



Created in 2004 as a joint venture between Draka Holding N.V. and Alcatel SA, Draka Comteq leverages the knowledge not only of Draka and Alcatel, but also counts a heritage that goes back over 150 years. This includes the former cable

or optical fibre businesses of Felten & Guillaume, Philips, Nokia, Chromatic Technologies, ABB, Ericsson, ITT and Phelps Dodge. These now form part of our DNA and are a key reason why we succeed in innovating on so many fronts at once. Dra-

ka Comteq, which is one of two groups within Draka Holding N.V., employs 3,000 people in operation worldwide. Our head office is in Amsterdam, the Netherlands.

COAXIAL RF CABLES BASING UPON IEC 61196-1

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Coaxial RF Cables basing upon IEC 61196-1

The radio-frequency cables are used in transmitter and receiver installations in radio communication as well as in the entire field of commercial radio-frequency technology and electronics. This product family includes only 50 Ω cables.

Construction

The inner conductors which essentially determine the mechanical and electrical properties of the cables are drawn with very close tolerances from electrolytic copper and can be supplied bare, tin or silver-plated. Highly flexible cables are manufactured with stranded inner conductor and for very thin inner conductors copperweld wires are used in view of their greater tensile strength.

Stabilized polyethylene is used almost exclusively as insulation material. Foam-PE insulation is required only for cables with exceptionally low attenuation and capacity.

The outer conductors of radio-frequency cables are almost exclusively in copper braid with high coverage or in longitudinal double Al-PET foil and a tinned copper braid.

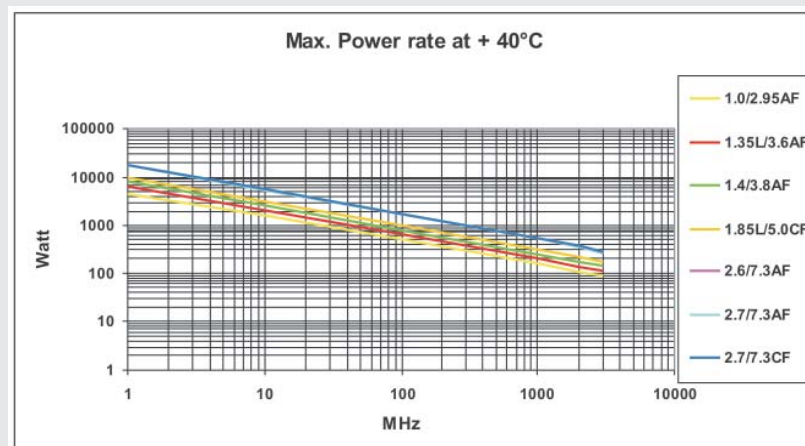
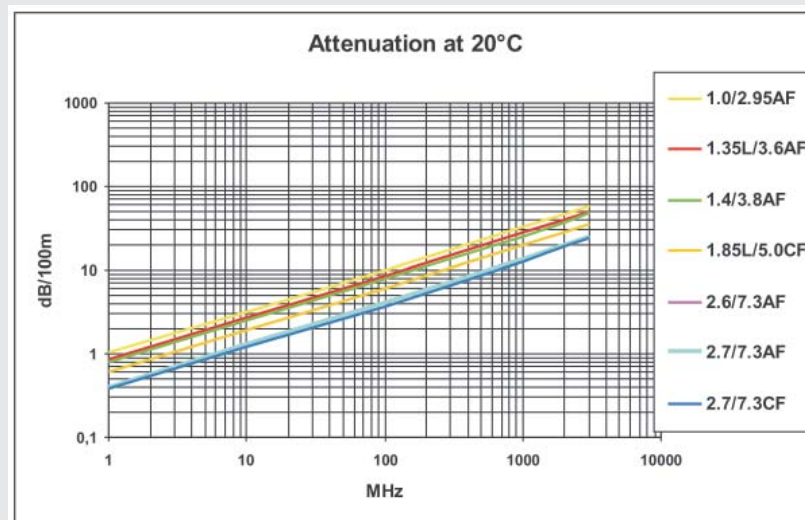
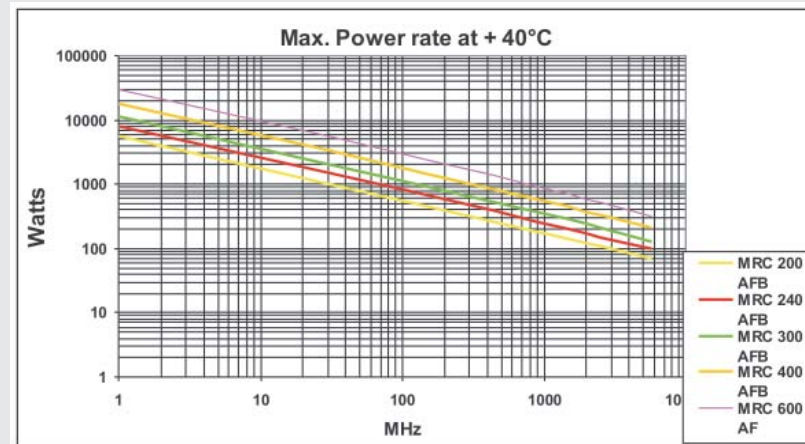
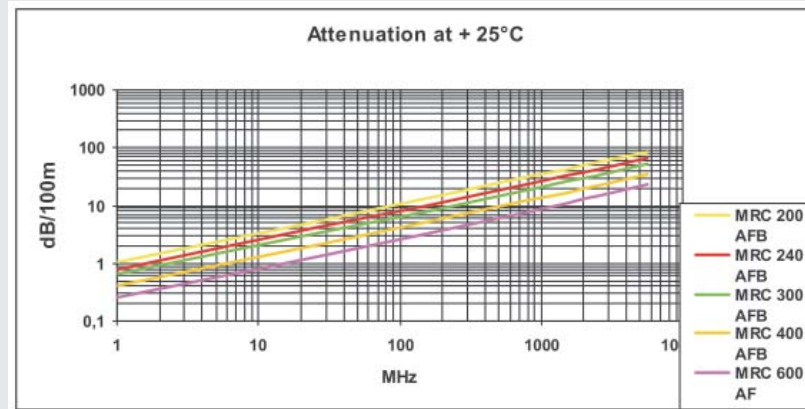
As in IEC recommendations, the cable sheaths are manufactured in the standard design with a highly resistant, flame retardant PVC sheath or a flame retardant, non-corrosive sheath of copolymer (FRNC).

Properties

Temperature range
-30°C up to +70°C

Fire propagation test for FRNC-cables
≤ 4,5 mm acc. to IEC 60332-1
≥ 4,5 mm acc. to IEC 60332-3-24

Corrosivity for FRNC cables acc. to IEC 60754-2



Cable type		MRC 200	MRC 240	MRC 300	MRC 400	MRC 600	1.0/2.95 AF	1.35L/3.6 AF	1.85L/5.0 CF	2.7/7.3 CF	2.6/7.3 AF	2.7/7.3 AF	
Construction													
Inner conductor	ø mm	Copper wire bare 1.12 ± 0.01	Copper wire bare 1.42 ± 0.01	Copper wire bare 1.78 ± 0.01	Copper wire bare 2.74 ± 0.01	Copper wire bare 4.42 ± 0.01	Copper wire bare 1.05 ± 0.01	Stranded copper wires bare 7 x 0.45 ø 1.35	Stranded copper wires bare 19 x 0.37 ø 1.35	Copper wire bare 2.71 ± 0.005	Copper wire bare 2.61 ± 0.01	Copper wire bare 2.71 ± 0.005	
Insulation		Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	Foam-PE	
Outer conductor		Al-PET-foil, bonded to the dielectric + copper braid, tinned	Al-PET-foil, bonded to the dielectric + copper braid, tinned	Al-PET-foil, bonded to the dielectric + copper braid, tinned	Al-PET-foil, bonded to the dielectric + copper braid, tinned	Al-PET-Al-foil + copper braid, tinned	Al-PET-Al-foil + copper braid, tinned	Al-PET-Al-foil + copper braid, tinned	Cu-PET Cu foil + copper braid, bare	Cu-PET Cu foil + copper braid, bare	Al-PET-Al-Folie + copper braid, tinned Al-PET-Al-foil	Al-PET-Al-foil + copper braid, tinned	
Sheath material		PE	PE	PE	PE	PE	PVC alt. FRNC	PVC alt. PE	PE	PE	FRNC	PE	
Sheath	ø mm	4.95 ± 0.15	6.1 ± 0.2	7.6 ± 0.2	10.3 ± 0.2	15.0 ± 0.3	5.00 ± 0.2	5.40 ± 0.2	7.3 ± 0.2	10.3 ± 0.2	10.3 ± 0.2	10.3 ± 0.2	
Sheath colour		black	black	black	black	black	black	white or black	black	black	black	black	
Weight	kg/km	33	47	65	133	283	42 / 46	42 / 40	80	136	166	136	
Electrical Properties													
Impedance	Ω	50 ± 2	50 ± 2	50 ± 2	50 ± 2	50 ± 2	50 ± 1.5	50 ± 2	50 ± 2	50 ± 2	50 ± 2	50 ± 2	
Attenuation	30 MHz	5.8	4.4	3.5	2.2	1.4	6.2	5.0	3.5	2.1	2.4	2.4	
(dB/100m) nom.	900 MHz	32.6	24.8	19.7	12.8	8.2	34.2	28.6	23.5	12.0	15.5	14.6	
	1800 MHz	46.6	35.6	28.4	18.6	12.1	49.8	41.3	33.2	17.9	21.7	18.6	
	2500 MHz	55.4	42.4	33.9	22.2	14.5	58.2	49.6	39.0	21.4	25.6	22.2	
	5200 MHz	81.9	63.3	51.3	33.6	22.5	85.2	75.3	59.0	32.9	38.7	34.1	
	5800 MHz	86.5	66.8	54.2	35.5	23.8	89.9	80.2	62.3	35.4	40.8	36.1	
Max. Power rating	30 MHz	1020	1140	2100	3330	5510	939	980	2100	4907	2997	3000	
	900 MHz	180	260	360	580	930	167	221	292	839	457	499	
	at 40°C	1800 MHz	130	180	250	400	630	122	151	217	558	333	400
		2500 MHz	110	150	210	330	520	104	124	175	475	280	330
		5200 MHz	74	105	137	222	338	71	86	116	226	188	218
		5800 MHz	70	100	130	210	320	67	80	110	311	178	207
Mutual capacitance	pF/m	80	79.5	79	79	77	82	80	80	79	80	79	
Velocity ratio	%	83	84	85	85	86	80	81	84	84	81	84	
DC resistance													
Inner conductor	Ω/km	17.6	10.5	7.0	4.6	1.2	20.3	16.5	8.9	3.1	3.2	3.1	
Outer conductor	Ω/km	14.0	12.8	8.6	5.4	3.9	12.0	22.5	7.3	5.5	3.9	4.7	
Return loss	450	> 26	> 26	> 26	> 26	> 26	> 26	> 23	> 26	> 26	> 26	> 26	
at (MHz)	450 - 1000	> 23	> 23	> 23	> 23	> 23	> 23	> 20	> 23	> 23	> 23	> 23	
Operating voltage	kV. rms.	0.8	1.0	1.0	1.2	1.5	0.8	1.0	1.0	1.2	1.2	1.2	