FLEI
special electrical cables

PRODUCT GUIDE

OFFSHORE CABLES

for fixed wiring in ships
and on mobile and fixed offshore units

FLEI
special electrical cables

FLEI - SPECIAL CABLES

THE HISTORY OF FLEI

Since 1968 the industrial firm for special cables production has been operating in the national and international market. Flei s.r.l. has received this know-how as inheritance and, following a qualified industrial reorganization, implemented by ISO 9001:2008 certifications, it appeals to its clients with revitalized and ambitious goals about **product and service quality**. A professional team, with long technical experience in this field, guarantees the use of **materials with high technological contents** and their manufacturing to meet any request of special cables, according to the standards in use: CEI, BS, IEC, VDE, NFC. The capabilities of our technical office and of the Sales division are available to propose valid solutions in accordance with production specifications provided by clients. Our product range is not limited to what shown in this catalogue and we are available to offer our knowledge and production capability for any industrial need. Flei has the pleasure to offer to its Partners its **flexibility, dynamism and competence**.

OFFSHORE CABLES

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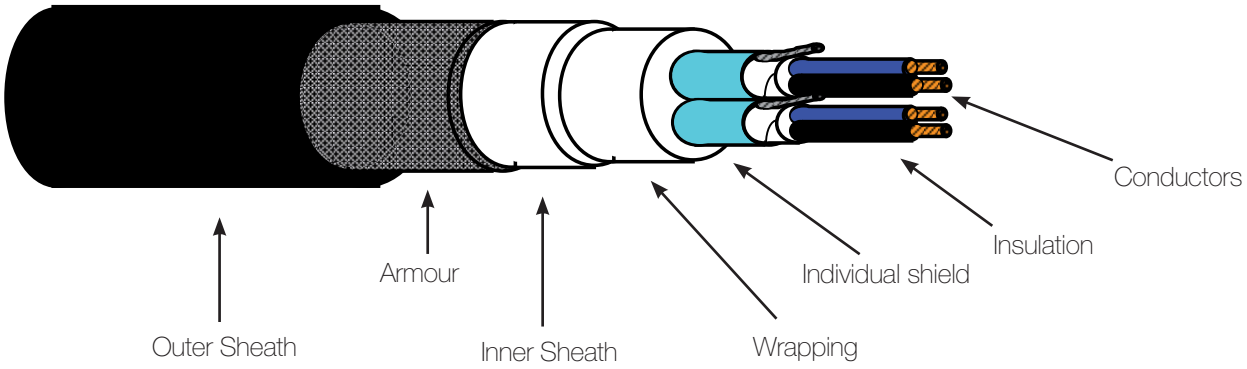

CORES COLOR CODE :
Black - White (for single pair), Black - White both numbered (for multipairs)
Black - White - Red (for single triad), Black - White - Red each core numbered (for multitriads)
Black - White - Red - Blue (for single quad), Black - White - Red - Blue each core numbered (for multiquads)

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 5

INSULATION:
HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in pairs, triads, quads / laying-up of pairs, triads, quads

INDIVIDUAL SHIELD:
By aluminium/polyester tape helically wound

DRAIN WIRE:
Stranded tinned copper drain wire 7x0,30 mm in continuous contact with the shield

WRAPPING:
By polyester tape helically wound

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid (tinned copper on request)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Grey or Blue

OUTER PRINTING :
FLEI - n° of pairs/triads/quads x size sqmm - EPR/IS/SW4/GSWB/SW4 - 150/250 V - UKOOA code - BS 6883 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	pairs	0,75	GREY	KKF00
			BLUE	KHF00
3	pairs	0,75	GREY	KKH00
			BLUE	KHH00
7	pairs	0,75	GREY	KKJ00
			BLUE	KHJ00
12	pairs	0,75	GREY	KKK00
			BLUE	KHK00
20	pairs	0,75	GREY	KKL00
			BLUE	KHL00
27	pairs	0,75	GREY	KKM00
			BLUE	KHM00
37	pairs	0,75	GREY	KKN00
			BLUE	KHN00
1	pairs	1,0	GREY	KKF01
			BLUE	KHF01
3	pairs	1,0	GREY	KKH01
			BLUE	KHH01
7	pairs	1,0	GREY	KKJ01
			BLUE	KHJ01
12	pairs	1,0	GREY	KKK01
			BLUE	KHK01
20	pairs	1,0	GREY	KKL01
			BLUE	KHL01
27	pairs	1,0	GREY	KKM01
			BLUE	KHM01
37	pairs	1,0	GREY	KKN01
			BLUE	KHN01

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UKOOA CODE TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	triads	0,75	GREY	KJS00
			BLUE	KGS00
3	triads	0,75	GREY	KJS00
			BLUE	KGS00
7	triads	0,75	GREY	KJT00
			BLUE	KGT00
12	triads	0,75	GREY	KJU00
			BLUE	KGU00
1	triads	1,0	GREY	KJS01
			BLUE	KGS01
3	triads	1,0	GREY	KJS01
			BLUE	KGS01
7	triads	1,0	GREY	KJT01
			BLUE	KGT01
12	triads	1,0	GREY	KJU01
			BLUE	KGU01

UKOOA CODE QUADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	quads	0,75	GREY	KJS00
			BLUE	KGS00
3	quads	0,75	GREY	KJS00
			BLUE	KGS00
7	quads	0,75	GREY	KJT00
			BLUE	KGT00
1	quads	1,0	GREY	KJS00
			BLUE	KGS00
3	quads	1,0	GREY	KJS00
			BLUE	KGS00
7	quads	1,0	GREY	KJT00
			BLUE	KGT00

DIMENSIONAL PARAMETERS PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	pairs	0,75	0,8	1,0	8,1	0,3	1,2	11,7	200
3	pairs	0,75	0,8	1,2	14,0	0,3	1,4	18,0	460
7	pairs	0,75	0,8	1,4	18,7	0,3	1,6	23,1	735
12	pairs	0,75	0,8	1,6	25,1	0,3	1,8	29,9	1135
20	pairs	0,75	0,8	1,9	31,6	0,45	2,1	37,4	1810
27	pairs	0,75	0,8	2,0	32,5	0,45	2,3	39,2	2180
37	pairs	0,75	0,8	2,2	37,8	0,45	2,5	44,5	2780
1	pairs	1,0	0,8	1,0	8,1	0,3	1,2	11,8	230
3	pairs	1,0	0,8	1,3	14,5	0,3	1,4	18,5	480
7	pairs	1,0	0,8	1,4	19,1	0,3	1,6	23,5	810
12	pairs	1,0	0,8	1,7	24,1	0,45	1,9	29,5	1375
20	pairs	1,0	0,8	1,9	30,5	0,45	2,2	36,5	1980
27	pairs	1,0	0,8	2,1	34,4	0,45	2,4	40,8	2560
37	pairs	1,0	0,8	2,3	40,6	0,45	2,6	45,4	3280

* approximated values

DIMENSIONAL PARAMETERS TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	triads	0,75	0,8	1,0	8,2	0,3	1,2	11,8	225
3	triads	0,75	0,8	1,3	14,2	0,3	1,5	18,8	475
7	triads	0,75	0,8	1,5	19,9	0,3	1,7	24,7	895
12	triads	0,75	0,8	1,7	26,6	0,45	2,0	32,4	1450
1	triads	1,0	0,8	1,1	8,7	0,3	1,2	12,4	250
3	triads	1,0	0,8	1,3	15,8	0,3	1,5	20,0	575
7	triads	1,0	0,8	1,5	21,1	0,3	1,7	25,7	965
12	triads	1,0	0,8	1,8	28,3	0,45	2,0	33,5	1510

* approximated values

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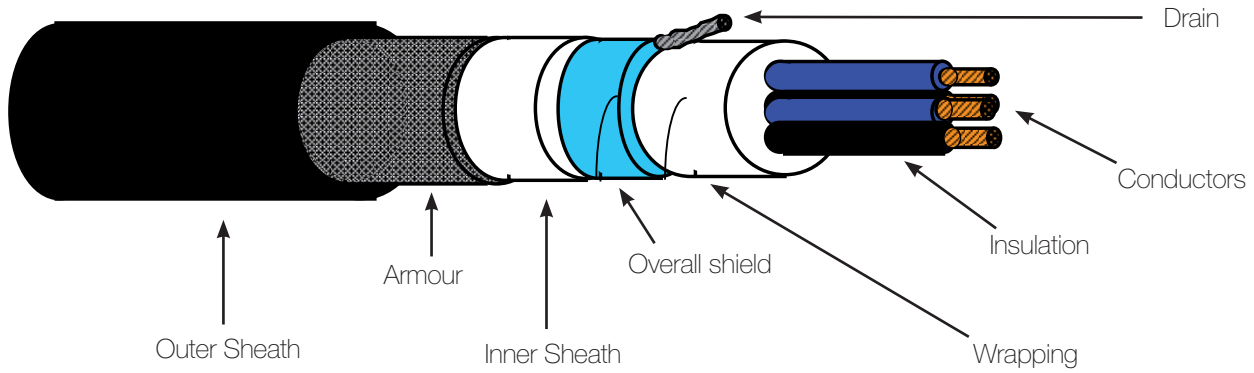
DIMENSIONAL PARAMETERS QUADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	quads	0,75	0,8	1,1	9,0	0,3	1,2	12,6	255
3	quads	0,75	0,8	1,4	17,6	0,3	1,5	21,8	560
7	quads	0,75	0,8	1,6	23,5	0,3	1,7	28,1	970
1	quads	1,0	0,8	1,1	9,8	0,3	1,2	13,4	280
3	quads	1,0	0,8	1,4	18,6	0,3	1,6	22,8	610
7	quads	1,0	0,8	1,6	25,1	0,45	1,8	30,1	1155

* approximated values

ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO SCREEN MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO BRAID MΩXKM @20°C
0,75	26,7	940	1	0,25
1,0	20,0	840	1	0,25



CORES COLOR CODE :
Black - White (for single pair), Black - White both numbered (for multipairs)
Black - White - Red (for single triad), Black - White - Red each core numbered (for multitriads)

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 5

INSULATION:
HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in pairs, triads / laying-up of pairs, triads

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound

OVERALL SHIELD:
By aluminium/polyester tape helically wound

DRAIN WIRE:
Stranded tinned copper drain wire 7x0,30 mm in continuous contact with the shield

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid (tinned copper on request)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Grey or Blue

OUTER PRINTING :
FLEI - n° of pairs/triads x size sqmm - EPR/OS/SW4/GSWB/SW4 - 150/250 V - UKOOA code - BS 6883 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
3	pairs	0,75	GREY	KJH00
			BLUE	KGH00
7	pairs	0,75	GREY	KJJ00
			BLUE	KGJ00
12	pairs	0,75	GREY	KJK00
			BLUE	KGK00
20	pairs	0,75	GREY	KJL00
			BLUE	KGL00
27	pairs	0,75	GREY	KJM00
			BLUE	KGM00
37	pairs	0,75	GREY	KJN00
			BLUE	KGN00
3	pairs	1,0	GREY	KJH01
			BLUE	KGH01
7	pairs	1,0	GREY	KJJ01
			BLUE	KGJ01
12	pairs	1,0	GREY	KJK01
			BLUE	KGK01
20	pairs	1,0	GREY	KJL01
			BLUE	KGL01
27	pairs	1,0	GREY	KJM01
			BLUE	KGM01
37	pairs	1,0	GREY	KJN01
			BLUE	KGN01

UKOOA CODE TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
3	triads	0,75	GREY	KJS00
			BLUE	KGS00
7	triads	0,75	GREY	KJT00
			BLUE	KGT00
12	triads	0,75	GREY	KJU00
			BLUE	KGU00
3	triads	1,0	GREY	KJS01
			BLUE	KGS01
7	triads	1,0	GREY	KJT01
			BLUE	KGT01
12	triads	1,0	GREY	KJU01
			BLUE	KGU01

DIMENSIONAL PARAMETERS PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
3	pairs	0,75	0,8	1,2	12,0	0,3	1,4	16,5	420
7	pairs	0,75	0,8	1,4	16,5	0,3	1,5	21,0	660
12	pairs	0,75	0,8	1,6	21,5	0,3	1,7	26,0	1000
20	pairs	0,75	0,8	1,8	25,5	0,45	2,0	31,5	1570
27	pairs	0,75	0,8	1,9	29,0	0,45	2,2	35,5	1980
37	pairs	0,75	0,8	2,1	34,8	0,45	2,3	41,2	2205
3	pairs	1,0	0,8	1,2	12,7	0,3	1,4	17,0	420
7	pairs	1,0	0,8	1,4	17,3	0,3	1,6	21,7	675
12	pairs	1,0	0,8	1,6	23,1	0,3	1,8	27,9	1025
20	pairs	1,0	0,8	1,8	28,8	0,45	2,1	34,6	1575
27	pairs	1,0	0,8	2,0	33,2	0,45	2,2	39,2	1980
37	pairs	1,0	0,8	2,2	37,5	0,45	2,4	43,9	2495
27	pairs	1,0	0,8	2,1	34,4	0,45	2,4	40,8	2560
37	pairs	1,0	0,8	2,3	40,6	0,45	2,6	45,4	3280

* approximated values

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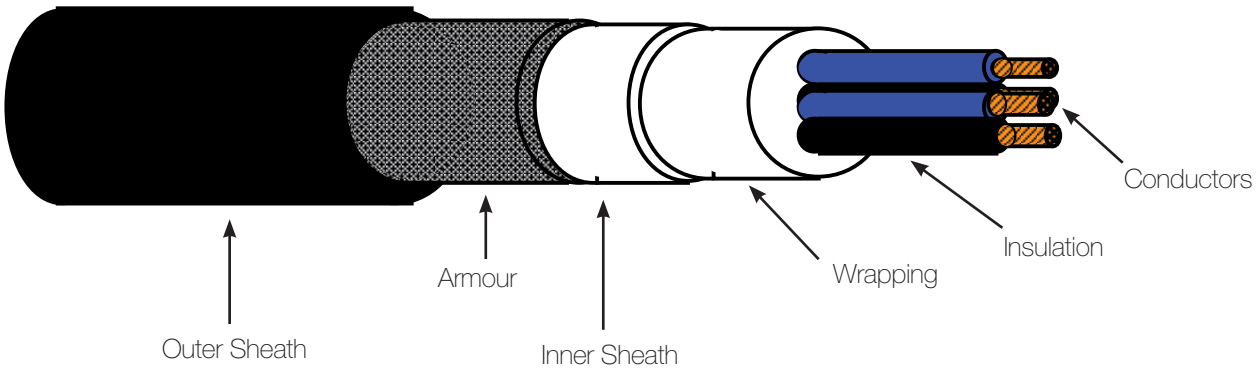
DIMENSIONAL PARAMETERS TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
3	triads	0,75	0,8	1,3	13,5	0,3	1,4	18,0	510
7	triads	0,75	0,8	1,4	18,0	0,3	1,6	22,5	820
12	triads	0,75	0,8	1,7	24,0	0,45	1,9	29,0	1290
3	triads	1,0	0,8	1,3	15,8	0,3	1,5	20,0	575
7	triads	1,0	0,8	1,5	21,1	0,3	1,7	25,7	965
12	triads	1,0	0,8	1,7	28,3	0,45	2,0	33,5	1510

* approximated values

ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO SCREEN MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO BRAID MΩXKM @20°C
0,75	26,7	940	0,25	0,25
1,0	20,0	840	0,25	



CORES COLOR CODE :
Single-core: Red or Black / Two-cores: Red - Black / Three-cores: Red - Yellow - Blue
Four-cores: Red - Yellow - Blue - Black / Above 4 cores: White numbered

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 2 or class 5 (only for 1,0 sqmm and 1,5 sqmm)

INSULATION:
HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in round shape

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound if necessary only

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid or bronze wires braid (for single core cables)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Black

OUTER PRINTING :
FLEI - n° of cores x size sqmm - EPR/SW4/GSWB/SW4 - 0,6/1 KV - UKOOA code - BS 6883 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WA101
1,5	BLACK	WA102
2,5	BLACK	WA103
4	BLACK	WA104
6	BLACK	WA106
10	BLACK	WA110
16	BLACK	WA116
25	BLACK	WA125
35	BLACK	WA135
50	BLACK	WA150
70	BLACK	WA170
95	BLACK	WA195
120	BLACK	WA10A
150	BLACK	WA10B
185	BLACK	WA10C
240	BLACK	WA10D
300	BLACK	WA10E
400	BLACK	WA10F
500	BLACK	WA10G
630	BLACK	WA10H

UKOOA CODE TWO - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WB201
1,5	BLACK	WB202
2,5	BLACK	WB203
4	BLACK	WB204
6	BLACK	WB206
10	BLACK	WB210
16	BLACK	WB216
25	BLACK	WB225
35	BLACK	WB235
50	BLACK	WB250
70	BLACK	WB270
95	BLACK	WB295
120	BLACK	WB20A
150	BLACK	WB20B
185	BLACK	WB20C
240	BLACK	WB20D
300	BLACK	WB20E

UKOOA CODE THREE - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WB301
1,5	BLACK	WB302
2,5	BLACK	WB303
4	BLACK	WB304
6	BLACK	WB306
10	BLACK	WB310
16	BLACK	WB316
25	BLACK	WB325
35	BLACK	WB335
50	BLACK	WB350
70	BLACK	WB370
95	BLACK	WB395
120	BLACK	WB30A
150	BLACK	WB30B
185	BLACK	WB30C
240	BLACK	WB30D
300	BLACK	WB30E

UKOOA CODE FOUR - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WB401
1,5	BLACK	WB402
2,5	BLACK	WB403
4	BLACK	WB404
6	BLACK	WB406
10	BLACK	WB410
16	BLACK	WB416
25	BLACK	WB425
35	BLACK	WB435
50	BLACK	WB450
70	BLACK	WB470
95	BLACK	WB495
120	BLACK	WB40A
150	BLACK	WB40B
185	BLACK	WB40C
240	BLACK	WB40D
300	BLACK	WB40E

UKOOA CODE MULTI - CORES

NUMBER OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
5	1,5	BLACK	WB502
	2,5	BLACK	WB503
7	1,5	BLACK	WB702
	2,5	BLACK	WB703
12	1,5	BLACK	WBA02
	2,5	BLACK	WBA03
19	1,5	BLACK	WBB02
	2,5	BLACK	WBB03
27	1,5	BLACK	WBC02
37	1,5	BLACK	WBD02

DIMENSIONAL SINGLE - CORE

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	5,0	0,3	1,1	8,5	140
1,5	0,8	1,0	5,2	0,3	1,1	8,7	150
2,5	0,8	1,0	5,7	0,3	1,1	9,2	165
4	1,0	1,0	6,7	0,3	1,1	9,8	195
6	1,0	1,0	7,3	0,3	1,1	10,8	245
10	1,0	1,0	8,1	0,3	1,2	11,7	315
16	1,0	1,1	9,8	0,3	1,2	12,9	410
25	1,2	1,2	11,5	0,3	1,3	15,5	590
35	1,2	1,2	13,1	0,3	1,4	17,1	680
50	1,4	1,3	14,7	0,3	1,4	18,7	905
70	1,4	1,3	16,8	0,3	1,5	21,0	1155
95	1,6	1,4	19,1	0,3	1,6	23,5	1525
120	1,6	1,5	21,2	0,3	1,7	25,8	1850
150	1,8	1,6	23,1	0,3	1,8	27,9	2205
185	2,0	1,7	23,3	0,45	1,9	28,7	2490
240	2,2	1,8	26,2	0,45	2,0	31,8	3145
300	2,4	1,9	32,2	0,45	2,1	38,0	4130
400	2,6	2,0	35,0	0,45	2,3	41,2	4995
500	2,8	2,2	38,9	0,45	2,5	45,5	6240
630	2,8	2,3	43,3	0,45	2,6	50,1	7890

*approximated values

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DIMENSIONAL TWO - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	7,9	0,3	1,2	11,5	205
1,5	0,8	1,1	8,5	0,3	1,2	12,5	240
2,5	0,8	1,1	9,8	0,3	1,2	13,5	305
4	1,0	1,2	11,6	0,3	1,3	15,5	390
6	1,0	1,2	12,8	0,3	1,4	17,0	470
10	1,0	1,3	14,8	0,3	1,4	19,0	615
16	1,0	1,4	17,1	0,3	1,5	21,5	795
25	1,2	1,5	21,5	0,3	1,7	26,0	1205
35	1,2	1,6	23,0	0,3	1,8	28,2	1450
50	1,4	1,7	27,0	0,45	2,0	33,5	1995
70	1,4	1,9	31,5	0,45	2,1	37,5	2560
95	1,6	2,1	36,0	0,45	2,3	43,0	3475
120	1,6	2,2	39,5	0,45	2,5	46,5	4280
150	1,8	2,3	43,5	0,45	2,6	51,0	5150
185	2,0	2,5	48,5	0,45	2,8	56,0	6440
240	2,2	2,8	54,5	0,45	3,1	62,5	8380

* approximated values

DIMENSIONAL THREE - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	7,9	0,3	1,2	11,5	205
1,5	0,8	1,1	9,0	0,3	1,2	12,7	255
2,5	0,8	1,1	9,8	0,3	1,3	13,7	320
4	1,0	1,2	12,5	0,3	1,3	16,5	390
6	1,0	1,2	13,5	0,3	1,4	17,5	540
10	1,0	1,3	16,0	0,3	1,5	20,5	720
16	1,0	1,4	18,5	0,3	1,6	23,0	965
25	1,2	1,6	22,0	0,3	1,8	27,0	1370
35	1,2	1,7	24,1	0,45	1,9	29,9	1785
50	1,4	1,8	27,5	0,45	2,0	33,5	2280
70	1,4	2,0	31,0	0,45	2,2	37,5	3030
95	1,6	2,2	36,0	0,45	2,4	43,5	4100
120	1,6	2,3	40,0	0,45	2,6	47,5	4910
150	1,8	2,5	43,5	0,45	2,8	51,0	5950
185	2,0	2,7	48,5	0,45	3,0	56,0	7300
240	2,2	2,9	54,5	0,45	3,2	62,5	9250

* approximated values

DIMENSIONAL FOUR - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	9,0	0,3	1,2	12,7	250
1,5	0,8	1,1	9,8	0,3	1,3	13,7	305
2,5	0,8	1,1	10,7	0,3	1,3	14,6	360
4	1,0	1,2	13,5	0,3	1,4	17,6	520
6	1,0	1,3	15,2	0,3	1,5	19,4	665
10	1,0	1,4	17,6	0,3	1,6	22,1	895
16	1,0	1,5	20,3	0,3	1,7	24,9	1215
25	1,2	1,7	24,5	0,3	1,9	30,5	1785
35	1,2	1,8	26,8	0,45	2,0	33,0	2255
50	1,4	1,9	31,0	0,45	2,2	37,5	2900
70	1,4	2,1	35,5	0,45	2,4	42,5	4150
95	1,6	2,3	41,1	0,45	2,6	48,3	5450
120	1,6	2,5	44,5	0,45	2,8	53,0	6980
150	1,8	2,7	50,3	0,45	3,0	58,5	8410
185	2,0	2,9	54,5	0,45	3,2	63,5	9840

* approximated values

DIMENSIONAL MULTI - CORES

SIZE OF CONDUCTORS sqmm	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
5	1,5	0,8	1,1	11,0	0,3	1,3	15,0	395
	2,5	0,8	1,2	12,0	0,3	1,3	16,0	445
7	1,5	0,8	1,2	11,8	0,3	1,3	15,7	410
	2,5	0,8	1,2	13,5	0,3	1,4	17,5	530
12	1,5	0,8	1,3	15,6	0,3	1,5	19,9	620
	2,5	0,8	1,4	18,0	0,3	1,6	22,5	825
19	1,5	0,8	1,4	18,4	0,3	1,6	22,9	840
	2,5	0,8	1,5	21,5	0,3	1,7	26,0	1155
27	1,5	0,8	1,6	22,5	0,3	1,8	27,5	1145
37	1,5	0,8	1,7	26,0	0,45	1,9	31,5	1570

* approximated values

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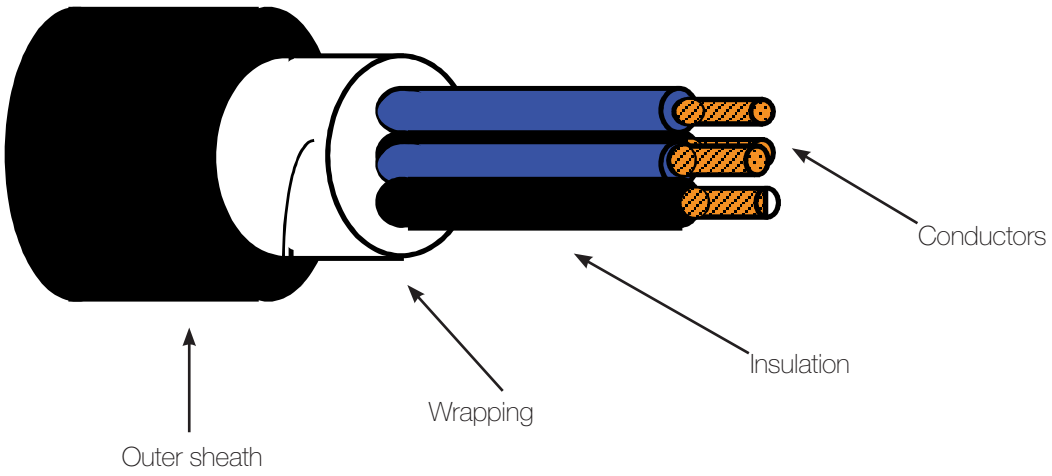
ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C
1,0	20,0	840
1,5	13,7	720
2,5	7,56	610
4,0	4,70	590
6,0	3,11	505
10	1,84	420
16	1,16	340
25	0,734	320
35	0,529	290
50	0,391	290
70	0,270	250
95	0,195	240
120	0,154	210
150	0,126	210
185	0,100	210
240	0,0762	210
300	0,0607	200
400	0,0475	100
500	0,0369	100
630	0,0286	100



CORES COLOR CODE :
Single-core: Red or Black / Two-cores: Red - Black / Three-cores: Red - Yellow - Blue
Four-cores: Red - Yellow - Blue - Black / Above 4 cores: White numbered

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 2 or class 5 (only for 1,0 sqmm and 1,5 sqmm)

INSULATION:
HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in round shape

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound if necessary only

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Not Require

INNER SHEATH COLOR CODE:
Not Require

ARMOUR:
Galvanized steel wires braid or bronze wires braid (for single core cables)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Black

OUTER PRINTING :
FLEI - n° of cores x size sqmm - EPR/SW4 - 0,6/1 KV - UKOOA code - BS 6883 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 2 or class 5

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WF101
1,5	BLACK	WF102
2,5	BLACK	WF103
4	BLACK	WF104
6	BLACK	WF106
10	BLACK	WF110
16	BLACK	WF116
25	BLACK	WF125
35	BLACK	WF135
50	BLACK	WF150
70	BLACK	WF170
95	BLACK	WF195
120	BLACK	WF10A
150	BLACK	WF10B
185	BLACK	WF10C
240	BLACK	WF10D
300	BLACK	WF10E
400	BLACK	WF10F
500	BLACK	WF10G
630	BLACK	WF10H

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	YELLOW/GREEN	WE101
1,5	YELLOW/GREEN	WE102
2,5	YELLOW/GREEN	WE103
4	YELLOW/GREEN	WE104
6	YELLOW/GREEN	WE106
10	YELLOW/GREEN	WE110
16	YELLOW/GREEN	WE116
25	YELLOW/GREEN	WE125
35	YELLOW/GREEN	WE135
50	YELLOW/GREEN	WE150
70	YELLOW/GREEN	WE170
95	YELLOW/GREEN	WE195
120	YELLOW/GREEN	WE10A
150	YELLOW/GREEN	WE10B
185	YELLOW/GREEN	WE10C
240	YELLOW/GREEN	WE10D
300	YELLOW/GREEN	WE10E
400	YELLOW/GREEN	WE10F
500	YELLOW/GREEN	WE10G
630	YELLOW/GREEN	WF10H

UKOOA CODE TWO - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WF201
1,5	BLACK	WF202
2,5	BLACK	WF203
4	BLACK	WF204
6	BLACK	WF206
10	BLACK	WF210
16	BLACK	WF216
25	BLACK	WF225
35	BLACK	WF235
50	BLACK	WF250
70	BLACK	WF270
95	BLACK	WF295
120	BLACK	WF20A
150	BLACK	WF20B
185	BLACK	WF20C
240	BLACK	WF20D
300	BLACK	WF20E

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UKOOA CODE THREE - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WF301
1,5	BLACK	WF302
2,5	BLACK	WF303
4	BLACK	WF304
6	BLACK	WF306
10	BLACK	WF310
16	BLACK	WF316
25	BLACK	WF325
35	BLACK	WF335
50	BLACK	WF350
70	BLACK	WF370
95	BLACK	WF395
120	BLACK	WF30A
150	BLACK	WF30B
185	BLACK	WF30C
240	BLACK	WF30D
300	BLACK	WF30E

UKOOA CODE FOUR - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	WF401
1,5	BLACK	WF402
2,5	BLACK	WF403
4	BLACK	WF404
6	BLACK	WF406
10	BLACK	WF410
16	BLACK	WF416
25	BLACK	WF425
35	BLACK	WF435
50	BLACK	WF450
70	BLACK	WF470
95	BLACK	WF495
120	BLACK	WF40A
150	BLACK	WF40B
185	BLACK	WF40C
240	BLACK	WF40D
300	BLACK	WF40E

UKOOA CODE MULTI - CORES

NUMBER OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
5	1,5	BLACK	WF502
	2,5	BLACK	WF503
7	1,5	BLACK	WF702
	2,5	BLACK	WF703
12	1,5	BLACK	WFA02
	2,5	BLACK	WFA03
19	1,5	BLACK	WFB02
	2,5	BLACK	WFB03
27	1,5	BLACK	WFC02
37	1,5	BLACK	WFC02

DIMENSIONAL SINGLE - CORE

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	5,0	55
1,5	0,8	1,0	5,5	60
2,5	0,8	1,0	6,0	75
4	1,0	1,0	7,0	85
6	1,0	1,0	7,5	100
10	1,0	1,0	8,0	150
16	1,0	1,1	9,5	205
25	1,2	1,2	11,0	320
35	1,2	1,2	12,0	405
50	1,4	1,3	14,0	635
70	1,4	1,3	16,5	745
95	1,6	1,4	17,5	995
120	1,6	1,5	20,5	1245
150	1,8	1,6	21,5	1540
185	2,0	1,7	25,5	2050
240	2,2	1,8	27,1	2480
300	2,4	1,9	31,5	2990
400	2,6	2,0	35,5	3490
500	2,8	2,2	39,5	4180
630	2,8	2,3	43,0	4890

* approximated values

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DIMENSIONAL TWO - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	8,5	85
1,5	0,8	1,1	9,0	110
2,5	0,8	1,1	10,7	165
4	1,0	1,2	12,0	215
6	1,0	1,2	13,5	285
10	1,0	1,3	15,5	415
16	1,0	1,4	18,0	610
25	1,2	1,5	22,5	850
35	1,2	1,6	24,5	1115
50	1,4	1,7	28,0	1520
70	1,4	1,9	32,5	2105
95	1,6	2,1	36,5	2890
120	1,6	2,2	41,5	3500
150	1,8	2,3	44,5	4250
185	2,0	2,5	49,0	4950
240	2,2	2,8	56,5	5680
300	2,4	3,0	62,0	6350

* approximated values

DIMENSIONAL THREES - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	9,0	105
1,5	0,8	1,1	10,1	140
2,5	0,8	1,1	11,0	180
4	1,0	1,2	13,5	270
6	1,0	1,2	14,5	350
10	1,0	1,3	16,5	485
16	1,0	1,4	19,0	730
25	1,2	1,6	24,5	1130
35	1,2	1,7	26,5	1470
50	1,4	1,8	31,0	2010
70	1,4	2,0	35,0	2770
95	1,6	2,2	40,0	3800
120	1,6	2,3	44,5	4690
150	1,8	2,5	48,0	5690
185	2,0	2,7	54,0	7160
240	2,2	2,9	61,5	9290
300	2,4	3,2	67,5	11100

* approximated values

DIMENSIONAL FOUR - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	10,5	140
1,5	0,8	1,1	10,5	165
2,5	0,8	1,1	11,0	210
4	1,0	1,2	14,5	325
6	1,0	1,3	16,0	450
10	1,0	1,4	17,5	620
16	1,0	1,5	21,0	940
25	1,2	1,7	26,5	1530
35	1,2	1,8	28,5	1900
50	1,4	1,9	33,0	2580
70	1,4	2,1	37,5	3550
95	1,6	2,3	44,0	4790
120	1,6	2,5	48,0	5960
150	1,8	2,7	53,5	7150
185	2,0	2,9	59,0	9050
240	2,2	3,2	67,5	11900
300	2,4	3,5	75,0	13700

* approximated values

DIMENSIONAL MULTI - CORES

NUMBER OF CORES	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
5	1,5	0,8	1,1	12,5	190
	2,5	0,8	1,2	13,0	260
7	1,5	0,8	1,2	13,5	245
	2,5	0,8	1,2	13,5	
12	1,5	0,8	1,3	17,0	395
	2,5	0,8	1,4	18,5	540
19	1,5	0,8	1,4	19,5	590
	2,5	0,8	1,5	22,0	820
27	1,5	0,8	1,6	23,5	830
37	1,5	0,8	1,7	26,5	1130

* approximated values

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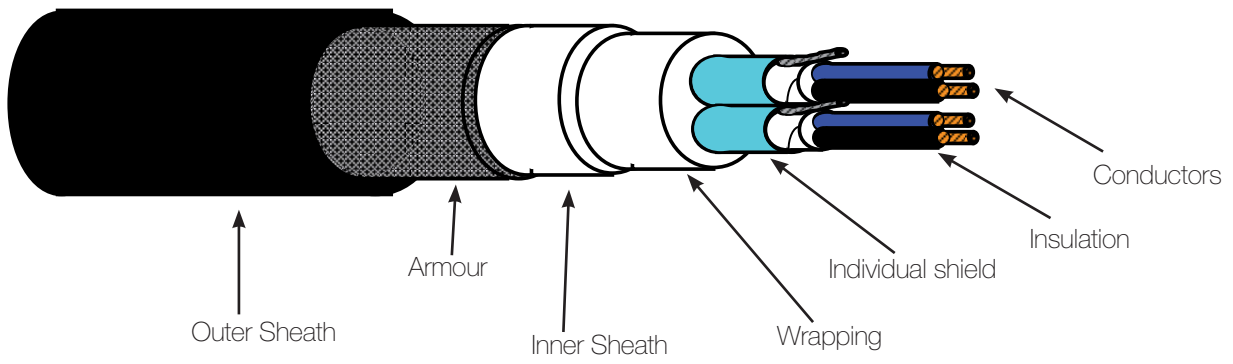
ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C
1,0	20,0	840
1,5	13,7	720
2,5	7,56	610
4,0	4,70	590
6,0	3,11	505
10	1,84	420
16	1,16	340
25	0,734	320
35	0,529	290
50	0,391	290
70	0,270	250
95	0,195	240
120	0,154	210
150	0,126	210
185	0,100	210
240	0,0762	210
300	0,0607	200
400	0,0475	100
500	0,0369	100
630	0,0286	100



CORES COLOR CODE :
Black - White (for single pair), Black - White both numbered (for multipairs)
Black - White - Red (for single triad), Black - White - Red each core numbered (for multitriads)
Black - White - Red - Blue (for single quad), Black - White - Red - Blue each core numbered (for multiquads)

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 5

INSULATION:
Mica-glass tape + HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in pairs, triads, quads / laying-up of pairs, triads, quads

INDIVIDUAL SHIELD:
by aluminium/polyester tape helically wound

DRAIN WIRE:
Stranded tinned copper drain wire 7x0,30 mm in continuous contact with the shield

WRAPPING:
By polyester tape helically wound

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid or bronze wires braid (for single core cables)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Grey or Blue

OUTER PRINTING :
FLEI - n° of pairs/triads/quads x size sqmm - MGT/EPR/IS/SW4/GSWB/SW4 - 150/250 V - UKOOA code - BS 7917 - IEC 60331.21 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame resistant: IEC 60332.21

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	pairs	0,75	GREY	KF00
			BLUE	GHF00
3	pairs	0,75	GREY	GKH00
			BLUE	GHH00
7	pairs	0,75	GREY	GKJ00
			BLUE	GHJ00
12	pairs	0,75	GREY	GKK00
			BLUE	GHK00
20	pairs	0,75	GREY	GKL00
			BLUE	GHL00
27	pairs	0,75	GREY	GKM00
			BLUE	GHM00
37	pairs	0,75	GREY	GKN00
			BLUE	GHN00
1	pairs	1,0	GREY	GKF01
			BLUE	GHF01
3	pairs	1,0	GREY	GKH01
			BLUE	GHH01
7	pairs	1,0	GREY	GKJ01
			BLUE	GHJ01
12	pairs	1,0	GREY	GKK01
			BLUE	GHK01
20	pairs	1,0	GREY	GKL01
			BLUE	GHL01

UKOOA CODE TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	triads	0,75	GREY	GJS00
			BLUE	GGS00
3	triads	0,75	GREY	GJS00
			BLUE	GGS00
7	triads	0,75	GREY	GJT00
			BLUE	GGT00
12	triads	0,75	GREY	GJU00
			BLUE	GGU00
1	triads	1,0	GREY	GJS01
			BLUE	GGS01
3	triads	1,0	GREY	GJS01
			BLUE	GGS01
7	triads	1,0	GREY	GJT01
			BLUE	GGT01
12	triads	1,0	GREY	GJU01
			BLUE	GGU01

UKOOA CODE QUADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	quads	0,75	GREY	GJS00
			BLUE	GGS00
3	quads	0,75	GREY	GJS00
			BLUE	GGS00
7	quads	0,75	GREY	GJT00
			BLUE	GGT00
1	quads	1,0	GREY	GJS00
			BLUE	GGS00
3	quads	1,0	GREY	GJS00
			BLUE	GGS00
7	quads	1,0	GREY	GJT00
			BLUE	GGT00

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DIMENSIONAL PARAMETERS PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	pairs	0,75	0,8	1,0	8,8	0,3	1,2	12,4	250
3	pairs	0,75	0,8	1,2	15,8	0,3	1,4	20,0	530
7	pairs	0,75	0,8	1,4	21,3	0,3	1,6	25,9	880
12	pairs	0,75	0,8	1,6	28,6	0,3	1,8	33,6	1350
20	pairs	0,75	0,8	1,9	36,2	0,45	2,1	42,2	2120
27	pairs	0,75	0,8	2,0	38,8	0,45	2,3	45,0	2700
37	pairs	0,75	0,8	2,2	43,3	0,45	2,5	50,9	3445
1	pairs	1,0	0,8	1,0	9,1	0,3	1,2	12,8	255
3	pairs	1,0	0,8	1,3	16,5	0,3	1,4	20,5	560
7	pairs	1,0	0,8	1,4	21,5	0,3	1,6	25,9	935
12	pairs	1,0	0,8	1,7	26,7	0,45	1,9	32,7	1590
20	pairs	1,0	0,8	1,9	33,8	0,45	2,2	39,8	2350
27	pairs	1,0	0,8	2,1	38,7	0,45	2,4	45,1	2990
37	pairs	1,0	0,8	2,3	44,8	0,45	2,6	50,6	3845

* approximated values

DIMENSIONAL PARAMETERS TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	triads	0,75	0,8	1,0	9,1	0,3	1,2	12,8	255
3	triads	0,75	0,8	1,3	16,7	0,3	1,5	21,1	615
7	triads	0,75	0,8	1,5	22,6	0,3	1,7	27,4	1050
12	triads	0,75	0,8	1,7	30,3	0,45	2,0	36,1	1720
1	triads	1,0	0,8	1,1	10,2	0,3	1,2	13,9	310
3	triads	1,0	0,8	1,3	16,9	0,3	1,5	21,6	640
7	triads	1,0	0,8	1,5	23,5	0,3	1,7	28,1	1090
12	triads	1,0	0,8	1,8	28,9	0,45	2,0	35,5	1840

* approximated values

DIMENSIONAL PARAMETERS QUADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	quads	0,75	0,8	1,1	10,1	0,3	1,2	13,7	340
3	quads	0,75	0,8	1,4	18,5	0,3	1,5	22,7	745
7	quads	0,75	0,8	1,6	24,9	0,3	1,7	29,5	1290
1	quads	1,0	0,8	1,1	10,6	0,3	1,2	14,2	360
3	quads	1,0	0,8	1,4	19,6	0,3	1,6	24,1	810
7	quads	1,0	0,8	1,6	26,5	0,45	1,8	32,7	1540

* approximated values

ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO SCREEN MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO BRAID MΩXKM @20°C
0,75	26,7	940	1	0,25
1,0	20,0	840	1	0,25

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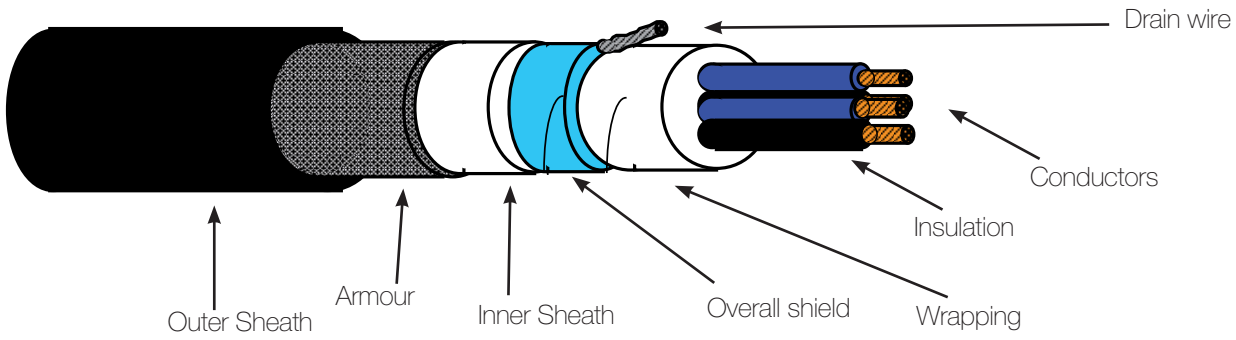

CORES COLOR CODE :
Black - White (for single pair), Black - White both numbered (for multipairs)
Black - White - Red (for single triad), Black - White - Red each core numbered (for multitriads)

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 5

INSULATION:
Mica-glass tape + HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in pairs, triads / laying-up of pairs, triads

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound

OVERALL SHIELD:
By aluminium/polyester tape helically wound

DRAIN WIRE:
Stranded tinned copper drain wire 7x0,30 mm in continuous contact with the shield

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid (tinned copper on request)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Grey or Blue

OUTER PRINTING :
FLEI - n° of pairs/triads x size sqmm - MGT/EPR/OS/SW4/GSWB/SW4 - 150/250 V - UKOOA code - BS 7917 - IEC 60331.21 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :

DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load

DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm) diameter

APPLICABLE STANDARD

For the construction : BS 7917:1999

For the conductors : BS 6360:1991 class 5

Fire resistant : IEC 60332.21

Flame retardant : IEC 60332.1 - IEC 60332.3.22 A

Halogen free : IEC 60754-1 (HCl < 0,5%)

Low smoke and fume : IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / + 75°C)

After installation:

(-40°C/ + 90°C)

UKOOA CODE PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	pairs	0,75	GREY	KF00
			BLUE	GHF00
3	pairs	0,75	GREY	GKH00
			BLUE	GHH00
7	pairs	0,75	GREY	GKJ00
			BLUE	GHJ00
12	pairs	0,75	GREY	GKK00
			BLUE	GHK00
20	pairs	0,75	GREY	GKL00
			BLUE	GHL00
27	pairs	0,75	GREY	GKM00
			BLUE	GHM00
37	pairs	0,75	GREY	GKN00
			BLUE	GHN00
1	pairs	1,0	GREY	GKF01
			BLUE	GHF01
3	pairs	1,0	GREY	GKH01
			BLUE	GHH01
7	pairs	1,0	GREY	GKJ01
			BLUE	GHJ01
12	pairs	1,0	GREY	GKK01
			BLUE	GHK01
20	pairs	1,0	GREY	GKL01
			BLUE	GHL01
27	pairs	1,0	GREY	GKM01
			BLUE	GHM01
37	pairs	1,0	GREY	GKN01
			BLUE	GHN01

UKOOA CODE TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	triads	0,75	GREY	GJS00
			BLUE	GGS00
3	triads	0,75	GREY	GJS00
			BLUE	GGS00
7	triads	0,75	GREY	GJT00
			BLUE	GGT00
12	triads	0,75	GREY	GJU00
			BLUE	GGU00
1	triads	1,0	GREY	GJS01
			BLUE	GGS01
3	triads	1,0	GREY	GJS01
			BLUE	GGS01
7	triads	1,0	GREY	GJT01
			BLUE	GGT01
12	triads	1,0	GREY	GJU01
			BLUE	GGU01

UKOOA CODE QUADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1	quads	0,75	GREY	GJS00
			BLUE	GGS00
3	quads	0,75	GREY	GJS00
			BLUE	GGS00
7	quads	0,75	GREY	GJT00
			BLUE	GGT00
1	quads	1,0	GREY	GJS00
			BLUE	GGS00
3	quads	1,0	GREY	GJS00
			BLUE	GGS00
7	quads	1,0	GREY	GJT00
			BLUE	GGT00

DIMENSIONAL PARAMETERS PAIRS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	pairs	0,75	0,8	1,0	8,8	0,3	1,2	12,4	250
3	pairs	0,75	0,8	1,2	15,8	0,3	1,4	20,0	530
7	pairs	0,75	0,8	1,4	21,3	0,3	1,6	25,9	880
12	pairs	0,75	0,8	1,6	28,6	0,3	1,8	33,6	1350
20	pairs	0,75	0,8	1,9	36,2	0,45	2,1	42,2	2120
27	pairs	0,75	0,8	2,0	38,8	0,45	2,3	45,0	2700
37	pairs	0,75	0,8	2,2	43,3	0,45	2,5	50,9	3445
1	pairs	1,0	0,8	1,0	9,1	0,3	1,2	12,8	255
3	pairs	1,0	0,8	1,3	16,5	0,3	1,4	20,5	560
7	pairs	1,0	0,8	1,4	21,5	0,3	1,6	25,9	935
12	pairs	1,0	0,8	1,7	26,7	0,45	1,9	32,7	1590
20	pairs	1,0	0,8	1,9	33,8	0,45	2,2	39,8	2350
27	pairs	1,0	0,8	2,1	38,7	0,45	2,4	45,1	2990
37	pairs	1,0	0,8	2,3	44,8	0,45	2,6	50,6	3845

* approximated values

DIMENSIONAL PARAMETERS TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	triads	0,75	0,8	1,0	9,1	0,3	1,2	12,8	255
3	triads	0,75	0,8	1,3	16,7	0,3	1,5	21,1	615
7	triads	0,75	0,8	1,5	22,6	0,3	1,7	27,4	1050
12	triads	0,75	0,8	1,7	30,3	0,45	2,0	36,1	1720
1	triads	1,0	0,8	1,1	10,2	0,3	1,2	13,9	310
3	triads	1,0	0,8	1,3	16,9	0,3	1,5	21,6	640
7	triads	1,0	0,8	1,5	23,5	0,3	1,7	28,1	1090
12	triads	1,0	0,8	1,8	28,9	0,45	2,0	35,5	1840

* approximated values

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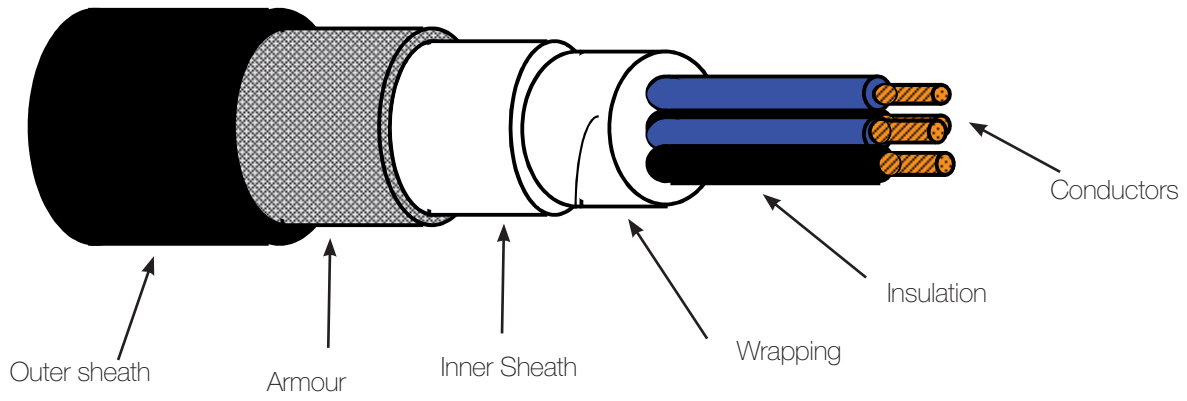
DIMENSIONAL PARAMETERS TRIADS

NUMBER OF ELEMENT	TYPE OF ELEMENT	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1	quads	0,75	0,8	1,1	10,1	0,3	1,2	13,7	340
3	quads	0,75	0,8	1,4	18,5	0,3	1,5	22,7	745
7	quads	0,75	0,8	1,6	24,9	0,3	1,7	29,5	1290
1	quads	1,0	0,8	1,1	10,6	0,3	1,2	14,2	360
3	quads	1,0	0,8	1,4	19,6	0,3	1,6	24,1	810
7	quads	1,0	0,8	1,6	26,5	0,45	1,8	32,7	1540

* approximated values

ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO SCREEN MΩXKM @20°C	MINIMUM INSULATION RESISTANCE OF SCREEN TO BRAID MΩXKM @20°C
0,75	26,7	940	1	0,25
1,0	20,0	840	1	0,25



CORES COLOR CODE :
Single-core: Red or Black / Two-cores: Red - Black / Three-cores: Red - Yellow - Blue
Four-cores: Red - Yellow - Blue - Black / Above 4 cores: White numbered

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 2 or class 5 (only for 1,0 sqmm and 1,5 sqmm)

INSULATION:
Mica-glass tape + HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in round shape

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound if necessary only

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6

INNER SHEATH COLOR CODE:
To be agreed

ARMOUR:
Galvanized steel wires braid or bronze wires braid (for single core cables)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Black

OUTER PRINTING :
FLEI - n° of cores x size sqmm - MGT/EPR/SW4/GSWB/ SW4 - 0,6/1 KV - UKOOA code - BS 7917 - IEC 60331.21 - IEC 60332.3.22 A -year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame resistant: IEC 60332.21

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YC101
1,5	BLACK	YC102
2,5	BLACK	YC103
4	BLACK	YC104
6	BLACK	YC106
10	BLACK	YC110
16	BLACK	YC116
25	BLACK	YC125
35	BLACK	YC135
50	BLACK	YC150
70	BLACK	YC170
95	BLACK	YC195
120	BLACK	YC10A
150	BLACK	YC10B
185	BLACK	YC10C
240	BLACK	YC10D
300	BLACK	YC10E
400	BLACK	YC10F
500	BLACK	YC10G
630	BLACK	YC10H

UKOOA CODE TWO - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YD201
1,5	BLACK	YD202
2,5	BLACK	YD203
4	BLACK	YD204
6	BLACK	YD206
10	BLACK	YD210
16	BLACK	YD216
25	BLACK	YD225
35	BLACK	YD235
50	BLACK	YD250
70	BLACK	YD270
95	BLACK	YD295
120	BLACK	YD20A
150	BLACK	YD20B
185	BLACK	YD20C
240	BLACK	YD20D
300	BLACK	YD20E

UKOOA CODE THREE - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YD301
1,5	BLACK	WB302
2,5	BLACK	YD303
4	BLACK	YD304
6	BLACK	YD306
10	BLACK	YD310
16	BLACK	YD316
25	BLACK	YD325
35	BLACK	YD335
50	BLACK	YD350
70	BLACK	YD370
95	BLACK	YD395
120	BLACK	YD30A
150	BLACK	YD30B
185	BLACK	YD30C
240	BLACK	YD30D
300	BLACK	YD30E

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UKOOA CODE FOUR - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YD401
1,5	BLACK	YD402
2,5	BLACK	YD403
4	BLACK	YD404
6	BLACK	YD406
10	BLACK	YD410
16	BLACK	YD416
25	BLACK	YD425
35	BLACK	YD435
50	BLACK	YD450
70	BLACK	YD470
95	BLACK	YD495
120	BLACK	YD40A
150	BLACK	YD40B
185	BLACK	YD40C
240	BLACK	YD40D
300	BLACK	YD40E

UKOOA CODE MULTI - CORES

NUMBER OF CORES	SIZE OF CONDUCTORS sqmm	OTHER SHEATH COLOR	UKOOA CODE
5	1,5	BLACK	YD502
	2,5	BLACK	YD503
7	1,5	BLACK	YD702
	2,5	BLACK	YD703
12	1,5	BLACK	YDA02
	2,5	BLACK	YDA03
19	1,5	BLACK	YDB02
	2,5	BLACK	YDB03
27	1,5	BLACK	YDC02
37	1,5	BLACK	YDD02

DIMENSIONAL SINGLE - CORE

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	5,5	0,3	1,1	9,0	
1,5	0,8	1,0	6,0	0,3	1,1	9,5	
2,5	0,8	1,0	6,5	0,3	1,1	10,0	
4	1,0	1,0	6,8	0,3	1,1	10,5	215
6	1,0	1,0	7,0	0,3	1,1	11,0	225
10	1,0	1,0	8,5	0,3	1,2	12,0	305
16	1,0	1,1	9,5	0,3	1,2	13,1	400
25	1,2	1,2	11,0	0,3	1,3	15,0	550
35	1,2	1,2	12,5	0,3	1,4	16,5	680
50	1,4	1,3	14,5	0,3	1,4	18,5	850
70	1,4	1,3	16,0	0,3	1,5	20,5	1100
95	1,6	1,4	18,1	0,3	1,6	23,0	1440
120	1,6	1,5	21,5	0,3	1,7	26,5	1780
150	1,8	1,6	22,5	0,3	1,8	27,5	2095
185	2,0	1,7	24,5	0,45	1,9	30,0	2750
240	2,2	1,8	27,5	0,45	2,0	34,0	3500
300	2,4	1,9	30,5	0,45	2,1	37,0	4250
400	2,6	2,0	36,0	0,45	2,3	43,5	5350
500	2,8	2,2	39,5	0,45	2,5	47,0	6450
630	2,8	2,3	43,5	0,45	2,6	51,5	7550

* approximated values

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DIMENSIONAL TWO - CORE

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0		0,3	1,2		
1,5	0,8	1,1	9,5	0,3	1,2	13,5	270
2,5	0,8	1,1	10,5	0,3	1,2	14,5	320
4	1,0	1,2	12,5	0,3	1,3	16,5	430
6	1,0	1,2	14,0	0,3	1,4	18,0	510
10	1,0	1,3	16,5	0,3	1,4	21,0	720
16	1,0	1,4	19,0	0,3	1,5	23,5	905
25	1,2	1,5	22,0	0,3	1,7	27,0	1230
35	1,2	1,6	24,0	0,3	1,8	29,0	1510
50	1,4	1,7	27,0	0,45	2,0	33,0	2300
70	1,4	1,9	31,0	0,45	2,1	37,0	2580
95	1,6	2,1	36,0	0,45	2,3	44,0	3950
120	1,6	2,2	41,0	0,45	2,5	48,5	4750
150	1,8	2,3	44,5	0,45	2,6	52,5	5600
185	2,0	2,5	49,0	0,45	2,8	57,5	6900
240	2,2	2,8	56,5	0,45	3,1	65,5	8850

* approximated values

DIMENSIONAL THREE - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	9,5	0,3	1,2	13,5	245
1,5	0,8	1,1	10,0	0,3	1,2	14,0	295
2,5	0,8	1,1	11,0	0,3	1,3	15,0	360
4	1,0	1,2	13,5	0,3	1,3	17,5	475
6	1,0	1,2	15,0	0,3	1,4	19,0	580
10	1,0	1,3	18,0	0,3	1,5	22,5	845
16	1,0	1,4	20,5	0,3	1,6	25,5	1120
25	1,2	1,6	25,5	0,3	1,8	31,0	1600
35	1,2	1,7	26,0	0,45	1,9	32,5	2150
50	1,4	1,8	28,5	0,45	2,0	34,5	2850
70	1,4	2,0	33,0	0,45	2,2	39,5	3230
95	1,6	2,2	39,0	0,45	2,4	46,5	4840
120	1,6	2,3	42,0	0,45	2,6	50,5	5950
150	1,8	2,5	47,0	0,45	2,8	55,0	7200
185	2,0	2,7	53,0	0,45	3,0	61,5	8910

* approximated values

DIMENSIONAL FOUR - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	10,5	0,3	1,2	14,5	305
1,5	0,8	1,1	11,0	0,3	1,3	15,0	350
2,5	0,8	1,1	12,5	0,3	1,3	16,5	430
4	1,0	1,2	15,0	0,3	1,4	19,0	575
6	1,0	1,3	16,5	0,3	1,5	21,0	730
10	1,0	1,4	20,0	0,3	1,6	24,5	1050
16	1,0	1,5	22,5	0,3	1,7	27,5	1390
25	1,2	1,7	26,0	0,3	1,9	31,5	1910
35	1,2	1,8	28,5	0,45	2,0	34,5	2450
50	1,4	1,9	33,0	0,45	2,2	37,0	3600
70	1,4	2,1	37,0	0,45	2,4	45,0	4120
95	1,6	2,3	42,0	0,45	2,6	49,0	6250
120	1,6	2,5	46,5	0,45	2,8	54,5	7650
150	1,8	2,7	52,0	0,45	3,0	56,0	9080
185	2,0	2,9	57,0	0,45	3,2	65,5	10080

* approximated values

DIMENSIONAL MULTI - CORES

NUMBER OF CORES	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	INNER SHEATH THICKNESS mm	OVER INNER SHEATH DIAMETER mm	WIRE BRAID DIAMETER mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
5	1,5	0,8	1,1	12,0	0,3	1,3	16,0	400
	2,5	0,8	1,2	13,5	0,3	1,3	17,5	500
7	1,5	0,8	1,2	13,5	0,3	1,3	17,5	470
	2,5	0,8	1,2	15,0	0,3	1,4	19,0	600
12	1,5	0,8	1,3	17,5	0,3	1,5	22,0	720
	2,5	0,8	1,4	20,0	0,3	1,6	24,5	940
19	1,5	0,8	1,4	21,0	0,3	1,6	25,5	990
	2,5	0,8	1,5	23,5	0,3	1,7	28,5	1320
27	1,5	0,8	1,6	25,5	0,3	1,8	30,5	1350
37	1,5	0,8	1,7	29,0	0,45	1,9	35,0	1780

* approximated values

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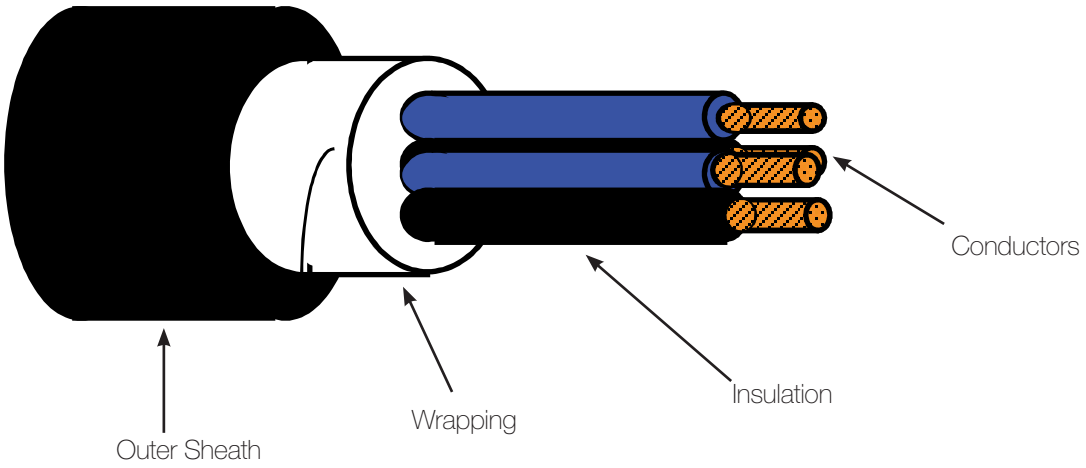
ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C
1,0	20,0	840
1,5	13,7	720
2,5	7,56	610
4,0	4,70	590
6,0	3,11	505
10	1,84	420
16	1,16	340
25	0,734	320
35	0,529	290
50	0,391	290
70	0,270	250
95	0,195	240
120	0,154	210
150	0,126	210
185	0,100	210
240	0,0762	210
300	0,0607	200
400	0,0475	100
500	0,0369	100
630	0,0286	100



CORES COLOR CODE :
Single-core: Red or Black / Two-cores: Red - Black / Three-cores: Red - Yellow - Blue
Four-cores: Red - Yellow - Blue - Black / Above 4 cores: White numbered

SPECIFICATIONS:

CONDUCTORS:
Tinned annealed copper wires according to BS 6360:1991 class 2 or class 5 (only for 1,0 sqmm and 1,5 sqmm)

INSULATION:
Mica-glass tape + HF-EPR compound type GP4 according to BS 7655-1.2

ASSEMBLING:
Cores lay-up in round shape

PAIR SHIELD:
Not Require

DRAIN WIRE:
Not Require

WRAPPING:
By polyester tape helically wound if necessary only

OVERALL SHIELD:
Not Require

DRAIN WIRE:
Not Require

INNER SHEATH :
Not Require

INNER SHEATH COLOR CODE:
Not Require

ARMOUR:
Galvanized steel wires braid or bronze wires braid (for single core cables)

OUTER SHEATH:
Halogen free cross-linked compound EVA based type SW4 according to BS 7655-2.6 enhanced oil resistant

OUTER SHEATH COLOR CODE:
Black

OUTER PRINTING :
FLEI - n° of cores x size sqmm - MGT/EPR/SW4 - 0,6/1 KV - UKOOA code - BS 7917 - IEC 60331.21 - IEC 60332.3.22 A - year of manufacture - CE

Minimum Bending Radius :
DURING INSTALLATION :
10 times the outer diameter

FIXED INSTALLATION:
8 times the outer diameter

Maximun Tensile Load
DURING INSTALLATION :
50 N x total cross section of the conductors (sqmm)

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APPLICABLE STANDARD

For the construction: BS 6883:1999

For the conductors: BS 6360:1991 class 5

Flame resistant: IEC 60332.21

Flame retardant: IEC 60332.1 - IEC 60332.3.22 A

Halogen free: IEC 60754-1 (HCl < 0,5%)

Low smoke and fume: IEC 61034-2 (LT > 60%)

TEMPERATURE

During installation:

(-20°C / +75°)

After installation:

(-40°C / + 90°C)

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YF101
1,5	BLACK	YF102
2,5	BLACK	YF103
4	BLACK	YF104
6	BLACK	YF106
10	BLACK	YF110
16	BLACK	YF116
25	BLACK	YF125
35	BLACK	YF135
50	BLACK	YF150
70	BLACK	YF170
95	BLACK	YF195
120	BLACK	YF10A
150	BLACK	YF10B
185	BLACK	YF10C
240	BLACK	YF10D
300	BLACK	YF10E
400	BLACK	YF10F
500	BLACK	YF10G
630	BLACK	YF10H

UKOOA CODE SINGLE - CORE

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	YELLOW/GREEN	YE101
1,5	YELLOW/GREEN	YE102
2,5	YELLOW/GREEN	YE103
4	YELLOW/GREEN	YE104
6	YELLOW/GREEN	YE106
10	YELLOW/GREEN	YE110
16	YELLOW/GREEN	YE116
25	YELLOW/GREEN	YE125
35	YELLOW/GREEN	YE135
50	YELLOW/GREEN	YE150
70	YELLOW/GREEN	YE170
95	YELLOW/GREEN	YE195
120	YELLOW/GREEN	YE10A
150	YELLOW/GREEN	YE10B
185	YELLOW/GREEN	YE10C
240	YELLOW/GREEN	YE10D
300	YELLOW/GREEN	YE10E
400	YELLOW/GREEN	YE10F
500	YELLOW/GREEN	YE10G
630	YELLOW/GREEN	YF10H

UKOOA CODE TWO - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YF201
1,5	BLACK	YF202
2,5	BLACK	YF203
4	BLACK	YF204
6	BLACK	YF206
10	BLACK	YF210
16	BLACK	YF216
25	BLACK	YF225
35	BLACK	YF235
50	BLACK	YF250
70	BLACK	YF270
95	BLACK	YF295
120	BLACK	YF20A
150	BLACK	YF20B
185	BLACK	YF20C
240	BLACK	YF20D
300	BLACK	YF20E

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UKOOA CODE THREE - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YF301
1,5	BLACK	YF302
2,5	BLACK	YF303
4	BLACK	YF304
6	BLACK	YF306
10	BLACK	YF310
16	BLACK	YF316
25	BLACK	YF325
35	BLACK	YF335
50	BLACK	YF350
70	BLACK	YF370
95	BLACK	YF395
120	BLACK	YF30A
150	BLACK	YF30B
185	BLACK	YF30C
240	BLACK	YF30D
300	BLACK	YF30E

UKOOA CODE FOUR - CORES

SIZE OF CONDUCTORS sqmm	OUTER SHEATH COLOR	UKOOA CODE
1,0	BLACK	YF401
1,5	BLACK	YF402
2,5	BLACK	YF403
4	BLACK	YF404
6	BLACK	YF406
10	BLACK	YF410
16	BLACK	YF416
25	BLACK	YF425
35	BLACK	YF435
50	BLACK	YF450
70	BLACK	YF470
95	BLACK	YF495
120	BLACK	YF40A
150	BLACK	YF40B
185	BLACK	YF40C
240	BLACK	YF40D
300	BLACK	YF40E

UKOOA CODE MULTI - CORES

NUMBER OF CORES	SIZE OF CONDUCTORS sqmm	OTHER SHEATH COLOR	UKOOA CODE
5	1,5	BLACK	YF502
	2,5	BLACK	YF503
7	1,5	BLACK	YF702
	2,5	BLACK	YF703
12	1,5	BLACK	YFA02
	2,5	BLACK	YFA03
19	1,5	BLACK	YFB02
	2,5	BLACK	YFB03
27	1,5	BLACK	YFC02
37	1,5	BLACK	YFC02

DIMENSIONAL SINGLE - CORE

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	5,5	65
1,5	0,8	1,0	5,8	70
2,5	0,8	1,0	6,2	85
4	1,0	1,0	7,2	95
6	1,0	1,0	7,7	200
10	1,0	1,0	8,6	250
16	1,0	1,1	9,9	305
25	1,2	1,2	12,1	420
35	1,2	1,2	12,8	505
50	1,4	1,3	14,6	735
70	1,4	1,3	16,3	845
95	1,6	1,4	18,6	1005
120	1,6	1,5	20,5	1345
150	1,8	1,6	22,5	1640
185	2,0	1,7	24,9	2150
240	2,2	1,8	28,0	2580
300	2,4	1,9	32,0	3190
400	2,6	2,0	35,6	3590
500	2,8	2,2	39,5	4280
630	2,8	2,3	44,1	4990

* approximated values

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DIMENSIONAL TWO - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,0	9,0	95
1,5	0,8	1,1	9,5	135
2,5	0,8	1,1	11,2	200
4	1,0	1,2	12,5	300
6	1,0	1,2	14,0	350
10	1,0	1,3	16,0	450
16	1,0	1,4	18,5	650
25	1,2	1,5	23,0	950
35	1,2	1,6	25,0	1300
50	1,4	1,7	28,5	1750
70	1,4	1,9	33,0	2150
95	1,6	2,1	37,0	2890
120	1,6	2,2	42,0	3700
150	1,8	2,3	45,0	4400
185	2,0	2,5	50,5	5150
240	2,2	2,8	57,0	5950
300	2,4	3,0	63,5	6700

* approximated values

DIMENSIONAL THREE - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	9,5	125
1,5	0,8	1,1	10,6	160
2,5	0,8	1,1	12,0	205
4	1,0	1,2	14,0	350
6	1,0	1,2	15,0	390
10	1,0	1,3	17,0	590
16	1,0	1,4	19,5	820
25	1,2	1,6	25,0	1250
35	1,2	1,7	27,0	1500
50	1,4	1,8	31,5	2100
70	1,4	2,0	35,5	2900
95	1,6	2,2	40,5	4010
120	1,6	2,3	45,0	4850

* approximated values

DIMENSIONAL FOUR - CORES

SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
1,0	0,8	1,1	11,0	140
1,5	0,8	1,1	12,0	190
2,5	0,8	1,1	11,5	250
4	1,0	1,2	15,0	370
6	1,0	1,3	16,5	490
10	1,0	1,4	18,5	680
16	1,0	1,5	21,5	1050
25	1,2	1,7	27,5	1630
35	1,2	1,8	29,5	2080
50	1,4	1,9	34,0	2460
70	1,4	2,1	38,5	3650
95	1,6	2,3	45,5	4890
120	1,6	2,5	59,5	6060

* approximated values

DIMENSIONAL MULTI - CORES

NUMBER OF CORES	SIZE OF CONDUCTORS sqmm	INSULATION THICKNESS mm	OUTER SHEATH THICKNESS mm	OVER OUTER SHEATH DIAMETER mm	NET WEIGHT APPROX. kg/km
5	1,5	0,8	1,1	13,0	220
	2,5	0,8	1,2	14,5	290
7	1,5	0,8	1,2	14,0	275
	2,5	0,8	1,2	15,5	355
12	1,5	0,8	1,3	18,0	490
	2,5	0,8	1,4	19,5	650
19	1,5	0,8	1,4	21,5	670
	2,5	0,8	1,5	23,5	890
27	1,5	0,8	1,6	25,0	1005
37	1,5	0,8	1,7	28,5	1250

* approximated values

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ELECTRIC PARAMETERS

SIZE OF CONDUCTORS sqmm	MAXIMUM CONDUCTORS RESISTANCE Ω/km @ 20°C	MINIMUM INSULATION RESISTANCE OF CORES MΩXKM @20°C
1,0	20,0	840
1,5	13,7	720
2,5	7,56	610
4,0	4,70	590
6,0	3,11	505
10	1,84	420
16	1,16	340
25	0,734	320
35	0,529	290
50	0,391	290
70	0,270	250
95	0,195	240
120	0,154	210
150	0,126	210
185	0,100	210
240	0,0762	210
300	0,0607	200
400	0,0475	100
500	0,0369	100
630	0,0286	100

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