Created in 2004 as a joint venture between Draka Holding N.V. and Alcatel SA, Draka Comteq leverages the knockledge 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 & Guilleaume, 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.

Draka 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.

RG Cables according to MIL-C-17F and MIL-C-17G

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RG Cables according to MIL-C-17F and MIL-C-17G

RG Cables are used in the whole field of commercial electronics and radio-frequency engineering wherever high quality is required.

Construction

Construction, material and tolerances of the inner conductor are the determining factors for the mechanical and electrical properties of a cable. The individual wires are drawn with very close tolerances from electrolytic copper and are used bare, tinned or silver-plated as solid or stranded inner conductor. Cables with a stranded inner conductor have a high flexibilty.

In view of the higher tensile strength, copperclad steel wires are used for very thin inner conductors.

Temperature behaviour, attenuation, voltage strength and flexibility of a cable are essentially determined by material and construction. Polyethylene (PE) is preferably used for its good cold bending resistance and dielectric properties.

Polytetrafluorethylene (PTFE) is a particularly high-grade cable insulating material with a high temperature resistance and excellent dielectric properties.

Air-space insulated cables have a lower attenuation. The outer conductors of all RG cables consist of bare, silver-plated or tinned copper wires. They are designed in accordance with MIL-C-17F and achieve a high coverage and screening efficiency.

Cable types with particularly stringent screening requirements must be provided with a double braid. RG cables have as outer protection a weatherproof sheath which is classified according to MIL-C-17F into quality groups. Cables with PVC sheaths according to MIL-C-17F, i.e. PVC with plasticisers of a low migration degree, are very resistant to aging, i.e. the attenuation increase through aging is negligible. The sheath materials applied here correspond to sheath type II a for PVC and to sheath type IX for FEP.

Properties

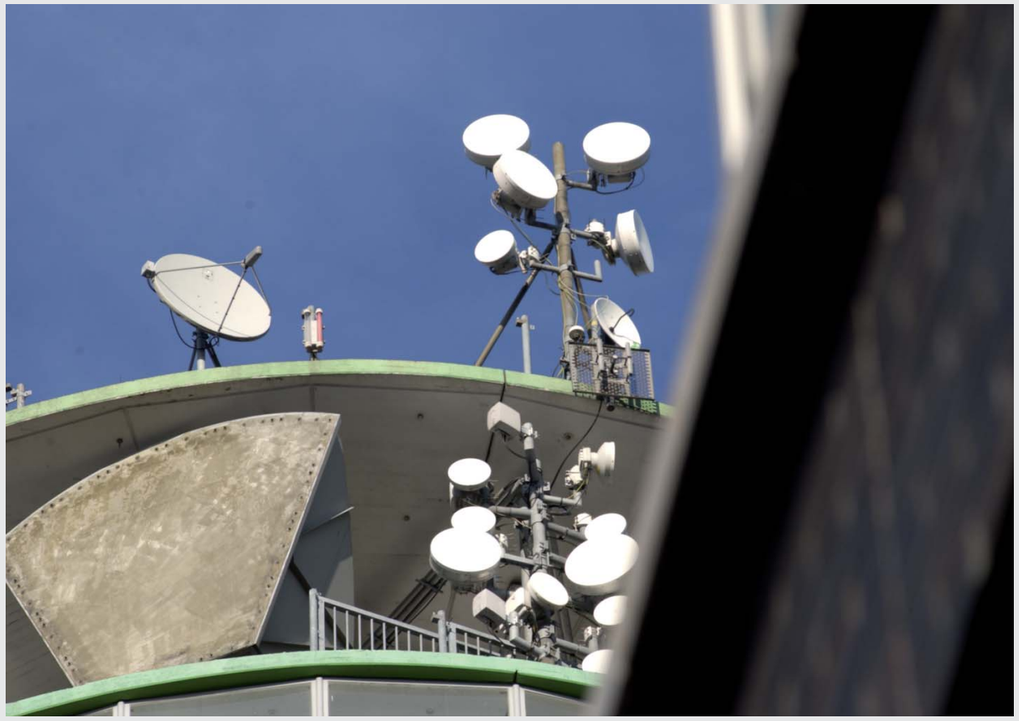
Temperature range for cables

with PE insulation and PVC sheath
-40°C up to +85°C

with PTFE insulation and FEP sheath
-55°C up to +250°C

Fire propagation test

Acc. to IEC 60332-1 and VDE 0472 part 804 class B



Cable type		RG6	RG11	RG11-Triax	RG58	RG59	RG174	RG213	RG214	RG216	RG223
Construction											
Inner conductor	ø mm	Copperclad steel wire bare 0.73 ± 0,01	Stranded copper wires tinned 7 x 0.39 ø 1.2	Stranded copper wires tinned 7 x 0.39 ø 1.2	Stranded copper wires tinned 19 x 0.18 ø 0.9	Copperclad steel wire bare 0.59 ± 0.01	Stranded coppercladded steel wires bare 7 x 0.16 ø 0.48	Stranded copper wires bare 7 x 0.75 ø 2.25	Stranded copper wires silver-plated 7 x 0.75 ø 2.25	Stranded copper wires tinned 7 x 0.39 ø 1.2	Stranded copper wires silver-plated 0.90 ± 0.01
Insulation		PE	PE	PE	PE	PE	PE	PE	PE	PE	PE
Outer conductor		Copper braid, silver-plated	Copper braid, bare	Copper braid, bare	Copper braid, tinned	Copper braid, bare	Copper braid, tinned	Copper braid, bare	Copper braid, silver-plated	Copper braid, bare	Copper braid, silver-plated
Shielding		Copper braid, bare		Copper braid, bare					Copper braid, silver-plated	Copper braid, bare	Copper braid, silver-plated
Sheath material		PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC	PVC
Sheath	ø mm	8.4 ± 0.15	10.1 ± 0.20	13.5 ± 0.50	4.95 ± 0.10	6.15 ± 0.10	2.7 ± 0.10	10.3 ± 0.15	10.8 ± 0.15	10.8 ± 0.15	5.4 ± 0.1
Sheath colour		black	black	black	black	black	black	black	black	black	black
Weight	kg/km	115	134	270	37	54	11,2	153	200	185	60
Electrical Properties											
Impendance	Ω	75 ± 3	75 ± 3	75 ± 3	50 ± 2	75 ± 3	50 ± 2	50 ± 2	50 ± 2	75 ± 3	50 ± 2
Attenuation	10 MHz	3.0	1.8	1.8	4.2	3.5	9.8	1.8	2.0	1.8	4.4
(dB/100m) nom.	100 MHz	9.8	6.5	6.5	15.7	11.0	31.0	6.8	6.9	6.5	13.9
	400 MHz	20.0	14.1	14.1	34.5	24.0	74.0	14.4	15.1	14.1	29.3
	1000 MHz	32.0	25.2	25.2	60.0	38.0	120.0	24.7	26.5	25.2	50.1
	2000 MHz	47.0	43.0	43.0	90.0	60.0	170.0	36.4	38.1	43.0	80.0
	3000 MHz	60.0	59.0	59.0	120.0	78.0	210.0	46.6	48.6	59.0	98.0
Max. power	10 MHz	1600	2800	2800	750	1100	240	2300	2200	2800	765
rating	100 MHz	500	810	810	230	340	68	920	875	810	240
at 40°C	400 MHz	220	370	370	110	180	32	380	360	370	115
	1000 MHz	150	200	200	65	90	18	210	200	200	70
	2000 MHz	70	120	120	40	58	11	140	135	120	45
	3000 MHz	50	100	100	30	45	9	100	95	100	35
Mutual power	pF/m	67	67	67	100	67	100	100	100	67	100
Velocity ratio	%	66	66	66	66	66	66	66	66	66	66
DC resistance											
Inner conductor	Ω/km	105.0	21.0	21.0	36.7	158.0	315.0	5.7	5.7	21.0	29.1
Outer conductor	Ω/km	6.5	4.0	4.0	12.9	8.5	37.3	6.2	10.0	4.4	13.5
Return loss	450	> 26	> 26	> 26	> 27	> 30	> 23	> 26	> 26	> 26	> 26
at (MHz)	450 - 1000	> 22	> 22	> 22	> 25	> 26	> 21	> 23	> 23	> 22	> 23
Operating voltage	kV. rms.	2.4	3.6	3.6	1.8	1.7	1.1	3.7	3.7	3.7	1.4