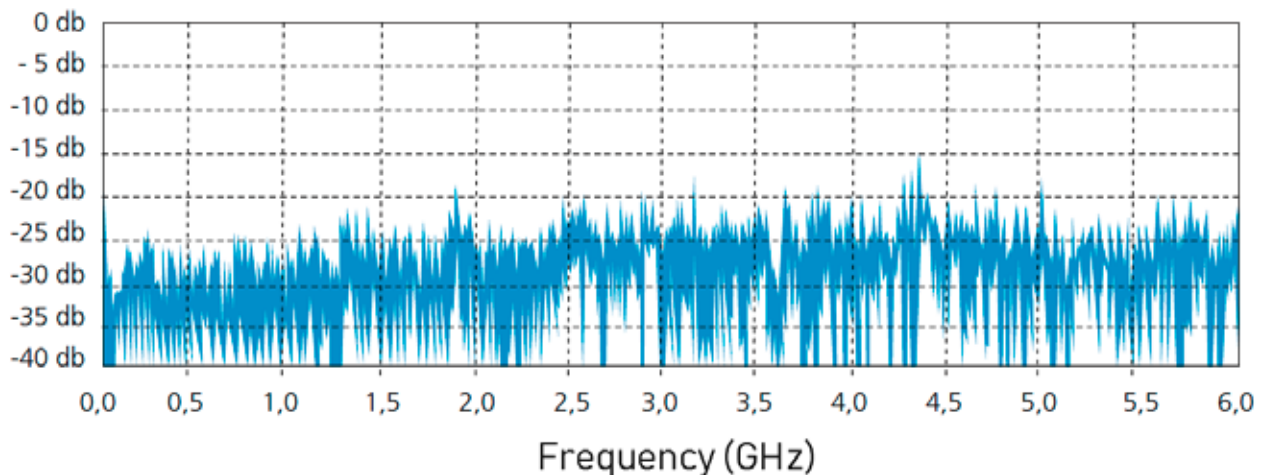
Inner conductor	stranded bare copper wire
Inner conductor Ø	1,9 mm (19 x 0,38 mm, 14 AWG)
Dielectric	foamed Polyethylene (PE) with skin
Dielectric Ø	5,0 mm
Outer conductor 1	copper foil overlapped
Shielding factor	100%
Outer conductor 2	shield braiding of bare copper wires
Shielding factor	85%
Outer conductor Ø	5,7 mm
Jacket	PVC black, UV-resistant
Weight	70 kg/km
Min. Bending radius	4XØ single, 8XØ repeated
Temperature range	-55 to +85°C Transport & fixed installation -40 to +85°C Flexible use
Pulling strength	300 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	≤ 9,0 Ω/km
DC-resistance Outer conductor	8,7 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test voltage (wire/screen rms 50 Hz 1 Min.)	1000 V
Max. Voltage	8 kV

	Aircell 7	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	2,09	2,00	5,00
100 MHz	5,97	7,00	17,00
500 MHz	13,98	17,00	39,00
1000 MHz	20,44	22,50	54,60
3000 MHz	38,84	58,50	118,00

Typ. Return loss



Typ. Attenuation (db/100 m at 20°C)

5 MHz	1,52	1000 MHz	20,44
10 MHz	2,09	1296 MHz	23,60
50 MHz	4,29	1500 MHz	25,73
100 MHz	5,97	1800 MHz	28,50
144 MHz	7,22	2000 MHz	30,29
200 MHz	8,59	2400 MHz	33,82
300 MHz	10,64	3000 MHz	38,84
432 MHz	12,92	4000 MHz	46,66
500 MHz	13,98	5000 MHz	54,19
800 MHz	18,05	6000 MHz	61,66

Max. Power handling (W at 40°C)

10 MHz	2.040	2400 MHz	118
100 MHz	620	3000 MHz	104
500 MHz	260	4000 MHz	89
1000 MHz	191	5000 MHz	78
2000 MHz	131	6000 MHz	70

Typ. Attenuation (db/100 m at 20°C)

