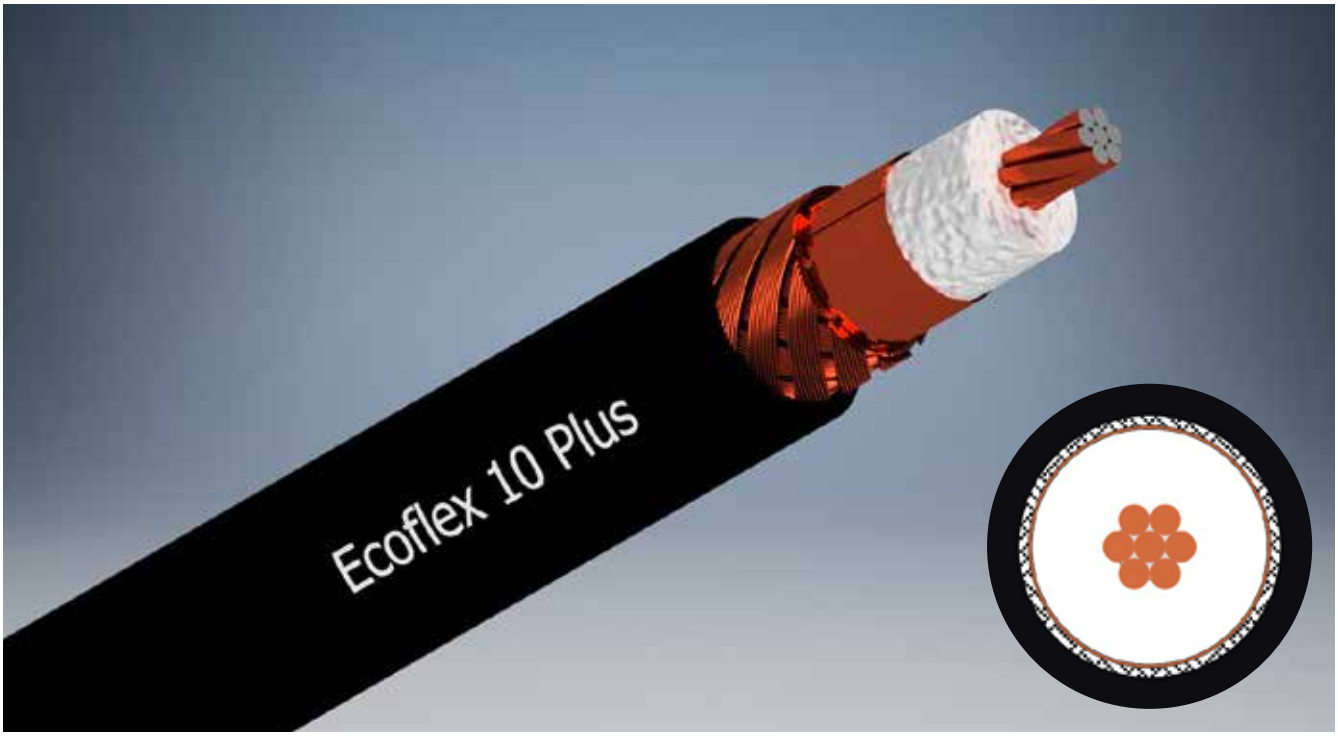
Ecoflex® 10 Plus

ultraflexible, low loss and suitable for use up to 8 GHz



Ecoflex 10 Plus is an extremely flexible, low loss coaxial cable designed to use in the frequency range up to 8 GHz. Advanced manufacturing techniques combined with the use of a low loss PE-LLC dielectric with a foaming rate of more than 70% result in very low attenuation values, which set standards among flexible coaxial cables.

The high flexibility of Ecoflex 10 Plus results from a hybrid CCA inner conductor containing 7 stranded copper-clad aluminium wires. Each wire has an aluminium core covered by copper cladding which combines copper's good electrical conductivity and aluminium's light weight. During a special manufacturing process the inner conductor is continuously compressed, calibrated and then pre-coated to achieve good attenuation, good return loss values and stable impedance matching. Another advantage of Ecoflex 10 Plus is its double shielding: an overlapping copper foil and an additional shield braiding of bare copper wires with 75 % coverage ensure a high screening attenuation of > 90 dB at 1 GHz. The copper foil has an applied PE coating which prevents foil cracking due to short radius bends. The black PVC jacket of Ecoflex 10 Plus is UV-stabilized.

For the easier installation of this cable, a special high quality solderless N male connector has been developed in addition to a full range of available standard connectors. It can be assembled in a few minutes without special tools. Ecoflex 10 Plus is the right choice, when a highly flexible, light, low loss 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	13,49 dB
f max	**8 GHz**
Euroclass acc. to EN 50575	**Eca**

Characteristics

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

RoHS compliant (Directive 2011/65/EC & 2015/863/EU RoHS 3)

UV-resistant

Technical data

Inner conductor	Hybrid CCA – stranded copper-clad aluminium wire
Inner conductor Ø	2,85 mm (7 x 1,0 mm, 10 AWG)
Dielectric	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	PVC black, UV-resistant
Weight	96 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	600 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	≤ 5,4 Ω/km
DC-resistance Outer conductor	6,6 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test voltage (wire/screen rms 50 Hz 1 Min.)	1000 V
Max. Voltage	5 kV

	Ecoflex 10 Plus	RG 213/U	RG 58/U
Capacity	78 pF/m	101 pF/m	102 pF/m
Velocity factor	0,85	0,66	0,66
Attenuation (dB/100m)			
10 MHz	1,14	2,00	5,00
100 MHz	3,80	7,00	17,00
500 MHz	9,12	17,00	39,00
1000 MHz	13,49	22,50	54,60
3000 MHz	25,37	58,50	118,00

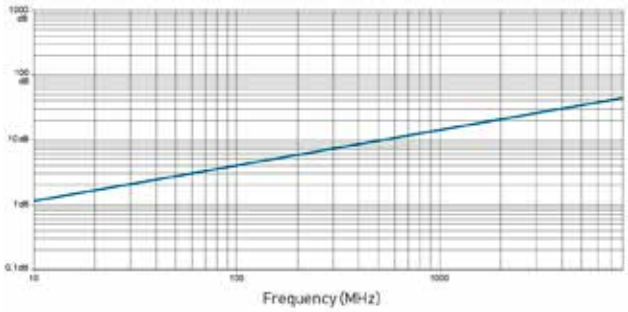
Typ. Attenuation (db/100 m at 20°C)

5 MHz	0,76	1000 MHz	13,49
10 MHz	1,14	1296 MHz	15,68
50 MHz	2,66	1500 MHz	17,01
100 MHz	3,80	1800 MHz	18,91
144 MHz	4,66	2000 MHz	20,14
200 MHz	5,51	2400 MHz	22,42
300 MHz	6,94	3000 MHz	25,37
432 MHz	8,46	4000 MHz	29,55
500 MHz	9,12	5000 MHz	33,44
800 MHz	11,88	6000 MHz	37,05
		8000 MHz	44,08

Max. Power handling (W at 40°C)

10 MHz	3.100	2400 MHz	175
100 MHz	960	3000 MHz	154
500 MHz	413	4000 MHz	130
1000 MHz	285	5000 MHz	115
2000 MHz	194	6000 MHz	100
		8000 MHz	86

Typ. Attenuation (db/100 m at 20°C)



Typ. Return loss