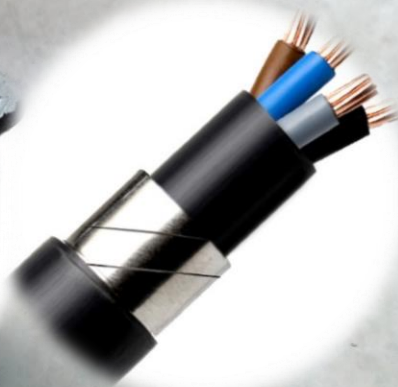




LOW VOLTAGE CABLES CATALOGUE



KROWN

LOW VOLTAGE CABLES

CATALOGUE



LOW VOLTAGE CABLES
CATALOGUE

CONTENT

1. CABLES FOR INDOOR APPLICATIONS
2. INDUSTRIAL POWER CABLES
3. ELECTROMAGNETIC PROTECTED CABLES
4. AERIAL BUNDLE CABLES
5. HIGH SECURITY CABLES (HALOGEN-FREE)
6. VERY HIGH SECURITY CABLES (FIRE RESISTANT)



SYMBOLS



Maximum operating
temperature (70°C)



Maximum operating
temperature (90°C)



No Flame
propagation



No Fire
propagation



Fire
resistant



Low smoke
emission



Low corrosive
fume emission



Halogen-free



Mechanical protection
against Rodents



Tear
resistance



Mechanical
resistance



Abrasion
resistance



Weathering test
resistance



Resistance to
Water absorption



Water tight



Resistance to
Ultraviolet rays (UV)



Resistance
To Ozone



Hydrocarbon
resistance



Resistance to
Mineral oils



Electro-magnetic
Interference
protection



Reduced
bending radius



High flexibility



Work at very
low temperatures
(-40°C)



Photovoltaic solar
installations



Design life
expectancy



Resistance to extreme
temperatures
(max. 120°C / min. -40°C)



Environmentally-
friendly



LOW VOLTAGE CABLES
CATALOGUE

1

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD CABLES

H07V-U / H07V-R

H07V-K

05VV-U

05VVH2-U

H05VV-F / 05VV-F

FR-N07V-AR

HALOGEN-FREE CABLES

H07Z1-K type 2 (AS)

TRI-H07Z1-K type 2 (AS)



CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



H07V-U / H07V-R

RATED VOLTAGE U_0/U 450/750 V

COOPER • PVC



STANDARDS:

CONSTRUCTION

EN 50525-2-31

IEC 60227-3

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 (-U)
stranded class 2 (-R)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type Tl1, to EN 50363-3
type PVC/C, to IEC 60227-1

GENERAL APPLICATIONS:

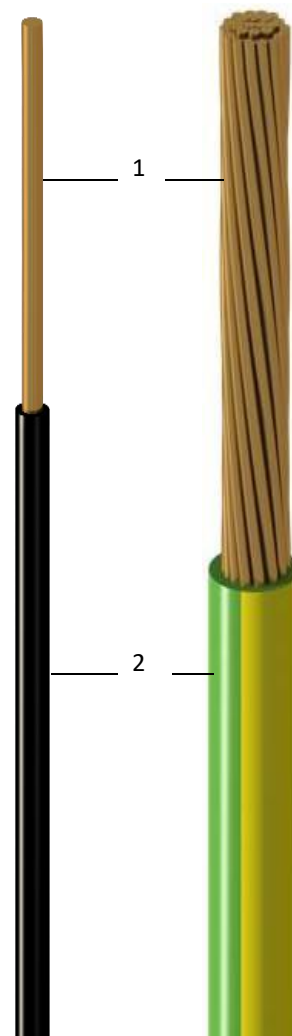
Transporting power in domestic or industrial environments (offices, units, indoor wiring, signaling circuits, etc.), as they are installed in surface-mounted or built-in conductors or similar enclosed systems. Extra sliding cable.

GENERAL CHARACTERISTICS:

Test voltage	2.500 V a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	50 x Section mm ² (recommended not to exceed 1000 N)

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

H07V-U / H07V-R

PVC STANDARD



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Type	Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
	nc x mm ²	mm	kg/km	mm	A	V/A.km
H07V-U	1x1,5	2,7	20	20	15	26,671
	1x2,5	3,3	34	20	21	26,401
	1x4	3,7	49	25	28	33,330
	1x6	4,3	64	30	36	40,011
H07V-R	1x1,5	2,9	25	20	15	23,293
	1x2,5	3,5	35	25	21	14,310
	1x4	4,2	49	25	27	8,942
	1x6	4,8	66	30	35	6,007
	1x10	5,8	108	35	49	3,612
	1x16	6,7	164	40	67	2,305
	1x25	8,3	256	50	88	1,294
	1x35	9,4	343	55	109	0,955
	1x50	11,0	464	65	133	0,727
	1x70	12,5	660	75	170	0,526
	1x95	14,7	903	90	206	0,400
	1x120	16,1	1.141	95	238	0,332
	1x150	18,1	1.382	105	261	0,283
	1x185	20,1	1.747	120	295	0,242
	1x240	22,4	2.292	140	345	0,203

- Current ratings according to IEC 60364-5-52, table B.52.4, method of installation B1, three loaded conductors.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



H07V-K

RATED VOLTAGE U_0/U 450/750 V

COOPER • PVC



STANDARDS:

CONSTRUCTION

EN 50525-2-31
IEC 60227-3

FIRE PERFORMANCE

EN 60332-1-2
IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-K)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type Tl1, to EN 50363-3
type PVC/C, to IEC 60227-1

GENERAL APPLICATIONS:

Transporting power in domestic or industrial environments (offices, units, indoor wiring, signaling circuits, etc.), as they are installed in surface-mounted or built-in conductors or similar enclosed systems. Extra sliding cable.

GENERAL CHARACTERISTICS:

Test voltage	2.500 V a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	50 x Section mm ² (recommended not to exceed 1000 N)

APPROVALS:

This cable is certified by the brand <HAR>

Restriction: ≤ 50mm²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

H07V-K

PVC STANDARD



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x1,5	2,9	19	20	15	25,582
1x2,5	3,6	34	25	21	15,390
1x4	4,1	44	25	27	9,586
1x6	4,7	64	30	35	6,421
1x10	6,1	109	40	49	3,759
1x16	7,1	159	45	67	2,413
1x25	8,9	249	55	88	1,377
1x35	10,0	340	60	109	0,999
1x50	12,0	481	70	133	0,720
1x70	13,8	664	80	170	0,528
1x95	15,6	880	95	206	0,419
1x120	17,3	1.116	105	238	0,342
1x150	19,4	1.400	115	261	0,290
1x185	21,5	1.690	125	295	0,252
1x240	24,4	2.235	145	345	0,208
1x300	26,4	2.790	170	401	0,181

- Current ratings according to IEC 60364-5-52, table B.52.4, method of installation B1, three loaded conductors.

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



05VV-U

RATED VOLTAGE U_0/U 300/500 V

COPPER • PVC • PVC



STANDARDS:

CONSTRUCTION

NP 2356-4

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:777

1. CONDUCTOR

Copper solid class 1 (-U)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type Tl1, to EN 50363-3

3. SHEATH

PVC Polyvinyl chloride
type TM1, to EN 50363-4-1

GENERAL APPLICATIONS:

Used for installations and connections of electrical apparatus fixed.

GENERAL CHARACTERISTICS:

Test voltage	2.000 V a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	50 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
2x1,5	9,3	128	65	22	20,182
2x2,5	10,5	171	70	30	12,403
2x4	11,4	216	75	40	7,754
2x6	12,4	273	85	51	5,212
3G1,5	9,8	147	65	22	20,182
3G2,5	11,0	201	75	30	12,403
3G4	12,0	259	85	40	7,754
3G6	13,4	3146	90	51	5,212
4G1,5	10,5	173	70	18	20,182
4G2,5	11,9	240	80	25	12,403
4G4	13,4	326	95	34	7,754
4G6	14,6	420	100	43	5,212
5G1,5	11,2	211	80	18	20,182
5G2,5	12,8	291	90	25	12,403
5G4	14,4	393	100	34	7,754
5G6	15,7	507	115	43	5,212

- Current ratings according to IEC 60364-5-52, table B.52.10, method of installation E, two or three loaded conductors.

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



05VVH2-U

RATED VOLTAGE U_0/U 300/500 V

COPPER • PVC • PVC



STANDARDS:

CONSTRUCTION

NP 3324

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 (-U)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type Tl1, to EN 50363-3

3. SHEATH

PVC Polyvinyl chloride
type TM1, to EN 50363-4-1

GENERAL APPLICATIONS:

Installations in domestic buildings, fixed in the wall (flat cable).

GENERAL CHARACTERISTICS:

Test voltage	2.000 V a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	50 x Section mm ²

APPROVALS:

The cables are certified by:



ISO 9001



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section nc x mm ²	Nominal Overall diameter		Nominal weight kg/km	Minimum bending radius mm	Maximum current rating Air 30 °C A	Voltage drop Cos φ= 0,8 V/A.km
	Width mm	height mm				
2x1,5	4,5	7,3	68	45	22	20,182
2x2,5	5,1	8,5	96	50	30	12,403
3G1,5	4,7	10,3	100	45	22	20,182
3G2,5	5,3	12,1	144	50	30	12,403

• Current ratings according to IEC 60364-5-52, table B.52.10, method of installation E, two or three loaded conductors.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



H05VV-F / 05VV-F

RATED VOLTAGE U_0/U 300/500 V

COPPER • PVC • PVC



STANDARDS:

CONSTRUCTION

H05VV-F: EN 50525-2-11

05VV-F: HD 21.5

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-F)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type TM2, to EN 50363-3
type PVC/D, to IEC 60227-1

3. SHEATH

PVC Polyvinyl chloride
type TM2, to EN 50363-4-1
type ST5, to IEC 60227-1

GENERAL APPLICATIONS:

H05VV-F and 05VV-F are flexible cables for use in indoor mobile services such as domestic premises, kitchens, offices, small portable appliances, appliances, office equipment, light industry motors, machine tools, etc. They are generally used for medium mechanical stresses..

GENERAL CHARACTERISTICS:

Test voltage	1.500 V a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	15 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

H05VV-F / 05VV-F

PVC STANDARD



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Type	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
					A	V/A.km
H05VV-F	2x1,5	7,4	86	45	22	25,590
	2x2,5	9,1	132	55	30	15,403
	2x4	10,4	182	65	40	9,589
	3x1,5	8,1	112	50	22	25,590
	3x2,5	9,8	167	60	30	15,403
	3x4	11,2	228	70	40	9,589
	4x1,5	9,2	137	55	19	22,161
	4x2,5	10,8	203	65	25	13,330
	4x4	12,4	277	75	34	8,304
	5x1,5	10,2	172	65	19	22,161
05VV-F	5x2,5	12,2	253	75	25	13,330
	5x4	13,9	358	85	34	8,304
	2x6	12,4	265	85	40	5,212
	3x6	13,7	338	90	37	5,212
	4x6	14,6	411	100	36	5,212
	5x6	15,2	478	110	44	5,918

- Current ratings according to IEC 60364-5-52, table B.52.10, method of installation E, for cross-section $\geq 1,5 \text{ mm}^2$.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

CABLES FOR INDOOR APPLICATIONS

PVC STANDARD



FR-N07V-AR

RATED VOLTAGE U_0/U 450/750 V

ALUMINIUM • PVC



STANDARDS:

CONSTRUCTION

NF C32-208

IEC 60227-3

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Aluminium stranded class 2 (-AR)
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
type Tl1, to EN 50363-3

GENERAL APPLICATIONS:

Transporting power in domestic or industrial environments (offices, units, indoor wiring, signaling circuits, etc.), as they are installed in surface-mounted or built-in conductors or similar enclosed systems.

GENERAL CHARACTERISTICS:

Test voltage	2.500 V a.c. (5 min.)
Minimum operating temperature	-5 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	30 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

FR-N07V-AR

PVC STANDARD



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum resistance at 20 °C	Maximum current rating Air 40 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	Ω/km	A	V/A.km
1x16	6,9	72	35	1,910	67	4,241
1x25	8,5	112	45	1,200	93	2,665
1x35	9,5	145	50	0,868	115	1,928
1x50	10,9	189	55	0,641	140	1,423

- Only one circuit is considered.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

CABLES FOR INDOOR APPLICATIONS

HALOGEN FREE



H07Z1-K type 2 (AS)

RATED VOLTAGE U_0/U 450/750 V

COPPER • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

EN 50525-3-31

FIRE PERFORMANCE

IEC 60332-1-2	EN 60332-1-2
IEC 60332-3-24	EN 60332-3-24
IEC 60754-1	EN 60754-1
IEC 60754-2	EN 60754-2
IEC 61034-2	EN 61034-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-K)
to IEC 60228

2. INSULATION

Z1 Halogen-free thermoplastic polyolefin
type TI7, to EN 50363-7

GENERAL APPLICATIONS:

Single core, high security cable, insulated with thermoplastic halogen-free compound. Recommended for indoor use, fixed installations, in public areas such as hospitals, hotels, shopping malls, halls, computer and communication centers, and, in general, in all places with large number of people and electrical/electronic equipment.

GENERAL CHARACTERISTICS:

Test voltage	2500 V a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C ($t \leq 5s$)
Maximum pulling force over conductor (N)	50 x Section mm^2 (recommended not to exceed 1000 N)

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

H07Z1-K type 2 (AS)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x1,5	2,9	19	20	15	22,156
1x2,5	3,6	34	25	21	13,332
1x4	4,1	44	25	27	8,302
1x6	4,7	64	30	35	5,561
1x10	6,1	109	40	49	3,255
1x16	7,1	159	45	67	2,090
1x25	8,9	249	55	88	1,377
1x35	10,0	340	60	109	0,999
1x50	12,0	481	70	133	0,720
1x70	13,8	664	80	170	0,528
1x95	15,6	880	95	206	0,419
1x120	17,3	1.116	105	238	0,342
1x150	19,4	1.400	115	261	0,290
1x185	21,5	1.690	125	295	0,252
1x240	24,4	2.235	145	345	0,208

- Current ratings according to IEC 60364-5-52, table B.52.4, method of installation B1, three loaded conductors.

CABLES FOR INDOOR APPLICATIONS

HALOGEN FREE



TRI-H07Z1-K type 2 (AS)

RATED VOLTAGE U_0/U 450/750 V

COPPER • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

EN 50525-3-31

FIRE PERFORMANCE

IEC 60332-1-2	EN 60332-1-2
IEC 60332-3-24	EN 60332-3-24
IEC 60754-1	EN 60754-1
IEC 60754-2	EN 60754-2
IEC 61034-2	EN 61034-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-K)
to IEC 60228

2. INSULATION

Z1 Halogen-free thermoplastic polyolefin

3. INSULATION (command conductor, if applicable)

Z1 Halogen-free thermoplastic polyolefin
type TI7, to EN 50363-7

GENERAL APPLICATIONS:

Single core, high security cable, insulated with thermoplastic halogen-free compound. Recommended for indoor use, fixed installations, in public areas such as hospitals, hotels, shopping malls, halls, computer and communication centers, and, in general, in all places with large number of people and electrical/electronic equipment.

Composed with three H07Z1-K type 2 wires of the same section gathered together. or with a command cable of 1.5 mm² red joined. Is easy handling and easy installation, reduce the time of installation and simplify the process.

GENERAL CHARACTERISTICS:

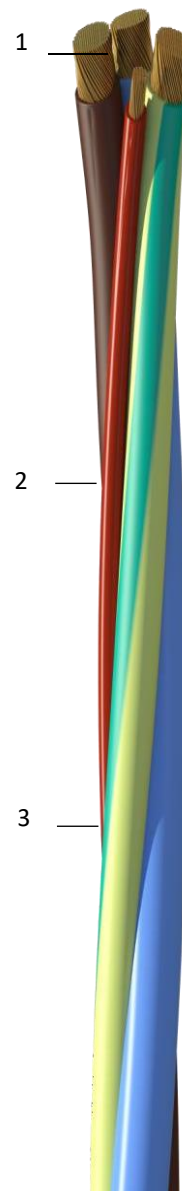
Test voltage	2500 V a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	50 x Section mm ²

APPROVALS:

The cables are certified by:



ISO 9001



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

TRI-H07Z1-K type 2 (AS)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
2x10+G10 (AZ,PT+V/A)	13,1	318	50	50	3,255
2x16+G16 (AZ,PT+V/A)	15,3	486	60	66	2,090
2x25+G16 (AZ,PT+V/A)	19,3	529	75	84	1,377
3G10+1x1,5 (V/A,AZ,PT+VM)	9,2	145	40	36	5,561
3G16+1x1,5 (V/A,AZ,PT+VM)	11,9	235	50	50	3,255
3G25+1x1,5 (V/A,AZ,PT+VM)	13,9	340	60	66	2,090
3G35+1x1,5 (V/A,AZ,PT+VM)	16,7	558	70	84	1,377
3G10+1x1,5 (V/A,AZ,CT+VM)	13,0	346	55	50	3,255
3G16+1x1,5 (V/A,AZ,CT+VM)	15,2	494	65	66	2,090
3G25+1x1,5 (V/A,AZ,CT+VM)	18,9	755	80	84	1,377
3G35+1x1,5 (V/A,AZ,CT+VM)	23,8	1.005	100	109	0,999

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

2

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured CABLES

RV-K / FXV

XV / RV

U-1000 R2V

RV AL / LXV

U-1000 AR2V

PVC STANDARD ARMoured CABLES (Tape Armour)

X1AV / XAV / RVFAV / RVFV

U-1000 RVFAV / U-1000 RVFV

LX1AV / LXAV

U-1000 ARFAV / U-1000 ARVFV

LVAV

LSVAV



INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



RV-K / FXV

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE • PVC



STANDARDS:

CONSTRUCTION

UNE 21123-2

IEC 60502-1

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-K / F)
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. SHEATH

PVC Polyvinyl chloride
type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

These cables are flexible for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

They are distinguished by their flexibility and handling, which facilitate and save time in installation.

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

RV-K / FXV

PVC STANDARD UNARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x1,5	5,7	46	25	23	21	27,263
	1x2,5	6,1	60	25	32	28	16,403
	1x4	6,7	96	30	42	36	10,210
	1x6	7,3	94	30	54	44	6,835
	1x10	8,3	137	35	75	58	3,993
	1x16	9,3	197	40	100	75	2,561
	1x25	11,1	288	45	135	96	1,458
	1x35	12,4	382	50	169	115	1,057
	1x50	14,2	530	60	207	135	0,759
	1x70	16,1	715	70	268	167	0,556
	1x95	17,7	937	70	328	197	0,438
	1x120	19,1	1.168	75	383	197	0,358
	1x150	21,4	1.474	90	444	223	0,302
	1x185	24,0	1.754	100	510	251	0,262
	1x240	26,7	2.306	135	607	324	0,215
	1x300	30,3	2.897	155	703	365	0,193
	1x400	34,9	3.981	175	823	----	0,164

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5, installation method D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	2x1,5	8,7	103	35	26	25	27,263
	2x2,5	9.5	132	40	36	33	16,403
	2x4	10.6	176	45	49	43	10,210
	2x6	11.7	227	50	63	53	6,835
	2x10	13.6	334	60	86	71	3,993
	2x16	15.7	472	65	115	91	2,561
	2x25	18.9	709	75	149	116	1,458
	2x35	21.4	955	85	185	139	1,057
	2x50	23.0	1.162	100	225	164	0,759
	2x70	24.9	1.604	150	289	203	0,556
	2x95	27.9	2.085	140	352	239	0,438
	2x120	31.5	2.649	160	410	271	0,358
	2x150	34.7	3.269	175	473	306	0,302
	2x185	37.9	3.962	190	542	343	0,262
	2x240	43.6	5.231	220	641	395	0,215
	3x1,5	9.2	118	40	23	21	27,263
	3x2,5	10.1	159	45	32	28	16,403
	3x4	11.3	214	45	42	36	10,210
	3x6	12.5	277	50	54	44	6,835
	3x10	14.3	423	60	75	58	3,993
	3x16	16.7	607	70	100	75	2,561
	3x25	20.3	914	80	127	96	1,458
	3x35	22.9	1.235	95	158	115	1,057
	3x50	25.1	1.559	100	192	135	0,759
	3x70	29.4	2.175	150	246	167	0,556
	3x95	32.7	2.810	165	298	197	0,438
	3x120	36.9	3.568	185	346	223	0,358
	3x150	40.8	4.429	205	399	251	0,302
	3x185	44.5	5.352	225	456	281	0,262
	3x240	50,6	7.062	305	538	324	0,215

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.3 for two cores cables and table B.52.5 for three core cables, method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	4x1,5	10,7	160	40	23	21	23,605
	4x2,5	11,8	210	45	32	28	14,197
	4x4	13,1	281	50	42	36	8,838
	4x6	14,4	366	55	54	44	5,918
	4x10	16,8	550	65	75	58	3,457
	4x16	19,3	793	75	100	75	2,217
	4x25	23,7	1.215	90	127	96	1,458
	4x35	26,8	1.623	125	158	115	1,055
	4x50	31,4	2.296	140	195	135	0,758
	4x70	38,2	3.315	165	246	167	0,556
	4x95	35,7	3.748	180	298	197	0,438
	4x120	40,5	4.775	205	346	223	0,358
	4x150	44,6	5.900	225	399	251	0,302
	4x185	49,3	7.215	250	456	281	0,262
	4x240	56,5	9.560	340	538	324	0,215
	5x1,5	11,5	176	40	23	21	23,605
	5x2,5	12,7	236	50	32	28	14,197
	5x4	14,2	322	55	42	36	8,838
	5x6	15,7	426	60	54	44	5,918
	5x10	18,4	649	70	75	58	3,456
	5x16	21,1	944	80	100	75	2,216
	5x25	26,1	1.453	95	127	96	1,457
	5x35	29,4	1.950	135	158	115	1,055
	5x50	32,6	2.655	155	195	135	0,758
	5x70	38,2	3.305	180	246	167	0,556
	5x95	44,6	5.332	210	298	197	0,438
	5x120	50,4	6.750	230	346	223	0,358
	5x150	55,7	8.360	305	399	251	0,302

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5, method of installation D1.

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



XV / RV

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1

UNE 21123-2

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 / stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. SHEATH

PVC Polyvinyl chloride
type ST2, to IEC 60502-1

These cables are rigid and semi-rigid for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

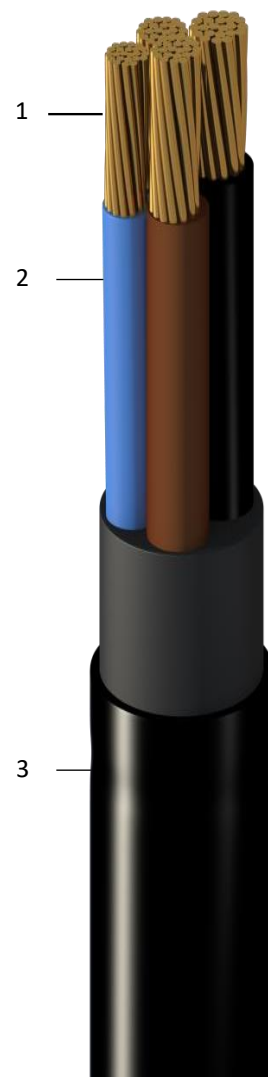
Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C ($t \leq 5s$)
Maximum pulling force over conductor (N)	over conductors $50 \times$ Section mm^2 over sheath: $3 \times d^2$

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x1,5	5,0	38	20	23	21	21,542
	1x2,5	5,4	49	21	32	28	13,236
	1x4	5,8	66	23	42	36	8,281
	1x6	7,2	101	70	54	44	5,567
	1x10	8,0	139	32	75	58	3,343
	1x16	8,9	200	36	100	75	2,135
	1x25	10,5	297	42	135	96	1,385
	1x35	11,6	387	46	169	115	1,022
	1x50	13,0	507	52	207	135	0,777
	1x70	14,8	715	59	268	167	0,563
	1x95	16,7	957	67	328	197	0,427
	1x120	18,2	1.205	73	383	223	0,355
	1x150	20,5	1.459	82	444	251	0,303
	1x185	22,5	1.829	90	510	281	0,258
	1x240	24,6	2.366	98	607	324	0,215
	1x300	27,4	2.990	140	703	365	0,187
	1x400	30,8	3.385	155	823	-	0,163
	1x500	35,5	4.899	180	946	-	0,143
	1x630	40,0	6.342	200	1.088	-	0,128

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5, method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	2x1,5	9,1	115	30	26	25	21,498
	2x2,5	9,9	146	35	36	33	13,204
	2x4	10,8	188	40	49	43	8,250
	2x6	11,8	240	45	63	53	5,533
	2x10	14,9	392	50	86	71	3,320
	2x16	16,8	547	60	115	91	2,115
	2x25	20,0	808	70	149	116	1,368
	2x35	22,4	1.053	80	185	139	1,007
	2x50	24,0	1.420	90	225	164	0,764
	2x70	27,5	1.952	135	289	203	0,552
	2x95	31,2	2.610	155	352	239	0,416
	2x120	34,5	3.275	175	410	271	0,358
	2x150	37,4	3.992	195	473	306	0,302
	2x185	42,6	4.981	215	542	343	0,262
	2x240	47,7	6.382	240	641	395	0,215
	3x1,5	9,9	136	40	23	21	23,605
	3x2,5	10,9	177	45	32	28	14,197
	3x4	12,1	234	50	42	36	8,838
	3x6	13,3	302	55	54	44	5,918
	3x10	15,4	448	65	75	58	3,456
	3x16	17,6	649	70	100	75	2,216
	3x25	21,6	975	90	127	96	1,457
	3x35	24,3	1.296	100	158	115	1,055
	3x50	28,5	1.828	145	192	135	0,758
	3x70	38,2	3.315	190	246	167	0,556
	3x95	32,5	2.807	165	298	197	0,438
	3x120	36,7	3.570	185	346	223	0,358
	3x150	40,6	4.425	205	399	251	0,302
	3x185	52,4	5.370	225	456	281	0,262
	3x240	57,9	7.850	310	538	324	0,215
	3x16+10	17,8	793	71	75	58	2,216
	3x25+16	21,5	1.199	86	100	75	1,457
	3x35+16	23,7	1.537	95	127	96	1,055
	3x50+25	27,1	2.058	140	158	115	0,758
	3x70+35	31,5	2.903	160	192	135	0,556
	3x95+50	36,3	3.987	185	246	167	0,438
	3x120+70	41,3	4.992	206	298	197	0,345
	3x150+70	45,9	5.981	230	346	223	0,294
	3x185+95	50,7	7.613	300	399	251	0,250
	3x240+120	55,8	9.816	340	456	281	0,207

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.3 for two cores cables and table B.52.5 for three core cables, method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Alcobre code	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	4x1,5	10,7	160	45	23	21	23,605
	4x2,5	11,8	210	50	32	28	14,197
	4x4	13,1	281	55	42	36	8,838
	4x6	14,4	366	60	54	44	5,918
	4x10	16,8	550	70	75	58	3,456
	4x16	19,3	793	80	100	75	2,216
	4x25	23,7	1.215	95	127	96	1,457
	4x35	26,8	1.623	135	158	115	1,055
	4x50	31,4	2.296	160	192	135	0,758
	4x70	38,2	3.315	190	246	167	0,556
	4x95	35,7	3.748	180	298	197	0,438
	4x120	40,5	4.775	205	346	223	0,358
	4x150	44,6	5.900	225	399	251	0,302
	4x185	51,7	7.215	250	456	281	0,262
	4x240	59,7	9.560	340	538	324	0,215
	5x1,5	11,5	176	40	23	21	23,605
	5x2,5	12,7	236	50	32	28	14,197
	5x4	14,2	322	55	42	36	8,838
	5x6	15,7	426	60	54	44	5,918
	5x10	18,4	649	70	75	58	3,456
	5x16	21,1	944	80	100	75	2,216
	5x25	26,1	1.453	95	127	96	1,457
	5x35	29,4	1.950	135	158	115	1,055
	5x50	32,6	2.655	155	192	135	0,758
	5x70	38,2	3.305	180	246	167	0,556
	5x95	44,6	5.332	210	298	197	0,438
	5x120	50,4	6.750	230	346	223	0,358
	5x150	55,7	8.360	305	399	251	0,302
	5x185	56,8	10.409	345	456	281	0,262

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5, method of installation D1.

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



U-1000 R2V

RATED VOLTAGE U_0/U 0,6/1 kV AC - 0,9/1,5 kV DC

COPPER • XLPE • PVC



STANDARDS:

CONSTRUCTION

XP C 32-321
IEC 60502-1

FIRE PERFORMANCE

NF C 32-070 (C2)
EN 60332-1-2 / IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 or stranded class 2 $\leq 4\text{mm}^2$
stranded class 2 $\geq 6\text{mm}^2$
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene
Identification by colour

3. SHEATH

PVC Polyvinyl chloride, preto, UV resistant
Identification by colour list EtU (Easy to Use)

4. COLOUR CODING (2 to 5 conductores)

Section:	1,5 mm ²	2,5 mm ²	4 mm ²	6 mm ²	10 mm ²	16 mm ²	1,5 - 4mm ² : class 1 / 6 - 16mm ² class 2
List:							$\leq 25\%$ of total surface

GENERAL APPLICATIONS:

Cables for use in low voltage power distribution in fixed indoor and outdoor installations.

It is suitable for explosive atmospheres (Class BE 3) according to NF C 15-100, with additional appropriate mechanical protection and 15% current reduction.

Suitable for photovoltaic installations.

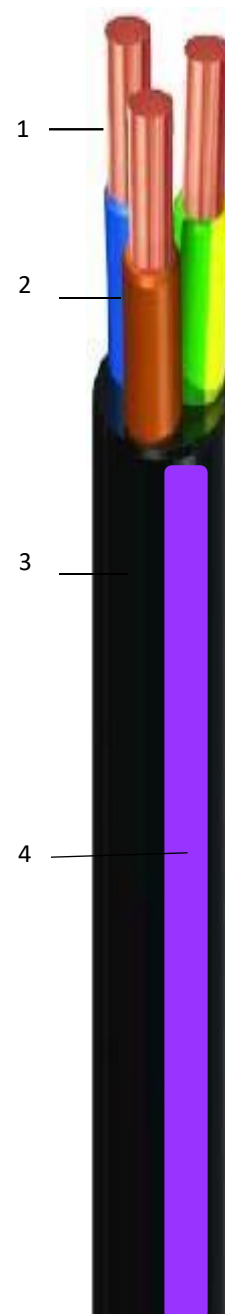
Can be supplied upon agreement: Oil resistant, Hydrocarbon resistant.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-25 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t $\leq$ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

U-1000 R2V

PVC STANDARD UNARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x1,5	5,0	41	50	23	21	21,498
	1x2,5	5,4	49	52	32	28	13,204
	1x4	5,8	66	55	42	36	8,250
	1x6	7,2	101	59	54	44	5,533
	1x10	8,0	139	68	75	58	3,349
	1x16	8,9	200	77	100	75	2,140
	1x25	10,5	297	90	135	96	1,389
	1x35	11,6	387	99	169	115	1,026
	1x50	13,0	507	108	207	135	0,780
	1x70	14,8	715	126	268	167	0,566
	1x95	16,7	957	144	328	197	0,429
	1x120	18,2	1.205	158	383	223	0,357
	1x150	20,5	1.459	176	444	251	0,305
	1x185	22,5	1.829	194	510	281	0,260
	1x240	24,6	2.366	221	607	324	0,217
	1x300	27,4	2.990	243	703	365	0,188
	1x400	30,8	3.385	275	823	-	0,164
	1x500	35,5	4.899	315	946	-	0,144
	1x630	40,0	6.342	355	1.088	-	0,129
	2x1,5	9,1	115	30	26	25	21,498
	2x2,5	9,9	146	35	36	33	13,204
	2x4	10,8	188	40	49	43	8,250
	2x6	11,8	240	45	63	53	5,533
	2x10	14,9	392	50	86	71	3,320
	2x16	16,8	547	60	115	91	2,115
	2x25	20,0	808	70	149	116	1,368
	2x35	22,4	1.053	80	185	139	1,007

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.3 for two cores cables and table B.52.5 for three core cables, method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	3x1,5	9,9	136	72	23	21	23,605
	3x2,5	10,9	177	80	32	28	14,197
	3x4	12,1	234	88	42	36	8,838
	3x6	13,3	302	100	54	44	5,918
	3x10	15,4	448	124	75	58	3,456
	3x16	17,6	649	130	100	75	2,216
	3x25	21,6	975	160	127	96	1,457
	3x35	24,3	1.296	175	158	115	1,055
	3x50	28,5	1.828	200	192	135	0,758
	3x70	38,2	3.315	235	246	167	0,556
	3x95	32,5	2.807	265	298	197	0,438
	3x120	36,7	3.570	295	346	223	0,358
	3x150	40,6	4.425	325	399	251	0,302
	3x185	52,4	5.370	365	456	281	0,262
	3x240	57,9	7.850	415	538	324	0,215
	4x1,5	10,7	160	75	23	21	23,605
	4x2,5	11,8	210	85	32	28	14,197
	4x4	13,1	281	90	42	36	8,838
	4x6	14,4	366	110	54	44	5,918
	4x10	16,8	550	125	75	58	3,456
	4x16	19,3	793	140	100	75	2,216
	4x25	23,7	1.215	180	127	96	1,457
	4x35	26,8	1.623	195	158	115	1,055
	4x50	31,4	2.296	230	192	135	0,758
	4x70	38,2	3.315	265	246	167	0,556
	4x95	35,7	3.748	295	298	197	0,438
	4x120	40,5	4.775	335	346	223	0,358
	4x150	44,6	5.900	365	399	251	0,302
	4x185	51,7	7.215	250	456	281	0,262
	4x240	59,7	9.560	340	538	324	0,215
	3x50+35	27,7	2.058	220	192	135	0,758
	3x70+50	31,8	2.903	260	246	167	0,556
	3x95+50	36,2	3.887	288	298	197	0,438
	3x120+70	41,4	4.661	320	346	223	0,345
	3x150+70	45,9	5.562	350	399	251	0,294
	3x185+70	49,6	7.021	385	456	281	0,250
	3x240+95	55,6	9.102	445	538	324	0,207

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	5x1,5	11,5	176	80	23	21	23,605
	5x2,5	12,7	236	90	32	28	14,197
	5x4	14,2	322	100	42	36	8,838
	5x6	15,7	426	110	54	44	5,918
	5x10	18,4	649	125	75	58	3,456
	5x16	21,1	944	145	100	75	2,216
	5x25	26,1	1.453	165	127	96	1,457

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.

U-1000 R2V (control)

PVC STANDARD UNARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum resistance at 20 °C
nc x mm ²	mm	kg/km	mm	Ω/km
7x1,5	12,2	255	60	12,1
7x2,5	13,7	325	66	7,41
7x4	15,2	435	74	4,61
8x1,5	14,2	295	71	12,1
8x2,5	15,7	385	78	7,41
8x4	17,2	535	84	4,61
10x1,5	15,2	335	75	12,1
10x2,5	16,7	445	82	7,41
10x4	18,7	615	92	4,61
12x1,5	15,7	355	77	12,1
12x2,5	17,2	485	85	7,41
12x4	19,2	665	95	4,61
14x1,5	16,2	395	80	12,1
14x2,5	18,2	535	90	7,41
14x4	20,2	795	100	4,61
19x1,5	18,2	505	90	12,1
19x2,5	20,2	685	100	7,41
19x4	22,7	1.005	112	4,61
24x1,5	20,7	655	102	12,1
24x2,5	23,2	905	115	7,41
30x1,5	22,2	715	110	12,1
30x2,5	24,7	1.005	122	7,41
37x1,5	23,7	855	117	12,1
37x2,5	26,7	1.205	134	7,41

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



RV-AL / LXV

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • PVC



STANDARDS:

CONSTRUCTION

RV AL: UNE HD 603-5N

LXV: IEC 60502-1

FIRE PERFORMANCE

UNE-EN 60332-1

EN 60332-1-2 IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, circular or sector-shaped to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene

Identification by colour to HD 308.S2

3. SHEATH

PVC Polyvinyl chloride, type ST2, UV resistant

GENERAL APPLICATIONS:

Low voltage power distribution cable for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

Suitable for photovoltaic installations.

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistant.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ²
	over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x16	9,1	103	80	77	59	3,421
	1x25	10,7	144	95	103	75	2,205
	1x35	11,8	181	105	129	90	1,547
	1x50	13,0	223	115	159	103	1,211
	1x70	15,0	301	135	206	130	0,861
	1x95	16,9	394	150	253	154	0,622
	1x120	18,5	473	165	296	174	0,531
	1x150	20,6	590	185	343	197	0,452
	1x185	22,7	730	205	395	220	0,373
	1x240	25,6	933	230	471	253	0,304
	1x300	28,1	1.203	250	547	286	0,265
	1x400	32,2	1.585	290	663	----	0,221
	1x500	35,0	2.047	315	770	----	0,194
	1x630	38,9	2.534	350	899	----	0,173

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F, for single cores.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1 for single cores.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	2x16	16,2	315	130	91	71	3,985
	2x25	19,3	456	154	108	90	2,548
	2x35	21,6	582	173	174	108	1,850
	3x16	17,4	365	139	77	59	3.482
	3x25	20,8	532	166	97	75	2.211
	3x35	23,3	680	186	120	90	1,632
	3x50	25,8	851	206	146	106	1,221
	3x70	30,2	1.114	242	187	130	0,867
	3x95	34,1	1.539	273	227	154	0,645
	3x120	37,8	1.891	302	263	174	0,526
	3x150	42,4	2.384	339	304	197	0,443
	3x185	47,1	2.982	377	347	220	0,368
	3x240	53,3	3.835	426	409	253	0,298
	4x16	18,7	412	150	77	59	3.482
	4x25	22,6	597	181	97	75	2.211
	4x35	25,3	772	202	120	90	1,632
	4x50	28,4	1.018	227	146	106	1,221
	4x70	27,3	1.185	218	187	130	0,867
	4x95	31,5	1.533	252	227	154	0,645
	4x120	34,9	1.917	279	263	174	0,526
	4x150	38,1	2.364	305	304	197	0,443
	4x185	42,0	2.931	336	347	220	0,368
	4x240	47,2	3.696	378	409	253	0,298
	5x16	18,7	412	150	77	59	3.482
	5x25	22,6	597	181	97	75	2.211
	5x35	25,3	772	202	120	90	1,632
	5x50	28,4	1.018	227	146	106	1,221
	5x70	27,3	1.185	218	187	130	0,867
	5x95	31,5	1.533	252	227	154	0,645
	5x120	34,9	1.917	279	263	174	0,526
	5x150	38,1	2.364	305	304	197	0,443
	5x185	42,0	2.931	336	347	220	0,368
	5x240	47,2	3.696	378	409	253	0,298

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method E,
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



U-1000 AR2V

RATED VOLTAGE U_0/U 0,6/1 kV AC - 0,9/1,5 kV DC

ALUMINIUM • XLPE • PVC



STANDARDS:

CONSTRUCTION

XP C 32-321

IEC 60502-1

FIRE PERFORMANCE

NF C 32-070 (C2)

EN 60332-1-2 / IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, circular or sector-shaped
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene
Identification by colour

3. SHEATH

PVC Polyvinyl chloride, type ST2, UV resistant

GENERAL APPLICATIONS:

Low voltage power distribution cable for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

Suitable for photovoltaic installations.

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistant.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-25 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

U-1000 AR2V

PVC STANDARD UNARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x16	9,1	103	80	77	59	3,421
	1x25	10,7	144	95	103	75	2,205
	1x35	11,8	181	105	129	90	1,547
	1x50	13,0	223	115	159	103	1,211
	1x70	15,0	301	135	206	130	0,861
	1x95	16,9	394	150	253	154	0,622
	1x120	18,5	473	165	296	174	0,531
	1x150	20,6	590	185	343	197	0,452
	1x185	22,7	730	205	395	220	0,373
	1x240	25,6	933	230	471	253	0,304
	1x300	28,1	1.203	250	547	286	0,265
	1x400	32,2	1.585	290	663	----	0,221
	1x500	35,0	2.047	315	770	----	0,194
	1x630	38,9	2.534	350	899	----	0,173

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F, for single cores.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1 for single cores.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	2x16	16,2	315	130	91	71	3,985
	2x25	19,3	456	154	108	90	2,548
	2x35	21,6	582	173	174	108	1,850
	3x16	17,4	365	139	77	59	3.482
	3x25	20,8	532	166	97	75	2.211
	3x35	23,3	680	186	120	90	1,632
	3x50	25,8	851	206	146	106	1,221
	3x70	30,2	1.114	242	187	130	0,867
	3x95	34,1	1.539	273	227	154	0,645
	3x120	37,8	1.891	302	263	174	0,526
	3x150	42,4	2.384	339	304	197	0,443
	3x185	47,1	2.982	377	347	220	0,368
	3x240	53,3	3.835	426	409	253	0,298
	4x16	18,7	412	150	77	59	3.482
	4x25	22,6	597	181	97	75	2.211
	4x35	25,3	772	202	120	90	1,632
	4x50	28,4	1.018	227	146	106	1,221
	4x70	27,3	1.185	218	187	130	0,867
	4x95	31,5	1.533	252	227	154	0,645
	4x120	34,9	1.917	279	263	174	0,526
	4x150	38,1	2.364	305	304	197	0,443
	4x185	42,0	2.931	336	347	220	0,368
	4x240	47,2	3.696	378	409	253	0,298
	5x16	18,7	412	150	77	59	3.482
	5x25	22,6	597	181	97	75	2.211
	5x35	25,3	772	202	120	90	1,632
	5x50	28,4	1.018	227	146	106	1,221
	5x70	27,3	1.185	218	187	130	0,867
	5x95	31,5	1.533	252	227	154	0,645
	5x120	34,9	1.917	279	263	174	0,526
	5x150	38,1	2.364	305	304	197	0,443
	5x185	42,0	2.931	336	347	220	0,368
	5x240	47,2	3.696	378	409	253	0,298

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method E,
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.

INDUSTRIAL POWER CABLES

PVC STANDARD UNARMoured



4x U-1000 AR2V (Bundle Single Cores)

RATED VOLTAGE U_0/U 0,6/1 kV AC - 0,9/1,5 kV DC

ALUMINIUM • XLPE • PVC



STANDARDS:

CONSTRUCTION

XP C 32-321

IEC 60502-1

FIRE PERFORMANCE

NF C 32-070 (C2)

EN 60332 1-2 / IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene
Identification by colour list

3. SHEATH

PVC Polyvinyl chloride, type ST2, UV resistant

BUNDLE

4 x Single Core Cable

GENERAL APPLICATIONS:

Low voltage power distribution cable for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

Buried with additional mechanical protection. Suitable for photovoltaic installations.

GENERAL CHARACTERISTICS:

Test voltage

3,5 kV a.c. (5 min.)

Minimum operating temperature

-25 °C

Maximum temperature rating of the conductor

+90 °C

Short-circuit temperature of the conductor

250 °C ($t \leq 5s$)

Maximum pulling force over conductor (N)

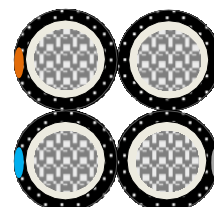
over conductors $30 \times \text{Section mm}^2$
over sheath: $3 \times d^2$

APPROVALS:

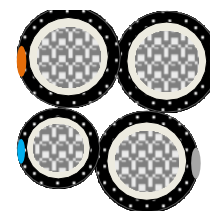
The cables are certified by:



4 x single core
(equal sections)



4 x single core
(unequal sections)



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

4x Single Core U-1000 AR2V

PVC STANDARD UNARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	4x1x25	25,4	595	102	103	75	2,205
	4x1x35	28,0	743	112	129	90	1,630
	4x1x50	30,9	918	124	159	106	1,220
	4x1x70	35,8	1 242	143	206	130	0,870
	4x1x95	40,4	1 632	162	253	154	0,651
	4x1x120	44,3	1 964	177	296	174	0,530
	4x1x150	49,3	2 441	197	343	197	0,447
	4x1x185	54,4	3 027	218	395	220	0,372
	4x1x240	61,4	3 870	246	471	253	0,303
	4x1x300	67,5	4 987	270	547	286	0,207
	3x1x70+1x50	33,0	1.172	124	206	130	0,870
	3x1x95+1x50	38,4	1.476	141	253	154	0,651
	3x1x120+1x70	42,5	1.798	148	296	174	0,530
	3x1x150+1x70	46,3	2.171	176	343	197	0,447
	3x1x185+1x95	51,1	2.692	196	395	220	0,372
	3x1x240+1x95	56,4	3.344	222	471	253	0,303

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D1.
- *Other construction upon request.*

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



X1AV / XAV / RVFAV / RVFV

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE • STA/ATA • PVC



STANDARDS:

CONSTRUCTION

X1AV / XAV IEC 60502-1
RVFAV / RVFV UNE 21123-2

FIRE PERFORMANCE

IEC 60332-1 IEC 60332-1-2
UNE-EN 60332-1

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 / stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. INNER SHEATH

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied
ATA For *single-core cables steel is substituted by aluminium tapes

5. SHEATH

PVC Polyvinyl chloride, type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

**Single-core cables for alternating current installations are equipped with reinforcement constituted by non-magnetic material.*

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

X1AV / RVFAV

PVC STANDARD ARMoured (SINGLE CORES)



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	1x25	9,9	15,5	472	140	135	96	2,205
	1x35	11,0	16,8	587	151	169	115	1,548
	1x50	12,4	18,2	731	164	207	135	1,192
	1x70	14,1	20,5	1.001	185	268	167	0,864
	1x95	15,9	22,5	1.284	203	328	197	0,625
	1x120	17,5	24,5	1.589	221	383	223	0,531
	1x150	19,5	26,7	1.887	240	444	251	0,456
	1x185	21,7	29,3	2.345	264	510	281	0,369
	1x240	23,8	31,4	2.916	283	607	324	0,299
	1x300	26,9	34,7	3.703	312	703	365	0,259
	1x400	29,6	37,8	4.838	340	823	-	0,221
	1x500	33,4	41,8	5.717	376	946	-	0,188
	1x630	38,1	46,9	7.203	422	1.088	-	0,173

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D2.
- For single cores cables, current intensities are indicated without external thermal influences.
- In the case of association of monopolar cables (connective clover) multiply the values with by 0,8.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x1,5	8,4	12,8	249	115	26	27	21,502
	2x2,5	9,3	13,7	295	123	36	35	13,213
	2x4	10,4	14,8	357	133	49	46	8,252
	2x6	11,0	15,4	412	139	63	58	5,536
	2x10	12,7	17,1	540	154	86	77	3,322
	2x16	14,5	18,9	690	170	115	100	2,117
	2x25	17,8	22,2	986	200	149	129	1,374
	2x35	20,0	24,4	1.240	220	185	155	1,009
	2x50	22,8	27,2	1.585	245	225	183	0,766
	2x70	26,6	33,0	2.256	297	289	225	0,553
	2x95	30,1	36,7	3.280	330	352	270	0,418
	2x120	33,3	39,9	3.984	359	410	306	0,346
	2x150	37,4	44,0	4.751	396	473	343	0,295
	2x185	41,4	48,6	5.868	437	542	387	0,251
	2x240	45,6	53,2	7.308	479	641	448	0,208
	3x1,5	8,9	13,3	275	120	23	22	21,502
	3x2,5	9,9	14,3	330	129	32	30	13,213
	3x4	11,0	15,4	406	139	42	39	8,252
	3x6	11,7	16,1	479	145	54	49	5,536
	3x10	13,5	17,9	641	161	75	65	3,322
	3x16	15,5	19,9	846	179	100	84	2,117
	3x25	19,1	19,9	846	212	127	107	1,374
	3x35	21,5	25,9	1.560	233	158	129	1,009
	3x50	24,4	29,0	2.025	261	192	153	0,766
	3x70	28,6	33,8	2.870	304	246	188	0,553
	3x95	32,3	38,9	4.149	350	298	226	0,418
	3x120	36,2	43,2	5.177	233	346	257	0,346
	3x150	40,6	47,8	6.190	261	399	287	0,295
	3x185	45,3	52,9	7.691	304	456	324	0,251
	3x240	49,9	57,5	9.580	350	538	375	0,208
	4x1,5	9,7	14,1	310	127	23	22	21,502
	4x2,5	10,8	15,2	376	137	32	30	13,213
	4x4	12,1	16,5	471	149	42	39	8,252
	4x6	12,9	17,3	565	156	54	49	5,536
	4x10	14,9	19,3	766	174	75	65	3,322
	4x16	17,1	21,5	1.028	194	100	84	2,117
	4x25	21,1	25,5	1.503	230	127	107	1,374
	4x35	23,7	28,1	1.926	253	158	129	1,009
	4x50	27,1	32,1	2.551	289	192	153	0,766
	4x70	31,6	36,8	3.602	331	246	188	0,553
	4x95	35,9	42,7	5.166	384	298	226	0,418



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	4x120	40,2	47,2	6.436	425	346	257	0,346
	4x150	45,5	52,7	7.752	474	399	287	0,295
	4x185	50,4	58,2	9.593	524	456	324	0,251
	4x240	55,4	62,7	12.039	564	538	375	0,208
	5x1,5	10,5	14,9	349	134	23	22	21,502
	5x2,5	11,7	16,1	426	145	32	30	13,213
	5x4	13,2	17,6	542	158	42	39	8,252
	5x6	14,1	18,5	655	167	54	49	5,536
	5x10	16,3	20,7	898	186	75	65	3,322
	5x16	18,8	23,2	1.218	209	100	84	2,117
	5x25	23,2	27,6	1.806	248	127	107	1,374
	5x35	26,2	30,8	2.348	277	158	129	1,009
	5x50	30,1	34,1	3.077	307	192	153	0,766
	5x70	35,0	40,8	4.285	367	246	188	0,553
	5x95	39,7	46,5	6.222	419	298	226	0,418
	5x120	44,0	51,2	7.736	461	346	257	0,346
	5x150	49,6	56,8	9.248	511	399	287	0,295
	5x185	55,0	62,8	11.513	565	456	324	0,251
	3x16+10	17,1	20,7	1.081	260	100	84	2,117
	3x25+16	20,7	23,9	1.352	270	127	107	1,374
	3x35+16	23,3	27,7	1.761	280	158	129	1,009
	3x50+25	26,7	31,5	2.342	315	192	153	0,766
	3x70+35	31,4	37,6	3.252	380	246	188	0,553
	3x95+50	35,5	42,1	4.672	425	298	226	0,418
	3x120+70	39,2	46,0	5.630	460	346	257	0,346
	3x150+70	44,3	51,3	6.840	515	399	287	0,295
	3x185+95	49,5	56,9	8.560	570	456	324	0,251
	3x240+120	52,8	60,1	9.890	715	538	375	0,208
	3x16+2G10	18,2	21,8	1.082	218	100	84	2,117
	3x25+2G16	21,8	25,4	1.530	254	127	107	1,374
	3x35+2G16	23,6	27,4	1.858	274	158	129	1,009
	3x50+2G25	27,7	31,9	2.516	319	192	153	0,766
	3x70+2G35	33,2	37,8	3.867	378	246	188	0,553
	3x95+2G50	37,6	42,4	5.017	424	298	226	0,418
	3x120+2G70	42,4	47,6	6.453	476	346	257	0,346
	3x150+2G70	46,1	51,5	7.446	515	399	287	0,295
	3x185+2G95	51,3	56,7	9.317	567	456	324	0,251

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.3 for two cores cables and table B.52.5 for three core cables, method of installation D2.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



U-1000 RVFAV / U-1000 RVFV

RATED VOLTAGE U_0/U 0,6/1 kV AC - 0,9/1,5 kV DC

COPPER • XLPE • STA/ATA • PVC



STANDARDS:

CONSTRUCTION

XP C 32-322

FIRE PERFORMANCE

NF C 32-070 (C2)

IEC 60332-1

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 / stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. INNER SHEATH

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied
ATA For *single-core cables steel is substituted by aluminium tapes

5. SHEATH

PVC Polyvinyl chloride, type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

**Single-core cables for alternating current installations are equipped with reinforcement constituted by non-magnetic material.*

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

U-1000 RVFAV

PVC STANDARD ARMoured (SINGLE CORES)



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	1x25	9,9	15,5	472	140	135	96	2,205
	1x35	11,0	16,8	587	151	169	115	1,548
	1x50	12,4	18,2	731	164	207	135	1,192
	1x70	14,1	20,5	1.001	185	268	167	0,864
	1x95	15,9	22,5	1.284	203	328	197	0,625
	1x120	17,5	24,5	1.589	221	383	223	0,531
	1x150	19,5	26,7	1.887	240	444	251	0,456
	1x185	21,7	29,3	2.345	264	510	281	0,369
	1x240	23,8	31,4	2.916	283	607	324	0,299
	1x300	26,9	34,7	3.703	312	703	365	0,259
	1x400	29,6	37,8	4.838	340	823	-	0,221

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D2.
- For single cores cables, current intensities are indicated without external thermal influences.
- *In the case of association of monopolar cables (connective clover) multiply the values with by 0,8.*

U-1000 RVFV

PVC STANDARD ARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x1,5	8,4	12,8	249	115	26	27	21,502
	2x2,5	9,3	13,7	295	123	36	35	13,213
	2x4	10,4	14,8	357	133	49	46	8,252
	2x6	11,0	15,4	412	139	63	58	5,536
	2x10	12,7	17,1	540	154	86	77	3,322
	2x16	14,5	18,9	690	170	115	100	2,117
	2x25	17,8	22,2	986	200	149	129	1,374
	2x35	20,0	24,4	1.240	220	185	155	1,009
	3x1,5	8,9	13,3	275	120	23	22	21,502
	3x2,5	9,9	14,3	330	129	32	30	13,213
	3x4	11,0	15,4	406	139	42	39	8,252
	3x6	11,7	16,1	479	145	54	49	5,536
	3x10	13,5	17,9	641	161	75	65	3,322
	3x16	15,5	19,9	846	179	100	84	2,117
	3x25	19,1	19,9	846	212	127	107	1,374
	3x35	21,5	25,9	1.560	233	158	129	1,009
	3x50	24,4	29,0	2.025	261	192	153	0,766
	3x70	28,6	33,8	2.870	304	246	188	0,553
	3x95	32,3	38,9	4.149	350	298	226	0,418
	3x120	36,2	43,2	5.177	233	346	257	0,346
	3x150	40,6	47,8	6.190	261	399	287	0,295
	3x185	45,3	52,9	7.691	304	456	324	0,251
	3x240	49,9	57,5	9.580	350	538	375	0,208
	4x1,5	9,7	14,1	310	127	23	22	21,502
	4x2,5	10,8	15,2	376	137	32	30	13,213
	4x4	12,1	16,5	471	149	42	39	8,252
	4x6	12,9	17,3	565	156	54	49	5,536
	4x10	14,9	19,3	766	174	75	65	3,322
	4x16	17,1	21,5	1.028	194	100	84	2,117
	4x25	21,1	25,5	1.503	230	127	107	1,374
	4x35	23,7	28,1	1.926	253	158	129	1,009
	4x50	27,1	32,1	2.551	289	192	153	0,766
	4x70	31,6	36,8	3.602	331	246	188	0,553
	4x95	35,9	42,7	5.166	384	298	226	0,418
	4x120	40,2	47,2	6.436	425	346	257	0,346
	4x150	45,5	52,7	7.752	474	399	287	0,295
	4x185	50,4	58,2	9.593	524	456	324	0,251
	4x240	55,4	62,7	12.039	564	538	375	0,208



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	5x1,5	10,5	14,9	349	134	23	22	21,502
	5x2,5	11,7	16,1	426	145	32	30	13,213
	5x4	13,2	17,6	542	158	42	39	8,252
	5x6	14,1	18,5	655	167	54	49	5,536
	5x10	16,3	20,7	898	186	75	65	3,322
	5x16	18,8	23,2	1.218	209	100	84	2,117
	5x25	23,2	27,6	1.806	248	127	107	1,374
	3x50+35	27,1	31,5	2.342	180	192	153	0,766
	3x70+35	29,8	34,2	3.252	210	246	188	0,553
	3x70+50	31,2	35,6	3.352	215	246	188	0,553
	3x95+50	36,7	41,1	4.672	240	298	226	0,418
	3x120+70	41,6	46,0	5.630	270	346	257	0,346
	3x150+70	46,9	51,3	6.840	290	399	287	0,295
	3x185+70	50,5	54,9	8.405	320	456	324	0,251
	3x240+95	57,7	62,1	11.081	370	538	375	0,208

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.3 for two cores cables and table B.52.5 for three core cables, method of installation D2.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



LX1AV / LXAV

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • STA/ATA • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1

FIRE PERFORMANCE

IEC 60332-1

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, circular or sector-shaped to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. INNER SHEATH

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied

ATA For *single-core cables steel is substituted by aluminium tapes

5. SHEATH

PVC Polyvinyl chloride, type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

**Single-core cables for alternating current installations are equipped with reinforcement constituted by non-magnetic material.*

Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage

3,5 kV a.c. (5 min.)

Maximum temperature rating of the conductor

+90 °C

Short-circuit temperature of the conductor

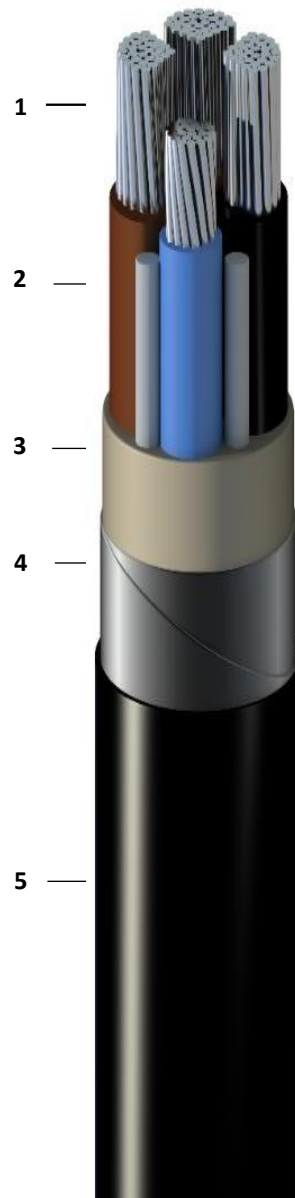
250 °C (t ≤ 5s)

Maximum pulling force over conductor (N)

over conductors $30 \times \text{Section mm}^2$
over sheath: $3 \times d^2$

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	1x50	12,4	18,8	455	180	159	117	1,192
	1x70	14,4	20,8	564	200	206	144	0,864
	1x95	16,3	23,1	708	225	253	172	0,625
	1x120	17,9	24,9	826	245	296	197	0,531
	1x150	19,8	27,0	978	265	343	220	0,456
	1x185	21,9	29,1	1.152	285	395	250	0,369
	1x240	24,6	32,2	1.419	315	471	290	0,299
	1x300	27,3	35,3	1.785	345	547	326	0,259
	1x400	31,0	34,6	2.199	385	663	----	0,221
	1x500	33,8	42,2	2.737	415	770	----	0,188
	1x630	38,1	46,5	3.355	460	899	----	0,173

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D2.
- For single cores cables, current intensities are indicated without external thermal influences.
- In the case of association of monopolar cables (connective clover) multiply the values with by 0,8.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x16	14,6	19,0	530	190	91	76	3,892
	2x25	17,9	22,3	687	215	108	98	2.489
	2x35	20,2	24,6	838	240	135	117	1.798
	3x16	15,6	20,0	556	190	77	64	3.482
	3x25	19,0	23,4	760	225	97	82	2.211
	3x35	21,5	25,9	935	250	120	98	1,632
	3x50	24,0	28,6	1.148	280	146	117	1,221
	3x70	28,8	34,0	1.608	330	187	144	0,867
	3x95	32,3	38,9	2.403	380	227	172	0,645
	3x120	36,2	43,2	2.913	425	263	197	0,526
	3x150	40,4	47,4	3.473	465	304	220	0,443
	3x185	45,3	52,9	4.292	520	347	250	0,368
	3x240	51,1	58,7	5.247	580	409	290	0,298
	4x16	17,3	21,7	865	211	77	64	3.482
	4x25	21,2	25,6	1.157	250	97	82	2.211
	4x35	23,9	28,5	1.412	279	120	98	1,632
	4x50	26,8	31,6	1.749	310	146	117	1,221
	4x70	25,5	30,3	1.840	297	187	144	0,867
	4x95	29,5	34,5	2.289	339	227	172	0,645
	4x120	33,1	39,7	2.831	391	263	197	0,526
	4x150	36,1	42,9	3.342	421	304	220	0,443
	4x185	40,1	47,1	4.066	463	347	250	0,368
	4x240	45,1	52,5	5.003	517	409	290	0,298
	5x16	19,2	23,6	990	211	77	64	3.482
	5x25	21,2	25,0	1.648	250	97	82	2.223
	5x35	23,9	27,9	3.323	280	120	98	1,632
	3x50+35	27,1	33,3	1.731	310	146	117	1,221
	3x70+35	25,5	30,3	1.728	295	187	144	0,867
	3x70+50	25,7	30,5	1.783	300	187	144	0,867
	3x95+50	29,7	36,1	2.222	355	227	172	0,645
	3x120+70	33,1	39,7	2.671	390	263	197	0,526
	3x150+70	36.1	42,9	3.135	423	304	220	0,443
	3x185+70	40.3	47,3	3.677	465	347	250	0,368
	3x240+95	45.1	52.5	4.631	517	409	290	0,298

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5. method of installation D2.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



LSXAV

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • STA • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1

DMA C33-200/N

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL solid, circular or sector-shaped
to IEC 60228 / NP 1108

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour

3. SHEATH INTERIOR

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied

5. SHEATH

PVC Polyvinyl chloride, type DMV17, to HD 603-1

GENERAL APPLICATIONS:

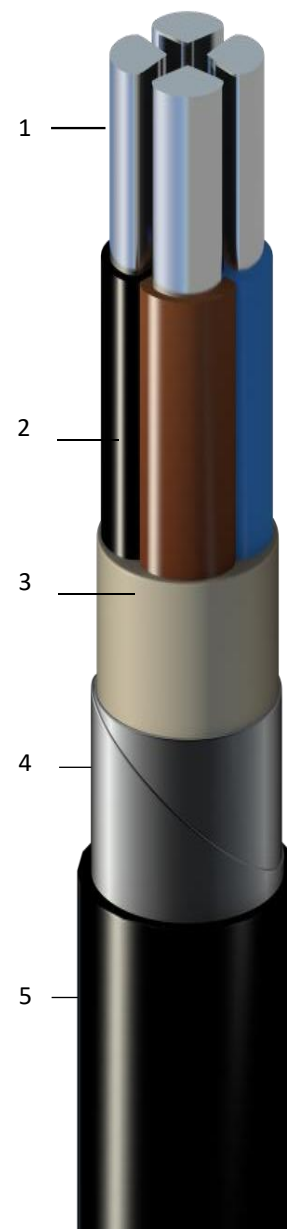
Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Alcobre code	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x16	15,3	19,9	608	230	66	79	3,279
	4x16	18,1	22,7	783	280	60	72	3,279
	4x35	24,2	29,0	1.121	330	93	107	1,539
	4x50	29,4	33,4	1.398	410	127	152	1,153
	4x95	31,1	38,1	2.783	510	173	193	0,624

- the current ratings is in according to DMA C33-200, table G-3.
- The cables of $\geq 50\text{mm}^2$ section are of sector-shaped construction.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



U-1000 ARVFAV / U-1000 ARVFB

RATED VOLTAGE U_0/U 0,6/1 kV AC - 0,9/1,5 kV DC

ALUMINIUM • XLPE • STA/ATA • PVC



STANDARDS:

CONSTRUCTION

XP C 32-322

FIRE PERFORMANCE

NF C 32-070 (C2)

IEC 60332-1

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, circular or sector-shaped
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour to HD 308.S2

3. INNER SHEATH

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied

ATA For *single-core cables steel is substituted by aluminium tapes

5. SHEATH

PVC Polyvinyl chloride, type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

**Single-core cables for alternating current installations are equipped with reinforcement constituted by non-magnetic material.*

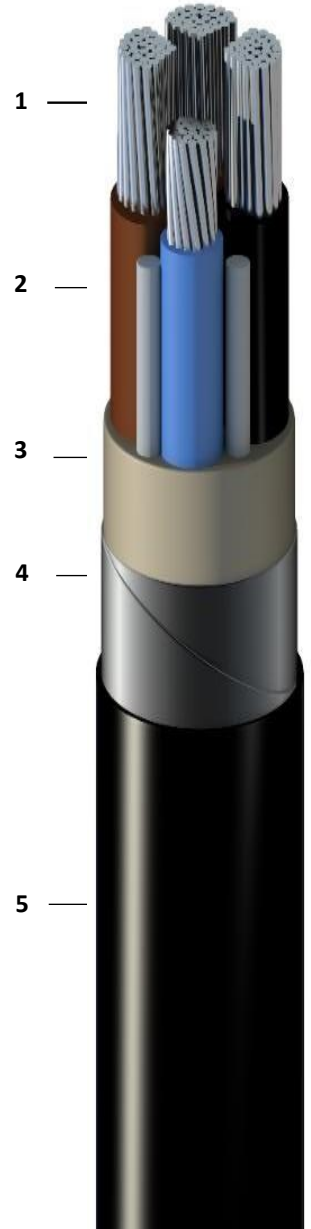
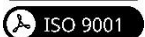
Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

U-1000 ARVFAV

PVC STANDARD ARMOURED (SINGLE CORES)



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	1x50	12,4	18,8	455	180	159	117	1,192
	1x70	14,4	20,8	564	200	206	144	0,864
	1x95	16,3	23,1	708	225	253	172	0,625
	1x120	17,9	24,9	826	245	296	197	0,531
	1x150	19,8	27,0	978	265	343	220	0,456
	1x185	21,9	29,1	1.152	285	395	250	0,369
	1x240	24,6	32,2	1.419	315	471	290	0,299
	1x300	27,3	35,3	1.785	345	547	326	0,259
	1x400	31,0	34,6	2.199	385	663	----	0,221
	1x500	33,8	42,2	2.737	415	770	----	0,188
	1x630	38,1	46,5	3.355	460	899	----	0,173

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 method of installation D2.
- For single cores cables, current intensities are indicated without external thermal influences.
- In the case of association of monopolar cables (connective clover) multiply the values with by 0,8.

U-1000 ARVFFV

PVC STANDARD ARMoured



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x16	14,6	19,0	530	190	91	76	3,892
	2x25	17,9	22,3	687	215	108	98	2.489
	2x35	20,2	24,6	838	240	135	117	1.798
	3x16	15,6	20,0	556	190	77	64	3.482
	3x25	19,0	23,4	760	225	97	82	2.211
	3x35	21,5	25,9	935	250	120	98	1,632
	3x50	24,0	28,6	1.148	280	146	117	1,221
	3x70	28,8	34,0	1.608	330	187	144	0,867
	3x95	32,3	38,9	2.403	380	227	172	0,645
	3x120	36,2	43,2	2.913	425	263	197	0,526
	3x150	40,4	47,4	3.473	465	304	220	0,443
	3x185	45,3	52,9	4.292	520	347	250	0,368
	3x240	51,1	58,7	5.247	580	409	290	0,298
	4x16	17,3	21,7	865	211	77	64	3.482
	4x25	21,2	25,6	1.157	250	97	82	2.211
	4x35	23,9	28,5	1.412	279	120	98	1,632
	4x50	26,8	31,6	1.749	310	146	117	1,221
	4x70	25,5	30,3	1.840	297	187	144	0,867
	4x95	29,5	34,5	2.289	339	227	172	0,645
	4x120	33,1	39,7	2.831	391	263	197	0,526
	4x150	36,1	42,9	3.342	421	304	220	0,443
	4x185	40,1	47,1	4.066	463	347	250	0,368
	4x240	45,1	52,5	5.003	517	409	290	0,298
	5x16	19,2	23,6	990	211	77	64	3.482
	5x25	21,2	25,0	1.648	250	97	82	2.223
	5x35	23,9	27,9	3.323	280	120	98	1,632
	3x50+35	27,1	33,3	1.731	310	146	117	1,221
	3x70+35	25,5	30,3	1.728	295	187	144	0,867
	3x70+50	25,7	30,5	1.783	300	187	144	0,867
	3x95+50	29,7	36,1	2.222	355	227	172	0,645
	3x120+70	33,1	39,7	2.671	390	263	197	0,526
	3x150+70	36,1	42,9	3.135	423	304	220	0,443
	3x185+70	40,3	47,3	3.677	465	347	250	0,368
	3x240+95	45,1	52,5	4.631	517	409	290	0,298

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5. method of installation D2.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



LVAV

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • PVC • STA • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1
DMA C33-200/N

FIRE PERFORMANCE

IEC 60332-1 IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, circular or sector-shaped
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride, type DIV10, to HD 603-1
Identification by colour to HD 308.S2

3. INNER SHEATH

PVC Polyvinyl chloride

4. ARMOUR

Two steel tapes, helical applied

5. SHEATH

PVC Polyvinyl chloride, type ST2, to IEC 60502-1

GENERAL APPLICATIONS:

Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

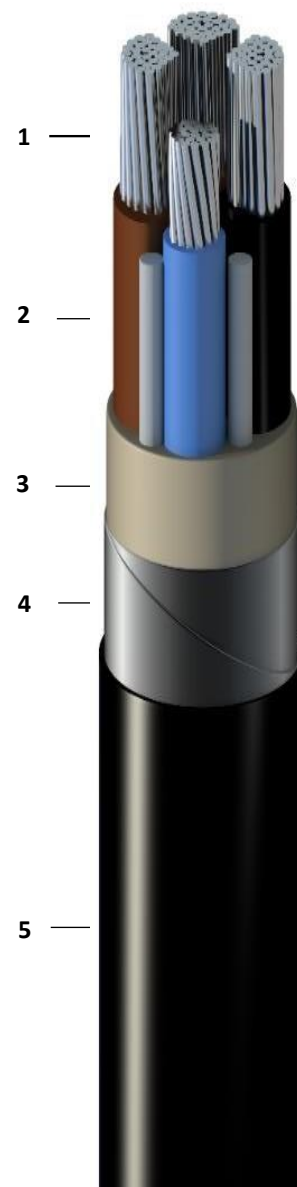
Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x16	14,6	19,0	530	190	91	76	3,892
	2x25	17,9	22,3	687	215	108	98	2.489
	4x16	17,3	21,7	865	211	77	64	3.482
	4x25	21,2	25,6	1.157	250	97	82	2.211
	4x35	23,9	28,5	1.412	279	120	98	1,632
	4x50	26,8	31,6	1.749	310	146	117	1,221
	4x70	25,5	30,3	1.840	297	187	144	0,867
	4x95	29,5	34,5	2.289	339	227	172	0,645
	4x120	33,1	39,7	2.831	391	263	197	0,526
	4x150	36,1	42,9	3.342	421	304	220	0,443
	4x185	40,1	47,1	4.066	463	347	250	0,368
	4x240	45,1	52,5	5.003	517	409	290	0,298
	3x70+35	25,5	30,3	1.728	295	187	144	0,867
	3x95+50	29,7	36,1	2.222	355	227	172	0,645
	3x150+70	36,1	42,9	3.135	423	304	220	0,443
	3x185+95	40,3	47,3	3.677	465	347	250	0,368
	3x240+95	45,1	52,5	4.631	517	409	290	0,298

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5. method of installation D2.

INDUSTRIAL POWER CABLES

PVC STANDARD ARMoured



LSVAV

RATED VOLTAGE U_0/U 0,6/1 kV

SOLID ALUMINIUM • XLPE • STA • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1

DMA C33-200/N

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

AL solid, circular or sector-shaped
to IEC 60228 / NP 1108

2. INSULATION

PVC Polyvinyl chloride, type DIV10, to HD 603-1
Identification by colour

3. SHEATH INTERIOR

PVC Polyvinyl chloride

4. ARMOUR

STA Two steel tapes, helical applied

5. SHEATH

PVC Polyvinyl chloride, type DMV17, to HD 603-1

GENERAL APPLICATIONS:

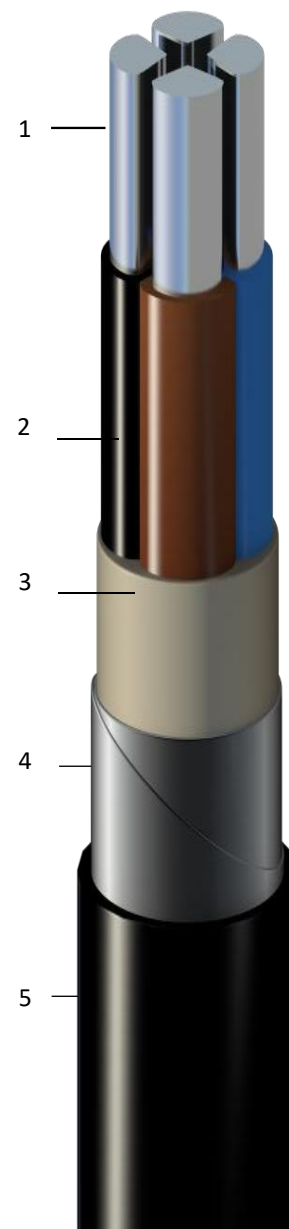
Armored cables for power distribution. Suitable for outdoor fixed installations when it is necessary to protect the cable against mechanical aggression or against rodent's threat, impact or crushing. Can be installed in ducts, or directly buried. Excellent mechanical protection during laying, installation and service.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under armour mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	2x16	15,3	19,9	608	230	66	79	3,279
	4x16	18,1	22,7	783	280	60	72	3,279
	4x35	24,2	29,0	1.121	330	93	107	1,539
	4x50	29,4	33,4	1.398	410	127	152	1,153
	4x95	31,1	38,1	2.783	510	173	193	0,624

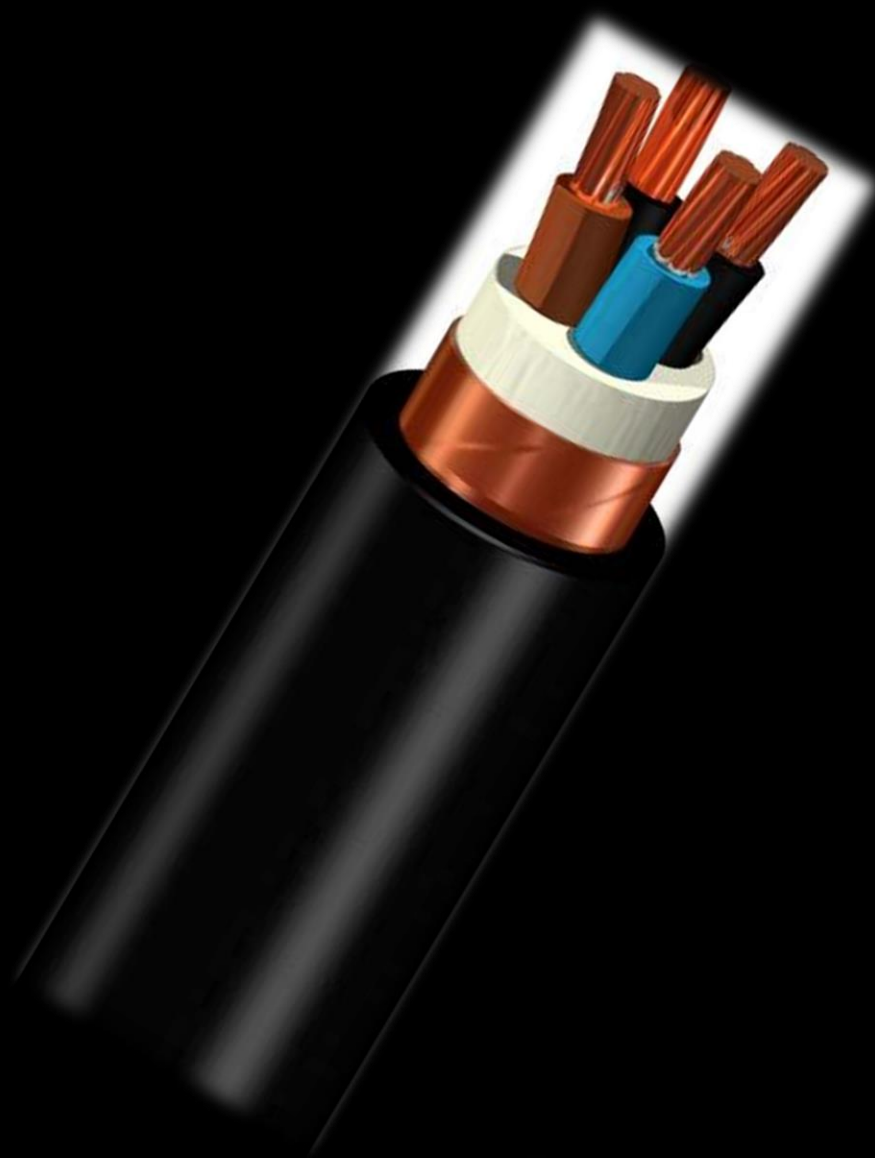
- the current ratings is in according to DMA C33-200, table G-3.
- The cables of $\geq 50\text{mm}^2$ section are of sector-shaped construction.

3

ELECTROMAGNETIC PROTECTED CABLES

VHV

HN 33-S-34



LOW VOLTAGE CABLES
CATALOGUE

ELECTROMAGNETIC PROTECTED

PVC STANDARD SCREENED



VHV / VHV (REN)

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • PVC • CTS • PVC



STANDARDS:

CONSTRUCTION

IEC 60502-1

REN F-CTCB Rev.D 04.10.21

FIRE PERFORMANCE

IEC 60332-1-2

EN 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper stranded class 2
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride, type PVC/A
to IEC 60502-1

3. INNER SHEATH

PVC Polyvinyl chloride

4. SCREEN

CTS two copper tapes, helical applied

5. SHEATH

PVC Polyvinyl chloride, type ST2, to EN 50636-4-1

GENERAL APPLICATIONS:

Fixed signaling, control and measurement or for fixed supply of auxiliary services. In industrial areas, power plants, substations (REN systems) and buildings. Suitable for electrical circuits that require protection from electrical or electromagnetic fields. Can be installed outdoors, in ducts, or directly buried.

GENERAL CHARACTERISTICS:

Test voltage	2 kV a.c. (5 min.)
Maximum resistance of the shield	4mΩ/m at 20°C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:



The cables are certified by:



ISO 9001

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under screen mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	1x50	13,7	17,7	757	177	167	116	0,751
	1x70	15,2	19,2	990	192	216	143	0,548
	1x95	17,4	21,4	1.286	226	264	169	0,421
	1x120	18,8	22,8	1.557	214	308	192	0,349
	1x150	20,8	24,8	1.844	248	356	217	0,300
	1x185	22,8	26,8	2.262	268	409	243	0,257
	1x240	25,1	29,5	2.878	295	485	280	0,216
	1x300	28,2	33,0	3.629	330	561	316	0,188
	1x400	31,9	37,1	4.977	371	656	----	0,166
	2x1,5	8,5	12,0	265	125	22	21	20,178
	2x2,5	9,2	12,8	312	133	30	29	12,394
	2x4	10,9	14,5	385	147	40	37	7,752
	2x6	12,1	15,7	465	158	51	46	5,209
	2x10	13,8	17,1	439	172	70	60	3,130
	2x16	15,5	18,8	699	195	94	79	1,998
	2x25	18,7	22,0	1.005	225	119	99	1,296
	2x35	20,5	23,8	1.259	242	148	119	0,957
	2x50	24,1	27,4	1.668	278	180	140	0,726
	2x70	27,5	31,1	2.237	314	232	173	0,526
	2x95	31,2	34,9	2.982	355	282	204	0,401
	2x120	35,5	39,6	3.718	399	328	231	0,332
	3x16+10	17,8	21,0	992	215	80	64	1,998
	3x25+16	21,2	24,5	1.435	249	101	82	1,296
	3x35+16	22,7	26,0	1.652	265	126	98	0,957
	3x50+25	26,7	30,3	2.268	310	153	116	0,728
	3x70+35	30,1	34,0	3.062	345	196	143	0,527
	3x95+50	34,6	40,0	4.101	395	238	169	0,401
	3x120+70	38,2	42,7	5.182	432	276	192	0,333
	3x150+70	42,0	46,6	6.104	470	319	217	0,285
	3x185+95	46,4	51,1	7.572	515	364	243	0,243
	3x240+120	52,8	57,8	9.759	585	430	280	0,203

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.3, installation method F for single core cables, nd B.52.2, installation method E for two core cables.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5. method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under screen mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
						Air 30 °C A	Buried 20 °C A	
	3x1,5	8,9	12,5	289	125	19	18	20,178
	3x2,5	9,7	13,3	335	133	25	24	12,394
	3x4	11,6	15,2	439	147	34	30	7,752
	3x6	12,9	16,2	482	158	43	38	5,209
	3x10	14,7	18,0	649	172	60	50	3,130
	3x16	18,1	21,3	989	195	80	64	1,998
	3x25	20,0	23,1	1.262	225	101	82	1,296
	3x35	20,8	24,1	1.436	242	126	98	0,957
	3x50	25,4	29,6	1.980	278	153	116	0,726
	3x70	27,6	31,2	2.598	314	196	143	0,526
	3x95	31,7	35,7	3.482	355	238	169	0,401
	4x1,5	9,7	13,4	325	125	19	18	20,178
	4x2,5	10,6	14,3	384	133	25	24	12,394
	4x4	12,7	16,1	465	147	34	30	7,752
	4x6	14,2	17,5	577	158	43	38	5,209
	4x10	16,2	19,6	791	172	60	50	3,130
	4x16	18,3	21,6	1.072	195	80	64	1,998
	4x25	22,1	25,4	0.554	225	101	82	1,296
	4x35	22,7	26,0	1.842	242	126	98	0,957
	4x50	26,7	30,4	2.498	278	153	116	0,726
	4x70	31,1	34,1	3.386	314	196	143	0,526
	4x95	34,6	40,0	4.582	355	238	169	0,401
	5x1,5	10,6	14,0	386	148	19	18	20,178
	5x2,5	11,7	15,2	439	162	25	24	12,394
	5x4	14,0	17,4	546	179	34	30	7,752
	5x6	15,6	19,0	679	194	43	38	5,209
	5x10	17,9	21,2	931	219	60	50	3,130
	5x16	20,3	23,5	1.269	238	80	64	1,998
	5x25	24,6	27,9	1.874	286	101	82	1,296
	5x35	27,1	30,7	2.429	307	126	98	0,957
	5x50	32,3	36,4	3.322	371	153	116	0,726
	5x70	36,4	40,6	4.467	409	196	143	0,526

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.3, installation method E for three core cables.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.4. method of installation D1.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

ELECTROMAGNETIC PROTECTED

PVC STANDARD SCREENED



HN 33-S-34

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • PVC • CTS • PVC



STANDARDS:

CONSTRUCTION

HN -33-S-34
HD 604 S1

FIRE PERFORMANCE

NF 32-070 (Cat 1)
IEC 60332-1-2 EN 60332-1-2

CONSTRUCTION:

1. CONDUCTOR

Copper stranded class 2
to IEC 60228

2. INSULATION

PVC Polyvinyl chloride
Condutores Isolados a Preto (impressão a branco)

3. INNER SHEATH

PVC Polyvinyl chloride

4. SCREEN

CTS Corrugated copper tape

5. SHEATH

PVC Polyvinyl chloride

GENERAL APPLICATIONS:

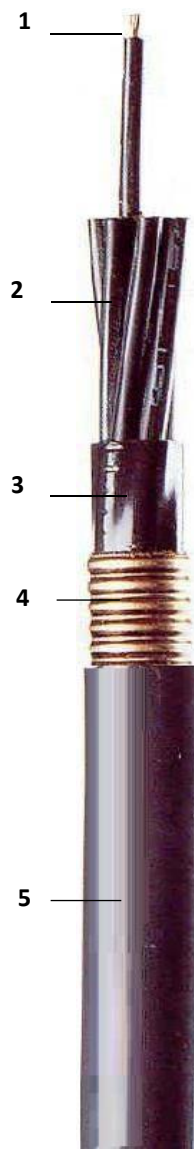
These cables are used in transformer stations. They are protected against electromagnetic interferences.
Can be installed outdoors, in ducts, or directly buried.

GENERAL CHARACTERISTICS:

Test voltage	2 kV a.c. (5 min.)
Maximum resistance of the shield	2mΩ/m at 20°C
Maximum temperature rating of the conductor	+70 °C
Short-circuit temperature of the conductor	160 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

HN 33-S-34

PVC STANDARD SCREENED



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nom. Diam. under screen mm	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm
	2x1,5	9,4	15,2	301	152
	2x2,5	10,4	16,2	351	162
	2x4	12,2	18,0	447	180
	2x6	12,8	18,6	504	186
	2x10	14,6	20,6	639	206
	2x16	16,4	22,4	817	224
	2x25	20,0	26,0	1.159	260
	2x35	22,2	28,2	1.432	282
	4x1,5	10,8	16,6	372	166
	4x2,5	12,0	17,8	447	178
	4x4	14,2	20,0	586	200
	4x6	14,9	20,7	681	207
	4x10	17,3	23,3	928	233
	4x16	19,5	25,5	1.224	255
	7x1,5	13,2	19,2	497	192
	7x2,5	14,7	20,7	613	207
	7x4	17,5	24,1	862	241
	7x6	18,6	25,2	1.033	252
	10x1,5	16,2	22,8	680	228
	10x2,5	18,2	24,8	846	248
	10x4	22,2	29,2	1.202	292
	10x6	23,4	30,4	1.426	304
	12x1,5	16,8	23,4	746	234
	12x2,5	18,8	25,4	933	254
	14x1,5	17,6	24,2	815	242
	14x2,5	19,8	26,4	1.030	264
	19x1,5	19,8	26,4	993	264
	19x2,5	22,3	28,9	1.272	289
	24x1,5	22,6	29,6	1.214	296
	24x2,5	25,6	32,6	1.565	326
	3x25+16	23,4	29,5	1.369	295
	3x50+25	30,0	36,5	2.244	365
	3x95+35	39,3	46,2	4.029	462

- Other construction upon request

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

4

AERIAL BUNDLE CABLES

XS / RZ Cu

LXS

RZ AL

TORSADE AÉRIENNE DE BRANCHEMENT

ABC – AERIAL BUNDLED CABLES



LOW VOLTAGE CABLES
CATALOGUE

AERIAL BUNDLE CABLES

AERIAL CABLES



XS / RZ Cu

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE



STANDARDS:

CONSTRUCTION

XS: NP 3528

DMA C33-209

RZ Cu: UNE 21030-2

FIRE PERFORMANCE

IEC 60754-1

EN 60754-1

CONSTRUCTION:

1. CONDUCTOR

Copper stranded class 2, to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene

GENERAL APPLICATIONS:

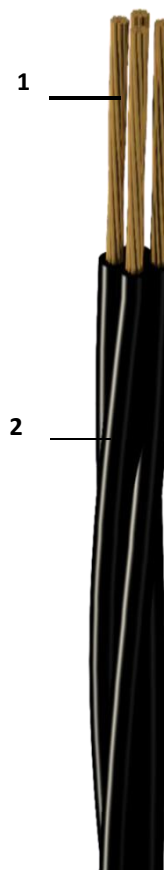
Cables for overhead power distribution systems mainly for public distribution.
Outdoor installation in overhead lines tightened between supports, lines attached to façades.
Excellent resistance to external agents.
Not suitable for installation directly underground.

GENERAL CHARACTERISTICS:

Test voltage	4 kV a.c. (5 min.)
Minimum operating temperature	-15 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating	Voltage drop
nc x mm ²	mm	kg/km	mm	Air 30 °C A	Cos φ= 0,8 V/A.km
2x2,5	8,5	67	45	31	13,232
2x4	10,2	104	41	40	8,269
2x6	10,8	141	55	52	5,553
2x10	12,5	216	50	70	3,334
2x16	14,3	328	57	94	2,127
3x4	11,0	157	44	31	8,269
3x6	11,7	211	55	39	5,553
4x4	12,3	208	49	31	8,269
4x6	13,1	282	55	39	5,553
4x10	15,1	433	60	54	3,334
4x16	17,3	654	69	72	2,127
5x4	13,7	260	55	31	8,269
5x6	14,6	352	55	39	5,553
5x10	16,8	541	67	54	3,334
5x16	19,3	818	77	65	2,127

- The current rating is in according to the Spanish regulation REBT ITC-BT-06.
- Other construction upon request

AERIAL BUNDLE CABLES

AERIAL CABLES



LXS

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE



STANDARDS:

CONSTRUCTION

NP 3528 / HD 626
DMA C33-209

FIRE PERFORMANCE

IEC 60754-1 EN 60754-1

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene

GENERAL APPLICATIONS:

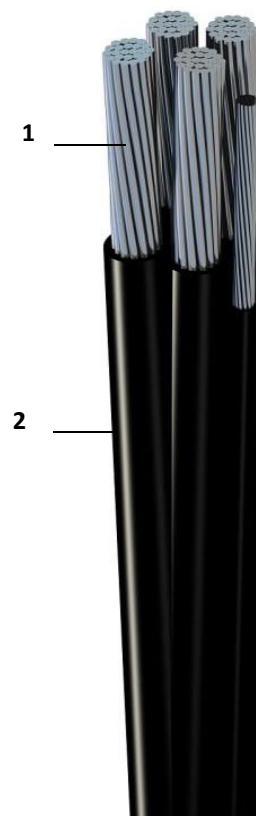
Cables for overhead power distribution systems mainly for public distribution.
Outdoor installation in overhead lines tightened between supports, lines attached to façades.
Excellent resistance to external agents.
Not suitable for installation directly underground.

GENERAL CHARACTERISTICS:

Test voltage	4 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating	Voltage drop
nc x mm ²	mm	kg/km	mm	Air 30 °C	Cos φ= 0,8
				A	V/A.km
*2x16	15,0	136	70	85	3,489
3x16	16,0	204	70	75	3,489
*4x16	18,0	272	70	75	3,489
5x16	21,0	325	84	75	3,489
4x25	18,5	407	85	97	2,226
*4x25+16	19,0	475	85	100	2,226
4x25+2x16	21,0	527	88	100	2,226
4x35	24,7	549	95	120	1,632
4x35+16	26,0	612	100	120	1,632
4x35+2x16	28,0	677	135	120	1,632
4x50	29,5	714	130	150	1,229
*4x50+16	30,5	782	135	150	1,229
4x50+2x16	32,0	782	135	150	1,229
4x70	31,0	892	150	190	0,860
* 4x70+16	33,0	1.090	160	190	0,860
4x70+2x16	35,0	1.090	160	190	0,860
*4x95+16	39,0	1.404	170	230	0,652

Cables certified by the company Karam Indústria Limitada

Other construction upon request

AERIAL BUNDLE CABLES

AERIAL CABLES



RZ AL

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE



STANDARDS:

CONSTRUCTION

UNE 21030-2

FIRE PERFORMANCE

IEC 60754-1

EN 60754-1

CONSTRUCTION:

1. CONDUCTOR

AL Aluminium stranded class 2, to IEC 60228

Al Almelec when applicable 29,5 / 54,6 / 80 mm²

2. INSULATION

XLPE Cross-linked polyethylene

GENERAL APPLICATIONS:

Cables for overhead power distribution systems mainly for public distribution.

Outdoor installation in overhead lines tightened between supports, lines attached to façades.

Excellent resistance to external agents.

Not suitable for installation directly underground.

GENERAL CHARACTERISTICS:

Test voltage

4 kV a.c. (5 min.)

Maximum temperature rating of the conductor

+90 °C

Short-circuit temperature of the conductor

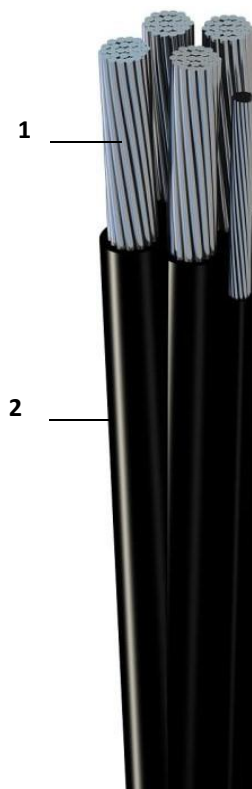
250 °C (t ≤ 5s)

Maximum pulling force over conductor (N)

over conductors 30 x Section mm²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Type	Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
	nc x mm ²	mm	kg/km	mm	A	V/A.km
without neutral suspension	2x16	14,4	132	60	81	3,489
	2x25	17,4	205	70	109	2,226
	4x16	17,5	265	70	72	3,489
	4x25	21,1	397	85	97	2,226
	4x50	27,2	687	140	144	1,229
	3x95/50	34,3	1.133	170	223	0,652
	3x150/95	41,8	1.742	210	301	0,446
with neutral suspension	1x25/54,6	21,5	322	120	110	2,224
	1x50/54,6	24,1	397	140	165	1,227
	3x25/29,5	22,0	422	130	97	2,226
	3x25/54,6	24,8	522	150	100	2,226
	3x50/29,5	26,0	634	150	144	1,229
	3x50/54,6	31,2	743	190	150	1,229
	3x95/54,6	40,6	1.191	240	230	0,652
	3x150/80	48,2	1.726	290	305	0,446

- The current rating is in according to UNE 211435, table A.2 (cables exposed to solar radiation).
- Other construction upon request.

AERIAL BUNDLE CABLES

AERIAL CABLES



TORSADE Aérienne de Branchement

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE



STANDARDS:

CONSTRUCTION

NF C 33-209
HD 626
XP C 20540

FIRE PERFORMANCE

IEC 60754-1 EN 60754-1
IEC 60754-2 EN 60754-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2, to IEC 60228
Al Almelec 54,6 mm² when applicable
Pair Pilot Copper solid class 1 (when applicable)

2. INSULATION

XLPE Cross-linked polyethylene

GENERAL APPLICATIONS:

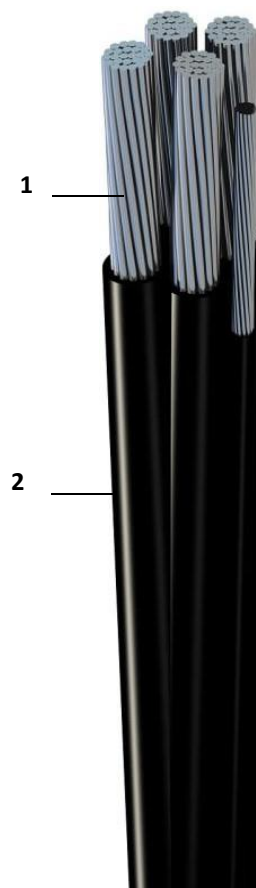
Cables for overhead power distribution systems mainly for public distribution.
Outdoor installation in overhead lines tightened between supports, lines attached to façades.
Excellent resistance to external agents.
Not suitable for installation directly underground.

GENERAL CHARACTERISTICS:

Test voltage	4 kV a.c. (5 min.)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Type	Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating Air 30 °C	Voltage drop Cos φ= 0,8
	nc x mm ²	mm	kg/km	mm	A	V/A.km
without neutral suspension	2x16	15,0	136	70	85	3,489
	2x16+2x1,5	15,5	151	70	85	3,489
	**2x25	18,0	200	85	97	2,226
	**2x25+2x1,5	18,5	234	85	97	2,226
	2x35	20,1	279	95	120	1,632
	2x35+2x1,5	20,6	291	95	120	1,632
	2x50	24,0	364	130	150	1,229
	2x50+2x1,5	24,5	381	130	150	1,229
	4x16	18,0	272	70	75	3,489
	4x16+2x1,5	18,5	289	70	75	3,489
	**4x25	22,0	399	85	97	2,226
	**4x25+2x1,5	22,5	435	85	97	2,226
	4x35	24,7	549	95	120	1,632
	4x35+2x1,5	25,2	549	95	120	1,632
	1x54,6 + 3x25 + Kx16	31.1	552	120	100	2,226
	1x54,6 + 3x35 + Kx16	33.4	786	130	120	1,632
with neutral suspension	1x54,6 + 3x50 + Kx16	36.2	998	140	150	1,229
	1x54,6 + 3x70 + Kx16	38.2	1.162	150	190	0,860
	1x54,6 + 3x70 + Kx25	40.9	1.192	160	190	0,860
	1x70 + 3x70 + Kx16	41.7	1.182	165	190	0,860
	1x70 + 3x95 + Kx16	44.3	1.392	175	230	0,652
	1x70 + 3x120 + Kx16	46.4	1.686	185	273	0,504
	1x70 + 3x150 + Kx16	48.6	1.875	195	305	0,446
	1x95 + 3x120 + Kx16	47.5	1.792	190	273	0,504
	1x95 + 3x150 + Kx16	49.6	1.991	198	305	0,446

- ** Suspended cable: Conductor, whose primary function is to support cable in overhead installations, may be separate or integral to the cable it supports.
K: represents the number of street lighting conductors; can be equal to 1, 2 or 3.
- The current rating is in according to IEC 60364-5-52, table B.52.13, installation method E.

AERIAL BUNDLE CABLES

AERIAL CABLES



ABC Aerial Bundled Cables

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE



STANDARDS:

CONSTRUCTION

SANS 1418 parte 1 e 2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2

Al Alloy 54,6 mm² (when applicable)

2. INSULATION

XLPE Cross-linked polyethylene

GENERAL APPLICATIONS:

Cables for overhead power distribution systems mainly for public distribution.

Outdoor installation in overhead lines tightened between supports, lines attached to façades.

Excellent resistance to external agents.

Not suitable for installation directly underground.

GENERAL CHARACTERISTICS:

Test voltage

4 kV a.c. (5 min.)

Maximum temperature rating of the conductor

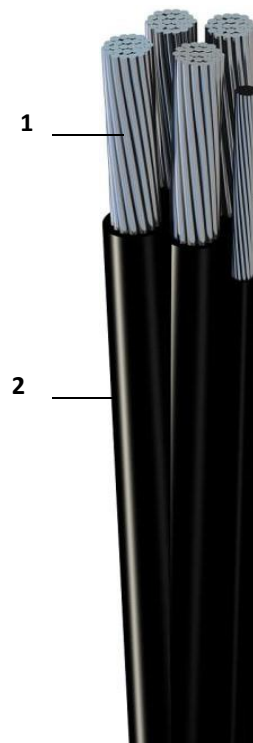
+90 °C

Short-circuit temperature of the conductor

250 °C (t ≤ 5s)

Maximum pulling force over conductor (N)

over conductors 30 x Section mm²



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum current rating	Voltage drop
nc x mm ²	mm	kg/km	mm	Air 30 °C	Cos φ= 0,8
				A	V/A.km
AL 10/2	13,2	98	180	55	4,289
AL 16/2	14,6	135	215	81	3,489
AL 25/2	20,5	200	300	109	2,226
AL 35/3+16A+54,6N	30,7	705	440	120	1,632
AL 35/3+25A+54,6N	33,4	740	450	120	1,632
AL 50/3+54,6N	30,3	735	440	150	1,229
AL 50/3+16A+54,6N	32,7	800	500	150	1,229
AL 50/3+2x16A+54,6N	36,7	890	540	150	1,229
AL 50/3+25A+54,6N	33,4	840	510	150	1,229
AL 70/3+16A+54,6N	37,9	1.035	560	190	0,860
AL 70/3+2x16A+54,6N	43,9	1.120	650	190	0,860
AL 70/3+25A+54,6N	39,9	1.070	590	190	0,860
AL 95/3+54,6N	36,7	1.185	540	230	0,652
AL 95/3+2x16A+54,6N	48,4	1.345	720	230	0,652
AL 95/3+25A+54,6N	43,9	1.285	650	230	0,652
AL 120/3+25A+54,6N	47,7	1.492	710	273	0,504
AL 150/3+2x16A+54,6N	57,1	1.795	850	305	0,446
AL 150/3+2x95	52,6	2.080	770	305	0,446
AL 16/4	20,3	266	300	81	3,489
AL 25/4	24,2	404	360	109	2,226
AL 50/4+25A	34,3	795	515	150	1,229
AL 70/4+25A	42,5	1.104	580	190	0,860
AL 95/4+25A	44,3	1.410	640	230	0,652
AL 95/4+2x16A	48,4	1.419	720	230	0,652
AL 120/4	43,2	1.562	640	273	0,504
AL 120/4+2x16A	52,6	1.695	780	273	0,504

- Other construction upon request

5

HIGH SECURITY CABLES

RZ1-K (AS)

FXZ1 (frt,zh)

XZ1 (frt,zh)

FR-N1 X1G1 (-U / -R)

FR-N1 X1G1 -AR

RZ1 (AS) AL / LXZ1 (frt,zh)

XZ1 (S) AL



HIGH SECURITY CABLES

HALOGEN FREE



RZ1-K (AS)

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

UNE 21123-4

IEC 60502-1

FIRE PERFORMANCE

EN 60332-1-2

IEC 60332-1-2

EN 60332-3-24

IEC 60332-3-24

EN 60754-1

IEC 60754-1

EN 60754-2

IEC 60754-2

EN 61034-2

IEC 61034-2

CONSTRUCTION:

1. CONDUCTOR

Copper flexible class 5 (-K)
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour, to HD 308.S2

3. SHEATH

LSOH Halogen-free thermoplastic polyolefin
type ST8, to IEC 60502-1

GENERAL APPLICATIONS:

Power supply in places requiring extra fire safety precautions. Fire retardant, high security cable. Suitable for fixed installations, in public areas such as hospitals, hotels, shopping malls, computer and communication centers and, in general, in all places where it is required a high degree of protection of persons and assets or/and with a large number of people and electrical and electronic equipment.

They can also be used in exterior installations, since protected from solar radiation and never in contact with water.

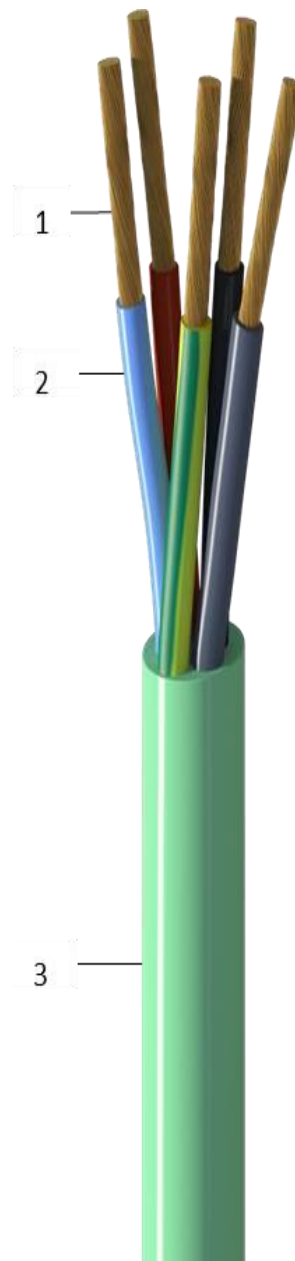
Can be supplied upon agreement: Oil resistant, Hydrocarbon resistance.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

RZ1-K (AS)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x1,5	5,7	52	25	23	27,314
1x2,5	6,1	61	25	32	16,443
1x4	6,7	79	30	42	10,252
1x6	7,3	101	30	54	6,871
1x10	8,3	143	35	75	4,023
1x16	9,3	199	40	100	2,587
1x25	11,1	289	45	135	1,477
1x35	12,4	383	50	169	1,073
1x50	14,2	529	60	207	0,773
1x70	16,1	719	70	268	0,568
1x95	17,7	939	70	328	0,449
1x120	19,1	1.177	75	383	0,368
1x150	21,4	1.481	90	444	0,311
1x185	24,0	1.756	100	510	0,271
1x240	26,7	2.312	135	607	0,223
1x300	30,3	2.902	155	703	0,193

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
2x1,5	8,7	103	35	26	27,260
2x2,5	9.5	132	40	36	16,401
2x4	10.6	176	45	49	10,211
2x6	11.7	227	50	63	6,835
2x10	13.6	334	60	86	3,993
2x16	15.7	472	65	115	2,561
2x25	18.9	709	75	149	1,684
2x35	21.4	955	85	185	1,211
2x50	23.0	1.162	100	225	0,876
2x70	24.9	1.604	150	289	0,642
2x95	27.9	2.085	140	352	0,506
2x120	31.5	2.649	160	410	0,413
2x150	34.7	3.269	175	473	0,349
2x185	37.9	3.962	190	542	0,303
2x240	43.6	5.231	220	641	0,248
3x1,5	9.2	118	40	23	27,260
3x2,5	10.1	159	45	32	16,401
3x4	11.3	214	45	42	10,211
3x6	12.5	277	50	54	6,835
3x10	14.3	423	60	75	3,993
3x16	16.7	607	70	100	2,561
3x25	20.3	914	80	127	1,458
3x35	22.9	1.235	95	158	1,057
3x50	25.1	1.559	100	192	0,759
3x70	29.4	2.175	150	246	0,556
3x95	32.7	2.810	165	298	0,438
3x120	36.9	3.568	185	346	0,358
3x150	40.8	4.429	205	399	0,302
3x185	44.5	5.352	225	456	0,262
3x240	50,6	7.062	305	538	0,215

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.5, installation method D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

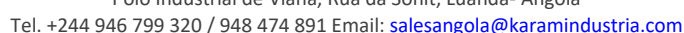
Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
4x1,5	10,7	160	40	23	23,605
4x2,5	11,8	210	45	32	14,197
4x4	13,1	281	50	42	8,838
4x6	14,4	366	55	54	5,918
4x10	16,8	550	65	75	3,457
4x16	19,3	793	75	100	2,217
4x25	23,7	1.215	90	127	1,458
4x35	26,8	1.623	125	158	1,055
4x50	31,4	2.296	140	195	0,758
4x70	38,2	3.315	165	246	0,556
4x95	35,7	3.748	180	298	0,438
4x120	40,5	4.775	205	346	0,358
4x150	44,6	5.900	225	399	0,302
4x185	21,1	7.215	250	456	0,262
4x240	23,4	9.560	340	538	0,215
5x1,5	11,5	176	40	23	23,605
5x2,5	12,7	236	50	32	14,197
5x4	14,2	322	55	42	8,838
5x6	15,7	426	60	54	5,918
5x10	18,4	649	70	75	3,456
5x16	21,1	944	80	100	2,216
5x25	26,1	1.453	95	127	1,457
5x35	29,4	1.950	135	158	1,055
5x50	32,6	2.655	155	195	0,758
5x70	38,2	3.305	180	246	0,556
5x95	44,6	5.332	210	298	0,438

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.

HALOGEN FREE



COPPER • XLPE • POLYOLEFIN LSZH



FXZ1 (frt,zh)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x1,5	5,7	52	25	23	27,314
1x2,5	6,1	61	25	32	16,443
1x4	6,7	79	30	42	10,252
1x6	7,3	101	30	54	6,871
1x10	8,3	143	35	75	4,023
1x16	9,3	199	40	100	2,587
1x25	11,1	289	45	135	1,477
1x35	12,4	383	50	169	1,073
1x50	14,2	529	60	207	0,773
1x70	16,1	719	70	268	0,568
1x95	17,7	939	70	328	0,449
1x120	19,1	1.177	75	383	0,368
1x150	21,4	1.481	90	444	0,311
1x185	24,0	1.756	100	510	0,271
1x240	26,7	2.312	135	607	0,223
1x300	30,3	2.902	155	703	0,193
1x400	34,9	3.984	175	823	0,164

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
2x1,5	8,7	103	35	26	27,260
2x2,5	9.5	132	40	36	16,401
2x4	10.6	176	45	49	10,211
2x6	11.7	227	50	63	6,835
2x10	13.6	334	60	86	3,993
2x16	15.7	472	65	115	2,561
2x25	18.9	709	75	149	1,684
2x35	21.4	955	85	185	1,211
2x50	23.0	1.162	100	225	0,876
2x70	24.9	1.604	150	289	0,642
2x95	27.9	2.085	140	352	0,506
2x120	31.5	2.649	160	410	0,413
2x150	34.7	3.269	175	473	0,349
2x185	37.9	3.962	190	542	0,303
2x240	43.6	5.231	220	641	0,248
3x1,5	9.2	118	40	23	27,260
3x2,5	10.1	159	45	32	16,401
3x4	11.3	214	45	42	10,211
3x6	12.5	277	50	54	6,835
3x10	14.3	423	60	75	3,993
3x16	16.7	607	70	100	2,561
3x25	20.3	914	80	127	1,458
3x35	22.9	1.235	95	158	1,057
3x50	25.1	1.559	100	192	0,759
3x70	29.4	2.175	150	246	0,556
3x95	32.7	2.810	165	298	0,438
3x120	36.9	3.568	185	346	0,358
3x150	40.8	4.429	205	399	0,302
3x185	44.5	5.352	225	456	0,262
3x240	50,6	7.062	305	538	0,215

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.5, installation method D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

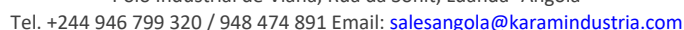
Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
4x1,5	10,7	160	40	23	23,605
4x2,5	11,8	210	45	32	14,197
4x4	13,1	281	50	42	8,838
4x6	14,4	366	55	54	5,918
4x10	16,8	550	65	75	3,457
4x16	19,3	793	75	100	2,217
4x25	23,7	1.215	90	127	1,458
4x35	26,8	1.623	125	158	1,055
4x50	31,4	2.296	140	195	0,758
4x70	38,2	3.315	165	246	0,556
4x95	35,7	3.748	180	298	0,438
4x120	40,5	4.775	205	346	0,358
4x150	44,6	5.900	225	399	0,302
4x185	21,1	7.215	250	456	0,262
4x240	23,4	9.560	340	538	0,215
5x1,5	11,5	176	40	23	23,605
5x2,5	12,7	236	50	32	14,197
5x4	14,2	322	55	42	8,838
5x6	15,7	426	60	54	5,918
5x10	18,4	649	70	75	3,456
5x16	21,1	944	80	100	2,216
5x25	26,1	1.453	95	127	1,457
5x35	29,4	1.950	135	158	1,055
5x50	32,6	2.655	155	195	0,758
5x70	38,2	3.305	180	246	0,556
5x95	44,6	5.332	210	298	0,438

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.

HALOGEN FREE



COPPER • XLPE • POLYOLEFIN LSZH





PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x4	7,0	72	51	42	36	8,288
	1x6	7,3	91	54	54	44	5,567
	1x10	8,2	131	61	75	58	3,349
	1x16	9,1	188	68	100	75	2,140
	1x25	10,7	282	81	135	96	1,389
	1x35	11,8	370	90	169	115	1,026
	1x50	13,2	487	101	207	135	0,780
	1x70	14,9	694	114	268	167	0,566
	1x95	16,9	938	130	328	197	0,429
	1x120	18,5	1.183	143	383	223	0,357
	1x150	20,7	1.434	161	444	251	0,305
	1x185	22,7	1.801	177	510	281	0,260
	1x240	25,0	2.327	195	607	324	0,216
	1x300	28,1	3.016	220	703	365	0,188
	1x400	31,0	4.018	243	823	---	0,164
	1x500	35,0	4.788	275	946	---	0,145
	1x630	40,1	6.147	316	1.088	---	0,129
	2x1,5	8,5	100	34	26	25	21,500
	2x2,5	9,3	129	37	36	33	13,206
	2x4	10,2	169	41	49	43	8,252
	2x6	11,2	220	45	63	53	5,536
	2x10	13,5	338	108	86	71	3,322
	2x16	15,3	479	122	115	91	2,117
	2x25	18,8	739	150	149	116	1,370
	2x35	21,0	964	168	185	136	1,009
	2x50	23,8	1.272	190	225	164	0,766
	2x70	27,2	1.785	218	289	203	0,553
	2x95	30,9	2.386	247	352	239	0,418
	2x120	33,9	2.981	271	410	271	0,346
	2x150	38,2	3.651	306	473	309	0,295
	2x185	42,2	4.572	338	542	343	0,251
	2x240	46,6	5.841	373	641	395	0,208

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	3x1,5	9,0	115	36	23	21	21,500
	3x2,5	9,8	154	39	32	28	13,206
	3x4	10,8	206	43	42	36	8,252
	3x6	11,8	272	47	54	44	5,536
	3x10	14,1	423	113	75	58	3,322
	3x16	16,1	613	129	100	75	2,117
	3x25	19,7	934	158	127	96	1,370
	3x35	22,1	1.232	177	158	115	1,009
	3x50	25,0	1.636	200	192	135	0,766
	3x70	29,0	2.342	232	246	167	0,553
	3x95	32,9	3.147	263	298	197	0,418
	3x120	40,6	4.011	325	346	223	0,346
	3x150	45,9	4.909	367	399	251	0,295
	3x185	45,9	6.152	367	456	281	0,251
	3x240	50,9	7.919		538	324	0,208
	4x1,5	10,7	137	39	23	21	21,500
	4x2,5	11,6	185	42	32	28	13,206
	4x4	12,7	251	47	42	36	8,252
	4x6	13,9	336	52	54	44	5,536
	4x10	16,5	526	124	75	58	3,322
	4x16	18,7	769	142	100	75	2,117
	4x25	22,7	1.199	177	127	96	1,370
	4x35	25,3	1.582	198	158	115	1,009
	4x50	28,9	2.104	225	192	135	0,766
	4x70	33,2	3.014	259	246	167	0,553
	4x95	37,7	4.053	295	298	197	0,418
	4x120	41,6	5.120	326	346	223	0,346
	4x150	47,9	6.337	375	399	251	0,295
	4x185	52,8	7.952	414	456	281	0,251
	4x240	57,8	10.181	454	538	324	0,208

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	5x1,5	11,4	161	42	23	21	21,500
	5x2,5	12,5	220	46	32	28	13,206
	5x4	13,7	300	51	42	36	8,252
	5x6	15,0	403	56	54	44	5,536
	5x10	17,9	630	135	75	58	3,322
	5x16	20,4	927	155	100	75	2,117
	5x25	24,8	1.438	190	127	96	1,370
	5x35	27,8	1.914	217	158	115	1,009
	5x50	31,9	2.583	249	192	135	0,766
	5x70	36,8	3.698	288	246	167	0,553
	5x95	41,9	5.035	332	298	197	0,418
	5x120	46,2	6.353	366	346	223	0,346
	5x150	52,0	7.714	413	399	251	0,295
	5x185	57,4	9.691	456	456	281	0,251
	3x16+10	18,7	712	142	100	75	2,117
	3x25+16	22,7	1.092	174	127	96	1,370
	3x35+16	25,3	1.390	194	158	115	1,009
	3x50+25	28,7	1.882	222	192	135	0,766
	3x70+35	3,8	2.720	261	246	167	0,553
	3x95+50	37,5	3.593	292	298	197	0,418
	3x120+70	41,6	4.637	325	346	223	0,346
	3x150+70	46,9	5.536	367	399	251	0,295
	3x185+95	52,0	7.034	408	456	281	0,251
	3x240+120	57,4	8.806	451	528	324	0,208

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in accordance to IEC 60364-5-52, table B.52.5 method of installation D1.

HIGH SECURITY CABLES

HALOGEN FREE



FR-N1 X1G1

RATED VOLTAGE U_0/U 0,6/1 kV

COPPER • XLPE • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

NF C32-323

FIRE PERFORMANCE

NF C32-070 Cat. C1

NF EN 60332-1-2

NF EN 60267-2-2

NF EN 60332-3-24

NF EN 60267-2-1

NF EN 61034-2

CONSTRUCTION:

1. CONDUCTOR

Copper solid class 1 –(U) / stranded class 2 (-R) $\leq 4\text{mm}^2$
stranded class 2 (-R) $\geq 6\text{mm}^2$
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene
Identification by colour (NF C32-322 F1)

3. SHEATH

LSOH Halogen-free thermoplastic polyolefin
Green colour

GENERAL APPLICATIONS:

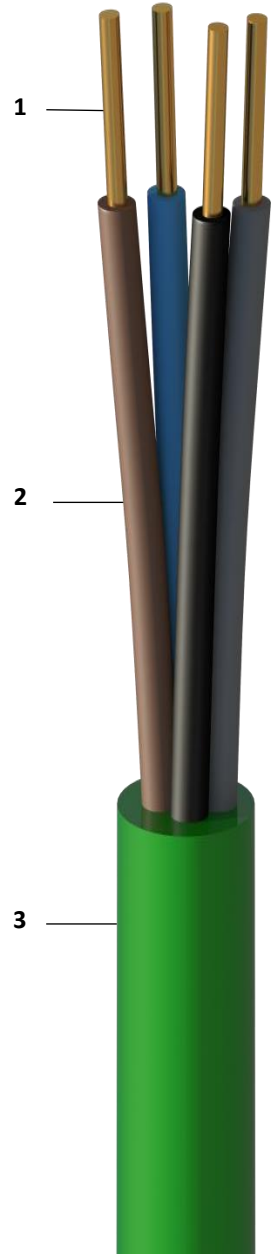
Cable for use in public and industrial environments when properties against fire propagation, smoke emission, toxic and corrosive gases are required in case of fire. Industrial use on dry building columns where strict safety standards must be met. Good resistance to low temperatures, chemical agents, and general mechanical stress. It can be installed outdoors, in pipes or in cable trunking. May be placed directly on the ground for short periods if the soil is not flooded and if adequate mechanical protection is provided. With adequate mechanical protection, it can be used in explosive areas, with adequate mechanical protection, but in case of permanent use, the current intensity is reduced by 15%.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-15 °C (n the absence of mechanical stresses)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t $\leq$ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm^2 over sheath: $3 \times d^2$

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

FR-N1 X1G1

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x1,5	5,4	49	23	23	21	21,540
	1x2,5	5,9	62	25	32	28	13,251
	1x4	6,4	80	27	42	36	8,288
	1x6	6,7	99	28	54	44	5,567
	1x10	7,6	140	32	75	58	3,349
	1x16	8,5	199	36	100	75	2,140
	1x25	10,1	295	42	135	96	1,389
	1x35	11,2	385	46	169	115	1,026
	1x50	12,6	505	52	207	135	0,780
	1x70	14,3	714	59	268	167	0,566
	1x95	16,3	959	67	328	197	0,429
	1x120	17,9	1.206	73	383	223	0,357
	1x150	20,1	1.459	82	444	251	0,305
	1x185	22,1	1.828	90	510	281	0,260
	1x240	24,4	2.357	99	607	324	0,216
	1x300	27,5	3.049	140	703	365	0,188
	1x400	31,0	5.628	155	823	---	0,164
	1x500	35,0	6.859	175	946	---	0,145
	1x630	40,1	8.868	201	1.088	---	0,129
	2x1,5	9,5	101	38	26	25	21,500
	2x2,5	10,3	128	41	36	33	13,206
	2x4	11,2	164	45	49	43	8,252
	2x6	12,2	211	49	63	53	5,536
	2x10	14,3	314	57	86	71	3,322
	2x16	16,1	444	64	115	91	2,117
	2x25	19,4	667	78	149	116	1,370
	2x35	21,6	869	86	185	136	1,009

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method F for single core cables, and installation method E for multicore cables.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 for single core cables, and table B.52.3 for multicore cables, installation method D1.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	3x1,5	10,0	119	40	23	21	21,500
	3x2,5	10,8	155	43	32	28	13,206
	3x4	11,8	205	47	42	36	8,252
	3x6	12,8	268	51	54	44	5,536
	3x10	15,1	409	60	75	58	3,322
	3x16	17,1	590	68	100	75	2,117
	3x25	20,7	896	83	127	96	1,370
	3x35	23,1	1.178	92	158	115	1,009
	3x50	26,2	1.565	131	192	135	0,766
	3x70	30,2	2.040	151	246	167	0,553
	3x95	34,1	2.739	171	298	197	0,418
	3x120	37,6	3.469	188	346	223	0,346
	3x150	42,2	4.184	211	399	251	0,295
	3x185	46,9	5.277	235	456	281	0,251
	3x240	51,9	6.813	260	538	324	0,208
	3x50+35	28,9	1.899	145	192	135	0,766
	3x70+50	33,2	2.679	166	246	167	0,553
	3x95+50	37,7	3.439	189	298	197	0,417
	3x120+70	41,6	4.421	208	346	223	0,346
	3x150+70	46,7	5.222	234	399	251	0,295
	3x185+70	52,0	6.421	260	456	281	0,251
	3x240+95	57,4	8.305	287	538	324	0,208
	4x1,5	10,7	141	43	23	21	21,500
	4x2,5	11,6	187	46	32	28	13,206
	4x4	12,7	251	51	42	36	8,252
	4x6	13,9	333	56	54	44	5,536
	4x10	16,5	514	66	75	58	3,322
	4x16	18,7	748	75	100	75	2,117
	4x25	22,7	1.143	91	127	96	1,370
	4x35	25,3	1.508	127	158	115	1,009
	4x50	28,9	2.011	145	192	135	0,766
	4x70	33,2	2.877	166	246	167	0,553
	4x95	37,7	3.863	189	298	197	0,418
	4x120	41,6	4.884	208	346	223	0,346
	4x150	46,7	5.914	234	399	251	0,295
	4x185	52,0	7.469	260	456	281	0,251
	4x240	57,4	9.630	287	538	324	0,208
	5x1,5	11,4	163	42	23	21	21,500
	5x2,5	12,5	220	46	32	28	13,206
	5x4	13,7	298	51	42	36	8,252
	5x6	15,0	398	56	54	44	5,536
	5x10	17,9	623	135	75	58	3,322
	5x16	20,4	912	155	100	75	2,117
	5x25	24,8	1.396	190	127	96	1,370

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 installation method D1.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

FR-N1 X1G1 Control

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Maximum resistance at 20
nc x mm ²	mm	kg/km	mm	Ω/km
7x1,5	12,5	241	60	12.1
7x2,5	13,7	307	66	7.41
7x4	15,1	400	74	4.61
8x1,5	12,5	253	71	12.1
8x2,5	13,7	328	78	7.41
8x4	15,1	433	84	4.61
12x1,5	15,4	286	77	12.1
12x2,5	17,1	409	85	7.41
12x4	18,9	577	95	4.61
19x1,5	18,0	420	90	12.1
19x2,5	20,0	610	100	7.41
19x4	22,3	874	112	4.61
24x1,5	20,4	519	102	12.1
24x2,5	22,8	758	115	7.41
27x1,5	20,4	570	110	12.1
27x2,5	22,8	837	122	7.41
37x1,5	20,4	741	117	12.1
37x2,5	22,8	1.101	134	7.41

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

HIGH SECURITY CABLES

HALOGEN FREE



FR-N1 X1G1 -AR

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

NF C32-323

FIRE PERFORMANCE

NF C32-070 Cat. C1

IEC 60332-3-24

IEC 60332-1-2

IEC 602754-1

IEC 30332-1-2

IEC 61034-2

CONSTRUCTION:

1. CONDUCTOR

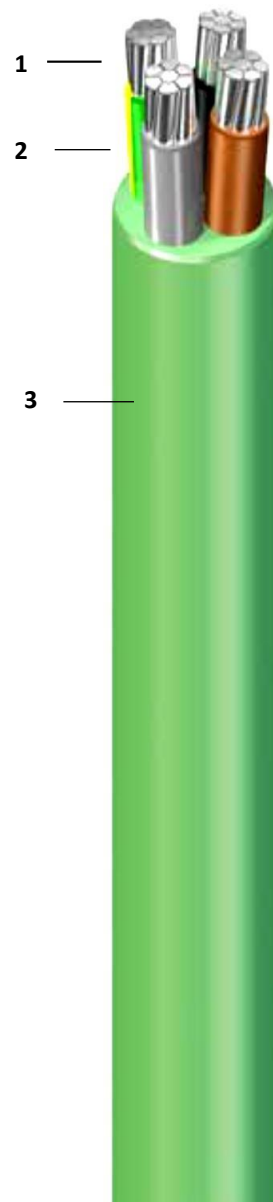
AL stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene
Identification by colour (NF C32-322 F1)

3. SHEATH

LSOH Halogen-free thermoplastic polyolefin
Green colour



GENERAL APPLICATIONS:

Cable for use in public and industrial environments when properties against fire propagation, smoke emission, toxic and corrosive gases are required in case of fire. Industrial use on dry building columns where strict safety standards must be met. Good resistance to low temperatures, chemical agents, solar radiation and general mechanical stress. It can be installed outdoors, in pipes or in cable trunking. May be placed directly on the ground for short periods if the soil is not flooded and if adequate mechanical protection is provided. Installation must be in accordance with NF C 15-100.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-15 °C (n the absence of mechanical stresses)
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

FR-N1 X1G1 -AR

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x16	8,9	104	36	77	59	3,501
	1x25	10,5	146	42	103	75	2,236
	1x35	11,6	183	46	129	90	1,642
	1x50	12,8	225	51	159	103	1,236
	1x70	14,8	304	59	206	130	0,879
	1x95	16,7	397	67	253	154	0,657
	1x120	18,3	477	73	296	174	0,536
	1x150	20,4	594	82	343	197	0,452
	1x185	22,5	735	90	395	220	0,376
	1x240	25,4	937	127	471	253	0,306
	1x300	27,9	1.208	140	547	286	0,260
	1x400	32,0	1.566	160	663	----	0,219
	1x500	34,8	2.041	174	770	----	0,187
	1x630	39,1	2.556	196	899	----	0,162
	2x16	16,1	444	64	91	71	3,478
	2x25	19,4	667	78	108	90	2,217
	2x35	21,6	869	86	135	108	1,625

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F for single core cables, and installation method E for multicore cables.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 for single core cables, and table B.52.3 for multicore cables, installation method D1.



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	3x16	17,4	365	70	77	59	3,478
	3x25	20,8	532	85	97	75	2,217
	3x35	23,3	680	90	120	90	1,625
	3x50	25,8	851	140	146	106	1,221
	3x70	30,2	1.114	165	187	130	0,867
	3x95	34,1	1.539	180	227	154	0,645
	3x120	37,8	1.891	200	263	174	0,526
	3x150	42,4	2.384	220	304	197	0,443
	3x185	47,1	2.982	245	347	220	0,368
	3x240	53,3	3.835	360	409	253	0,252
	3x50+35	29,8	1..785	150	146	106	1,221
	3x70+50	34,5	1.592	175	187	130	0,867
	3x95+50	37,7	1.929	190	227	154	0,645
	3x120+70	43,5	2.103	220	263	174	0,526
	3x150+70	44,4	2.728	235	304	197	0,443
	3x185+70	49,5	3.398	250	347	220	0,368
	3x240+95	51,1	4.297	335	409	253	0,252
	4x16	18,7	412	75	77	59	3,478
	4x25	22,6	597	95	97	75	2,217
	4x35	25,3	772	100	120	90	1,625
	4x50	28,4	1.185	155	146	106	1,221
	4x70	35,3	1.533	180	187	130	0,867
	4x95	39,7	1.917	200	227	154	0,645
	4x120	44,9	2.364	230	263	174	0,526
	4x150	48,8	2.931	245	304	197	0,443
	4x185	53,8	3.696	325	347	220	0,368
	4x240	60,8	4.533	370	409	253	0,252
	5x16	20,8	545	85	77	59	3,478
	5x25	24,6	829	105	97	75	2,217

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 installation method D1.

HIGH SECURITY CABLES

HALOGEN FREE



RZ1 (AS) AL / LXZ1 (frit,zh)

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

UNE 21123-4
IEC 60502-1

FIRE PERFORMANCE

EN 60332-1-2	IEC 60332-1-2
EN 60332-3-24	IEC 60332-3-24
EN 60754-1	IEC 60754-1
EN 60754-2	IEC 60754-2
EN 61034-2	IEC 61034-2

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene, to IEC 60502-1
Identification by colour, to HD 308.S2

3. SHEATH

LS0H Halogen-free thermoplastic polyolefin
type ST8, to IEC 60502-1

GENERAL APPLICATIONS:

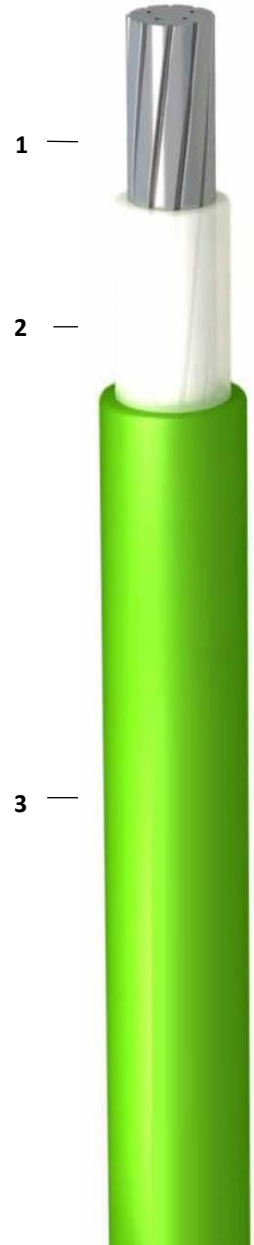
Cable for use in public and industrial environments when properties against fire propagation, smoke emission, toxic and corrosive gases are required in case of fire. Industrial use on dry building columns where strict safety standards must be met. Good resistance to low temperatures, chemical agents, solar radiation and general mechanical stress. *They can also be used outdoors, as long as they are protected from sunlight and not in contact with water.*

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ² over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

RZ1 (AS) AL / LXZ1 (frt,zh)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x16	9,1	104	36	77	59	3,501
	1x25	10,7	146	43	103	75	2,236
	1x35	11,8	183	47	129	90	1,642
	1x50	13,0	225	52	159	103	1,236
	1x70	15,0	304	60	206	130	0,879
	1x95	16,9	397	68	253	154	0,657
	1x120	18,5	477	74	296	174	0,536
	1x150	20,6	594	82	343	197	0,452
	1x185	22,7	735	91	395	220	0,376
	1x240	25,6	937	128	471	253	0,306
	1x300	28,1	1.208	141	547	286	0,260
	1x400	32,2	1.566	161	663	----	0,219
	1x500	35,0	2.041	175	770	----	0,187
	1x630	39,3	2.556	197	899	----	0,162
	2x16	16,1	327	65	91	71	3,478
	2x25	19,4	449	75	98	93	2,217
	2x35	21,6	592	85	108	99	1,625
	3x16	17,4	365	70	77	59	3,478
	3x25	20,8	532	85	97	75	2,217
	3x35	23,3	680	90	120	90	1,625
	3x50	25,8	851	140	146	106	1,221
	3x70	30,2	1.114	165	187	130	0,867
	3x95	34,1	1.539	180	227	154	0,645
	3x120	37,8	1.891	200	263	174	0,526
	3x150	42,4	2.384	220	304	197	0,443
	3x185	47,1	2.982	245	347	220	0,368
	3x240	53,3	3.835	360	409	253	0,252
	4x16	18,7	412	75	77	59	3,478
	4x25	22,6	597	95	97	75	2,217
	4x35	25,3	772	100	120	90	1,625
	4x50	28,4	1.185	155	146	106	1,221
	4x70	35,3	1.533	180	187	130	0,867
	4x95	39,7	1.917	200	227	154	0,645
	4x120	44,9	2.364	230	263	174	0,526
	4x150	48,8	2.931	245	304	197	0,443
	4x185	53,8	3.696	325	347	220	0,368
	4x240	60,8	5.533	370	409	253	0,252

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

RZ1 (AS) AL / LXZ1 (frt,zh)

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	5x16	20,8	545	85	77	59	3,478
	5x25	24,6	829	105	97	75	2,217
	5x35	28,3	772	202	120	90	1,632
	5x50	30,4	1.018	227	146	106	1,221
	5x70	35,3	1.185	218	187	130	0,867
	5x95	39,5	1.533	252	227	154	0,645
	5x120	42,9	1.917	279	263	174	0,526
	5x150	51,1	2.364	305	304	197	0,443
	5x185	55,0	2.931	336	347	220	0,368

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.13, installation method F for single core cables, and installation method E for multicore cables.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5 for single core cables, and table B.52.5 for multicore cables, installation method D1.

HIGH SECURITY CABLES

HALOGEN FREE



XZ1 (S) AL

RATED VOLTAGE U_0/U 0,6/1 kV

ALUMINIUM • XLPE • POLYOLEFIN LSZH



STANDARDS:

CONSTRUCTION

UNE-HD 603-5X
(HD 603S1/A3)

FIRE PERFORMANCE

EN 60332-1-2	IEC 60332-1-2
EN 60754-1	IEC 60754-1
EN 60754-2	IEC 60754-2
EN 61034	IEC 61034

CONSTRUCTION:

1. CONDUCTOR

AL stranded class 2
to IEC 60228

2. INSULATION

XLPE Cross-linked polyethylene

3. SHEATH

LSOH Halogen-free thermoplastic polyolefin

GENERAL APPLICATIONS:

Cable for use in low voltage power distribution in permanent indoor and outdoor fixed installations, protected or not, in industrial areas, buildings, and similar applications.

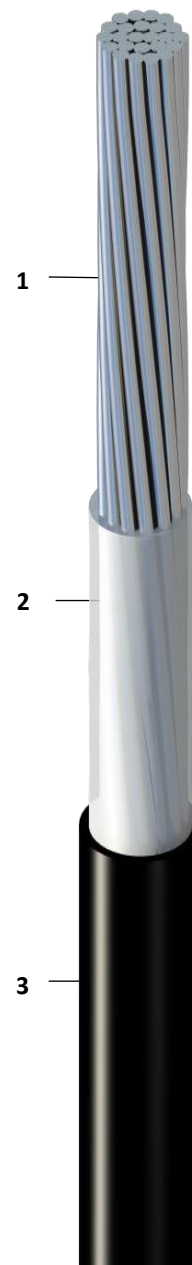
These cables are recommended for installation in public places and in places where the level of security should be high.

GENERAL CHARACTERISTICS:

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 30 x Section mm ²
	over sheath: 3 x d ²

APPROVALS:

The cables are certified by:



NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

XZ1 (S) AL

HALOGEN FREE



PHYSICAL AND ELECTRICAL CHARACTERISTICS

	Cross Section nc x mm ²	Nominal overall diameter mm	Nominal weight kg/km	Minimum bending radius mm	Max. current rating		Voltage drop Cos φ= 0,8 V/A.km
					Air 30 °C A	Buried 20 °C A	
	1x25	10,7	148	40	135	96	2,235
	1x35	11,8	186	45	169	115	1,639
	1x50	12,8	229	50	207	135	1,234
	1x70	15,0	316	60	268	167	0,876
	1x95	16,7	402	65	328	197	0,654
	1x120	18,3	484	75	383	223	0,534
	1x150	20,2	593	80	444	251	0,449
	1x185	22,5	747	90	510	281	0,373
	1x240	25,2	941	130	607	324	0,303
	1x300	27,7	1.217	140	703	365	0,257
	1x400	31,6	1.567	160	823	----	0,217

- on the Air the current rating is in according to IEC 60364-5-52 table B.52.12, installation method E.
- Buried the current rating is in according to IEC 60364-5-52, table B.52.5, installation method D1.

6

VERY HIGH SECURITY CABLES HALOGEN-FREE / FIRE RESISTANT

RZ1-K PH90 (AS+)

FXZ1 (frs,zh)

XZ1 (frs,zh)



LOW VOLTAGE CABLES
CATALOGUE

COPPER • MICA • XLPE • POLYOLEFIN LSZH



1 —

2.1 —

2.2 —

3 —

RZ1-K PH90 (AS+)

HALOGEN FREE / FIRE RESISTANT



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x4	6,9	99	30	42	10,252
1x6	7,7	134	30	54	6,871
1x10	9,5	159	55	75	4,023
1x16	10,5	219	60	100	2,587
1x25	11,9	320	70	135	1,477
1x35	13,2	455	80	169	1,073
1x50	14,7	565	90	207	0,773
1x70	16,8	765	100	268	0,568
1x95	18,4	968	110	328	0,449
1x120	20,6	1.225	125	383	0,368
1x150	22,4	1.492	135	444	0,311
1x185	24,5	1.823	145	510	0,271
1x240	27,7	2.375	165	607	0,223
1x300	31,4	2.975	190	703	0,193
2x1,5	8,9	113	35	26	27,260
2x2,5	9,7	142	40	36	16,401
2x4	10,8	186	45	49	10,211
2x6	11,9	237	50	63	6,835
2x10	13,8	344	60	86	3,993
2x16	15,9	482	65	115	2,561
2x25	19,1	719	75	149	1,684
2x35	21,6	965	85	185	1,211
2x50	23,2	1.172	140	225	0,876
2x70	25,1	1.614	160	289	0,642
2x95	28,2	2.095	170	352	0,506
3x1,5	9,4	128	40	23	27,260
3x2,5	10,3	169	45	32	16,401
3x4	11,5	224	45	42	10,211
3x6	12,7	287	50	54	6,835
3x10	14,5	433	60	75	3,993
3x16	16,9	617	70	100	2,561
3x25	20,5	924	80	127	1,458
3x35	23,1	1.245	95	158	1,057
3x50	25,4	1.569	160	192	0,759
3x70	29,6	2.185	190	246	0,556
3x95	32,9	2.820	200	298	0,438

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

RZ1-K PH90 (AS+)

HALOGEN FREE / FIRE RESISTANT



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
4x1,5	10,9	170	40	23	23,605
4x2,5	12,0	220	45	32	14,197
4x4	13,2	291	50	42	8,838
4x6	14,6	376	60	54	5,918
4x10	17,0	560	70	75	3,457
4x16	19,5	713	80	100	2,217
4x25	23,9	1.225	100	127	1,458
4x35	27,0	1.633	130	158	1,057
4x50	31,6	2.216	170	167	0,758
4x70	38,4	3.325	200	214	0,556
4x95	35,9	3.758	230	259	0,438
5x1,5	11,7	186	50	23	23,605
5x2,5	12,9	246	60	32	14,197
5x4	14,4	332	65	42	8,838
5x6	15,9	436	70	54	5,918
5x10	18,6	659	80	75	3,456
5x16	21,3	954	90	100	2,216
5x25	26,3	1.463	100	127	1,457
5x35	29,6	1.960	145	158	1,057
5x50	32,8	2.665	210	167	0,758
5x70	38,4	3.315	240	214	0,556
5x95	44,8	5.342	270	259	0,438

- Current rating is in according to IEC 60364-5-52, table B.52.12, installation method F for single core cables, and installation method E for multicore cables.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

HALOGEN FREE / FIRE RESISTANT

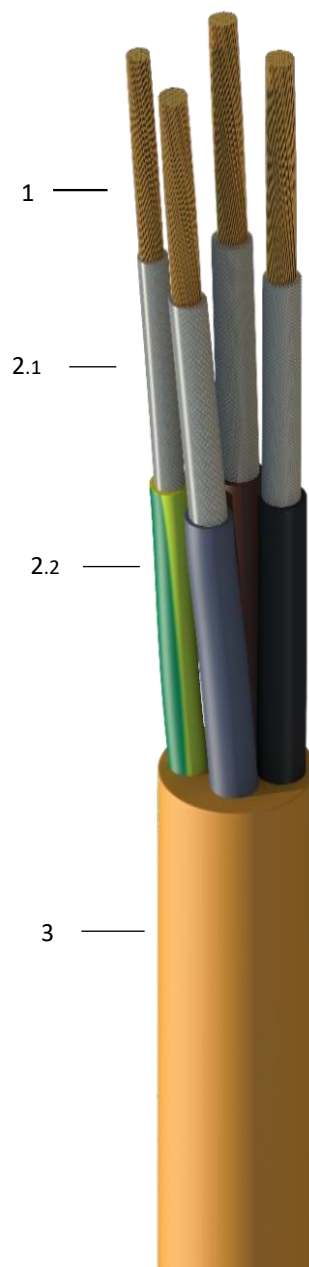


COPPER • MICA • XLPE • POLYOLEFIN LS0H



EN 60332-1-2	IEC 60332-1-2
EN 60332-3-24	IEC 60332-3-24
EN 60754-1	IEC 60754-1
EN 60754-2	IEC 60754-2
EN 61034-2	IEC 61034-2
EN 50200	EN 50362
IEC 60331	

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤ 5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²



FXZ1 (frs,zh)

HALOGEN FREE / FIRE RESISTANT



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x4	6,9	99	30	42	10,252
1x6	7,7	134	30	54	6,871
1x10	9,5	159	55	75	4,023
1x16	10,5	219	60	100	2,587
1x25	11,9	320	70	135	1,477
1x35	13,2	455	80	169	1,073
1x50	14,7	565	90	207	0,773
1x70	16,8	765	100	268	0,568
1x95	18,4	968	110	328	0,449
1x120	20,6	1.225	125	383	0,368
1x150	22,4	1.492	135	444	0,311
1x185	24,5	1.823	145	510	0,271
1x240	27,7	2.375	165	607	0,223
1x300	31,4	2.975	190	703	0,193
2x1,5	8,9	113	35	26	27,260
2x2,5	9,7	142	40	36	16,401
2x4	10,8	186	45	49	10,211
2x6	11,9	237	50	63	6,835
2x10	13,8	344	60	86	3,993
2x16	15,9	482	65	115	2,561
2x25	19,1	719	75	149	1,684
2x35	21,6	965	85	185	1,211
2x50	23,2	1.172	140	225	0,876
2x70	25,1	1.614	160	289	0,642
2x95	28,2	2.095	170	352	0,506
3x1,5	9,4	128	40	23	27,260
3x2,5	10,3	169	45	32	16,401
3x4	11,5	224	45	42	10,211
3x6	12,7	287	50	54	6,835
3x10	14,5	433	60	75	3,993
3x16	16,9	617	70	100	2,561
3x25	20,5	924	80	127	1,458
3x35	23,1	1.245	95	158	1,057
3x50	25,4	1.569	160	192	0,759
3x70	29,6	2.185	190	246	0,556
3x95	32,9	2.820	200	298	0,438

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

FXZ1 (frs,zh)

HALOGEN FREE / FIRE RESISTANT



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
4x1,5	10,9	170	40	23	23,605
4x2,5	12,0	220	45	32	14,197
4x4	13,2	291	50	42	8,838
4x6	14,6	376	60	54	5,918
4x10	17,0	560	70	75	3,457
4x16	19,5	713	80	100	2,217
4x25	23,9	1.225	100	127	1,458
4x35	27,0	1.633	130	158	1,057
4x50	31,6	2.216	170	167	0,758
4x70	38,4	3.325	200	214	0,556
4x95	35,9	3.758	230	259	0,438
5x1,5	11,7	186	50	23	23,605
5x2,5	12,9	246	60	32	14,197
5x4	14,4	332	65	42	8,838
5x6	15,9	436	70	54	5,918
5x10	18,6	659	80	75	3,456
5x16	21,3	954	90	100	2,216
5x25	26,3	1.463	100	127	1,457
5x35	29,6	1.960	145	158	1,057
5x50	32,8	2.665	210	167	0,758
5x70	38,4	3.315	240	214	0,556
5x95	44,8	5.342	270	259	0,438

- Current rating is in according to IEC 60364-5-52, table B.52.12, installation method F for single core cables, and installation method E for multicore cables.

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email: salesangola@karamindustria.com

HALOGEN FREE / FIRE RESISTANT

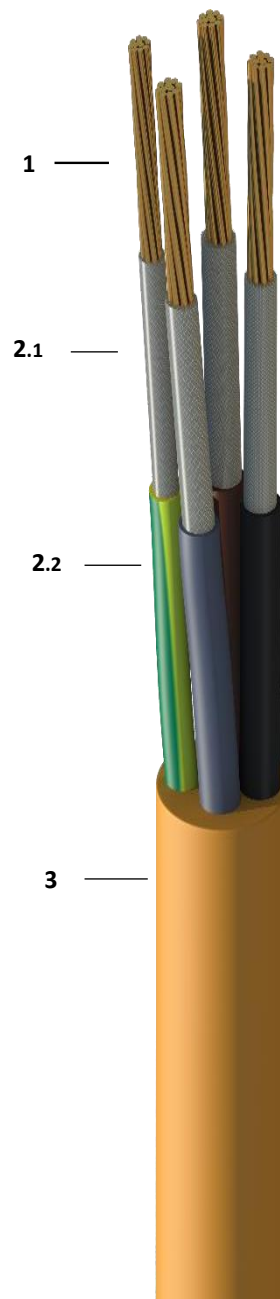


COPPER • MICA • XLPE • POLYOLEFIN LS0H



EN 60332-1-2	IEC 60332-1-2
EN 60332-3-24	IEC 60332-3-24
EN 60754-1	IEC 60754-1
EN 60754-2	IEC 60754-2
EN 61034-2	IEC 61034-2
EN 50200	EN 50362
IEC 60331	

Test voltage	3,5 kV a.c. (5 min.)
Minimum operating temperature	-40 °C
Maximum temperature rating of the conductor	+90 °C
Short-circuit temperature of the conductor	250 °C (t ≤5s)
Maximum pulling force over conductor (N)	over conductors 50 x Section mm ² over sheath: 3 x d ²





PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
1x4	6,9	99	30	42	8,281
1x6	7,7	134	30	54	5,567
1x10	9,5	159	55	75	3,343
1x16	10,5	219	60	100	2,135
1x25	11,9	320	70	135	1,385
1x35	13,2	455	80	169	1,022
1x50	14,7	565	90	207	0,777
1x70	16,8	765	100	268	0,563
1x95	18,4	968	110	328	0,427
1x120	20,6	1.225	125	383	0,355
1x150	22,4	1.492	135	444	0,303
1x185	24,5	1.823	145	510	0,258
1x240	27,7	2.375	165	607	0,215
1x300	31,4	2.975	190	703	0,187
2x1,5	8,9	113	35	26	21,498
2x2,5	9,7	142	40	36	13,204
2x4	10,8	186	45	49	8,250
2x6	11,9	237	50	63	5,533
2x10	13,8	344	60	86	3,320
2x16	15,9	482	65	115	2,115
2x25	19,1	719	75	149	1,368
2x35	21,6	965	85	185	1,007
2x50	23,2	1.172	140	225	0,764
2x70	25,1	1.614	160	289	0,552
2x95	28,2	2.095	170	352	0,416
3x1,5	9,4	128	40	23	23,605
3x2,5	10,3	169	45	32	14,197
3x4	11,5	224	45	42	8,838
3x6	12,7	287	50	54	5,918
3x10	14,5	433	60	75	3,456
3x16	16,9	617	70	100	2,216
3x25	20,5	924	80	127	1,457
3x35	23,1	1.245	95	158	1,055
3x50	25,4	1.569	160	192	0,758
3x70	29,6	2.185	190	246	0,556
3x95	32,9	2.820	200	298	0,438



PHYSICAL AND ELECTRICAL CHARACTERISTICS

Cross Section	Nominal overall diameter	Nominal weight	Minimum bending radius	Max. current rating Air 30 °C	Voltage drop Cos φ= 0,8
nc x mm ²	mm	kg/km	mm	A	V/A.km
4x1,5	10,9	170	40	23	21,500
4x2,5	12,0	220	45	32	13,206
4x4	13,2	291	50	42	8,252
4x6	14,6	376	60	54	5,536
4x10	17,0	560	70	75	3,322
4x16	19,5	713	80	100	2,117
4x25	23,9	1.225	100	127	1,370
4x35	27,0	1.633	130	158	1,009
4x50	31,6	2.216	170	192	0,766
4x70	38,4	3.325	200	246	0,553
4x95	35,9	3.758	230	298	0,418
5x1,5	11,7	186	50	23	21,500
5x2,5	12,9	246	60	32	13,206
5x4	14,4	332	65	42	8,252
5x6	15,9	436	70	54	5,536
5x10	18,6	659	80	75	3,322
5x16	21,3	954	90	100	2,117
5x25	26,3	1.463	100	127	1,370
5x35	29,6	1.960	145	158	1,009
5x50	32,8	2.665	210	192	0,766
5x70	38,4	3.315	240	246	0,553
5x95	44,8	5.342	270	298	0,418

- Current rating is in according to IEC 60364-5-52, table B.52.12, installation method F for single core cables, and installation method E for multicore cables.



Krown Cables

NIF: 5417267040

Polo Industrial de Viana, Rua da Sonit, Luanda- Angola

Tel. +244 946 799 320 / 948 474 891 Email:

salesangola@karamindustria.com