

Ecoflex[®] 7

extremely low-loss and highly flexible



Ecoflex 7 is a highly flexible coaxial cable designed for the frequency range up to 6 GHz. The extremely low attenuation and small bending radius of this cable make it interesting and recommended for many applications in high-frequency technology.

The excellent attenuation values of Ecoflex 7 are achieved by using a low attenuation PE-LLC dielectric with a gas content of over 70 %. This material is also resistant to moisture. The inner conductor of Ecoflex 7 consists of 19 stranded wires with a diameter of 0.38 mm each, made of low-oxygen copper. This inner conductor structure allows for extraordinary flexibility of the cable. To achieve good shielding attenuation, the outer conductor of Ecoflex 7 is designed with two layers: a thin, overlapping copper foil is covered with a copper shielding braid with a covering degree of 85 %.

The foil is PE-coated on the inside, protecting it against cracking in case of a too small bending radius. The black PVC outer jacket of Ecoflex 7 is UV-stabilized.

Ecoflex 7 is an innovative and versatile coaxial cable suitable for numerous applications, being extremely flexible, extremely low in attenuation, and radiation-resistant.

Key features

Diameter	7,3 ± 0,2 mm
Impedance	50 ± 2 Ω
Attenuation at 1 GHz/100 m	18,43 dB
f max	6 GHz
Euroclass according 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 Series 02, Paragraph 6.2.6 with ISO 6722-1:2012 Paragraph 12
- RoHS compliant (Directive 2011/65/EC & 2015/863/EU RoHS 3)
- UV-resistant

Technical Data

Inner conductor	stranded (Cu) copper wire
Inner conductor Ø	1.9 mm (19 × 0.38 mm, 14 AWG)
Dielectric	foamed cellular polyethylene (PE) with skin
Dielectric Ø	5.0 mm
Outer conductor 1	overlapping copper (Cu) foil
Shielding factor	100 %
Outer conductor 2	Copper (Cu) 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	4 × Ø single, 8 × Ø repeated
Temperature range	-55 to +85 °C transport & fixed installation -40 to +85 °C mobile application
Pulling strength	300 N

Electrical Data at 20 °C

Capacitance (1 kHz)	78 nF/km
Velocity factor	0.85
Shielding 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 DC (wire/screen)	10 kV
Max. voltage	8 kV

Ecoflex 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	1.88	2.00	5.00
100 MHz	5.37	7.00	17.00
500 MHz	12.59	17.00	39.00
1000 MHz	18.43	22.50	54.60
3000 MHz	34.96	58.50	118.00

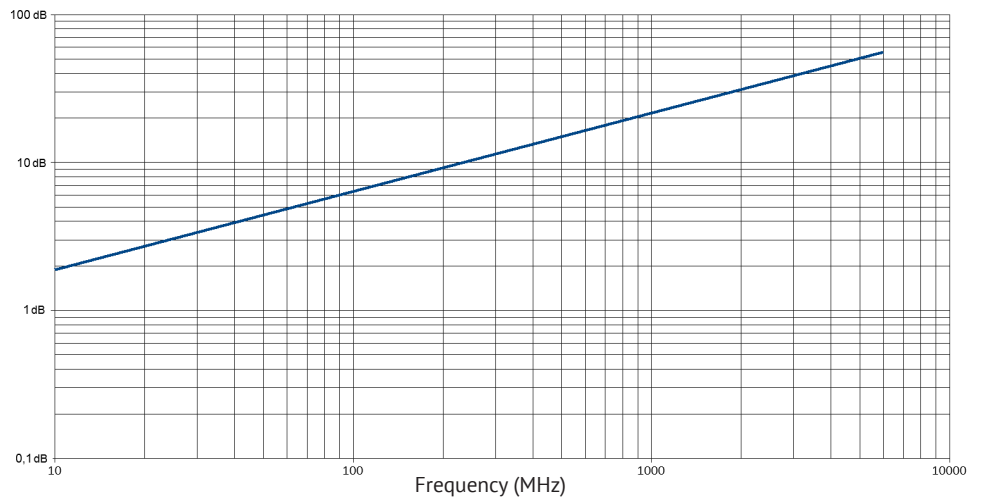
Typ. Attenuation (dB/100 m at 20 °C)

5 MHz	1.33	1000 MHz	18.43
10 MHz	1.88	1296 MHz	20.71
50 MHz	3.33	1500 MHz	22.99
100 MHz	5.37	1800 MHz	25.46
144 MHz	6.08	2000 MHz	27.27
200 MHz	7.13	2400 MHz	30.40
300 MHz	8.93	3000 MHz	34.96
432 MHz	11.40	4000 MHz	41.99
500 MHz	12.59	5000 MHz	48.83
800 MHz	15.96	6000 MHz	55.48

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)



Typ. Return Loss

