

Power Cables



Prysmian

Draka

Prysmian Group

International reach, local expertise - we're an innovative world leader when it comes to cable technology, and we match that with our worldwide presence. Spanning 50 countries, 106 plants, 25 research and development centres, and with about 29,000 employees, we've a strategic footprint that allows us to service emerging markets and communities across the globe with ease.

We're proud to be a public company; it's central to who we are as a business. And our employees agree – around 50% of them are shareholders. Listed on the Milan Stock Exchange in the FTSE MIB Index, our core focus is to create innovative products and deliver groundbreaking projects that secure long-term

We're linking the world with the future of cable technology.

profit, ensure value for our shareholders, and inspire continued market confidence in the company.

We offer the widest range of services and know-how in the business. Each year, the Group manufactures thousands of kilometers of underground and submarine cables and systems for power transmission and distribution, as well as medium and low voltage cables for the construction and infrastructure sectors. We also produce a comprehensive range of optical fibres, copper cables and connectivity systems for voice, video and data transmission for the telecommunications sector.



Prysmian Group Baltics



Our manufacturing plant in Keila was established in 1968 and nowadays belongs to Prysmian Group. From our strategic location we provide support to both local and foreign customers for power and telecommunication cables and related accessories. In the Baltics, with the plant and main office in Keila, Estonia, and offices in Riga, Latvia and Vilnius, Lithuania, we employ about 160 people in plant operations, sales and marketing, customer care, logistics, purchasing, finances and administration.

SUCCESS FACTORS:

- we guarantee quality (ISO 9001, ISO 14001)
- we monitor occupational safety (ISO 45001)
- we have continuous production 24/7
- we are constantly looking for improvement opportunities
- we enhance the working environment with the 6S method

Power Cables

Power cables are the backbone of energy systems. Therefore, the quality of these cables are essential in ensuring continuous energy flow to consumers. Using cables with poor quality can significantly increase the probability of faults in energy systems that can be very costly or even dangerous to people.

Our cables are tested in accordance with all applicable standards and are produced according to the needs of our customers. Continuous improvement regarding materials and technology to provide the best quality on the market is our priority.

Product range covers a broad spectrum of power cables based on the market needs. Cables are available from low-voltage bare conductors to high-voltage watertight underground cables and even submarine cables.

Application, compliance with standards and important parameters regarding specific cable are shown on the product page of each cable. In addition to the products included in this catalogue, also other types of power cables are available, as agreed separately with the customer.

PRYSMIAN GROUP REPRESENTS THE THREE WELL-KNOWN COMMERCIAL BRANDS:

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General Cable



Table of Contents

Bare Conductors		Power Cables 24 kV	
A	4	AHXAMK-W 12/20 (24) kV	44
ACSR	6	AXALJ-TT 12/20(24) kV	46
HK	8	AXCLJ-TT 12/20(24) kV	48
		AXLJ-RMF 12/20(24) kV	50
		AXLJ-TTCL TSLF 12/20(24) kV	52
		AXLJ-TTCL TSLF Triplex 12/20(24) kV	54
		AXQJ-RMF PURE 12/20(24) kV	56
		AXQJ-TT PURE 12/20(24) kV	58
		FXQJ-TT PURE TSLI 12/20(24) kV	60
		NA2XSY 12/20(24) kV	62
		NA2XS(F)2Y 12/20(24) kV	64
Aerial Cables		Power Cables 36-52 kV	
AMKA 0,6/1(1,2) kV	10		
EX 0,6/1 kV	12	AXALJ-TT 18/30(36) kV	66
CCST-W 12/20(24) kV	14	AXCLJ-TT 18/30(36) kV	68
PAS-W® 12/20(24) kV	16	AXLJ-RMF 18/30(36) kV	70
		AXLJ-TTCL TSLF 18/30(36) kV	72
		NA2XS(F)2Y 18/30(36) kV	74
		EAXeCeWB 20,8/36(42) kV	76
		AXLJ-TTCL 26/45(52) kV	78
Power Cables 1 kV		Cable Designations	
ARLC 0,6/1 kV and ARLC-PLUS 0,6/1 kV	18		
AXPK 0,6/1 kV	20	Cable Designations Used in Sweden	80
AXPK-PE 0,6/1 kV	22	Cable Designations Used in Norway	81
AXPK-PLUS 0,6/1 kV	24	Cable Designations Used in Finland	82
AXPK-PLUS 1 core 0,6/1 kV	26		
Power Cables 12 kV		Correction Factors	
AHXAMK-W 6/10(12) kV	28		84
AXALJ-TT 6/10(12) kV	30	Drum Handling. Dimensions and Weights	87
AXCLJ-TT 6/10(12) kV	32	Recommendations for Cable Laying	88
AXLJ-RMF 6/10(12) kV	34	Sheath Testing in Medium Voltage Cables	90
AXLJ-TTCL TSLF 6/10(12) kV	36		
AXQJ-RMF PURE 6/10(12) kV	38		
AXQJ-TT PURE 6/10(12) kV	40		
FXLJ-TT 6/10(12) kV	42		



Application

Bare overhead line with stranded aluminium conductor.

Standard

GOST 889-80
EN 50182

Construction

Cable shape	Round
Conductor	Stranded aluminium conductor
Conductor screen	No insulation
Marking of cores	No marking

Temperature

Max operating temperature	80°C
Max short circuit temperature	200°C

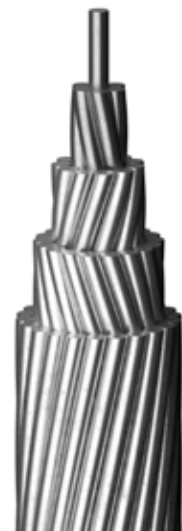
Features

Fire propagation	Not applicable
UV resistance	Good
REACH/SVHC declaration	The cable does not contain any substances on the REACH/SVHC list
RoHS declaration	All substances of the cable meet the requirements of RoHS directive

Product name	Diameter over wire [mm]	Cross section [mm2]	Weight [kg/km]	Number of wires	Min tensile strength of the conductor [kN]
A 25	6,5	24,9	68	7	4,50
A 35	7,5	34,3	94	7	5,91
A 50	9	49,5	135	7	8,19
A 70	11	69,3	189	7	11,28

Product name	Initial modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of conductor [N/mm2]	Coefficient of linear expansion of messenger [1/k]	Max DC resistance at (20°C) [Ω/km]	Current rating in air [A]	Max permissible short circuit current for 1 sec. [kA]
A 25	41000	60000	23x10-6	1,498	136	2,5
A 35	41000	60000	23x10-6	0,835	170	3,4
A 50	41000	60000	23x10-6	0,578	215	5,0
A 70	41000	60000	23x10-6	0,413	265	7,0

ACSR



Application	
Bare overhead line with stranded steel-reinforced aluminium conductors.	
Standard	
IEC 61089	
EN 50182	
SFS 5701	
Construction	
Cable shape	Round
Conductor	Stranded aluminium and galvanized steel wires
Center conductor	Steel
Conductor screen	No insulation
Marking of cores	No marking
Temperature	
Max operating temperature	80°C
Max short circuit temperature	200°C
Features	
Fire propagation	Not applicable
UV resistance	Good
REACH/SVHC declaration	The cable does not contain any substances on the REACH/SVHC list
RoHS declaration	All substances of the cable meet the requirements of RoHS directive

Product name	Number of wires (aluminium / steel)	Diameter over wire [mm]	Cross section [mm2]	Weight [kg/km]	Max permissible short circuit current for 1 sec.** [kA]
ACSR 34/6 SPARROW	6/1	8,1	39,5	137,0	3,7
ACSR 54/9 RAVEN	6/1	10,1	62,4	216,0	5,8
ACSR 85/14 PIGEON	6/1	12,8	99,3	344,0	9,2
ACSR 242/39 HAWK	26/7	21,8	281,0	976,0	26,1
ACSR 305/39 DUCK	54/7	24,1	344,0	1151,0	32,5
ACSR 565/72 FINCH	54/19	32,9	637,0	2123,0	60,1

Product name	Max DC resistance at 20°C [Ω/km]	Min tensile strength of the conductor [kN]	Initial modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of conductor [1/k]	Current rating in air* [A]
ACSR 34/6 SPARROW	0,848	12,20	64000	78000	19,2x10-6	210
ACSR 54/9 RAVEN	0,536	17,11	64000	78000	19,2x10-6	280
ACSR 85/14 PIGEON	0,337	24,13	64000	78000	19,2x10-6	360
ACSR 242/39 HAWK	0,120	84,90	61000	75500	19,2x10-6	745
ACSR 305/39 DUCK	0,095	96,80	50000	67000	19,3x10-6	845
ACSR 565/72 FINCH	0,051	174,00	46000	63000	19,3x10-6	1250

* Air temperature 25°C

** Initial temperature of conductor before short circuit 40°C, final temperature of conductor after short circuit 200°C



Application	
Bare stranded copper wire.	
Standard	
IEC 60228	
Construction	
Cable shape	Round
Conductor	Concentric stranded annealed copper conductor
Conductor screen	No insulation
Marking of cores	No marking
Temperature	
Max operating temperature	80°C
Max short circuit temperature	200°C
Features	
Fire propagation	Not applicable
UV resistance	Good
REACH/SVHC declaration	The cable does not contain any substances on the REACH/SVHC list
RoHS declaration	All substances of the cable meet the requirements of RoHS directive

Product name	Diameter over wire [mm]	Cross section [mm2]	Number of wires	Weight [kg/km]	Max DC resistance at 20°C [Ω/km]	Max permissible short circuit current for 1 sec.* [kA]
HK 16	5,1	15,5	7	140	1,150	2,3
HK 25	6,4	24,7	7	222	0,727	3,8
HK 35	7,5	34,4	7	309	0,524	5,3
HK 50	8,9	46,8	19	422	0,387	7,2
HK 70	10,6	67,1	19	606	0,268	10,3
HK 95	12,5	93,3	19	843	0,193	14,3
HK 120	14,1	117	19	1062	0,153	18,0
HK 150	15,6	148	37	1338	0,124	22,6

* Initial temperature of conductor before short circuit 40°C, final temperature of conductor after short circuit 200°C

AMKA 0,6/1 kV



Application	
Aerial bundled power cable with aluminium conductor and aluminium alloy messenger.	
Standard	
SFS 2200 HD 626-5D IEC 60228	
Construction	
Cable shape	Insulated conductors are laid up around the messenger
Conductor	16 mm²: round and solid aluminium conductor; 25-120 mm²: round, stranded and compacted aluminium conductor
Center conductor	Carrier cable: round, stranded and compacted aluminium alloy conductor
Conductor screen	Black UV and weather resistant PE compound
Marking of cores	Phase conductors: 2,3 or 4 longitudinal ridges; Optional conductor: no ridges
Temperature	
Max short circuit temperature	135°C (5s)
Features	
UV resistance	Good
Min bending radius during installation	20 x D
Min bending radius at final installation	14 x D
REACH/SVHC declaration	The cable does not contain any substances on the REACH/SVHC list
RoHS declaration	All substances of the cable meet the requirements of RoHS directive

Product name	Diameter over bare conductor [mm]	Diameter over messenger [mm]	Effective diameter in wind *	Weight [kg/km]
AMKA 1x16+25, 1kV	4,4	5,8	11	135
AMKA 3x16+25, 1kV	4,4	5,8	20	270
AMKA 3x25+35, 1kV	5,8	6,8	23	390
AMKA 3x35+50, 1kV	6,8	8,0	27	530
AMKA 3x50+70, 1kV	8,0	9,6	31	700
AMKA 3x70+95, 1kV	9,6	11,3	36	1000
AMKA 3x120+95, 1kV	12,7	11,3	42	1500

* Circumference divided by π (Pi)

Product name	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Min tensile strength of the conductor [kN]	Initial modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of messenger [N/mm2]	Coefficient of linear expansion of messenger [N/mm2]
AMKA 1x16+25, 1kV	280	200	7,4	55000	63000	23x10-6
AMKA 3x16+25, 1kV	420	300	7,4	55000	63000	23x10-6
AMKA 3x25+35, 1kV	500	350	10,3	55000	63000	23x10-6
AMKA 3x35+50, 1kV	580	410	14,2	55000	63000	23x10-6
AMKA 3x50+70, 1kV	660	470	20,6	55000	63000	23x10-6
AMKA 3x70+95, 1kV	780	550	27,9	55000	63000	23x10-6
AMKA 3x120+95, 1kV	920	650	27,9	55000	63000	23x10-6

Product name	Max DC resistance of phase at 20°C [Ω/km]	AC resistance of phase [Ω/km]	Max DC resistance of messenger [Ω/km]	Inductance [mH/km]	Max permissible short circuit current for 1sec., phase conductor** [kA]	Max permissible short circuit current for 1sec., messenger** [kA]
AMKA 1x16+25, 1kV	1,910	2,300	1,380	0,29	1,0	1,5
AMKA 3x16+25, 1kV	1,910	2,300	1,380	0,35	1,0	1,5
AMKA 3x25+35, 1kV	1,200	1,400	0,986	0,34	1,6	2,1
AMKA 3x35+50, 1kV	0,868	1,000	0,720	0,34	2,3	3,0
AMKA 3x50+70, 1kV	0,641	0,770	0,493	0,33	3,2	4,3
AMKA 3x70+95, 1kV	0,443	0,530	0,363	0,31	4,5	5,9
AMKA 3x120+95, 1kV	0,253	0,300	0,363	0,30	5,9	5,9

** Initial temperature of conductor before short circuit 70°C, final temperature of conductor after short circuit 135°C

EX 0,6/1 kV



Application	
Aerial bundled power cable with aluminium conductor.	
Standard	
HD 626-3I IEC 60228	
Construction	
Cable shape	Round
Conductor	Round, stranded and compacted aluminium conductor
Conductor screen	Black UV and weather resistant PE compound
Core assembly	Insulated cores are wrapped together
Marking of cores	Marked with longitudinal ridges, 2-core: Neutral-conductor - no ridge, Phase 1 - 1 ridge, 3-core: Phase 1 – 1 ridge, Phase 2 – 2 ridges, Phase 3 – 3 ridges, 4-core: Neutral-conductor - no ridge, Phase 1 - 1 ridge, Phase 2 - 2 ridges, Phase 3 - 3 ridges
Temperature	
Max operating temperature	70°C
Max short circuit temperature	135°C (5s)
Features	
UV resistance	Good
Min bending radius during installation	20 x D
Min bending radius at final installation	14 x D
REACH/SVHC declaration	The cable does not contain any substances on the REACH/SVHC list
RoHS declaration	All substances of the cable meet the requirements of RoHS directive

Product name	Cable diameter [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Min tensile strength of the conductor [kN]	Max DC resistance of conductor at 20°C [Ω/km]	Max permissible short circuit current for 1 sec.* [kA]
EX 2x25	18	205	400	280	4,1	1,200	1,8
EX 3x25	20	305	500	350	4,1	1,200	1,8
EX 3x50	25	525	440	310	7,3	0,641	3,6
EX 3x95	34	1000	640	450	13,7	0,320	6,8
EX 4x16	18	265	360	250	2,6	1,910	1,1
EX 4x25	22	405	680	480	4,1	1,200	1,8
EX 4x35	24	520	350	250	5,6	0,868	2,5
EX 4x50	28	700	470	330	7,3	0,641	3,6
EX 4x70	32	1000	560	390	10,4	0,443	5,0
EX 4x95	38	1350	760	530	13,7	0,320	6,8

* Initial temperature of conductor before short circuit 40°C, final temperature of conductor after short circuit 135°C

CCST-W 12/20 (24) kV



Application

Covered conductor with stranded steel-reinforced aluminium conductors and semi-conductive layer for pole installation.

Standard

IEC 60228
EN 50397-1

Construction

Cable shape	Round
Conductor	CCST-W 39, 62 ja 99: Round stranded aluminium steel reinforced conductor; CCST-W 159 ja 241: Round stranded aluminium alloy conductor
Conductor screen	Semiconductive compound
Outer sheath	Weather resistant PE, black

Temperature

Max operating temperature	70°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Product name	Diameter over conductor [mm]	Diameter over covered conductor [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Min tensile strength of conductor [kN]
CCST-39 W	8,1	13,1	225	200	140	12,2
CCST-62 W	10,1	15,1	309	230	160	8,64
CCST-99 W	12,8	17,8	449	270	190	29,22
CCST-159 W	16,3	21,3	575	320	220	43,61
CCST-241 W	20,1	25,1	829	380	270	61,49

Product name	Initial modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of conductor [N/mm2]	Coefficient of linear expansion of messenger [1/K]	Max DC resistance of conductor at 20°C [Ω/km]	Current rating in air * [A]	Max permissible short circuit current for 1 sec.** [kA]
CCST-39 W	64000	78000	19,2 x 10-6	0,848	170	3,2
CCST-62 W	64000	78000	19,2 x 10-6	0,536	225	5,0
CCST-99 W	64000	78000	19,2 x 10-6	0,337	310	8,0
CCST-159 W	53000	62000	23 x 10-6	0,193	440	15,3
CCST-241 W	53000	62000	23 x 10-6	0,127	580	23,0

* Conductor temperature 70°C
** Initial temperature of conductor before short circuit 40°C, final temperature of conductor after short circuit 200°C

PAS-W® 12/20(24) kV



Application

Covered conductor with stranded and compacted aluminium conductor for pole installation.

Standard

IEC 60228
EN 50397-1

Construction

Cable shape	Round
Conductor	Watertight aluminium alloy, round, stranded and compacted
Outer sheath	Black weather resistant XLPE compound

Temperature

Max operating temperature	80°C
Max short circuit temperature	200°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
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Product name	Diameter over conductor [mm]	Diameter over covered conductor [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Min tensile strength of conductor [kN]
SAX-W 35	6,9	11,5	160	160	110	11,2
SAX-W 50	8,0	12,7	200	180	130	15,5
SAX-W 70	9,7	14,3	270	200	140	22,5
SAX-W 95	11,3	16,1	350	220	160	30,4
SAX-W 120	12,8	17,6	425	250	180	38,0
SAX-W 150	14,2	18,9	510	270	190	47,3

Product name	Initial modulus of elasticity of conductor [N/mm2]	Final modulus of elasticity of conductor [N/mm2]	Coefficient of linear expansion of messenger [1/K]	Max DC resistance of conductor at 20°C [Ω/km]	Current rating in air* [A]	Max permissible short circuit current for 1 sec.** [kA]
SAX-W 35	61000	62500	23x10-6	0,986	200	3,2
SAX-W 50	61000	62500	23x10-6	0,720	245	4,3
SAX-W 70	61000	62500	23x10-6	0,493	310	6,4
SAX-W 95	61000	62500	23x10-6	0,363	370	8,6
SAX-W 120	53000	62000	23x10-6	0,288	430	11,0
SAX-W 150	53000	62000	23x10-6	0,239	485	13,5

* Air temperature 25°C, conductor temperature 80°C
** Initial temperature of conductor before short circuit 40°C, final temperature of conductor after short circuit 200°C

ARLC 0,6/1 kV

ARLC-PLUS 0,6/1 kV



Application	
Road lighting cable with aluminium conductor and copper signal conductor. ARLC-PLUS version is halogen-free.	
Standard	
EN 60228 EN 60332-1-2 IEC 60502-1 HD 603-5D	
Construction	
Cable shape	Round
Conductor	16 mm²: solid round aluminium conductor; 25 mm²: stranded round aluminium conductor; 35 mm²: sector shaped aluminium conductor
Center conductor	2,5 mm²: solid round insulated copper signal conductor
Conductor screen	UV resistant XLPE
Lay up / Shielding	Four insulated conductors stranded together
Core assembly	The cores are wrapped around a compact copper signal conductor
Marking of cores	Phase conductors: brown, black, grey; PEN conductor: yellow-green; Signal conductor: black
Outer sheath	ARLC: black PVC ARLC-PLUS: black self-extinguishing halogen-free compound
Temperature	
Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	ARLC: -15°C, below 0°C special precautions are recommended ARLC-PLUS: -20°C, below 0°C special precautions are recommended
Features	
UV resistance	Good
Bending radius	12 x D

Product name	Cable diameter [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Max permissible pulling force with a pulling grip [kN]
ARLC 4G16 + 2.5Cu	19	380	220	160	0,9
ARLC 4G25 + 2.5Cu	23	540	270	190	1,5
ARLC 4G35 + 2.5Cu	26	690	320	220	2,1
ARLC-PLUS 4G16 + 2.5Cu	19	340	220	160	0,9
ARLC-PLUS 4G25 + 2.5Cu	23	520	270	190	1,5
ARLC-PLUS 4G35 + 2.5Cu	26	630	320	220	2,1

Product name	Max DC resistance of conductor at 20°C [Ω/km]	Current rating in ground * (conductor 70°C) [A]	Current rating in air * (conductor 70°C) [A]	Current rating in air * (conductor 90°C) [A]	Max permissible short circuit current for 1 sec.** [kA]
ARLC 4G16 + 2.5Cu	1,910	78	62	80	1,5
ARLC 4G25 + 2.5Cu	1,200	100	77	101	2,3
ARLC 4G35 + 2.5Cu	0,868	125	95	125	3,3
ARLC-PLUS 4G16 + 2.5Cu	1,910	78	62	80	1,5
ARLC-PLUS 4G25 + 2.5Cu	1,200	100	77	101	2,3
ARLC-PLUS 4G35 + 2.5Cu	0,868	125	95	125	3,3

* The ratings are based on the following conditions : maximum conductor temperature- 90°C, ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,7m
** Initial temperature of conductor before short circuit 90°C, final temperature of conductor after short circuit 250°C

AXPK 0,6/1 kV



Application

Power cable with aluminium conductor. For fixed indoor and outdoor installation, perfect for ploughing down.

Standard

EN 60332-1-2
IEC 60502-1
HD 603-5D
HD 308 S2
EN 60228

Construction

Cable shape	Round
Conductor	16 mm²: stranded and compacted or solid round aluminium conductor; 25 mm²: stranded, compacted and annealed aluminium conductor; 35–300 mm²: stranded, compacted and annealed sector shaped aluminium conductor
Conductor screen	UV resistant XLPE
Lay up / Shielding	Insulated cores are wrapped together
Outer sheath	Black lead free PVC

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-15°C, below 0°C special precautions are recommended

Features

CPR class	Eca
UV resistance	Good
Bending radius	12 x D

Product name	Cable diameter [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Max permissible pulling force with a pulling grip [kN]
AXPK 4G16 RE	19	355	220	160	1,5
AXPK 4G16 RM	20	370	030	160	1,5
AXPK 5G16 RE	20	420	240	170	1,5
AXPK 4G25	21	535	270	190	2,4
AXPK 5G25	25	640	300	210	2,4
AXPK 4G35	23	645	270	190	3,3
AXPK 4G50	27	820	310	220	4,7
AXPK 4G70	30	1120	360	250	6,6
AXPK 4G95	34	1450	400	280	8,9
AXPK 4G120	38	1820	450	320	11,3
AXPK 4G150	42	2210	500	350	14,1
AXPK 4G185	47	2760	560	390	17,4
AXPK 4G240	53	3605	630	440	22,6
AXPK 4G300	58	4380	690	480	28,2

Product name	Max DC resistance of conductor at 20°C [Ω/km]	Current rating in ground ** (conductor 70°C) [A]	Current rating in air ** (conductor 70°C) [A]	Current rating in air ** (conductor 90°C) [A]	Max permissible short circuit current for 1 sec.* [kA]
AXPK 4G16 RE	0,9	78	62	80	1,910
AXPK 4G16 RM	0,9	78	62	80	1,910
AXPK 5G16 RE	1,1	78	62	80	1,910
AXPK 4G25	1,5	100	77	100	1,200
AXPK 5G25	1,8	100	77	100	1,200
AXPK 4G35	2,1	125	95	125	0,868
AXPK 4G50	3,0	150	117	152	0,641
AXPK 4G70	4,2	185	148	196	0,443
AXPK 4G95	5,7	220	180	236	0,320
AXPK 4G120	7,2	255	209	274	0,253
AXPK 4G150	8,5	280	240	316	0,206
AXPK 4G185	8,5	330	274	361	0,164
AXPK 4G240	8,5	375	323	425	0,125
AXPK 4G300	8,5	430	372	490	0,100

* Initial temperature of conductor before short circuit 90°C, final temperature of conductor after short circuit 250°C
** The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,7m

AXPK-PE 0,6/1 kV



Application

Power cable with aluminium conductor. For fixed outdoor installation, perfect for ploughing down.

Standard

IEC 60502-1
HD 603-5D
HD 308 S2
EN 60228

Construction

Cable shape	Round
Conductor	16 mm²: stranded and compacted or solid round aluminium conductor; 25 mm²: stranded, compacted and annealed aluminium conductor; 35–300 mm²: stranded, compacted and annealed sector shaped aluminium conductor
Conductor screen	UV resistant XLPE
Lay up / Shielding	Insulated cores are wrapped together
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-15°C, below 0°C special precautions are recommended

Features

CPR class	Fca
UV resistance	Good
Bending radius	12 x D

Product name	Cable diameter [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Max permissible short circuit current for 1 sec. * [kA]
AXPK-PE 4G16	19	320	220	160	1,5
AXPK-PE 4G16 RM	19	320	230	160	1,5
AXPK-PE 5G16	20	370	240	170	1,5
AXPK-PE 4G25	23	535	270	190	2,4
AXPK-PE 5G25	25	560	300	210	2,4
AXPK-PE 4G35	23	600	270	190	3,4
AXPK-PE 5G35	28	730	330	230	3,4
AXPK-PE 4G50	26	760	310	220	4,7
AXPK-PE 4G70	30	1050	360	250	6,7
AXPK-PE 4G95	34	1360	400	280	8,9
AXPK-PE 4G120	38	1700	450	320	11,4
AXPK-PE 4G150	42	2060	500	350	14,1
AXPK-PE 4G185	46	2650	560	390	17,5
AXPK-PE 4G240	53	3350	630	440	22,6
AXPK-PE 4G300	57	4180	690	480	28,2

* Initial temperature of conductor before short circuit 90°C, final temperature of conductor after short circuit 250°C

Product name	Max permissible pulling force with a pulling grip [kN]	Current rating in ground ** [A]	Current rating in air ** (conductor 70°C) [A]	Current rating in air ** (conductor 90°C) [A]	Max DC resistance of conductor at 20°C [Ω/km]
AXPK-PE 4G16	0,9	78	62	80	1,91
AXPK-PE 4G16 RM	0,9	78	62	75	1,91
AXPK-PE 5G16	1,1	78	62	80	1,91
AXPK-PE 4G25	1,5	100	77	100	1,20
AXPK-PE 5G25	1,8	100	77	100	1,20
AXPK-PE 4G35	2,1	125	95	125	0,868
AXPK-PE 5G35	2,6	125	95	125	0,868
AXPK-PE 4G50	3,0	150	117	152	0,641
AXPK-PE 4G70	4,2	185	148	196	0,443
AXPK-PE 4G95	5,7	220	180	236	0,320
AXPK-PE 4G120	7,2	255	209	274	0,253
AXPK-PE 4G150	8,5	280	240	316	0,206
AXPK-PE 4G185	8,5	330	274	361	0,164
AXPK 4G240	8,5	375	323	425	0,125
AXPK 4G300	8,5	430	372	490	0,100

** The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXPK-PLUS 0,6/1 kV



Application

Halogen-free power cable with aluminium conductor. For fixed indoor and outdoor installation, perfect for ploughing down.

Standard

EN 60332-1-2
IEC 60502-1
HD 603-5D
EN 50575:2014/A1:2016
HD 308 S2
EN 60228

Construction

Cable shape	Round
Conductor	16 mm²: stranded and compacted or solid round aluminium conductor; 25 mm²: stranded, compacted and annealed aluminium conductor; 35–300 mm²: stranded, compacted and annealed sector shaped aluminium conductor
Conductor screen	UV resistant XLPE
Core assembly	Insulated cores are wrapped together
Outer sheath	Black halogen-free self-extinguishing PE compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR class	Eca
UV resistance	Good
Bending radius	12 x D

Product name	Cable diameter [mm]	Weight [kg/km]	Min permissible bending radius during laying [mm]	Min permissible bending radius at final installation [mm]	Max permissible short circuit current for 1 sec. * [kA]
AXPK-PLUS 3x16	17	245	200	140	1,5
AXPK-PLUS 4G16	19	320	220	150	1,5
AXPK-PLUS 4G16 RM	20	335	220	160	1,5
AXPK-PLUS 4G25	23	490	270	190	2,4
AXPK-PLUS 5G16	21	380	240	170	1,5
AXPK-PLUS 5G25	26	585	300	210	2,4
AXPK-PLUS 4G35	23	595	270	190	3,4
AXPK-PLUS 5G35	28	755	330	230	3,4
AXPK-PLUS 4G50	26	765	310	220	4,7
AXPK-PLUS 4G70	30	1050	360	250	6,7
AXPK-PLUS 4G95	34	1365	400	280	8,9
AXPK-PLUS 4G120	38	1700	440	310	11,4
AXPK-PLUS 4G150	42	2095	490	350	14,1
AXPK-PLUS 4G185	47	2620	550	390	17,5
AXPK-PLUS 4G240	53	3465	630	440	22,6
AXPK-PLUS 4G300	59	4215	690	480	28,2

* Initial temperature of conductor before short circuit 90°C, final temperature of conductor after short circuit 250°C

Product name	Max permissible pulling force with a pulling grip [kN]	Current rating in ground ** [A]	Current rating in air ** (conductor 70°C) [A]	Current rating in air ** (conductor 90°C) [A]	Max DC resistance of conductor at 20°C [Ω/km]
AXPK-PLUS 3x16	0,9	78	62	80	1,91
AXPK-PLUS 5G16	1,2	78	62	80	1,91
AXPK-PLUS 4G16 RM	0,9	78	62	80	1,91
AXPK-PLUS 4G25	1,5	100	77	100	1,20
AXPK-PLUS 5G16	1,1	78	62	80	1,91
AXPK-PLUS 5G25	1,8	100	77	100	1,20
AXPK-PLUS 4G35	2,1	125	95	125	0,868
AXPK-PLUS 5G35	2,6	125	95	125	0,868
AXPK-PLUS 4G50	3,0	150	117	152	0,641
AXPK-PLUS 4G70	4,2	185	148	196	0,443
AXPK-PLUS 4G95	5,7	220	180	236	0,320
AXPK-PLUS 4G120	7,2	255	209	274	0,253
AXPK-PLUS 4G150	8,5	280	240	316	0,206
AXPK-PLUS 4G185	8,5	330	274	361	0,164
AXPK-PLUS 4G240	8,5	375	323	425	0,125
AXPK-PLUS 4G300	8,5	430	372	490	0,100

** The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXPK-PLUS 1 core 0,6/1 kV



Application

Halogen-free power cable with round, stranded and compacted aluminium conductor.
For fixed installations indoors and outdoors. Suitable for cable ducts and house connections.

Standard

IEC 60502-1
HD 603 Part 5D
HD 60364-5-52
EN 50575:2014
IEC 60332-1-2

Construction

Cable shape	Round
Conductor	Round, compacted and stranded aluminium conductor
Conductor screen	UV resistant XLPE
Outer sheath	Black halogen-free self-extinguishing PE compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
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Conductors and screen area [mm2]	Cable diameter [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]	Conductor resistance [Ω/km]
1x240	27	940	410	290	0.1250
1x300	29	1090	430	300	0.100
1x400	32	1340	470	330	0.0778
1x500	35	1730	520	370	0.0605
1x630	39	2350	600	420	0.0467
1x800	44	2790	660	460	0.0367

Conductors and screen area [mm2]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x240	397	490	22.6
1x300	460	569	28.2
1x400	558	689	37.8
1x500	647	800	47.2
1x630	754	935	59.5
1x800	830	1050	74.4

AHXAMK-W 6/10(12) kV



Application

3-core stranded power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The cores are stranded around the messenger wire. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section F

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Core assembly	The cores are wrapped around a compact copper conductor. Stranded, round and compacted copper acc. IEC 60228 class 2
Radial water blocking	Aluminum-PE laminate, bonded to sheath
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50+35	15,9	56	1890	840	560
3x70+35	16,9	58	2110	870	580
3x95+35	18,6	61	2440	920	620
3x120+35	20,2	64	2760	970	650
3x150+35	21,5	68	3120	950	640
3x185+35	23,2	71	3530	930	620
3x240+35	26,7	76	4110	1130	760
3x300+35	27,9	81	4940	1110	740

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
3x50+35	0,641	0,25	0,40
3x70+35	0,443	0,28	0,38
3x95+35	0,320	0,32	0,36
3x120+35	0,253	0,35	0,35
3x150+35	0,206	0,38	0,34
3x185+35	0,164	0,41	0,32
3x240+35	0,125	0,46	0,31
3x300+35	0,100	0,51	0,30

Conductors and screen area [mm2]	Current rating in ground ** (conductor 70°C) [A]	Current rating in air ** (conductor 70°C) [A]	Current rating in air ** (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50+35	155	160	195	5,2
3x70+35	200	190	235	7,2
3x95+35	235	230	280	9,9
3x120+35	265	265	325	12,4
3x150+35	300	300	370	15,6
3x185+35	330	345	425	19,2
3x240+35	385	400	490	22,7
3x300+35	435	460	565	31,1

** Trefoil with screen grounded in both end.
The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXALJ-TT 6/10(12) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular aluminium wires and aluminium laminate. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Filler	PE-profiles
Inner covering	Conductive tape
Shielding	Round aluminium wires in contact with aluminium laminate
Radial water blocking	Aluminium laminate bonded to the sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x25/25	14,0	38	1050	470	310
3x50/25	15,9	43	1420	540	360
3x70/25	16,9	46	1690	570	380
3x95/35	18,6	50	2050	610	410
3x120/35	20,2	54	2390	660	440
3x150/35	21,5	57	2760	700	470
3x185/50	23,2	61	3200	650	440
3x240/50	25,4	66	3760	800	530
3x300/50	27,9	72	4590	870	580

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x25/25	1,200	1,2	0,20	0,36
3x50/25	0,641	1,2	0,25	0,33
3x70/25	0,443	1,2	0,28	0,31
3x95/35	0,320	0,8	0,32	0,30
3x120/35	0,253	0,8	0,35	0,28
3x150/35	0,206	0,8	3,80	0,28
3x185/50	0,164	0,6	0,41	0,27
3x240/50	0,125	0,6	0,46	0,26
3x300/50	0,100	0,6	0,51	0,26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1sec. at 70°C [kA]
3x25/25	100	90	110	2,6
3x50/25	145	130	160	5,2
3x70/25	175	155	190	7,2
3x95/35	205	190	230	9,9
3x120/35	230	220	265	12,4
3x150/35	260	250	305	15,6
3x185/50	290	280	340	19,2
3x240/50	340	330	400	22,7
3x300/50	380	375	460	31,1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXCLJ-TT 6/10(12) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminum acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Filler	PE-profiles
Inner covering	Conductive tape
Shielding	Round copper wires in contact with aluminum laminate
Radial water blocking	Aluminum-PE laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x25/16	14,0	38	1070	470	310
3x50/16	15,9	43	1430	540	360
3x70/25	16,9	46	1710	570	380
3x95/25	18,6	48	2070	580	390
3x120/35	20,2	54	2400	660	440
3x150/25	21,5	57	2780	700	470
3x185/50	23,2	61	3240	650	440
3x240/35	25,4	66	3800	800	530
3x300/50	27,9	72	4630	870	580

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x25/16	1,200	1,2	0,2	0,36
3x50/16	0,641	1,2	0,25	0,33
3x70/25	0,443	1,2	0,28	0,31
3x95/25	0,320	0,8	0,32	0,30
3x120/35	0,253	0,8	0,35	0,28
3x150/25	0,206	0,8	3,80	0,28
3x185/50	0,164	0,6	0,41	0,27
3x240/35	0,125	0,6	0,46	0,26
3x300/50	0,100	0,6	0,51	0,26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x25/16	100	90	110	2,6
3x50/16	145	130	160	5,2
3x70/25	175	155	190	7,2
3x95/25	205	190	230	9,9
3x120/35	230	220	265	12,4
3x150/25	260	250	305	15,6
3x185/50	290	280	340	19,2
3x240/35	340	330	400	22,7
3x300/50	380	375	460	31,1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-RMF 6/10(12) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.

Standard

IEC 60502-2
SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Inner covering	Conductive tape
Shielding	Annealed copper wires
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50/16	15,9	44	1300	500	330
3x95/25	18,6	50	1890	600	400
3x150/25	21,5	56	2540	680	460
3x240/35	25,4	66	3540	740	500
3x300/35	27,9	71	4350	860	570

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
3x50/16	0,641	1,2	0,25	0,33
3x95/25	0,320	0,8	0,32	0,26
3x150/25	0,206	0,8	0,38	0,30
3x240/35	0,125	0,6	0,46	0,28
3x300/35	0,100	0,6	0,51	0,26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50/16	145	130	160	5,2
3x95/25	205	190	230	9,9
3x150/25	260	250	305	15,6
3x240/35	340	330	400	22,7
3x300/35	380	375	460	31,1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-TTCL TSLF 6/10(12) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section K
HD 620 Part 10 Section M

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminum-PE laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE
Semi-conducting layer in outer sheath	Yes (facilitates sheath testing)

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D When plowing down: 8 x D

Electrical

Impulse voltage	125 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	15,9	24	560	360	240
1x95/25	18,6	27	810	410	270
1x150/25	21,6	30	1010	450	300
1x240/35	25,4	34	1400	510	340
1x400/35	31,1	40	1950	600	400
1x630/35	38,0	48	2810	710	480

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1x50/16	0.641	1,150	0,23	0,40
1x95/25	0.320	0,727	0,32	0,36
1x150/25	0.206	0,727	0,38	0,28
1x240/35	0.125	0,524	0,46	0,28
1x400/35	0,0778	0,524	0,58	0,27
1x630/35	0,0469	0,524	0,64	0,26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	155	160	195	5,2
1x95/25	235	230	280	9,9
1x150/25	300	300	370	15,6
1x240/35	385	400	490	22,7
1x400/35	510	555	680	41,6
1x630/35	636	720	880	65,6

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXQJ-RMF Pure 6/10(12) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. Cable is halogen-free and self-extinguishing. For fixed outdoor and indoor installations and tunnels. Ploughing down is not recommended.

Standard

IEC 60502-2
SS 424 14 16
HD 620 Part 10 Section M
CENELEC HD 604
EN 60754-1,-2
EN 61034-1,-2
EN 50575:2014

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Inner covering	Conductive tape
Shielding	Annealed copper wires
Ripcord	Aramid
Outer sheath	Black halogen free compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR klass	B2ca-s1d2a1
UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50/16	15.9	44	1520	530	360
3x95/25	18.6	50	2160	610	410
3x150/25	21.5	57	2880	690	460
3x240/35	25.4	62	3960	750	500

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x50/16	0.641	1.2	0.25	0.33
3x95/25	0.320	0.8	0.32	0.30
3x150/25	0.206	0.8	0.38	0.28
3x240/35	0.125	0.6	0.46	0.26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50/16	145	130	160	5.2
3x95/25	205	190	230	9.9
3x150/25	260	250	305	15.6
3x240/35	340	330	400	22.7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K·m/W, depth of burial- 0,65m, frequency- 50Hz.

AXQJ-TT PURE 6/10(12) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. Cable is halogen-free and self-extinguishing. For fixed outdoor and indoor installations and tunnels. Ploughing down is not recommended.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K
HD 604
EN 50575:2014

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium laminate bonded to the sheath
Ripcord	Aramid
Outer sheath	Black halogen free compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR klass	Dca-s2d2a2
UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	15.9	24	640	360	240
1x70/16	16.9	25	710	380	250
1x95/25	18.6	27	880	400	270
1x120/25	20.2	28	980	420	280
1x150/25	21.5	30	1110	450	300
1x185/25	23.2	32	1320	470	320
1x240/35	25.3	34	1520	510	340
1x300/35	27.9	37	1790	550	370
1x400/35	31.1	38	2100	600	400
1x500/35	34	43	2460	650	430
1x630/35	37.9	47	2990	710	470
1x800/50	42.2	52	3830	790	530

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1x50/16	0.641	1.150	0.25	0.40
1x70/16	0.443	1.150	0.28	0.37
1x95/25	0.320	0.727	0.32	0.36
1x120/25	0.253	0.727	0.35	0.34
1x150/25	0.206	0.727	0.38	0.33
1x185/25	0.164	0.727	0.41	0.32
1x240/35	0.125	0.524	0.46	0.31
1x300/35	0.100	0.524	0.5	0.30
1x400/35	0.0778	0.524	0.57	0.29
1x500/35	0.0605	0.524	0.58	0.28
1x630/35	0.0469	0.524	0.64	0.27
1x800/50	0.0367	0.387	0.79	0.27

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	155	160	195	5.2
1x70/16	200	190	235	7.2
1x95/25	235	230	280	9.9
1x120/25	265	265	325	12.4
1x150/25	300	300	370	15.6
1x185/25	330	345	425	19.2
1x240/35	385	400	490	22.7
1x300/35	435	460	565	31.1
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1x630/35	635	720	880	65.6
1x800/50	695	822	1010	83.2

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

FXLJ-TT 6/10(12) kV



Application

3- core power cable primary developed to be ploughed down but thanks to the robust design the cable can withstand the stress that appears when laid in water with moderate currents and limited depth. The design with water swellable yarn and aluminum foil bonded to the sheath makes the cable both radial and longitudinal water sealed, which enhances the expected life length of the cable. Ripcords for easier and safer stripping of the outer sheath.

Standard

HD 620 Part 10 Section K
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted copper acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 3,4 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi conducting water blocking tape and swellable yarn
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium laminate bonded to the sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	75 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x35/16	14,3	38,5	1865	460	310
3x50/16	15,3	41,0	2265	480	320
3x70/16	16,9	44,5	2930	510	340
3x95/25	18,6	48,5	3790	550	370
3x120/25	19,9	51,5	4660	590	390
3x150/25	21,5	55,0	5515	630	420
3x185/35	23,2	59,0	6690	670	450
3x240/35	25,6	64,5	8295	730	490

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x35/16	0,524	1,2	0,22	0,34
3x50/16	0,387	1,2	0,25	0,33
3x70/16	0,268	1,2	0,28	0,31
3x95/25	0,193	0,8	0,32	0,30
3x120/25	0,153	0,8	0,34	0,29
3x150/25	0,124	0,8	0,38	0,28
3x185/35	0,0991	0,6	0,41	0,27
3x240/35	0,0754	0,6	0,46	0,26

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x35/16	140	135	165	5,5
3x50/16	175	165	205	7,8
3x70/16	210	205	250	11,0
3x95/25	250	240	295	14,9
3x120/25	285	280	340	18,9
3x150/25	325	320	390	23,6
3x185/35	360	360	435	29,1
3x240/35	415	420	515	37,7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AHXAMK-W 12/20(24) kV



Application

3-core stranded power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The cores are stranded around the messenger wire. For fixed outdoor installations, suitable for ploughing down.

Standard

IEC 60502-2
HD 620 Part 10 Section F

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Center conductor	Round, stranded and compacted copper conductor
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Core assembly	Three cores are stranded around the centre conductor
Inner covering	Conductive tape
Shield / Screen	Aluminium foil bonded tightly to sheath
Outer sheath	Black PE
Semi-conducting layer in outer sheath	Semiconducting tape

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D When plowing down: 8 x D

Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3X50+35	20.5	63	2300	850	570
3X70+35	21.1	66	2650	890	600
3X95+35	22.8	70	3050	950	630
3X120+35	24.4	73	3350	990	660
3X150+35	25.7	76	3700	1020	680
3X185+35	27.4	79	4150	1070	720
3X240+35	29.6	86	5100	1160	770
3X240+70	29.6	88	5350	1190	800
3X300+35	32.1	91	5800	1220	820
3X300+70	32.1	93	6100	1260	840

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
3X50+35	0.641	0.17	0.40
3X70+35	0.443	0.17	0.38
3X95+35	0.320	0.21	0.36
3X120+35	0.253	0.23	0.35
3X150+35	0.206	0.24	0.34
3X185+35	0.164	0.26	0.32
3X240+35	0.125	0.3	0.31
3X240+70	0.125	0.3	0.31
3X300+35	0.100	0.32	0.30
3X300+70	0.100	0.32	0.30

Conductors and screen area [mm2]	Current rating in ground ** (conductor 70°C) [A]	Current rating in air ** (conductor 70°C) [A]	Current rating in air ** (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3X50+35	155	160	195	5.2
3X70+35	200	190	235	7.2
3X95+35	235	230	280	9.9
3X120+35	265	265	325	12.4
3X150+35	300	300	370	15.6
3X185+35	330	345	425	19.2
3X240+35	385	400	490	22.6
3X240+70	385	400	490	22.6
3X300+35	435	460	565	31.1
3X300+70	435	460	565	31.1

** Trefoil with screen grounded in both end.
The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXALJ-TT 12/20(24) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular aluminium wires and aluminium laminate. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Filler	PE-profiles
Shielding	Round aluminium wires in contact with aluminium laminate
Radial water blocking	Aluminium laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x25/25	17.4	46	1550	550	370
3x50/25	19.5	53	1900	640	430
3x70/25	21.1	56	2260	690	460
3X95/25	22.8	57	2670	690	460
3x120/35	24.4	64	3030	780	520
3x150/35	25.7	63	3390	770	510
3x185/50	27.4	71	3860	790	530
3x240/50	29.6	76	4550	920	610
3x300/50	32.1	83	5440	1000	670

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x25/25	1.200	1.2	0.24	0.41
3x50/25	0.641	1.2	0.17	0.37
3x70/25	0.443	1.2	0.19	0.35
3X95/25	0.320	0.8	0.21	0.34
3x120/35	0.253	0.8	0.23	0.32
3x150/35	0.206	0.8	0.25	0.31
3x185/50	0.164	0.6	0.27	0.30
3x240/50	0.125	0.6	0.3	0.29
3x300/50	0.100	0.6	0.33	0.28

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x25/25	100	90	110	2.6
3x50/25	145	130	160	5.2
3x70/25	175	155	190	7.2
3X95/25	205	190	230	9.9
3x120/35	230	220	265	12.4
3x150/35	260	250	305	15.6
3x185/50	290	280	340	19.2
3x240/50	340	330	400	22.7
3x300/50	380	375	460	31.1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXCLJ-TT 12/20(24) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminum acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Inner covering	Conductive tape
Shielding	Round copper wires in contact with aluminum laminate
Outer sheath	UV resistant PE
Radial water blocking	Aluminum-PE laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Back PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x25/16	17.4	48	1550	580	390
3X50/16	19.5	53	1910	640	430
3x70/16	21.1	56	2270	690	460
3X95/25	22.8	57	2680	680	460
3x120/25	24.4	64	3050	730	490
3X150/25	25.7	67	3400	800	540
3x185.35	27.4	71	3900	790	530
3X240/35	29.6	76	4580	910	610
3X300/35	32.1	83	5460	930	620

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
3x25/16	1.200	1.2	0.24	0.41
3X50/16	0.641	1.2	0.17	0.37
3x70/16	0.443	1.2	0.19	0.35
3X95/25	0.32	0.8	0.21	0.34
3x120/25	0.253	0.8	0.23	0.32
3X150/25	0.206	0.8	0.25	0.31
3x185.35	0.164	0.6	0.27	0.30
3X240/35	0.125	0.6	0.30	0.29
3X300/35	0.100	0.6	0.33	0.28

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x25/16	100	90	110	2.6
3X50/16	145	130	160	5.2
3x70/16	175	155	190	7.2
3X95/25	205	190	230	9.9
3x120/25	230	220	265	12.4
3X150/25	260	250	305	15.6
3x185.35	290	280	340	19.2
3X240/35	340	330	400	22.7
3X300/35	380	375	460	31.1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-RMF 12/20(24) kV



Application	
3-core power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.	
Standard	
SS 424 14 16 HD 620 Part 10 Section M	
Construction	
Cable shape	Triangular
Conductor	Stranded, round, compacted aluminum acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Inner covering	Conductive tape
Shielding	Annealed copper wires
Ripcord	Aramid
Outer sheath	Black PE
Temperature	
Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended
Features	
UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D When plowing down: 8 x D
Electrical	
Impulse voltage	125kV

Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50/16	19.5	52	1710	630	420
3x95/25	22.8	60	2450	720	480
3x150/25	25.7	66	3130	800	530
3x240/35	29.6	75	4240	900	600

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x50/16	0.641	1.2	0.17	0.37
3x95/25	0.320	0.8	0.21	0.35
3x150/25	0.206	0.8	0.25	0.31
3x240/35	0.125	0.6	0.30	0.29

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50/16	145	130	160	5.2
3x95/25	205	190	230	9.9
3x150/25	260	250	305	15.6
3x240/35	340	330	400	22.7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-TTCL TSLF 12/20(24) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section M
HD 620 Part 10 Section K

Construction

Cable shape	Round
Conductor	Stranded, round, compressed aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi-conducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum laminate
Radial water blocking	Aluminium laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE
Semi-conducting layer in outer sheath	Yes (facilitates sheath testing)

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D When plowing down: 8 x D

Electrical

Impulse voltage	125 kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	19.5	28	700	420	280
1x70/16	21.1	30	830	450	300
1x95/25	22.8	32	970	480	320
1x120/25	24.4	33	1110	500	340
1x150/25	25.7	35	1200	490	330
1x185/25	27.4	37	1430	550	370
1x240/35	29.5	39	1630	580	390
1x300/35	32.1	42	1910	620	420
1x400/35	42.9	53	2810	670	450
1x500/35	38.2	48	2590	720	480
1x630/50	42.3	52	3220	780	520
1x800/50	45.6	56	3960	820	550

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1x50/16	0.641	1.150	0.17	0.43
1x70/16	0.443	1.150	0.19	0.41
1x95/25	0.320	0.727	0.21	0.39
1x120/25	0.253	0.727	0.23	0.38
1x150/25	0.206	0.727	0.25	0.36
1x185/25	0.164	0.727	0.27	0.35
1x240/35	0.125	0.524	0.3	0.34
1x300/35	0.100	0.524	0.33	0.33
1x400/35	0.0778	0.524	0.24	0.30
1x500/35	0.0605	0.524	0.40	0.31
1x630/50	0.0469	0.387	0.45	0.29
1x800/50	0.0367	0.387	0.45	0.29

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	155	160	195	5.2
1x70/16	200	190	235	7.2
1x95/25	235	230	280	9.9
1x120/25	265	265	325	12.4
1x150/25	300	300	370	15.6
1x185/25	330	345	425	19.2
1x240/35	385	400	490	22.7
1x300/35	435	460	565	31.1
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1x630/50	635	720	880	65.6
1x800/50	695	822	1010	83.2

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-TTCL TSLF Triplex

12/20(24) kV



Application

Single-core, distribution cable for outdoor use in triplex formation. Installation in pipes and ground/water. Both radial and longitudinal water sealed. Can be ploughed down. The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. Ripcords for easier and safer stripping of the outer sheath.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminum acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi conducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminum-PE laminate, bonded to sheath
Outer sheath	UV-resistant PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x1x50/16	19,5	60	2140	720	480
3x1x70/16	21,1	64	2480	770	520
3x1x95/25	22,8	68	2970	820	550
3x1x120/25	24,4	72	3330	860	570
3x1x150/25	25,7	74	3690	890	600
3x1x185/35	27,4	79	4310	940	630
3x1x240/35	29,6	84	4920	1000	670
3x1x300/35	32,1	89	5770	1070	710
3x1x400/35	35,3	96	6730	1160	770

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x1x50/16	0,6410	1,150	0,17	0,44
3x1x70/16	0,4430	1,150	0,19	0,41
3x1x95/25	0,3200	0,727	0,21	0,39
3x1x120/25	0,2530	0,727	0,23	0,38
3x1x150/25	0,2060	0,727	0,25	0,36
3x1x185/35	0,1640	0,524	0,27	0,35
3x1x240/35	0,1250	0,524	0,30	0,34
3x1x300/35	0,1000	0,524	0,33	0,33
3x1x400/35	0,0778	0,524	0,37	0,31

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x1x50/16	155	160	195	4,7
3x1x70/16	200	190	235	6,6
3x1x95/25	235	230	280	8,9
3x1x120/25	265	265	325	11,3
3x1x150/25	300	300	370	14,2
3x1x185/35	330	345	425	17,5
3x1x240/35	385	400	490	22,7
3x1x300/35	435	460	565	28,3
3x1x400/35	510	555	680	37,8

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXQJ-RMF PURE 12/20(24) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. Cable is halogen-free and self-extinguishing. For fixed outdoor and indoor installations and tunnels. Ploughing down is not recommended.

Standard

SS 424 14 16
HD 620 Part 10 Section M

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Inner covering	Conductive tape
Shielding	Annealed copper wires
Ripcord	Aramid
Outer sheath	Black halogen free compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR klass	B2ca-s1d2a1
UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50/16	19.5	50	2020	600	400
3x95/25	22.8	57	2800	680	460
3x150/25	25.7	63	3570	760	510
3x240/35	29.6	76	4770	910	610

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3x50/16	0.641	1.2	0.17	0.37
3x95/25	0.320	0.8	0.21	0.35
3x150/25	0.206	0.8	0.25	0.31
3x240/35	0.125	0.6	0.30	0.29

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50/16	145	130	160	5.2
3x95/25	205	190	230	9.9
3x150/25	260	250	305	15.6
3x240/35	340	330	400	22.7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXQJ-TT PURE 12/20(24) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. Cable is halogen-free and self-extinguishing. For fixed outdoor and indoor installations and tunnels. Ploughing down is not recommended.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K
HD 604
EN 50575:2014

Construction

Cable shape	Round
Conductor	Stranded, round, compressed aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum laminate
Radial water blocking	Aluminium laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black halogen free compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR klass	Dca-s2d2a2
UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	19.5	28	790	420	280
1x95/25	22.8	31	1070	470	310
1x150/25	25.7	34	1330	510	340
1x240/35	29.6	39	1770	580	390
1x400/35	35.3	44	2390	670	450
1x500/35	38.2	48	2760	710	480
1x630/50	42.1	52	3420	770	520

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
1x50/16	0.641	1.150	0.17	0.43
1x95/25	0.320	0.727	0.21	0.39
1x150/25	0.206	0.727	0.25	0.36
1x240/35	0.125	0.524	0.30	0.34
1x400/35	0.0778	0.524	0.37	0.31
1x500/35	0.0605	0.524	0.40	0.30
1x630/50	0.0469	0.387	0.45	0.29

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	155	160	195	5.2
1x95/25	235	230	280	9.9
1x150/25	300	300	370	15.6
1x240/35	385	400	490	22.7
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1x630/50	635	720	880	65.6

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

FXQJ-TT Pure TSLI 12/20(24) kV



Application

Power cable with round, stranded and compacted copper conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. Cable is halogen-free and self-extinguishing. For fixed outdoor and indoor installations and tunnels. Ploughing down is not recommended.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K

Construction

Cable shape	Round
Conductor	Stranded, round, compacted copper acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium laminate, bonded to sheath
Outer sheath	Black halogen free compound

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

CPR klass	Dca-s2d2a2
UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	19,5	27,5	1080	330	220
1x70/16	21,1	29,0	1340	360	240
1x95/25	22,8	31,0	1670	380	250
1x120/25	24,1	32,5	1960	410	280
1x150/25	25,7	34,0	2250	410	280
1x185/35	27,5	36,0	2710	440	290
1x240/35	29,8	38,5	3260	470	310
1x300/35	32,1	41,0	4000	490	330
1x400/35	35,5	44,1	4780	530	360
1x500/35	38,1	47,0	5840	570	380
1x630/50	41,9	51,0	7460	620	410

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1x50/16	0,387	1,150	0,17	0,43
1x70/16	0,268	1,150	0,19	0,41
1x95/25	0,193	0,727	0,21	0,39
1x120/25	0,153	0,727	0,23	0,38
1x150/25	0,124	0,727	2,80	0,36
1x185/35	0,0991	0,524	0,27	0,35
1x240/35	0,0754	0,524	0,30	0,34
1x300/35	0,0601	0,524	0,33	0,32
1x400/35	0,0470	0,524	0,37	0,31
1x500/35	0,0366	0,524	0,40	0,30
1x630/50	0,0283	0,387	0,45	0,29

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	205	205	250	7,8
1x70/16	255	240	295	11,0
1x95/25	295	300	355	14,9
1x120/25	335	335	410	18,9
1x150/25	380	380	465	23,6
1x185/35	425	435	535	29,1
1x240/35	485	505	620	37,7
1x300/35	545	575	705	47,2
1x400/35	625	680	835	62,9
1x500/35	695	765	940	78,7
1x630/50	755	845	1035	99,1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

NA2XS_Y 12/20(24) kV



Application

Power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed indoor and outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section C

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Shielding	Annealed copper wires
Outer sheath	Red PVC

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-5°C, below 0°C special precautions are recommended

Features

Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D
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Electrical

Impulse voltage	125kV
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Conductors and screen area [mm ²]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/16	20.1	29	900	440	310
1x95/16	23.3	32	1100	480	340
1x120/16	24.5	33	1250	500	350
1x150/25	26.0	35	1450	530	370
1x240/25	30.2	39	1850	590	410
1x300/25	32.7	41	2050	620	440
1x400/35	35.6	45	2450	670	470
1x500/35	38.6	48	2870	720	480

Conductors and screen area [mm ²]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
1x50/16	0.641	1.223		0.46
1x95/16	0.320	1.223	0.20	0.41
1x120/16	0.253	1.223	0.21	0.40
1x150/25	0.206	0.769	0.23	0.39
1x240/25	0.125	0.769	0.28	0.36
1x300/25	0.100	0.769	0.31	0.35
1x400/35	0.0778	0.538	0.35	0.34
1x500/35	0.0605	0.538	0.38	0.30

Conductors and screen area [mm ²]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/16	155	160	195	5.2
1x95/16	235	230	280	9.9
1x120/16	265	265	325	12.4
1x150/25	300	300	370	15.6
1x240/25	385	400	490	22.7
1x300/25	435	460	565	31.1
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

NA2XS(F)2Y 12/20 kV



Application

Power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section C

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 5,5 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi conducting water blocking tape
Shielding	Annealed copper wires
Radial water blocking	Impregnated paper
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/25	20.2	29	860	430	310
1x70/16	21.9	40	880	470	330
1x95/16	23.3	33	990	490	350
1x120/16	24.7	34	1090	510	360
1x150/25	26.2	36	1280	530	370
1x185/25	27.8	37	1420	560	390
1x240/25	30.2	40	1630	590	420
1x300/25	32.9	42	1890	620	440
1x400/35	35.8	45	2280	670	470
1x500/35	38.8	48	2650	710	500
1x630/35	42.2	52	3150	770	540

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Inductance [mH/km]
1x50/25	0.641	0.727	0.46
1x70/16	0.443	1.150	0.44
1x95/16	0.32	1.150	0.41
1x120/16	0.253	1.15	0.40
1x150/25	0.206	0.727	0.39
1x185/25	0.164	0.727	0.37
1x240/25	0.125	0.727	0.36
1x300/25	0.100	0.727	0.35
1x400/35	0.0778	0.524	0.34
1x500/35	0.0605	0.524	0.32
1x630/35	0.0469	0.524	0.31

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/25	155	160	195	5.2
1x70/16	200	190	235	7.2
1x95/16	235	230	280	9.9
1x120/16	265	265	325	12.4
1x150/25	300	300	370	15.6
1x185/25	330	345	425	19.2
1x240/25	385	400	490	22.7
1x300/25	435	460	565	31.1
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1x630/35	635	720	880	65.6

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXALJ-TT 18/30(36) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular aluminium wires and aluminium laminate. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Round aluminium wires in contact with aluminum tape
Radial water blocking	Aluminium laminate, bonded to sheath
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3x50/25	24.3	60	2600	770	520
3x95/35	27.6	72	3430	870	580
3x150/35	30.5	74	4250	890	590
3x240/50	34.4	88	5540	1060	710
3X300/50	37.1	94	6630	1150	770

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [µF/km]	Inductance [mH/km]
3x50/25	0.641	1.2	0.13	0.42
3x95/35	0.320	0.8	0.16	0.37
3x150/35	0.206	0.8	0.19	0.35
3x240/50	0.125	0.6	0.22	0.32
3X300/50	0.100	0.6	0.24	

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3x50/25	145	130	160	5.2
3x95/35	205	190	230	9.9
3x150/35	260	250	305	15.6
3x240/50	340	330	400	22.7
3X300/50	380	375	460	31.1

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXCLJ-TT 18/30(36) kV



Application

3-core power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section M
HD 620 Part 10 Section K

Construction

Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum laminate
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D. When plowing down: 8 x D

Electrical

Impulse voltage	125kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3X50/16	24.3	64	2610	770	520
3X95/25	27.6	72	3440	790	530
3X150/25	30.5	74	4260	890	590
3X240/35	34.4	88	5580	1060	710

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
3X50/16	0.641	1.2	0.13	0.42
3X95/25	0.320	0.8	0.16	0.37
3X150/25	0.206	0.8	0.19	0.35
3X240/35	0.125	0.6	0.22	0.32

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3X50/16	145	130	160	5.2
3X95/25	205	190	230	9.9
3X150/25	260	250	305	15.6
3X240/35	340	330	400	22.7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-RMF 18/30(36) kV



Application	
3-core power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.	
Standard	
HD 620 Part 10 Section M HD 620 Part 10 Section K	
Construction	
Cable shape	Triangular
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally watertight
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires
Ripcord	Aramid
Outer sheath	Black PE
Temperature	
Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended
Features	
UV resistance	Good
Bending radius	In fixed installation: 8 x D When pulling-in: 12 x D. When plowing down: 8 x D
Electrical	
Impulse voltage	125kV

Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
3X50/16	25.4	63	2370	760	510
3X95/25	27.6	71	3140	810	540
3X150/25	30.5	78	3930	930	620
3X240/35	34.4	87	5170	1040	700
3X300/35	36.9	92	6030	1110	740

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
3X50/16	0.641	1.2	0.13	0.42
3X95/25	0.320	0.8	0.16	0.37
3X150/25	0.206	0.8	0.19	0.35
3X240/35	0.125	0.6	0.22	0.31
3X300/35	0.100	0.6	0.24	0.31

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
3X50/16	145	130	160	5.2
3X95/25	205	190	230	9.9
3X150/25	260	250	305	15.6
3X240/35	340	330	400	22.7
3X300/35	380	375	460	31.2

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-TTCL TSLF 18/30(36) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section K
HD 620 Part 10 Section M

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinal water sealed
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	170kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x50/25	24.3	33	990	500	340
1x70/25	25.9	35	1100	490	330
1X95/25	27.6	37	1220	550	370
1x120/35	28.9	38	1420	580	390
1X150/35	30.5	40	1550	600	400
1x185/35	32.2	42	1700	620	420
1X240/35	34.4	44	1910	660	440
1X300/35	36.9	47	2250	700	470
1X400/35	40.1	50	2600	750	500
1x500/35	43.0	53	2920	800	530
1X630/50	46.9	57	3590	810	540
1x800/50	50.4	61	4410	940	630

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1x50/25	0.641	0.727	0.13	0.47
1x70/25	0.443	0.727	0.14	0.44
1X95/25	0.320	0.727	0.16	0.42
1x120/35	0.253	0.524	0.17	0.41
1X150/35	0.206	0.524	0.19	0.39
1x185/35	0.164	0.524	0.2	0.38
1X240/35	0.125	0.524	0.22	0.36
1X300/35	0.100	0.524	0.24	0.35
1X400/35	0.0778	0.524	0.27	0.34
1x500/35	0.0605	0.524	0.29	0.32
1X630/50	0.0469	0.387	0.33	0.31
1x800/50	0.0367	0.387	0.36	0.30

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x50/25	155	160	195	5.2
1x70/25	200	190	235	7.2
1X95/25	235	230	280	9.9
1x120/35	265	265	325	12.4
1X150/35	300	300	370	15.6
1x185/35	330	345	425	19.2
1X240/35	385	400	490	22.7
1X300/35	435	460	565	31.2
1X400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1X630/50	635	720	880	65.6
1x800/50	695	822	1010	83.2

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

NA2XS(F)2Y 18/30(36) kV



Application

Power cable with round, stranded and compacted aluminium conductor. The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.

Standard

SS 424 14 16
HD 620 Part 10 Section K
HD 620 Part 10 Section M

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi conducting water blocking tape
Shielding	Annealed copper wires
Radial water blocking	Impregnated paper
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	170kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1x95/16	28.3	38	1220	560	400
1x150/25	31.0	41	1540	610	430
1x185/25	32.6	42	1690	630	440
1x240/25	35.2	45	1920	680	480
1x300/25	37.7	47	2190	700	490
1x400/35	40.8	50	2610	740	520
1x500/35	43.6	53	3000	790	550
1x630/35	47.1	57	3510	840	590

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [pF/km]	Inductance [mH/km]
1x95/16	0.320	1.150	0.16	0.44
1x150/25	0.206	0.727	0.19	0.41
1x185/25	0.164	0.727	0.20	0.40
1x240/25	0.125	0.727	0.22	0.38
1x300/25	0.100	0.727	0.24	0.37
1x400/35	0.0778	0.524	0.26	0.36
1x500/35	0.0605	0.524	0.29	0.35
1x630/35	0.0469	0.524	0.32	0.33

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x95/16	235	230	280	9.9
1x150/25	300	300	370	15.6
1x185/25	330	345	425	19.2
1x240/25	385	400	490	22.7
1x300/25	435	460	565	31.1
1x400/35	510	555	680	41.6
1x500/35	570	635	775	52.0
1x630/35	635	720	880	65.6

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

EAXeCeWB 20,8/36(42) kV



Application

Power cable with round, stranded and compacted aluminium conductor.
The screen is made up of circular copper wires. For fixed outdoor installations, suitable for ploughing down.

Standard

HD 620 Part 10 Section B

Construction

Cable shape	Round
Conductor	Stranded, round, compacted aluminium acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 8,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semi conducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	170kV
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Conductors and screen area [mm2]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]
1x150/25	47		705	470	0.206	0.727
1x185/25	48		720	480	0.164	0.727
1x240/25	50	2350	760	510	0.125	0.727

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1x150/25	300	300	370	15.6
1x185/25	330	345	425	19.2
1x240/25	385	400	490	22.7

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K · m/W, depth of burial- 0,65m, frequency- 50Hz.

AXLJ-TTCL TSLF 26/45(52) kV



Application

Power cable with round, stranded and compacted aluminium conductor. Cable is radially and longitudinally water-sealed. The screen is made up of circular copper wires and aluminium laminate. The aluminium laminate is included in screen cross-section. The outer sheath has a conductive layer that greatly extends the possibilities to do a sheath testing before, during and after installation. For fixed outdoor installations, suitable for ploughing down.

Standard

IEC 60840

Construction

Cable shape	Round
Conductor	Stranded, round, compacted copper acc. to IEC 60228 class 2, longitudinally water sealed
Insulation	XLPE, nom thickness 9,0 mm
Conductor screen	Semiconducting copolymer compound
Insulation screen	Semiconducting copolymer compound
Longitudinal water tightness	Semiconducting water blocking tape
Shielding	Annealed copper wires in contact with aluminum tape
Radial water blocking	Aluminium-PE laminate, bonded to sheath
Ripcord	Aramid
Outer sheath	Black PE
Semi-conducting layer in outer sheath	Yes (facilitates sheath testing)

Temperature

Max operating temperature	90°C
Max short circuit temperature	250°C
Min temperature at installation	-20°C, below 0°C special precautions are recommended

Features

UV resistance	Good
Bending radius	In fixed installation: 10 x D When pulling-in: 15 x D. When plowing down: 8 x D

Electrical

Impulse voltage	250kV
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Conductors and screen area [mm2]	Diameter over insulation [mm]	Diameter over sheath [mm]	Weight [kg/km]	Bending radius during laying [mm]	Bending radius at final installation [mm]
1X240/35	37,3	47,2	2170	710	480
1X300/35	39,7	49,8	2490	750	500
1X400/35	42,9	53,2	2850	800	540
1x500/35	45,8	56,0	3250	850	570
1X630/50	49,7	60,4	4000	910	610
1x800/50	53,2	66,1	4710	940	630

Conductors and screen area [mm2]	Conductor resistance [Ω/km]	Screen resistance [Ω/km]	Capacitance [μF/km]	Inductance [mH/km]
1X240/35	0,125	0,524	0,19	0,38
1X300/35	0,100	0,524	0,21	0,36
1X400/35	0,0778	0,524	0,24	0,35
1x500/35	0,0605	0,524	0,26	0,34
1X630/50	0,0469	0,387	0,28	0,33
1x800/50	0,0367	0,387	0,31	0,32

Conductors and screen area [mm2]	Current rating in ground (conductor 70°C) [A]	Current rating in air (conductor 70°C) [A]	Current rating in air (conductor 90°C) [A]	Max permissible short circuit current for 1 sec. at 70°C [kA]
1X240/35	385	400	490	22,7
1X300/35	435	460	565	31,2
1X400/35	510	555	680	41,6
1x500/35	570	635	775	52,0
1X630/50	635	720	880	65,6
1x800/50	695	822	1010	83,0

The ratings are based on the following conditions: ground temperature- 15°C, air temperature- 25°C, thermal resistivity of soil- 1,0 K·m/W, depth of burial- 0,65m, frequency- 50Hz.

CABLE DESIGNATIONS USED IN SWEDEN

	1st letter Core	2nd letter Insulation	3rd letter Sheath or other design detail	4th letter Design detail or usage	5th letter Design detail or usage
A	Aluminium		Screen of aluminiumfoil and/or aluminium wire		
B	Alumiinium alloy	Flame retardant thermoplastic polyolefine (Halogen free, low smoke)	Flame retardant thermoplastic polyolefine (Halogen free, low smoke)	Vehicle cable	
			Lead sheath	Connection wire	
				Lead sheath	
C		Impregnated paper	Concentric copper screen	Concentric copper screen	
D		Rubber with outer rubber sheath			
E	Copper, solid (class 1)	Ethylene propylene rubber		Reinforced design	Reinforced design
F	Copper, stranded (class 2)		Braid of copper wire	Braid of copper or steel wire	
H		Silicon rubber		Lift cable	Suspension cable
I		Polyurethane	Polyurethane		
J	Steel wire		Steel tape armouring	For laying in ground	
K		PVC	PVC	PVC	PVC
L		Polyethylene (PE)	Screen of plastic coated aluminium tape ev. together with screen of copper	Polyethylene (PE)	Polyethylene (PE)
			Polyethylene (PE)		
M	Copper, stranded				
O		Chloroprene rubber	Chloroprene rubber		Oil cable
P			Galvanised steel tape armouring	Galvanised steel tape armouring	
Q		Halogen free plastic	Flame retardant thermoplastic polyolefine (Halogen free, low smoke)	Flame retardant thermoplastic polyolefine (Halogen free, low smoke)	
R	Copper, flexible (class 5)		Plastic coated aluminium tape armouring	Control cable	
S	Copper, extra flexible (class 6)			Self-supporting	
T	Copper, very flexible	Fluorethylene resin	Steel wire armouring	Heavy connection cable or galvanised steel wire armouring	Steel wire armouring
U			Without outer sheath		
V		Rubber without outer sheath	Ethylene propylene rubber	For laying in water	For laying in water
X		Cross-linked polyethylene (XLPE)	PVC, ovaalne ristlõige		
Z		Flame retardant cross-linked polyolefine (Halogen free, low smoke)	Flame retardant cross-linked polyolefine (Halogen free, low smoke)	Cable for neon equipment	

CABLE DESIGNATIONS USED IN NORWAY

	1st letter: Insulation	2nd letter Bedding / inner sheath	3rd letter Armouring / screen	4th letter Armouring / screen
A	Fibre, tight cladded	Aluminium (optional with corrosion protection)	Strength member yarn	Yarn + bitumen
B	Fire resistant tape + insulation (Halogen-free)	Corrogated aluminium (o.w.c.p.)	Steel tapes, 2 off	Hydrocarbon resistant sheath
C	Polychloroprene (Neoprene) PCP, or chlorinated polyethylene - CPE	Polychloroprene (Neoprene) PCP, or chlorinated polyethylene - CPE	Galvanized steel wire braid	Polychloroprene (Neoprene) PCP, or chlorinated polyethylene - CPE
D	Impregnated paper, Drip free	Aluminium + Plastics	Oil filled cable reinforcement (Longitudinal / Transverse)	
E	Polyethylene - PE Polypropylene - PP	Polyethylene - PE Polypropylene - PP	Oil filled cable reinforcement (Transverse only)	Polyethylene - PE Polypropylene - PP
F	PE orPP+	Bedding or taping	Flat steel wire armour	Semi-conducting PE
	Filling compound	(Halogen-free)		
G	Polyamid (PA)			PE + PA
H	Chlorosulphonated polyethylene - CSP	Chlorosulphonated polyethylene - CSP	Steel tape + steel wires	Chlorosulphonated polyethylene - CSP
I	Thermoplastic compound (Halogen-free)	Thermoplastic compound (Halogen-free)	Steel tapes, 4 off	Thermoplastic compound (Halogen-free)
K	Paper	Lead	Steel wire, plastics or rubber coated	Lead
L	Air + plastics (Coaxial cable)	Aluminium laminate + plastics sheath	Aluminium (laminated to outer jacket)	
M	Expanded PE or PP + filling compound	Polyester		Polyester
N	Impregnated paper	Polyurethane	Steel (laminated to outer jacket)	Polyurethane
O	Impregnated paper, oilfilled cable	Lead + Plastics	Copper wire braid (Tinned or bare)	
P	Polyvinylchloride - PVC	Polyvinylchloride - PVC	Phosphorbronze wire braid	Polyvinylchloride - PVC
Q	Fibre in loose tube		Steel wires + counter steel tape (optional)	
R	Ethylenepropylene rubber - EPR	Ethylenepropylene rubber - EPR	Steel wires (round) + filling compound	Ethylenepropylene rubber - EPR
S	Silicone rubber	Bedding or taping + concentric conductor	Concentric conductor (Screen)	Silicone rubber
T	Cross-linked polyethylene XLPE	PE + aluminium wire + steel tape		Cross-linked polyethylene XLPE
U	Halogen-free thermoset compound EMA or EVA	Halogen-free thermoset compound EMA or EVA		Halogen-free thermoset compound EMA or EVA
V	Fibre, slotted core	Aluminium screen	Double wire armour (two layers)	Other halogen-free thermoset materials
W	Other materials	Other materials	Catenary wire	Other materials
X	No insulation	No bedding or equivalent	No armour	No sheath
Y		Screen		
Z	Fluor plastics PTFE / FEP	Fluor plastics		Fluor plastics
-J	Earth conductor			
-O	Optical fiber			
-OJ	Optical fiber and earth conductor			

CABLE DESIGNATIONS USED IN FINLAND

DESIGNATIONS IN THE CROSS-SECTION:	
X	Separating the number of phase cores and the cross-section (mm²) , for example AXMK
+	Product having an external conductor (centre conductor, messenger or auxiliary phase core), for example AHXAM K-W 3x 240 + 70 20 kV, AHXAM K-WM 3x95 + 62I 20kV, AMKA 4 x25 + 35 1 kV
/	Separating numbers or letters from each other: - separates the cross-section of the concentric conductor (metallic screen) from the phase core, for example MCMK 3x25 / 16 1kV, AHXCMK-WTC 3x240 / 35 20kV - separates the cross-section of the aluminium and the steel core in overhead conductors, for example ACSR 54 / 9 RAVEN

THE MOST COMMON LETTERS USED IN DOMESTIC PRODUCTS (CURRENT PRODUCT SELECTION):	
A	Aluminium or aluminium alloy (for alumiini in Finnish) - in the beginning of the type designation means Al conductor, for example AXMK (<i>exception: SAX-W means Al-alloy</i>); - in the middle of the type designation means Al foil laminate, for example AHX AMK -W; - aluminium alloy messenger, for example AMKA ; - aluminium alloy armouring, for example AH XLKAJ -W. Copper conductor (no A letter in the beginning), for example MCMK, XMK, HXCMK-WTC.
M	- plastic insulation (general expression), for example MCMK , AMKA . Usually plastic insulation is either PVC or PE (for muovi in Finnish); - plastic sheath (general expression), for example MCMK , AHX AMK -W. Plastic sheath can be PVC, PE or fire-retardant and halogen-free thermoplastic compound.
X	XLPE insulation, for example AXMK , AH XAMK -W, AMKA- X , SAX -W (for PEX in Finnish).
H	- extruded semi-conducting layer below and over the insulation (in MV and HV cables), for example AHXAMK -W (for hohtosuoja in Finnish); - sheath made of special material, for example TASH having heat resistant sheath.
C	- concentric layer of copper wires (metallic screen), for example MCMK , AHX CMK -WTC; - uniform copper layer (Cu helical tape or Cu foil laminate) MCCMK , HX CCMK .
S	Copper braid, for example LSM -HF.
L	- lead sheath, for example AHX LMK -W (for lyijy in Finnish); - marine cable (the 1st letter in the type designation), for example LM -HF (for laiva in Finnish).
P	Round steel wire armouring, for example AHXAMK PJ -W.
J	- a conductor or a lead, for example MMJ , LJST -HF (for johdin in Finnish); - jute tape layer, for example AHXAMK PJ -W.
O	Control cable, for example MMO (for ohjaus in Finnish).

CHB	Metallic screen having Cu wires, semi-conducting tape layer and Al foil laminate, for example HX CHB MK. The cross-section of the metallic screen given in type designation is solely based on the cross-section of Cu wires.
CA	Metallic screen having Cu wires, semi-conducting tape layer and Al foil laminate, for example AHX CAMK -W. The cross-section of the metallic screen given in the type designation is a total cross-section of Cu wires and Al foil laminate combined.
Y	Each phase core having a separate metallic screen (in a 3-core cable), for example HX YLMKPJ -W 3x95 10kV. This letter is not used with 3-core cables having Al foil laminate only (AHXAMK-W).
FR	Fire Resistant cable remaining functional during fire, for example FRHF .
T	Heat resistant, for example TASH , AMKA- T .
E	Cable having a special feature compared to standard cable, for example XM KE 1x300 1kV, having a flexible Class 5 conductor (for erikoinen in Finnish).

EXCEPTIONS TO THE PREVIOUS, TRADEMARKS:	
SAX™-W	Covered conductor. A standardized Finnish name for this product is PAS.
SAXKA®-W	Aerial bundled MV cable, completely watertight.
AFUMEX®	Fire retardant halogen-free cable (or material).
ATON®	Flexible, cold resistant (-50°C) rubber insulated cable.
Wiski®	The nickname and trademark of AHXAMK-W.
Multi-Wiski®	The nickname and trademark of AHXAMK-WM.
WiskiPlain®	The nickname and trademark of AHXAMK-WP.

ACSR	Aluminium conductor steel reinforced. These overhead conductors have often nickname of bird, city etc, for example Sparrow, Duck, Savo.
AACSR	Aluminium alloy conductor steel reinforced (overhead conductor).
AAC	All aluminium conductor (overhead conductor).
HK	Copper conductor with annealed wires (for hehkutettu kupari in Finnish).
FE	Steel conductor.
TRL	Overhead contact conductor for electric locomotives and trolleys.

Correction Factors

CORRECTION FACTORS FOR PERMISSIBLE LOAD CURRENTS

The effect of several adjacent cables in the ground

The factor of three core cables
and for groups of three single core cables

Clear space between the cables or between the groups of single core cables	Number of adjacent cables or groups of single core cables						
mm	2	3	4	5	6	8	9
0	0,75	0,65	0,60	0,55	0,50	0,43	0,41
70	0,80	0,70	0,60	0,55	0,55	0,48	0,46
250	0,90	0,80	0,75	0,70	0,70	0,65	0,63

Thermal resistivity in the ground Km/W	0,7	1,0	1,2	1,5	2,0	2,5	3,0
Correction factor	1,10	1,00	0,92	0,85	0,75	0,69	0,63

Thermal resistivity in different types of soil:

- dry sand (moisture content 0%) 3,0 Km/W
- dry gravel and clay 1,5 Km/W
- semi-dry gravel, bog earth and sand (moisture 10%) 1,2 Km/W
- semi-dry clay and damp gravel 1,0 Km/W
- damp clay and sand (moisture content 25 %) 0,7 Km/W

Laying depth

Cable	Laying depth, m				
	0,50-0,70	0,71-0,90	0,91-1,10	1,11-1,30	1,31-1,50
0 0,61/1,0 kV	1,00	0,97	0,95	0,93	0,92
6/10-18/30 kV	1,00	0,99	0,98	0,96	0,95

Ground temperature

Conductor temperature	Ground temperature, °C										
°C	-5	0	5	10	15	20	25	30	35	40	45
90	1,13	1,10	1,06	1,03	1,00	0,96	0,93	0,89	0,86	0,82	0,77
80	1,14	1,11	1,07	1,04	1,00	0,96	0,92	0,88	0,83	0,78	0,73
70	1,17	1,13	1,09	1,04	1,00	0,95	0,90	0,85	0,80	0,73	0,67
65	1,18	1,14	1,10	1,05	1,00	0,95	0,89	0,84	0,77	0,71	0,63

Underground installation in PE or PVC tubes, with one three core cable or three single core cables.
The tubes lie side by side. If the correction factors of this table are applied, the factors in the topmost table are not used.

Clear distance of the tubes	Number of adjacent tubes						
mm	2	3	4	5	6	8	10
0	0,85	0,75	0,70	0,65	0,60	0,54	0,49
250	0,90	0,85	0,80	0,80	0,80	0,74	0,72
500	0,95	0,90	0,85	0,85	0,80	0,78	0,79

The tubes lie side by side.
If the correction factors of this table applied, the factors in the topmost table are not used.

The effect of cable cover slabs and troughs

Type of covering	Correction factor
A concrete or brick slab more than 10 cm above the cable in well-compacted sandy ground	1,00
Bricks all around the cable, gaps sealed up tightly with sand	0,90
A concrete trough on the cable, compacted sand between the trough and the cable	0,90
A concrete or plastic trough on the cable, loose sand filler between the cable and the trough	0,80

Ambient air temperature

Conductor temperature	Ambient air temperature, °C									
°C	10	15	20	25	30	35	40	45	50	55
90	1,12	1,08	1,04	1,00	0,95	0,90	0,85	0,80	0,74	0,68
80	1,14	1,09	1,05	1,00	0,95	0,89	0,48	0,77	0,69	0,61
70	1,18	1,12	1,06	1,00	0,95	0,86	0,79	0,71	0,62	0,52
65	1,20	1,14	1,07	1,00	0,95	0,85	0,77	0,68	0,57	0,45

CORRECTION FACTORS FOR AERIAL INSTALLATION OR FOR INSTALLATION TYPE B

Cables in air = the same cooling conditions as when freely in air.

Installation type A	Installation type B
<p>The cable is laid on the surface or so that between the cable and the surface of the covering material the thermal transmission factor is 11 – 50 W/°C m².</p> <p>Installation type A includes one of the following:</p> <ul style="list-style-type: none">• surface installation• installation on a cable rack with short lead-through• disaccording to installation type B	<p>The cable is laid on the surface or so that between the cable and the surface of the covering material the thermal transmission factor is K>50 W/°C m².</p> <p>Installation type B includes one of the following:</p> <ul style="list-style-type: none">• surface installation (also in a tube) with short lead-through• installation on a cable rack with short lead-through• sunk installation in stone structures (concrete, brick, etc.)• installation in a riser shaft or in a cable duct

The effect of grouping in aerial installation on the loading of Multicore alternating current cables and on single core direct current cables

Arrangement of the cables		Clear space = cable diameter (d); distance from the wall ≥ 20 mm					The cables touch one another and the wall						
Number of adjacent cables		1	2	3	6	9	Drawing	1	2	3	6	9	Drawing
On the floor or ceiling		Correction factor						Correction factor					
		0,95	0,90	0,88	0,85	0,84		0,90	0,84	0,80	0,75	0,73	
Unperforated trays	No, of racks												
	1	0,95	0,90	0,88	0,85	0,84		0,95	0,84	0,80	0,75	0,73	
	2	0,90	0,85	0,83	0,81	0,80		0,95	0,80	0,75	0,71	0,69	
	3	0,88	0,83	0,81	0,79	0,78		0,95	0,78	0,74	0,70	0,68	
	6	0,86	0,81	0,79	0,77	0,76		0,95	0,76	0,72	0,68	0,66	
Ladder supports, cleats, etc.	1	1,00	0,98	0,96	0,93	0,92		0,95	0,84	0,80	0,75	0,73	
	2	1,00	0,95	0,93	0,90	0,89		0,95	0,80	0,76	0,71	0,69	
	3	1,00	0,94	0,92	0,89	0,88		0,95	0,78	0,74	0,70	0,68	
	6	1,00	0,93	0,90	0,87	0,86		0,95	0,76	0,72	0,68	0,66	
Number of overlying cables		1	2	3	6	9		1	2	3	6	9	
On racks or on the wall		1,00	0,93	0,90	0,87	0,86		0,95	0,78	0,73	0,68	0,66	
Installation with no need to reduce the load current		Unrestricted number of overlying cables						Unrestricted number of adjacent cables					

The data is valid, provided that the ambient temperature does not rise significantly in result of the increasing heat by dissipation in the cable.

The effect of grouping in aerial installation on the loading of single core alternating current cables

Arrangement of the cables		Flat formation, clear space = cable diameter (d); distance from the wall >20 mm			Cables touch one another and the wall			
Number of adjacent systems		1	2	3	Drawing	1	2	3
On the floor or on the ceiling		Correction factor				Correction factor		
		0,92	0,89	0,88		0,95	0,90	0,88
Unperforated trays	No, of racks							
	1	0,92	0,89	0,88		0,95	0,80	0,73
	2	0,87	0,84	0,83		0,95	0,76	0,69
	3	0,84	0,82	0,81		0,95	0,74	0,68
Ladder supports, cleats, etc.	6	0,82	0,80	0,79		0,95	0,72	0,66
	1	1,00	0,97	0,96		1,00	0,98	0,96
	2	0,97	0,94	0,93		1,00	0,95	0,93
	3	0,96	0,93	0,92		1,00	0,94	0,92
Number of overlying systems		1	2	3		1	2	3
On racks or on the wall		0,94	0,91	0,89		0,89	0,88	0,84
Installation with no need to the load current		With a longer distance, there are more reduce losses in the metal sheath and in the armouring, while cooling improves. Each case must be calculated separately.						

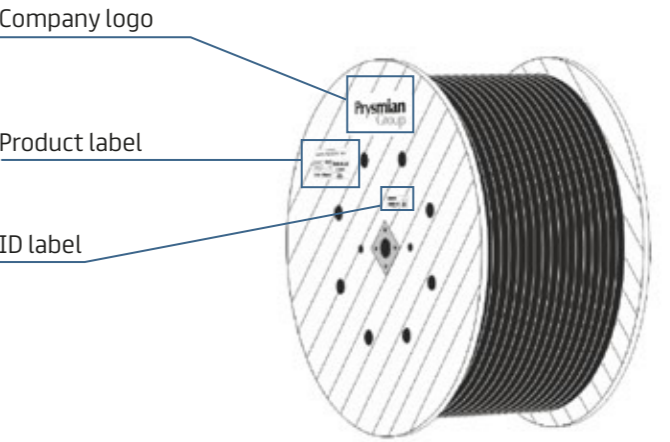
The data is valid, provided that the ambient temperature does not rise significantly in result of the increasing heat by dissipation in the cable.

Drum Handling

A cable is a valuable product usually transported on drums. The flanges on the drum seem thick enough to remain unbroken. But, with a cable that might weigh more than four tons, careless handling can easily damage the drum. The drum must protect the cable from damages during transport. If the drum is damaged, the cable can also be damaged. The damage might not be discovered until after installation, when repairs can be extremely expensive. The purpose of these guidelines is to explain how damages to the drum and cable can be minimized by correct handling of the drum.

In addition, Prysmian Group is heavily committed to maximising the reuse of drums and minimising their environmental impact. Our Sustainability Scorecard includes an indicator “Percentage of drums (tonnes) reused during the year” so we constantly review this important objective in order to increase the volume of reused wooden drums with the aim of reducing the carbon footprint of transport operations.

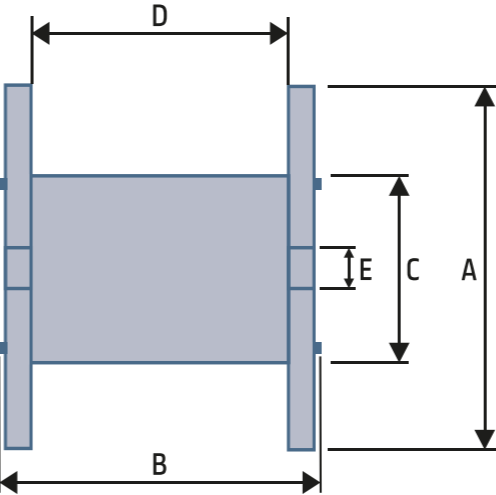
The drum used for transportation is marked with a product label, ID label and company logo. The ID label is used to identify the drum and must not be removed. The product label is provided with product information, including barcodes (code 128, EAN13) and weights (cable weight, cable and drum weight).



DRUM DIMENSIONS AND WEIGHTS

The table shows the dimensions and weights of the drums. When transporting goods, the weight and length tolerances of the cable must be taken into account:

- installation cables, standard length $\pm 3\%$
- rubber cables, standard length $\pm 5\%$
- power cables, standard length from $+3\%$ to -2%



DRUM GUIDE

Drum guide includes dimensions, weights, marking info, handling guide and return terms: baltics.prysmiangroup.com/drums

Drum type	Dimensions, mm					Weight, kg	Carrying capacity, kg
	A	B	C	D	E		
K6	600	468	250	400	75	12	300
K7	700	580	325	500	75	20	400
K8	800	580	375	500	75	25	500
K9	900	630	425	550	75	34	600
9FV	900	675	425	550	82	50	700
K10	1000	712	500	600	75	54	800
K11	1100	762	575	650	106	55	850
11GV	1100	755	500	600	82	85	1000
K12	1200	982	675	850	106	90	1500
13G	1300	760	600	600	82	105	1600
K14	1400	982	800	850	106	115	2000
15G	1500	760	700	600	82	150	2000
K16	1600	1018	950	850	106	195	2500
K18	1800	1075	1100	850	132	230	3000
K20	2000	1190	1300	1000	132	340	3500
K22	2200	1190	1400	1000	132	410	4500
K24	2400	1205	1400	1000	132	450	5000
K26	2600	1448	1500	1200	132	900	10000
K28	2800	1610	1500	1300	132	1180	12000
K30	3000	1800	1500	1500	132	1500	13000

Recommendations for Cable Laying

General

Cable laying environments and cable types vary widely. This section provides brief advice and recommendations for different operations during cable laying. The cable weight often determines the laying method. In case of cable laying in ground, one can choose between pulling, driving and ploughing. If the area is easily accessible for vehicles, driving is an easier and more cable-friendly method. Tractor excavator is often used for reel weights of up to approx. 1 tons, where the cable reel hangs from the bucket. Heavier cables are driven with crane truck or a vehicle for lift dumpers. For cable pulling, cable reels are placed evenly distributed along the cable route so that the cable runs freely. Pulling can be performed manually or with a machine. The reel shall be possible to brake during cable laying, driving as well as pulling. There are detailed manuals for ground installation indicating the installation depth, cable protection, marking and combined laying with telecommunication cables in SEK Manual 429. The organization EBR (El Byggnads Rationalisering, Rational Electrical Installation) has issued a manual for cable laying for max 145 kV (KJ41:09). Another norm, SS 424 14 38, regulates cable laying in buildings and culverts. Sharp bends can be critical moments during pulling and permanent installation, high tensile stresses and laying at low temperatures.

Cable ploughing

Cable ploughing methods have been developed within the latest years and entail that cable installation costs have decreased compared to traditional cable laying with trenching. Observe the following for successful cable ploughing installation:

Cable ploughing is generally considered to be a “rough” installation method for cables. Uncautious handling may damage the cables due to rocks and other sharp objects in the ground pressed into cable sheaths. The planned installation route shall always be ploughed in advance to ensure that cable installation is possible along the planned route. Choose a cable type intended for cable ploughing. Generally, cables with polyethylene (PE) outer sheath has the required mechanical strength. Halogen-free, fire-retardant sheath can be ploughed if required caution is observed. Outer sheaths have different mechanical characteristics at different temperatures which can be crucial for whether a cable installation will be good or less good. A cable installed on a warm summer day at +30°C ambient temperature can show different performance from the same cable installed at an ambient temperature of +10°C. The choice of machines and equipment is also crucial for the final result. Experience has shown that machines and equipment used for cable laying require similar service and maintenance as all other equipment. Faulty or damaged equipment can easily destroy many metres of cable.

Other

Cable ladders are practical aids for cable laying both indoors and outdoors. Power cables are preferably installed with a slight distance between cables for efficient cooling. Lashing wire should be used with caution to avoid any cuts in the sheath, especially in case of vertical cable laying.

Sheath damage may also occur in long horizontal cable connections fixed with lashing wire, due to temperature changes. Clamps are less harmful to cable sheaths and should therefore be preferred for somewhat heavier cables and sheaths that can reach very high temperatures. Heat may originate both from the environment and from load losses in the cable. XLPE cables installed on ladders with uninhibited air circulation achieve a conductor temperature of +90°C and a sheath temperature of approx. +70°C at the rated current. If cooling of the cable is complicated by a heat-insulating layer such as sawdust or pulp, the conductor and sheath temperatures can reach +125°C and +100°C, respectively. At this point, there is a risk of deformation of the insulation and sheath layers which leads to disruptive discharge in the cable.

In case of open laying of single-conductor cables, the cables shall be bound together and fixed to the base surface to avoid them being thrown apart at short-circuiting. Otherwise, thick cables exposed to high short-circuit currents may be damaged or damage their surroundings. Single-conductor cables are normally laid close together in a triangle form which both facilitates the “trussing” and reduces shield losses which in its turn affects the load capacity. In order to improve the load capacity in connections with single-conductor cables, shield losses can be minimized in exceptional cases with various methods. The simplest way is to only earth the metal shields of the cables in one end of the connection, open shield. Instead of an induced shield current which causes losses, an induced voltage is achieved between the insulated shield end and earth. This voltage is directly proportional to the length of the connection and the conductor current and can be dangerous to people. Therefore, open shield is only recommended for short connections (< 100 m) and preferably in protected areas (substations, equipment rooms etc.). Note that in case of single-point earthing, the insulation between the shield and the system earth shall be checked prior to commissioning. Earth faults may cause electric arcs and fire hazard.

Fire sealing

Fire sealing of lead-throughs is necessary in order to reduce the risk of fire spreading between different parts of the building through cable connections.

- This also applies during the entire construction period. A proper fire sealing should prevent fire from spreading between fire compartments during the whole course of the fire – fire development and extinguishing – i.e. it shall
- Meet the requirements of the fire class: be type approved.
 - Withstand smoke, gas and extinguishing media during the fire.
 - Withstand fire restoration after the fire
 - Be easily installed and allow modifications.
 - Withstand loads normally occurring in the installation, during both operation and standby

SHORT CIRCUIT CURRENT CAPACITY

Thermal stress

Taking into account the mechanical and electrical strength of the insulation, thermal stress by a short circuit is restricted by setting the maximum final conductor temperatures in a short circuit:

- XLPE-insulated cables 250°C
- PVC-insulated 1 kV cables
≤ 300 mm² 160°C
> 300 mm² 140°C

The given values for maximum permissible short circuit currents in cable data have been calculated assuming the initial conductor temperature to be the maximum operating temperature in continuous use.

The listed short circuit currents for duration of one second indicate the thermal capacity of the conductor. The maximum permissible thermal short circuit current for duration of 0.2 to 5 seconds can be computed by the equation:

$I_t = I_{15} / \sqrt{t}$

where:
I₁₅ = 1-s thermal short circuit current [kA]
t = duration of the short circuit [s]

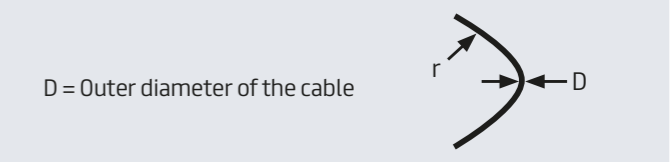
Dynamic stress

Short circuit currents cause a mechanical load on the cable as well as on the accessories.

The dynamic short circuit stress is much greater near the high voltage network and near large power plants than farther out in the network. That is why the dynamic capacity of the accessories as well as the cable fittings must be checked. This is especially important with high power systems and with several parallel cables in aerial installation.

Most important in a short circuit is the peak value of current, which is 2.5 times the short circuit current. To minimize dynamic stress, the installation must be made using the right accessories and the right technique.

1. Minimum cable temperature during cable laying	
Cable type	Temperature °C
AMCMK, MCMK, AXPk	-15
AXALJ-TT, AXLJ-RMF, AXQJ-RMF, AXLJ-TT TSLF	-20

2. Minimum bending radius			
Cable type	At laying	At ploughing	At fixing
AMCMK, MCMK, MCCMK, AXPk			
Single-core, 1kV	15 x D	8 x D	10 x D
Multiconductor	15 x D	8 x D	8 x D
AXALJ-TT, AXLJ-TTCL TSLF, AXLJ-RMF			
Single-conductor 12–36kV	15 x D	8 x D	10 x D
Multiconductor	12 x D	8 x D	8 x D
			

3. Sealing of cable ends

The cable ends shall be sealed against moisture after each cutting. The cut length shall also be sealed if it is not installed immediately.

4. Maximum pulling force	
Pulling equipment	Pulling force
Immediate connection in all conductors	Aluminium P = 30 N/mm² Copper P = 50 N/mm²
Cable grip on the cover	P = 5 x D² Newton

5. Maximum permissible surge current in three-phase cables (kA)					
Area mm²	Rated voltage		Area mm²	Rated voltage	
	1kV	12-24kV		1kV	12-24kV
50	45	55	150	60	70
70	50	60	185	60	70
95	55	65	240	60	70
120	55	65	300	60	70

6. Testing voltage for 12-36 kV cables after laying			
Voltage kV	Insulation type	AC	
		kV	Time
New cable installation			
12	XLPE	12	5 min
		7	24 h
24	XLPE	24	5 min
		14	24 h
26	XLPE	36	5 min
		18	24 h

Sheath Testing in Medium Voltage Cables

All cables are subjected to routine testing according to the applicable standard at the factory before the reels are delivered to the client. In order to check the dielectric strength after transport and cable laying, a new test shall be conducted by the installer or the owner of the installation prior to commissioning of the cable. The test standard SS 424 14 17 for PEX cables indicates the method, voltage and time that can be applied in testing. Tests may also prove necessary in technical assessment of older installations. Ensure that a reasonable test voltage is chosen, taking the general condition of the installation into account. Prior to testing, it is important to ensure that the parts of the installation which are not to be tested are disconnected and earthed. Then the voltage test is performed with the voltage indicated in the regulations. After testing, it is important to earth the installation to ensure that the installation and testing equipment are properly discharged. Maintain earthing until the cable is commissioned or for at least 3 hours.

Sheath testing in medium voltage cables

Network owners set high requirements on the quality of execution of cable installations. Many power plants require improved quality assurance for this work. The possibility of checking the sheath on medium voltage cables both before and after installation has therefore come into focus. This contributes to better safety for the network owner as well as the external contractors often used for laying cables and installing them in the ground.

The advantage of the semiconductive outer layer is that the cable can be tested for sheath faults before the cable trench is closed. If a fault is detected, it can be repaired in an early stage, saving both time and money. Cable testing of cables installed in pipes is another positive side of choosing this cable.

Measurement of sheath current

Required instrument: high voltage generator (DC) with a precise ammeter for measuring the output current. The voltage shall be adjusted gradually from 0 to the maximum of 5 kV to avoid indication of several sheath faults at the same time. The largest faults are then detected first. The measurement voltage depends on the type of sheath material. For our AXLJ-TTCL with PE (Polyethylene), the maximum measurement voltage is 5 kV.



Sheath current can also be identified with a megger. The formula for sheath current is then:

$$I = U / (R \times L)$$

where **I** is the sheath current per length unit (A/km), **U** is the applied voltage (V), **R** is the detected sheath resistance (Ω) and **L** is the cable length (km).

Sheath test, measurement setup

- Strip 10 cm of the semiconductive sheath from both the inner and the outer end of the sheath.
- Connect the instrument between the semiconductive layer of the sheath and the copper shield.
- Adjust the instrument to read the leakage current "I".
- Start by applying 100 V.
- Increase the test voltage gradually.
- Discontinue the test if a fault is detected.
- If no fault is detected during the voltage increase, continue to the test voltage within a minute.

Note! When measuring a cable on reel, ensure that the inner end is freed, dry and stripped to at least 10 cm to avoid conduction due to moisture/water.

Interpretation of measurement results

Suitable test voltages and acceptable leakage currents for different sheath materials are indicated below. An aged sheath may show up to 1000 times higher leakage currents than a new one without being faulty, and still be approved, depending on the installation conditions.

Sheath material	Test voltage (kV, DC)	Newly installed cable		Max leakage current, repeat measurement
		Rec. max leakage current	Max leakage, note	
PE	5	10 µA/km	1 mA/km	1 mA/km
PVC	2	0,5 µA/km	10 mA/km	50 mA/km
LSZH*	2	2 mA/km	50 mA/km	500 mA/km

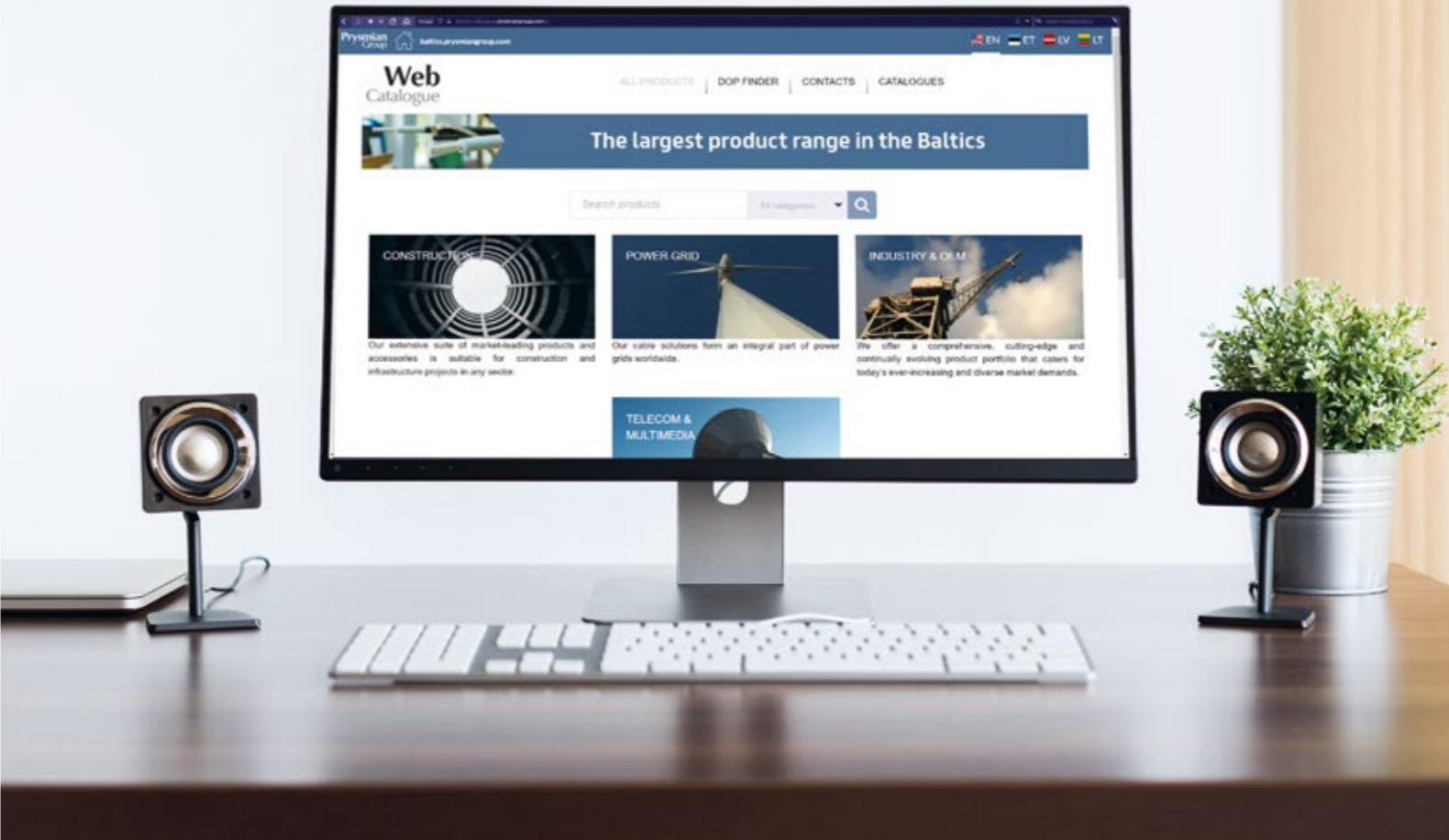
* LSZH halogen-free and flame-retardant sheath

Repairing sheath damage

When repairing sheath damage, 10 cm of the conductive layer shall be stripped from each side of the edges of the hole/damage. This ensures that no erroneous indications are received during repeated testing after the repair. To maintain the special function of the conductive layer after repair and testing, a temporary connection should be made over the non-conductive repair with e.g. a copper net. Always consult your supplier of joint/repair sets for recommendations.

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