

# Ecoflex® 10



## Ecoflex® 10 - ultraflexible and low loss coaxial cable

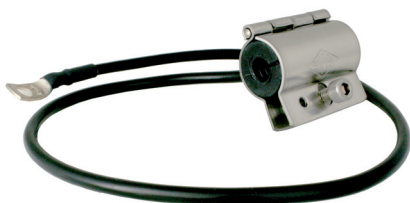
Ecoflex 10 is a flexible, low-loss coaxial cable specifically designed for use up to 6 GHz. Advanced manufacturing techniques combined with the use of a low-loss PE-LLC Dielectric yields a foaming rate of more than 70%. This results in very low attenuation. Ecoflex 10 sets standards among flexible coaxial cables. The flexibility of Ecoflex 10 is further enhanced through the use of a stranded, oxygen-free copper center conductor. Use of proprietary techniques, continuous center conductor calibration and compression as well as the application of a precoating results in low losses and good impedance matching. Further advantages of the cable include the use of double shielding which is constructed of overlapping copperfoil plus an additional tight woven copper braid.

A screening efficiency of > 90 dB @ 1 GHz is realized. The copperfoil has an applied PE-coating which prevents foil cracking due to short radius bends. The black PVC sheath of Ecoflex 10 is UV-stabilized. In addition to a full complement of standard connectors, an easy to use solder free N-connector has been specially developed for Ecoflex 10. Connector installation only takes a few minutes and requires no special tools. Ecoflex 10 is the right choice when a low loss, highly flexible microwave rated cable is required.

Ecoflex 10 is available from stock in the following standard drum sizes: 25 m, 50 m, 100 m, 200 m, 400 m and 500 m.

### Ecoflex® 10 characteristics

|                                |             |
|--------------------------------|-------------|
| Diameter .....                 | 10,2 mm     |
| Impedance .....                | 50 $\Omega$ |
| Attenuation @ 1 GHz/100m ..... | 14,2 dB     |
| fmax .....                     | 6 GHz       |



Grounding Clamp for Ecoflex® 10, Part.-No. 6810



# Ecoflex®10

## Technical data

|                                           |                                        |
|-------------------------------------------|----------------------------------------|
| Centre conductor ...                      | stran. copper, oxygen free, 7 x 1,0 mm |
| Centre conductor Ø                        | 2,85 mm                                |
| Dielectric                                | PE, low-loss Compound                  |
| Dielectric Ø                              | 7,25 mm                                |
| Outer conductor 1                         | copperfoil, PE-coated                  |
| Shielding factor                          | 100 %                                  |
| Outer conductor 2                         | copper braid                           |
| Shielding factor                          | 72 %                                   |
| Sheath                                    | black PVC, UV-resistant                |
| Outer diameter Ø                          | 10,2 mm                                |
| Weight                                    | 131 g/m                                |
| Min. bending radius .. one single bending | 40 mm                                  |
| 15 repeated bendings                      | 80 mm                                  |
| Temperature range ... storage             | -70 to +85°C                           |
| installation                              | -40 to +60°C                           |
| operation                                 | -55 to +85°C                           |
| Pulling strength                          | 5 daN                                  |

## Electrical specifications

|                                 |          |
|---------------------------------|----------|
| Impedance                       | 50 Ω     |
| Capacity                        | 78 pF/m  |
| Velocity factor                 | 0,85     |
| fmax                            | 6 GHz    |
| Screening efficiency @ 1 GHz    | > 90 dB  |
| DC-resistance: Centre conductor | 3,3 Ω/km |
| Outer conductor                 | 8,4 Ω/km |
| RF peak voltage                 | 1kV      |

## Ecoflex 10 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/100 m) |         |          |          |
| 10 MHz                 | 1,2     | 2,0      | 5,0      |
| 100 MHz                | 4,0     | 7,0      | 17,0     |
| 500 MHz                | 9,6     | 17,0     | 39,0     |
| 1000 MHz               | 14,2    | 22,5     | 54,6     |
| 3000 MHz               | 27,0    | 58,5     | 118      |

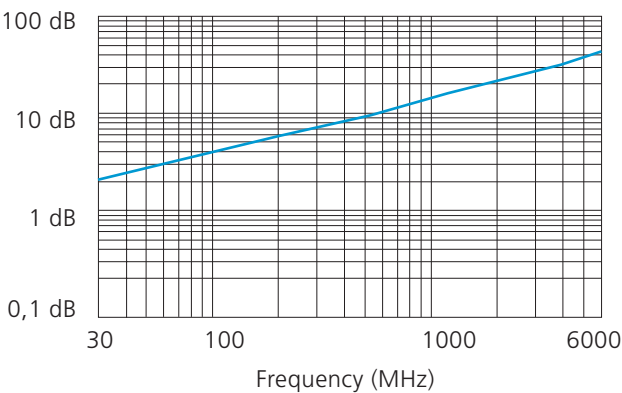
## Typ. attenuation (dB/100 m @ 20°C)

|         |      |          |      |
|---------|------|----------|------|
| 5 MHz   | 0,8  | 1000 MHz | 14,2 |
| 10 MHz  | 1,2  | 1296 MHz | 16,5 |
| 50 MHz  | 2,8  | 1500 MHz | 17,9 |
| 100 MHz | 4,0  | 1800 MHz | 19,9 |
| 144 MHz | 4,9  | 2000 MHz | 21,2 |
| 200 MHz | 5,8  | 2400 MHz | 23,6 |
| 300 MHz | 7,3  | 3000 MHz | 27,0 |
| 432 MHz | 8,9  | 4000 MHz | 32,2 |
| 500 MHz | 9,6  | 5000 MHz | 37,0 |
| 800 MHz | 12,5 | 6000 MHz | 41,5 |

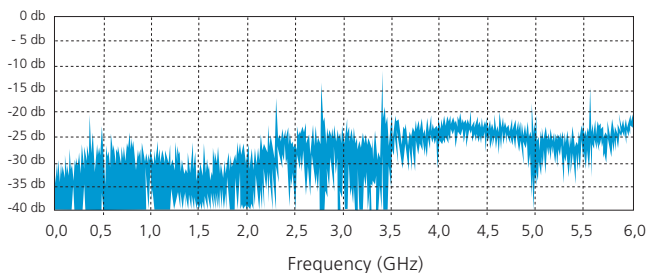
## Max. power handling (W @ 40°C)

|          |      |          |     |
|----------|------|----------|-----|
| 10 MHz   | 3960 | 3000 MHz | 180 |
| 100 MHz  | 1210 | 4000 MHz | 150 |
| 500 MHz  | 510  | 5000 MHz | 130 |
| 1000 MHz | 350  | 6000 MHz | 120 |
| 2000 MHz | 230  |          |     |

## Typ. Attenuation (dB/100 m) @ 20°C



## Typ. Return loss



Due to production tolerances the RTL may have different characteristics.