



## EUCARAY® CMC 12

coupled mode cable

### Radiating Cables

Eupen EUCARAY® radiating cables have been developed to provide RF-coverage for wireless applications in confined areas. They provide homogeneous and continuous RF-coverage, and allow simultaneous transmission of multiple wireless services. EUCARAY® radiating cables are engineered and produced in Belgium to highest quality standards for best performance and longest lifetime.

### Product Description

The EUCARAY® CMC 12 is a radiating cable using coupled mode which allows to use it for multiple applications with the need for short cable length at low cost.



### Features and Benefits

- Broadband from 30 to 2500 MHz
  - Robust cable, with low bending radius
  - No resonant frequencies
  - No cable orientation required
- Main applications: Inhouse and Automation, Short Length, Near Field, FM, TETRA, GSM, DCS-1800 & WLAN 2.4 GHz

### Certification and Fire Behaviour

Halogen-free, Low-smoke and Flame-retardant outer jacket:

- Low corrosive gas emission acc. to IEC 60754-2
- Flame retardant acc. to IEC 60332-1-2 and IEC 60332-3 Cat. C
- Low smoke emission acc. to IEC 61034
- Reaction to fire according EN60332-1-2 E<sub>ca</sub>
- Compliant to EN 50575

### Ordering Information

Ordering name: **CMC 12-HLFR**

Recommended connectors and cable preparation tool:

- 7-16 / 4.3-10 F: [Z16FR12 / 43FR12](#)
- N Female: [NF50R12; NM50R12](#)
- Tool: [SPTC50R12](#)

More information under: [www.radiating-cables.com](http://www.radiating-cables.com)

[www.eupen.com](http://www.eupen.com)



## EUCARAY® CMC 12

### Technical Information

• Size		1/2"
• Frequency range	MHz	30 - 2500
• Recommended Frequency bands		FM, TETRA, GSM, DCS-1800 & WLAN
• Cable Type		CMC (Coupled Mode Cable)
• Material		Flame retardant polyolefin
• Slot design		Continuous slot
• Impedance	Ω	50 +/- 3
• Velocity Ratio	%	88
• Capacitance	pF/m (pF/ft)	76 (23.2)
• Inner Conductor DC resistance	Ω/1000m (Ω/1000 ft)	1.48 (0.45)
• Outer Conductor DC resistance	Ω/1000m (Ω/1000 ft)	3.30 (1.01)
• Inner Conductor Material		Copper clad aluminium wire
• Dielectric Material		Cellular polyethylene
• Outer Conductor Material		Copper foil, with continuous slot, bonded to the jacket
• Diameter Inner Conductor	mm (in)	4.8 (0.189)
• Diameter Dielectric	mm (in)	12.4 (0.488)
• Diameter over Jacket	mm (in)	15.5 (0.61)
• Minimum Bending Radius, Single Bend	mm (in)	150 (5.91)
• Cable Weight	kg/m (lb/ft)	0.227 (0.153)
• Tensile Strength	daN (lbf)	110 (243)
• Indication of Slot Alignment		n.a.
• Storage Temperature	°C (°F)	-70 to +85 (-94 to +185)
• Installation Temperature	°C (°F)	-25 to +60 (-13 to +140)
• Operation Temperature	°C (°F)	-40 to +85 (-40 to +185)
• Longitudinal Loss and Coupling Loss <sup>(1)</sup>		

Frequency	Longitudinal Loss		Coupling Loss	
	dB/100m	(dB/100ft)	C50% (dB)	C95% (dB)
100 MHz	2.16	(0.66)	64	68
150 MHz	2.66	(0.81)	77	84
225 MHz	3.29	(1.00)	78	86
450 MHz	4.75	(1.45)	75	78
900 MHz	6.91	(2.11)	86	95
1500 MHz	9.15	(2.79)	80	90
1800 MHz	10.14	(3.09)	83	93
1900 MHz	10.45	(3.19)	80	90
2200 MHz	11.36	(3.46)	82	91
2400 MHz	11.94	(3.64)	82	92

• Resonant Frequencies	MHz	n.a.
• Recommended Clamp Spacing	m (ft)	0.5 (1.64)
• Distance to Wall Recommended / Min.	mm (in)	80 - 180 (3.15 - 7.00) / 50 (1.96)

The above stated values are nominal values and subject to manufacturing tolerances as follows: Longitudinal Loss +/- 5 % and Coupling Loss +/- 5 dB.

As with any radiating cable, the performance in building or tunnel may deviate from figures measured according to the IEC 61196-4 standard.

<sup>(1)</sup> Measured in tunnel according to IEC 61196-4 - **Ground Level Method**.

Distance = 2m. C50 & (C95) are the average coupling losses with 50% (95%) probability calculated in accordance with the standard.

Coupling loss measurements taken in accordance with IEC 61196-4 - Free Space Method are available on request.

All information on this datasheet is subject to change without notice.