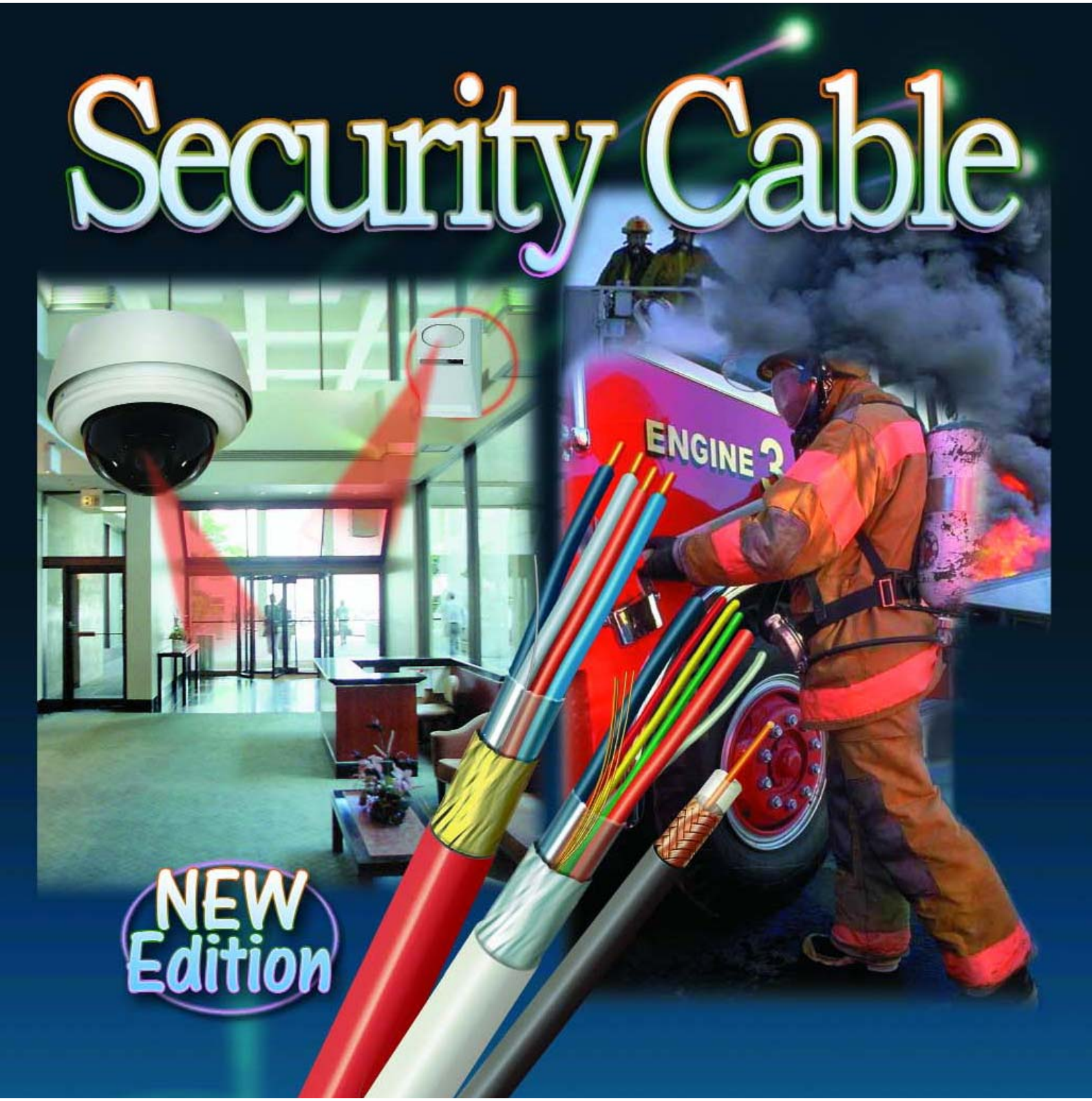

Security Cable
ENGINE 3
NEW
Edition

Due to their actual mechanical design, NONE of the cables used, wich only 0,22 cores, are intended to be used as power cables or for the direct connection of equipment to mains power supply.

Alarm Cables

Although the use of cables in the security sector presents complex and diverse challenges FTC, thanks to our specialised experience in this specific sector, is able to satisfy any connection requirement guaranteeing maximum operational reliability. We offer our clients two versions of our alarm cable:

- Traditional security cable both multipolar and combined with external PVC sheathing and PVC conductors in either rigid or flexible versions, produced to meet the required IEC, CEI, VDE and NFC standards.
- Rigid or flexible LSZH security cable, both multipolar and combined with polyethylene or LSOH conductors and external sheathing in LSZH, zero halogen with low emission of toxic gas and smoke, produced to meet the required IEC, CEI, VDE and NFC standards and conforming to every regulation necessary for the installation of cables in public places, museums, hotels, hospitals, etc.

ALH PVC / LSOH - 300 / 300 V

Section *	Core (mm) *	Insulation (mm)*	Outs. diam. (mm)*
2 x 0,22	7 x 0,20	0,23	3,3
4 x 0,22	7 x 0,20	0,23	3,5
6 x 0,22	7 x 0,20	0,23	4,2
8 x 0,22	7 x 0,20	0,23	4,6
10 x 0,22	7 x 0,20	0,23	5,2
12 x 0,22	7 x 0,20	0,23	5,4
2 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	4,1
4 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	4,4
6 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	5,2
8 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	5,4
10 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	5,8
12 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	5,9
14 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	6,3
16 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	6,6
20 x 0,22 +2 x 0,50	7 x 0,20	0,30 / 0,23	7,1

Section *	Core (mm) *	Insulation (mm)*	Outs. diam. (mm)*
2 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	4,8
4 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	5
6 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	5,4
8 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	5,8
10 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	6,2
12 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	6,4
14 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	6,6
20 x 0,22 +2 x 0,75	7 x 0,20	0,35 / 0,23	7,8
4 x 0,6	1 X 6 / 10	0,25	4,2
6 x 0,6	1 X 6 / 10	0,25	4,8
8 x 0,6	1 X 6 / 10	0,25	5
10 x 0,6	1 X 6 / 10	0,25	5,9
12 x 0,6	1 X 6 / 10	0,25	6,1
14 x 0,6	1 X 6 / 10	0,25	6,4

* Nominal Value

Indoor Telephone Cable

J-YY Single-wired conductor of plain copper wire, PVC-based core insulation, fur cores twisted to star quad, core colours according to VDE 0815, PVC-based outer scheath, RAL 7032

J-Y (ST) Y Like J-YY...BD but cores are twisted in pairs, cable core covered by a static screen of aluminium-clad plastic wire with copper conductor, PVC-based outer sheath RAL 7032.

BMD brandmeldekabel is the same cable but with red PVC sheath, request for alarm system.

Installation cable according to VDE 0815

J - YY			
N° of pairs	Approx. outside diameter ca. mm	Copper weight Kg/Km	Approx. weight Kg/Km
1 x 2 x 0,6	5,0	11,0	35
4 x 0,6	6,5	23,0	60
3 x 2 x 0,6	7,0	34,0	75
5 x 2 x 0,6	8,5	57,0	110
J - Y (ST) Y..			
1 x 2 x 0,6	5,0	6,9	30
4 x 0,6	5,5	13,0	40
3 x 2 x 0,6	6,3	18,0	50
4 x 2 x 0,6	6,8	24,0	60
5 x 2 x 0,6	7,2	30,0	70
6 x 2 x 0,6	7,5	35,0	80

N° of pairs	Approx. outside diameter ca. mm	Copper weight Kg/Km	Approx. weight Kg/Km
8 x 2 x 0,6	8,0	46,0	90
10 x 2 x 0,6	9,0	58,0	110
12 x 2 x 0,6	9,5	71,0	130
1 x 2 x 0,8	6,0	11,0	40
4 x 0,8	7,0	21,0	60
3 x 2 x 0,8	8,5	31,0	80
4 x 2 x 0,8	9,0	41,0	100
5 x 2 x 0,8	9,5	52,0	120
6 x 2 x 0,8	10,5	62,0	140
8 x 2 x 0,8	11,5	82,0	170
10 x 2 x 0,8	13,0	102,0	220
12 x 2 x 0,8	14,0	123,0	250

LSOH / LSOH VERSION AVAILABLE

Combined Cables for CCTV

Our combined cables are produced according to the customers technical specifications required by the Institutes of Telesurveillance and the product range that FCT can supply at currently manufactured standards is as follows:

Mini Rg 59 + (2 x 0,75 + 2 x 0,22) MiniCoax + (2 x 0,75 + 4 x 0,22) Mini Rg 59 + MiniCoax + (2 x 0,75 + 4 x 0,22) RG 59 + 2 x 0,50	RG 59 + 2 x 0,75 RG 59 + 2 x 1 Mini Rg 59 + 2 x 0,50 Special Combi TPHQ6 2 x 0,75 + 2 (2 x 0,22 + Al) AL
Others compositions are availables on request	

Fireproof Cables Eurosafe 180

FTC can cater to clients' needs in producing security cables which are fire resistant for use in firefighting plants, both with special special ceramized Silicon isulation, with or without alluminium foil and with LSZH outer sheath. These cables are produced to be able to work between 30 and 180 minutes in fire situation. This cable is available from 0,5 to 2,5 sqmm and from 2 to 5 cores

Section (mm²)	Max electrical resistance to 20°	Strand and wire diameter	Insulation diam. (mm)	Outer diameter
2 x 1.00	18.01 Ohm/Km	1 x 1.13	2.6 ± 0.1	8,2 ± 0.2
3 x 1.00	18.01 Ohm/Km	1 x 1.13	2.6 ± 0.1	9,2 ± 0.2
4 x 1.00	18.01 Ohm/Km	1 x 1.13	2.6 ± 0.1	10,2 ± 0.2
2 x 1.50	12.01 Ohm/Km	1 x 1.38	2.8 ± 0.1	8,6 ± 0.2
3 x 1.50	12.01 Ohm/Km	1 x 1.38	2.8 ± 0.1	9,6 ± 0.2

Section (mm²)	Max electrical resistance to 20°	Strand and wire diameter	Insulation diam. (mm)	Outer diameter
4 x 1.50	12.01 Ohm/Km	1 x 1.38	2.8 ± 0.1	10,4 ± 0.2
2 x 2.50	7.41 Ohm/Km	7 x 0,67	3.4 ± 0.1	10,6 ± 0.2
3 x 2.50	7.41 Ohm/Km	7 x 0,67	3.4 ± 0.1	11,6 ± 0.2
4 x 2.50	7.41 Ohm/Km	7 x 0,67	3.4 ± 0.1	12,6 ± 0.2

Reference Standards (internal cores):

CEI 20 - 19 CENELEC HD 22 (for the insulation)
CEI 20 - 29 CENELEC HD 383 (for the conductor)

Certifications tests availables:

BS 6387CWZ IEC 60331/21 DIN 4102 - 12
EN 50200:2000-02, EN 50266, EN 50267, WN 50268

Data Telephone Fire Resistants Cables Eurosafe E30 / E60

- Fire resistant EN 1363 -1 Din 4102 -12
- Halogen Free
- Fire retardant (VDE 0472 Part 804-C, BS 4066 Part 3 (NMV 1,5), IEC 332-3 cat.CF)
- Low smoke and fume
- No emission of corrosive and toxic gases
- VDE 0815

• *Conductor Diameter:*	0,6 mm	0,8 mm
loop resistance:	130 mm	73,2 mm
insulation resistance at 20° C max:		100 M km
Nominal capacitance at 800 Hz:		120 nF/km
Capacitance unbalance between pairs at 800 Hz		
k1 max:		300 pF/500m
k9 - K12 max:		100 pF/500m

Number of pairs and conductor diam. (mm)	Calorific potential kWh/m	Overall diam. approx. mm	Copper weight (mm)	Weight of cable approx. Kg/km
1 x 2 x 0,6	0,18	6,3	14	30
2 x 2 x 0,6	0,30	9,0	25	35
3 x 2 x 0,6	0,35	9,4	37	50
5 x 2 x 0,6	0,48	11,0	59	60
10 x 2 x 0,6	0,74	13,6	116	70
1 x 2 x 0,8	0,24	7,4	25	160
2 x 2 x 0,8	0,41	10,9	45	190
3 x 2 x 0,8	0,50	11,5	65	240
5 x 2 x 0,8	0,69	13,5	106	285
10 x 2 x 0,8	0,11	17,0	206	360

1. Solid copper conductor 0,6 mm or 0,8 mm diameter
2. Isolation: ceramized silicons conductors
3. Stranding: Pairs
4. Wrapping with fiber glass foil
5. Screen formed by alu-laminated synthetic foil with
   copper drain wire 0,6 mm or 0,8 mm diameter
6. Other sheath: halogen free polymer compound
   acc.to VDE 0207 Part 24, HM 2 colour: red

Power Cables and Special Cables

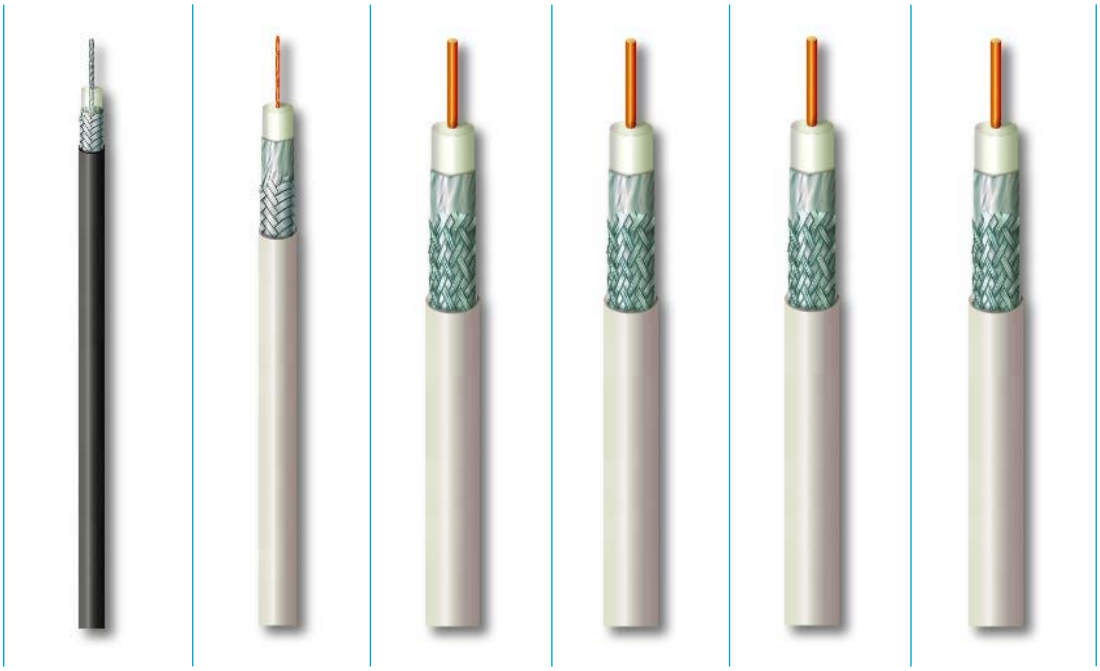
FTC can supply the Security Market with a range of complementary cables used in installations.

Available version shielded and unshielded

Silicon Cable

Section mm²	Copper weight kg/km	Wires N°	Outside diam. mm	Cables weight kg/km
		SIAF 300/500 V		
0,5	5,0	16 x 0,21	1,9	8
0,75	7,5	24 x 0,21	2,2	11
1.0	10,0	32 x 0,21	2,3	14
1,5	15,0	30 x 0,26	2,8	20
2,5	25,0	50 x 0,26	3,4	32
4	40,0	56 x 0,31	4,0	49
6	60,0	84 x 0,31	4,7	70
10	100,0	80 x 0,41	6,8	124
		SiHF 300/500 V		
2 x 0,75	15,0	24 x 0,21	6,4	57
3 x 0,75	22,0	24 x 0,21	6,8	66
4 x 0,75	30,0	24 x 0,21	7,8	67
5 x 0,75	37,5	24 x 0,21	8,5	105
6 x 0,75	52,5	24 x 0,21	9,5	130
2 x 1	20,0	32 x 0,21	6,6	64
3 x 1	30,0	32 x 0,21	7,4	81
4 x 1	40,0	32 x 0,21	8,0	100
5 x 1	50,0	32 x 0,21	8,8	121
6 x 1	70,0	32 x 0,21	9,8	151
2 x 1,5	30,0	30 x 0,26	8,0	87
3 x 1,5	45,0	30 x 0,26	8,3	104
4 x 1,5	60,0	30 x 0,26	9,0	127
5 x 1,5	75,0	30 x 0,26	9,8	148
2 x 2,5	50,0	50 x 0,26	9,5	137
3 x 2,5	75,0	50 x 0,26	10,0	164
4 x 2,5	100,0	50 x 0,26	11,0	200
5 x 2,5	125,0	50 x 0,26	11,9	240
2 x 4	80,0	50 x 0,31	11,3	191
3 x 4	120,0	50 x 0,31	11,9	248

Pls. contact us if you need more sections or others cables types. Special constructions and further code configurations manufactured upon request



References		Mini RG59	MiniCoax	SAT 5A	19 Vatc.A	17 Vatc.A	RG 6
Character. impedance	ohm	75 ± 2	75 ± 2	75 ± 3	75 ± 3	75 ± 3	75 ± 3
Capacitance	pF/mt	67	56	52	52	52	52
Velocity radio	%	66	80	83	83	83	82
DC resistance (at 20°C)							
Inner conductor	ohm/km	250	128	98	113	86	
Outer conductor	ohm/km	46	50	67	57	57	
Nominal attenuation							
at 47 MHz	dB/100m	19,5	11,0	6,5	5,2	4,9	5,5
at 100 MHz	dB/100m	28,5	16,7	8,9	7,1	6,5	7,5
at 230 MH	dB/100m	42.0	22,8	13,3	9,8	9,3	11,5
at 400 MHz	dB/100m	60.0	35,0	17,5	13,5	11,9	16,0
at 800 MHz	dB/100m	84.0	45,0	25,5	19,0	17,4	22,1
at 860 MHz	dB/100m	93.0	47,6	26,6	19,8	18,1	23,4
at 1000 MHz	dB/100m	102	51,2	28,8	21,3	20,1	24,9
at 1350 MHz	dB/100m			33,6	25,5	24,3	29,8
at 1750 MHz	dB/100m			38,9	29,6	27,6	32,5
at 2050 MHz	dB/100m			42,3	32,4	30,2	37,4
at 2150 MHz	dB/100m			43,3	33,4	30,9	39,6
at 2400 MHz	dB/100m			45,5	35,8	32,9	42,4
Return loss							
(30 - 300) MHz	dB			20	22	22	29
(300 - 860) MHz	dB			18	20	20	26
(860 - 2400) MHz	dB			15	15	15	21
Screening efficiency							
(30-1350) MHz	dB	>50	>80	>70	>70	>70	
(1350-2400) MHz	dB						
Inner inductor	mm	9 x 0,10	7 x 0,16	CCS 0,75	CCS 1,02	CCS 1,13	CW 1,02
Dielectric		PE	PEE	PEE	PEE	PEE	
Diameter over dielectric	mm	1,50	1,90	3,20	4,60	4,80	0,46
Outer conducter: Foil			AL / POL / AL	AL / POL / AL	AL / POL	AL / POL	AL
: Braid		64 x 0,10 T.C.	48 x 0,10 T.C.	48 x 0,12 AL	64 x 0,12 AL	64 x 0,12 AL	48 x 0,12 AL
Coverage	%	88	60	48	48	45	45
Antimigrating			x	x	x	x	x
Outer sheath	PVC/PEE						
Diam. over outer sheath	mm	2,80	3,50	5,0	6,60	6,80	6,40
Min. bending radius	mm	30	30	50	70	70	35 / 70
Suggested installations		Miniaturized cable for data transmission in area with narrow space	Miniaturized cable for data transmission in area with narrow space	Data transmission at 75 ohm	Centralized installation and CATV terminals	Centralized installation and CATV terminals	Centralized installation and CATV terminals

References		17 Vatc	KX6	RG 59	RG 11	RG 213
Character. impedance	ohm	75 ± 3	75 ± 3	75 ± 3	75 ± 3	75 ± 2
Capacitance	pF/mt	52	67	67	50	97
Velocity radio	%	83	66	66	85	66
DC resistance (at 20°C)						
Inner conductor	ohm/km	18	88	165	40	6
Outer conductor	ohm/km	57	81	29	30	4,2
Nominal attenuation						
at 47 MHz	dB/100m	4,9	8,5	7,8	3,3	4,3
at 100 MHz	dB/100m	6,4	12,9	11,5	5,2	6,3
at 230 MH	dB/100m	9,1	20,2	18,1	6,7	8,8
at 400 MHz	dB/100m	11,7	25,9	24,6	8,7	13,6
at 800 MHz	dB/100m	17,0	38,2	36,8	12,6	20,0
at 860 MHz	dB/100m	17,7	39,3	38,5	13,1	21,1
at 1000 MHz	dB/100m	19,5	44,1	42,1	14,3	26,4
at 1350 MHz	dB/100m	23,5				
at 1750 MHz	dB/100m	26,7				
at 2050 MHz	dB/100m	29,9				
at 2150 MHz	dB/100m	30,2				
at 2400 MHz	dB/100m	31,8				
Return loss						
(30 - 300) MHz	dB	22		22	22	
(300 - 860) MHz	dB	20		20	20	
(860 - 2400) MHz	dB	15				
Screening efficiency						
(30-1350) MHz	dB	>70	>70	>55	>75	>55
(1350-2400) MHz	dB					
Inner inductor	mm	BC 1,13	BC 7 x 0,20	CCS 0,58	CCS 1,63	BC 7 x 0,75
Dielectric		PEE	PE	PE	PEE	PE
Diameter over dielectric	mm	4,8	3,7	3,71	7,10	7,30
Outer conducter: Foil					AL / POL / AL	
: Braid		64 x 0,12 TC	16 x 6 x 0,12 BC	24 x 4 x 0,11 BC	96 x 0,16 AL	192 x 0,15 BC
Coverage	%	45	88	88	60	95
Antimigrating		x	x	x	x	x
Outer sheath	PVC/PEE					
Diam. over outer sheath	mm	6,80	6,10	6,05	10,05	10,3
Min. bending radius	mm	70	60	60	100	100
Suggested installations		Centralized installation and CATV terminals	LAN coaxial cable	Data transmission at 75 ohm	Low loss and improved crash resistance cable	Back-bone LAN coaxial cable

PE: Polyethylene - PEE: Foamed Polyethylene - PEE/PH: Foamed Polyethylene by Gas injection
PVC: Unleaded Polyethilchloride - LSZH: Low Smoke Halogen free - AP: Self-supported - AL: Aluminium -
CU: Bare Copper - CU-SN: Tinner Copper - CW: Copperweld - CU-AG: Silvered Copper - PET: Polyester foil -
CuF: Copper foil - Cu/Pet: Copper+Pet foil - Al/Pet: AL+PET foil - Al/Pet/Al: AL+PET+AL foil - Ø Nominal Diameter

RG 59 LSOH/LSOH VERSION AVAILABLE ON REQUEST