Ecoflex® 15 Plus

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

Ecoflex 15 Plus has remarkably improved electrical and mechanical characterisitics. The construction of the cable and the use of materials are optimized to achieve lowest attenuation values, higher max. frequency, high long-term stability and low weight, also allowing an easy installation.

Ecoflex 15 Plus is an extremely flexible, low loss 50 ohm coaxial cable for 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. The unique construction of Ecoflex 15 Plus combines the excellent attenuation properties of non-flexible solid inner conductor 1/2" cables with the high flexibility of cables manufactured with stranded inner conductors. So this cable represents an ideal combination. The high flexibility of Ecoflex 15 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 15 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 black PVC jacket of Ecoflex 15 Plus is UV-stabilized.

For the easier installation of this cable, we developed solderless connectors of the N, UHF and 7-16 DIN standards, which can be assembled in a short time without any special tools. Ecoflex 15 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	14,6 ± 0,3 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	9,80 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	4,5 mm (7 x 1,5 mm)
Dielectric	foamed Polyethylene (PE) with skin
Dielectric Ø	11,3 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	12,1 mm
Jacket	PVC black, UV-resistant
Weight	167 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	1300 N

Electrical data at 20°C

Capacity (1 kHz)	78 nF/km
Velocity factor	0,85
Screening attenuation 1 GHz	≥ 90 dB
DC-resistance Inner conductor	≤ 2,5 Ω/km
DC-resistance Outer conductor	5,0 Ω/km
Insulation resistance	≥ 10 GΩ*km
Test voltage (Inner conductor/Outer conductor rms 50 Hz 1 Min.)	1000 V
Max. Voltage	5 kV

	Ecoflex 15 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	0,86	2,00	5,00
100 MHz	2,81	7,00	17,00
500 MHz	6,70	17,00	39,00
1000 MHz	9,80	22,50	54,60
3000 MHz	18,30	58,50	118,00

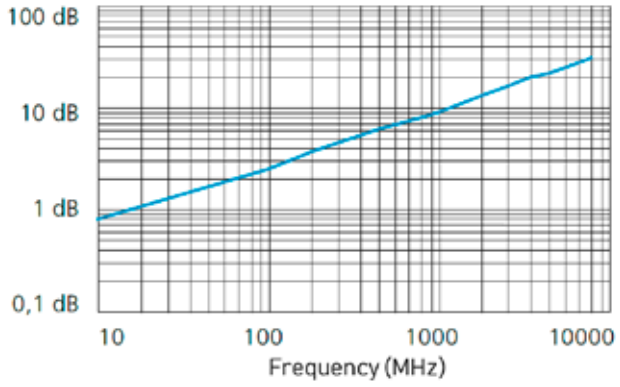
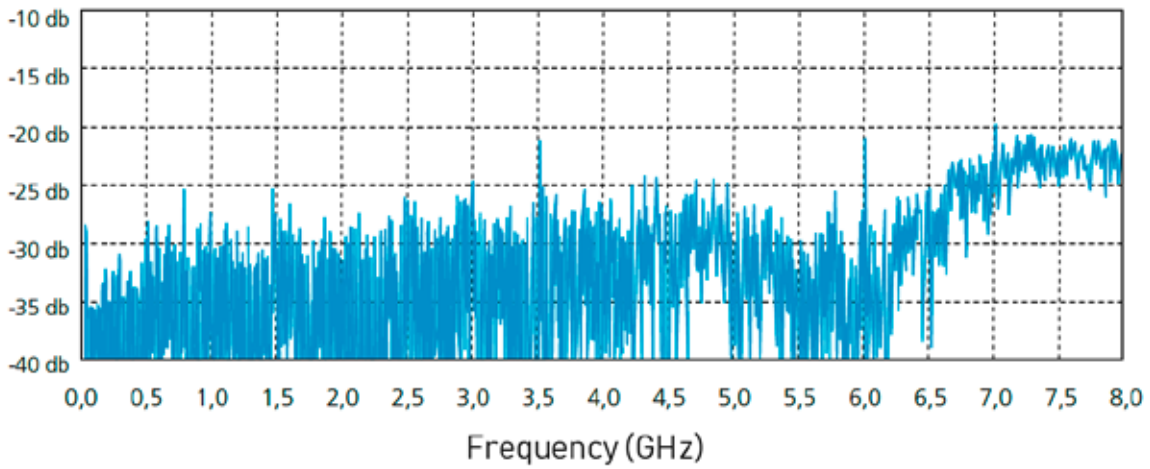
Typ. Attenuation (db/100 m at 20°C)

5 MHz	0,60	1000 MHz	9,80
10 MHz	0,86	1296 MHz	11,40
50 MHz	1,96	1500 MHz	12,40
100 MHz	2,81	1800 MHz	13,80
144 MHz	3,40	2000 MHz	14,60
200 MHz	4,05	2400 MHz	16,20
300 MHz	5,00	3000 MHz	18,30
432 MHz	6,10	4000 MHz	21,60
500 MHz	6,70	5000 MHz	24,60
800 MHz	8,60	6000 MHz	27,50
		8000 MHz	32,70

Max. Power handling (W at 40°C)

10 MHz	5.021	2400 MHz	270
100 MHz	1.542	3000 MHz	236
500 MHz	655	4000 MHz	198
1000 MHz	446	5000 MHz	173
2000 MHz	300	6000 MHz	154
		8000 MHz	129

Typ. Attenuation (db/100 m at 20°C)



Typ. Return loss