

MRC eco

50Ω Cables for indoor/outdoor applications



Application

The radio-frequency cables described in this chapter are used in transmitter and receiver installations in radio communications as well as in the entire field of commercial radio-frequency technology and electronics.

Standards

EN 50117-1, IEC 61196-1

Construction

		MRC 195 ECO (0.94/2.79)	MRC 200 ECO (1.12/2.95)	MRC 240 ECO (1.42/3.81)	MRC 400 ECO (2.74/7.24)	MRC 600 ECO (4.47/11.56)
Inner conductor		Copper wire, bare 0.94 mm ± 0.01	Copper wire, bare 1.12 mm ± 0.01	Copper wire, bare 1.42 mm ± 0.01	CCA* 2.74 mm ± 0.03	CCA* 4.47 mm ± 0.03
Insulation	Foam-PE	2.79 mm ± 0.1	2.95 mm ± 0.1	3.81 mm ± 0.1	7.24 mm ± 0.1	11.56 mm ± 0.1
Outer conductor		Al-PET Foil, bonded to the dielectric + Aluminium braid				
Sheath	PE, black UV stabilized	4.95 mm ± 0.3	4.95 mm ± 0.3	6.1 mm ± 0.3	10.3 mm ± 0.3	15.0 mm ± 0.3
Printing		DRAKA MRC 195 ECO + batch number + meter marking	DRAKA MRC 200 ECO + batch number + meter marking	DRAKA MRC 240 ECO + batch number + meter marking	DRAKA MRC 400 ECO + batch number + meter marking	DRAKA MRC 600 ECO + batch number + meter marking

*CCA - Copper Clad Aluminium

Mechanical properties

Minimum bending radius	without load	5 x D (D= outer diameter)
	with load	10 x D (D= outer diameter)
Temperature range	during operation	- 40° C to + 85° C
	during installation	- 15° C to + 55° C
Corrosivity		acc. to IEC 60754-1/2

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Electrical properties

at 20°C

		MRC 195 ECO (0.94/2.79)	MRC 200 ECO (1.12/2.95)	MRC 240 ECO (1.42/3.81)	MRC 400 ECO (2.74/7.24)	MRC 600 ECO (4.47/11.56)
DC resistance (Ω /km)	Inner conductor	25.3	17.6	10.5	4.8	1.7
	Outer conductor	19.7	19.8	18.4	11.0	5.8
Mutual capacitance	pF/m	84	80	79.5	79.5	77
Velocity ratio	%	80	83	84	85	86
Characteristic impedance	at 200 MHz	50 Ω \pm 2	50 Ω \pm 2	50 Ω \pm 2	50 Ω \pm 2	50 Ω \pm 2
Transfer impedance	at 10 MHz	\leq 5 m Ω /m	\leq 5 m Ω /m	\leq 5 m Ω /m	\leq 5 m Ω /m	\leq 5 m Ω /m
Screening factor	at 100-1000 MHz	90 dB	90 dB	90 dB	90 dB	90 dB
Operating voltage		0.7 kV _{rms}	0.8 kV _{rms}	1.0 kV _{rms}	1.2 kV _{rms}	1.5 kV _{rms}
Test voltage	Inner/Outer conductor	1.4 kV _{rms}	1.6 kV _{rms}	2.0 kV _{rms}	3.0 kV _{rms}	3.5 kV _{rms}
Insulation resistance		\geq 10 G Ω *km	\geq 10 G Ω *km	\geq 10 G Ω *km	\geq 10 G Ω *km	\geq 10 G Ω *km

Attenuation (dB/100m)

nominal

at 20°C

Frequency (MHz)	MRC 195 ECO (0.94/2.79)	MRC 200 ECO (1.12/2.95)	MRC 240 ECO (1.42/3.81)	MRC 400 ECO (2.74/7.24)	MRC 600 ECO (4.47/11.56)
30	6.5	5.8	4.4	2.2	1.4
150	14.6	13.1	9.9	5.0	3.2
220	17.7	15.9	12.0	6.1	3.9
450	25.5	22.8	17.3	8.9	5.6
900	36.5	32.6	24.8	12.8	8.2
1800	52.5	46.6	35.6	18.6	12.1
2500	62.4	55.4	42.4	22.3	15.5
5200	92.9	81.9	63.3	33.6	21.9
5800	98.1	86.5	66.8	35.5	23.8

Max. power rating (Watts)

Ambient temperature 40°C and max. inner conductor temperature 100°C

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30	890	1020	1140	3330	5510
150	380	450	660	1470	2410
220	300	370	540	1200	1970
450	220	260	380	830	1350
900	160	180	260	580	930
1800	110	130	180	400	630
2500	90	110	150	330	520
5200	63	74	105	222	338
5800	60	70	100	210	320

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Return loss (dB)

Several peaks are allowed

at 20°C

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50-450	≥ 26	≥ 26	≥ 26	≥ 26	≥ 26
450-1000	≥ 23	≥ 23	≥ 23	≥ 23	≥ 23
1000-2500	≥ 15	≥ 15	≥ 15	≥ 15	≥ 15

Technical data

Product code	Type	Brand name	Outer diameter mm	Weight kg/km	Standard delivery length m	Drum size **PWD	Copper content kg/km	Tensile force N
1025237	0.94/2.29 AFB	MRC 195 ECO	4.95	22	1000	400/120/330	7.1	76
1025238	1.12/2.95 AFB	MRC 200 ECO	4.95	25	1000	400/120/330	10.1	91
1025239	1.42/3.81 AFB	MRC 240 ECO	6.1	37	1000	500/200/360	15.9	129
1025240	2.74/7.24 AFB	MRC 400 ECO	10.3	76	1000	760/470/500	8.8	288
1025241	4.47/11.56	MRC 600 ECO	15.0	158	1000	1100/800/694	23.0	706

**PWD (plywood drum)