ADDISON

Caledonian

Caledonian Submarine Cables

www.caledonian-cables.co.uk
www.addison-cables.com

Company Profile

Caledonian, established in 1978, offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. Our superior products provide leading edge within every cable series and for every application.

ISO 9001
REGISTERED FIRM

Registration Certificate

This document certifies that the administration systems of

Caledonian Cables Limited / Addison Technology Limited
Marchants Industrial Centre, Mill Lane, Laughton, Lewes, Sussex, BN8 6AJ, United Kingdom

have been assessed and approved by QAS International
to the following management systems, standards and guidelines:

ISO 9001 : 2008
With the permitted exclusion of clauses 7.3 Design and Development

The approved administration systems apply to the following:

The manufacture and supply of electrical cables and
ancillary power equipment to customers internationally.

Original Approval 6th September 1997
Current Certificate 7th February 2013
Certificate Expiry 7th February 2014
Certificate Number A6211

On behalf of QAS International

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard, ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison, produces a wide range of cables for communication, power and electronics in its primary plants in UK, Italy and Spain. To stay in front, we continually keep expanding our manufacturing capabilities in more low cost region such as Romania, Taiwan, Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible, scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing, logistic services, and vertically integrated with our E commerce technologies, to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality, excellent service level, competitive pricing and a unique and innovative spirit. With our latest technologies, we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning, we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized, country and industry-specific solutions. Caledonian & Addison has established an extensive network of design, manufacturing, and logistics facilities in the world's major markets to serve the growing outsourcing needs of both multinational and regional customers.

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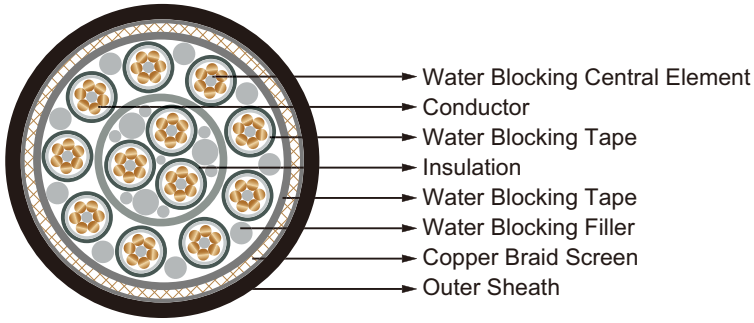


Application

These outboard installation cables for naval vessels are transversally water blocked and longitudinally completely water blocked, designed according to VG 95218 part 29.

Construction

- **Conductor:** Copper conductor, fine stranded.
- **Central Element:** Water-blocking central element.
- **Separator:** Water-blocking tape.
- **Insulation:** Special elastomer.
- **Fillers:** Water-blocking filler.
- **Separator:** Water-blocking tape.
- **Screen:** Copper braid with tinned wires.
- **Sheath:** Cross linked halogen free flame retardant compound.

Electrical Data

500V

Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
2×1.5	30
3×1.5	30
3G1.5	30
7×1.5	30

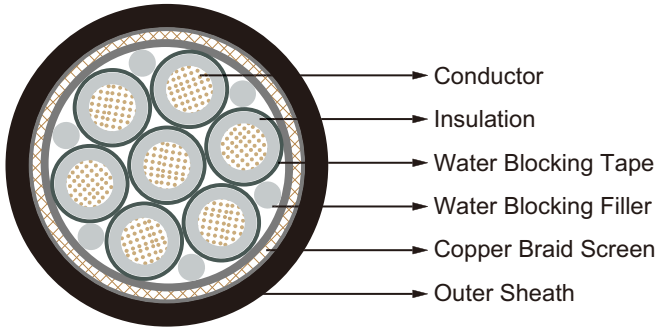
Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
4×2×0.75	30
12×0.75	30
12×1.5	30
24×1.5	30

Dimension and Weight

500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
2×1.5	3.4	2.0	12.6	13.2	200
3×1.5	3.4	2.0	13.4	13.8	250
3G1.5	3.4	2.0	13.4	13.8	250
7×1.5	3.4	1.5	15.7	16.2	430
4×2×0.75	2.5	2.0	20.6	21.2	560
12×0.75	2.5	2.0	18.5	19.1	540
12×1.5	3.4	2.0	20.9	21.5	700
24×1.5	3.4	2.0	28.1	28.7	1230

Partially Longitudinally Water Blocked Cable



Application

These outboard installation cables for naval vessels are transversally water blocked and longitudinally completely water blocked (all wires are not water blocked), designed according to VG 95218 part 29.

Construction

- **Conductor:** Copper conductor, fine stranded.
- **Insulation:** Special elastomer.
- **Separator:** Water-blocking tapes.
- **Fillers:** Water-blocking fillers.
- **Screen:** Copper braid with tinned wires.
- **Sheath:** Cross linked halogen free flame retardant compound.

Electrical Data

500V

Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
27×2×0.38	30
4×0.5	30
2×0.75	30
3×0.75	30
4×2×0.75	30

Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
8×2×0.75	30
10×2×0.75	30
37×0.75	30
4×1.0	30
4×6+2×1.0	30
2×1.5	30
3×1.5	30
3G1.5	30
5×1.5	30
5G1.5	30
7x1.5	30
12×1.5	30
24×1.5	30
19×6	30
2×6.0	30

1200V

Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
1×35	30
1×120	30
1×185	30
1×240	30

Dimension and Weight

500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
27×2×0.38	1.35	2.0	22.0	22.6	630
4×0.5	1.5	1.5	9.5	9.7	140
2×0.75	1.9	1.3	7.8	8.2	96
3×0.75	1.9	1.3	8	8.4	110
4×2×0.75	1.9	1.8	14.3	14.9	275
8×2×0.75	1.9	2.0	16.9	17.5	420
10×2×0.75	1.9	2.0	21.2	21.8	600
37×0.75	1.9	2.0	18.3	18.9	650
4×1.0	2.2	2.0	10.0	10.6	175
4×6+2×1.0	5.2/2.2	2.0	17.6	18.2	785
2×1.5	2.4	1.5	9.4	10.0	150
3×1.5	2.4	1.5	9.7	10.3	160

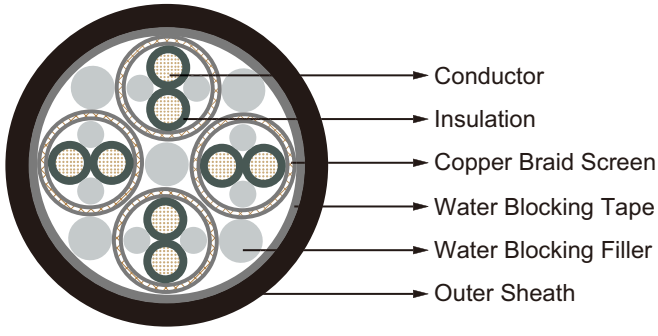
Low Voltage Water Blocked Cables

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
3G1.5	2.4	1.5	9.7	10.3	160
5×1.5	2.4	1.5	11.3	11.8	230
5G1.5	2.4	1.5	11.3	11.8	230
7x1.5	2.4	1.5	11.6	12.2	250
12×1.5	2.4	2.0	15.1	15.7	425
24×1.5	2.4	2.5	21.5	22.1	835
19×6	5.2	2.5	32.5	33	1800
2×6.0	5.2	2.0	16.8	17.4	410

1200V

Number of cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
1×35	11.3	2.5	17.0	17.5	680
1×120	21.6	2.5	28.7	29.3	2000
1×185	25.3	2.5	31.9	32.5	2900
1×240	29.8	2.5	35.3	35.9	4050

Pair Screened Partially Longitudinally Water Blocked Cable



Application

These outboard installation cables for naval vessels are transversally water blocked and longitudinally completely water blocked (all wires are not water blocked), designed according to VG 95218 part 29.

Construction

- **Conductor:** Copper conductor, fine stranded.
- **Insulation:** Special elastomer.
- **Cable Element:** Pairs.
- **Individual Screen:** Pairs are screened with tinned copper wire braid.
- **Fillers:** Water-blocking fillers.
- **Separator:** Water-blocking tapes.
- **Sheath:** Cross linked halogen free flame retardant compound.

Electrical Data

500V

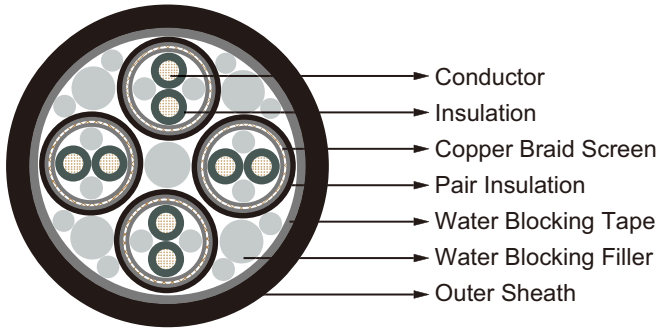
Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
4×2×0.75	15
7×2×0.75	15
8×2×0.75	15
10×2×0.75	15
27×2×0.38	15

Dimension and Weight

500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
4×2×0.75	1.9	1.7	17.8	18.4	430
7×2×0.75	1.9	2.0	19.8	20.4	650
8×2×0.75	1.9	2.0	22.1	22.7	720
10×2×0.75	1.9	2.0	26.3	26.9	900
27×2×0.38	1.3	2.5	34.1	34.7	1500

Pair Screened & Insulated Partially Longitudinally Water Blocked Cable



Application

These outboard installation cables for naval vessels are transversally water blocked and longitudinally completely water blocked (all wires are not water blocked), designed according to VG 95218 part 29.

Construction

- **Conductor:** Copper conductor, fine stranded.
- **Insulation:** Special elastomer.
- **Cable Element:** Pairs.
- **Individual Screen:** Pairs are screened with tinned copper wire braid.
- **Pair Insulation:** Special elastomer.
- **Fillers:** Water-blocking fillers.
- **Separator:** Water-blocking tapes.
- **Sheath:** Cross linked halogen free flame retardant compound.

Electrical Data

500V

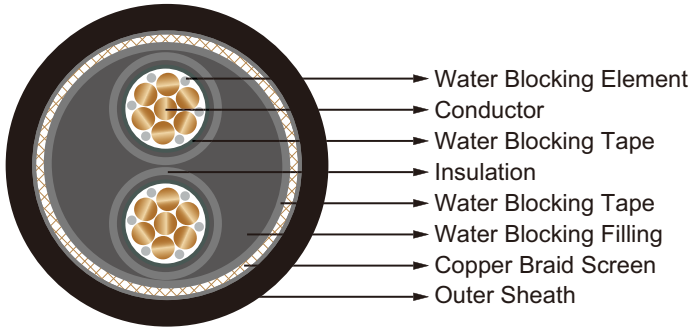
Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
4×2×0.75	15
8×2×0.75	15
10×2×0.75	15
27×2×0.38	15
12×2×0.38	15

Dimension and Weight

500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
4×2×0.75	1.9	1.7	20.5	20.9	530
8×2×0.75	1.9	2.0	26.1	26.5	880
10×2×0.75	1.9	2.0	32.3	32.9	1350
27×2×0.38	1.3	2.5	42.1	42.7	1800
12×2×0.38	1.9	2.0	30.6	31.2	1190

Water Blocked Cable



Application

These cables are water blocked, suitable for use as outboard installation cables for naval vessels.

Construction

- **Conductor:** Copper conductor, fine stranded.
- **Element:** Water-blocking element.
- **Separator:** Water-blocking tape.
- **Insulation:** Special elastomer.
- **Fillers:** Water-blocking filling.
- **Separator:** Water-blocking tape.
- **Screen:** Copper braid with tinned wires.
- **Sheath:** Cross linked halogen free flame retardant compound.

Electrical Data

500V

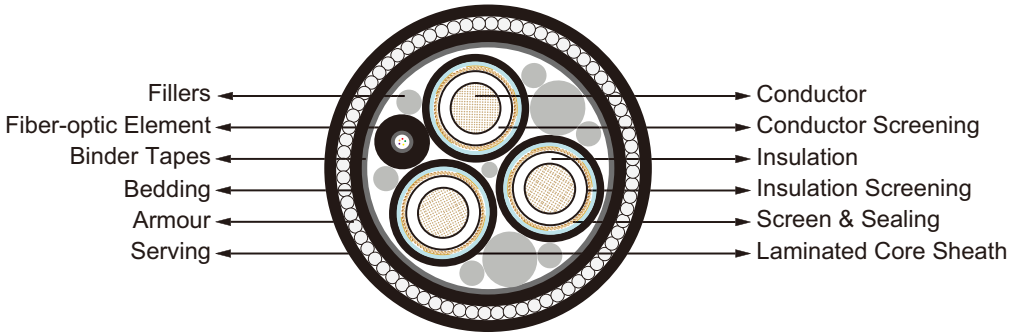
Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm²	m Ω /m
2×10 fix	100

Dimension and Weight

500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm²	mm	mm	mm	mm	kg/km
2×10 fix	5.9	2.0	20.3	21.5	650

XLPE Insulated AC Medium-voltage Submarine Cable With Fibre Optic Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, circular stranded compacted, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** XLPE.
- **Insulation Screening:** Extruded semi-conductive compound.
- **Screen:** Copper wires and copper helix, swelling powder.
- **Laminated Core Sheath:** Aluminium tape bonded to overlaying PE sheath
- **Fillers:** Polypropylene filler.
- **Fibre-optic Element:** Fibre optic cable.
- **Separator:** Binder tapes.
- **Bedding Layer:** Polypropylene strings.
- **Armour:** Galvanized steel wires.
- **Serving:** Hessian tapes, bituminous compound, polypropylene strings.

Electrical Data

6/10(12) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.23	0.43	167
50	0.26	0.41	199
70	0.29	0.38	241
95	0.32	0.37	288
120	0.35	0.35	327
150	0.38	0.34	363
185	0.42	0.33	405
240	0.47	0.32	464

12/20(24) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.17	0.47	171
50	0.18	0.44	199
70	0.20	0.41	243
95	0.22	0.40	292
120	0.24	0.38	328
150	0.26	0.37	364
185	0.28	0.35	408
240	0.31	0.34	467

18/30(36) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
50	0.14	0.48	202
70	0.15	0.45	245
95	0.17	0.42	291
120	0.18	0.41	330
150	0.19	0.39	366
185	0.21	0.38	411
240	0.23	0.36	470

Dimension and Weight

6/10(12) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
35	7.0	3.4	16	2.5	24	2	3.15	3.5	70	7.5
50	8.2	3.4	16	2.5	25	2	3.15	3.5	73	8.2
70	9.9	3.4	16	2.5	27	2	4.0	3.5	77	9.9
95	11.5	3.4	16	2.5	28	2	4.0	3.5	80	11.1
120	13.0	3.4	16	2.5	30	2	4.0	3.5	84	12.2
150	14.5	3.4	25	2.5	31	2	4.0	3.5	87	13.6
185	16.1	3.4	25	2.5	33	2	5.0	4.0	93	16.8
240	18.6	3.4	25	2.5	35	2	5.0	4.0	99	19.1

12/20(24) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
35	7.0	5.5	16	2.5	28	2	3.15	3.5	78	8.8
50	8.2	5.5	16	2.5	30	2	3.15	3.5	83	9.3
70	9.9	5.5	16	2.5	31	2	4.0	3.5	87	11.4
95	11.5	5.5	16	2.5	33	2	4.0	3.5	89	12.7
120	13.0	5.5	16	2.5	34	2	4.0	4.0	94	14.1
150	14.5	5.5	25	2.5	36	2	4.0	4.0	97	15.3
185	16.1	5.5	25	2.5	37	2	5.0	4.0	102	18.6
240	18.6	5.5	25	2.5	40	2	5.0	4.0	108	21.1

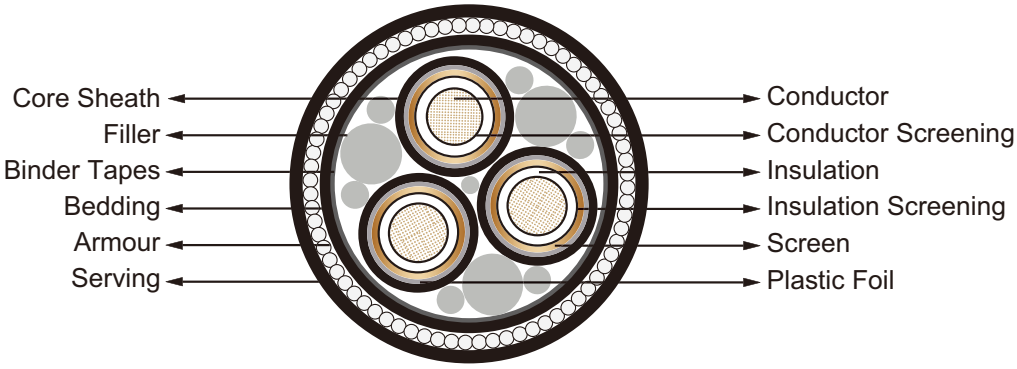
18/30(36) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
50	8.2	8.0	16	2.5	35	2	3.15	3.5	93	11.1
70	9.9	8.0	16	2.5	36	2	4.0	4.0	99	12.8

Medium Voltage Submarine Cables

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
95	11.5	8.0	16	2.5	38	2	4.0	4.0	102	14.9
120	13.0	8.0	16	2.5	39	2	4.0	4.0	105	16.2
150	14.5	8.0	25	2.5	41	2	4.0	4.0	108	17.6
185	16.1	8.0	25	2.5	42	2	5.0	4.0	113	21.0
240	18.6	8.0	25	2.5	45	2	5.0	4.0	119	23.4

XLPE Insulated AC Medium-voltage Submarine Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, circular stranded compacted, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** XLPE.
- **Insulation Screening:** Extruded semi-conductive compound.
- **Screen:** Copper tapes.
- **Separator:** Plastic foil.
- **Core Sheath:** PE.
- **Fillers:** Polypropylene filler.
- **Separator:** Binder tapes
- **Bedding Layer:** Polypropylene strings.
- **Armour:** Galvanized steel wires.
- **Serving:** Hessian tapes, bituminous compound, polypropylene strings.

Electrical Data

6/10(12) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.23	0.41	166
50	0.26	0.39	196
70	0.29	0.37	240
95	0.32	0.35	287
120	0.35	0.34	325
150	0.38	0.33	364
185	0.42	0.32	408
240	0.47	0.30	471

12/20(24) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.17	0.45	168
50	0.18	0.43	199
70	0.20	0.40	243
95	0.22	0.38	290
120	0.24	0.37	329
150	0.26	0.35	368
185	0.28	0.34	412
240	0.31	0.33	472

18/30(36) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
50	0.14	0.46	201
70	0.15	0.43	245
95	0.17	0.41	292
120	0.18	0.40	330
150	0.19	0.38	368
185	0.21	0.37	413
240	0.23	0.35	475

Dimension and Weight

6/10(12) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
35	7.0	3.4	16	2.5	22	2	3.15	3.5	65	6.3
50	8.2	3.4	16	2.5	23	2	3.15	3.5	68	7.0
70	9.9	3.4	16	2.5	25	2	4.0	3.5	72	8.8
95	11.5	3.4	16	2.5	26	2	4.0	3.5	76	10.0
120	13.0	3.4	16	2.5	28	2	4.0	3.5	79	11.2
150	14.5	3.4	25	2.5	29	2	4.0	3.5	82	12.3
185	16.1	3.4	25	2.5	31	2	5.0	4.0	89	15.5
240	18.6	3.4	25	2.5	33	2	5.0	4.0	94	17.8

12/20(24) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
35	7.0	5.5	16	2.5	26	2	3.15	3.5	74	7.6
50	8.2	5.5	16	2.5	27	2	3.15	3.5	77	8.3
70	9.9	5.5	16	2.5	29	2	4.0	3.5	81	10.3
95	11.5	5.5	16	2.5	30	2	4.0	3.5	85	11.5
120	13.0	5.5	16	2.5	32	2	4.0	3.5	88	12.7
150	14.5	5.5	25	2.5	33	2	4.0	3.5	91	13.9
185	16.1	5.5	25	2.5	35	2	5.0	4.0	98	17.2
240	18.6	5.5	25	2.5	38	2	5.0	4.0	103	19.5

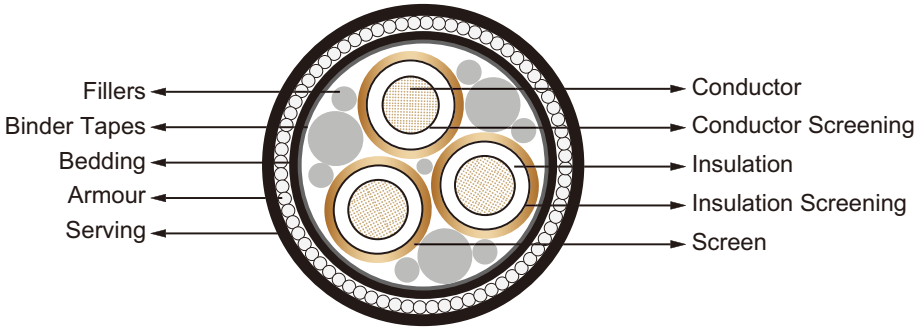
18/30(36) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
50	8.2	8.0	16	2.5	33	2	3.15	3.5	88	10.0
70	9.9	8.0	16	2.5	34	2	4.0	3.5	93	12.3
95	11.5	8.0	16	2.5	36	2	4.0	3.5	96	13.5
120	13.0	8.0	16	2.5	37	2	4.0	4.0	100	14.8

Medium Voltage Submarine Cables

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	mm	mm	kg/m
150	14.5	8.0	25	2.5	39	2	4.0	4.0	103	16.0
185	16.1	8.0	25	2.5	40	2	5.0	4.0	109	19.5
240	18.6	8.0	25	2.5	43	2	5.0	4.0	114	22.0

EPR Insulated AC Medium-voltage Submarine Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, circular stranded compacted, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** EPR.
- **Insulation Screening:** Extruded semi-conductive compound.
- **Screen:** Copper tapes.
- **Fillers:** Polypropylene filler.
- **Separator:** Binder tapes
- **Bedding Layer:** Polypropylene strings.
- **Armour:** Galvanized steel wires.
- **Serving:** Hessian tapes, bituminous compound, polypropylene strings.

Electrical Data

6/10(12) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.27	0.37	166
50	0.30	0.35	197
70	0.34	0.33	242
95	0.38	0.32	289
120	0.42	0.31	328
150	0.45	0.30	367
185	0.49	0.29	402
240	0.55	0.28	469

12/20(24) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
35	0.19	0.41	166
50	0.21	0.39	197
70	0.24	0.37	241
95	0.26	0.35	288
120	0.29	0.34	327
150	0.31	0.33	365
185	0.33	0.32	409
240	0.37	0.31	470

18/30(36) kV

Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm²	µF/mm	mH/km	A
50	0.17	0.43	196
70	0.18	0.41	241
95	0.20	0.39	287
120	0.22	0.37	325
150	0.23	0.36	364
185	0.25	0.35	406
240	0.28	0.33	467

Dimension and Weight

6/10(12) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	kg/m
35	7.0	3.4	3x4	2.0	3.15	3.5	56	5.4
50	8.2	3.4	3x4	2.0	3.15	3.5	59	5.9
70	9.9	3.4	3x5.4	2.0	4.0	3.5	64	7.9
95	11.5	3.4	3x5.4	2.0	4.0	3.5	68	9.1
120	13.0	3.4	3x5.4	2.0	4.0	3.5	71	10.2
150	14.5	3.4	3x6	2.0	4.0	3.5	74	11.4
185	16.1	3.4	3x6	2.5	5.0	4.0	86	15.0
240	18.6	3.4	3x6	2.5	5.0	4.0	87	16.7

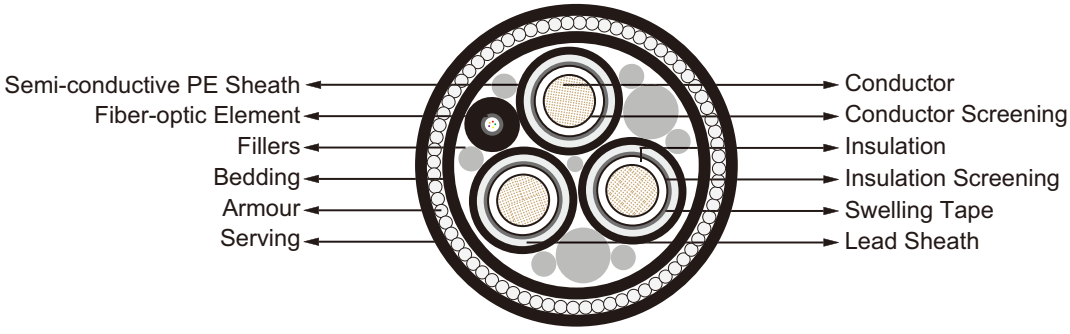
12/20(24) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	kg/m
35	7.0	5.5	3x6	2	3.15	3.5	65	6.8
50	8.2	5.5	3x6	2	3.15	3.5	68	7.4
70	9.9	5.5	3x6	2	4.0	3.5	73	9.5
95	11.5	5.5	3x6	2	4.0	3.5	77	10.7
120	13.0	5.5	3x6	2	4.0	3.5	80	11.8
150	14.5	5.5	3x6	2	4.0	3.5	83	13.0
185	16.1	5.5	3x8	2	5.0	4.0	90	16.2
240	18.6	5.5	3x8	2	5.0	4.0	95	18.5

18/30(36) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm²	mm	mm	mm²	mm	mm	mm	mm	kg/m
50	8.2	8.0	3x6	2	3.15	3.5	79	9.2
70	9.9	8.0	3x6	2	4.0	3.5	84	11.5
95	11.5	8.0	3x8	2	4.0	3.5	88	12.8
120	13.0	8.0	3x8	2	4.0	3.5	91	14.0
150	14.5	8.0	3x8	2	4.0	3.5	94	15.4
185	16.1	8.0	3x10	2	5.0	4.0	101	18.7
240	18.6	8.0	3x10	2	5.0	4.0	106	21.1

Lead Sheathed AC High-voltage Submarine Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** XLPE.
- **Insulation Screening:** extruded semi-conductive compound.
- **Separator:** Swelling tape.
- **Core Sheath1:** Lead Sheath.
- **Core Sheath2:** Semi-conductive PE sheath.
- **Fillers:** Polypropylene filler.
- **Fibre-optic Element:** Fibre optic cable.
- **Bedding:** Bedding layer.
- **Armour:** Galvanized steel wires filled with bitumen compound.
- **Serving:** Polypropylene yarn.

Electrical Data

26/45(52) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
95	0.18	0.43	1.5
120	0.19	0.42	1.6
150	0.21	0.40	1.6
185	0.22	0.39	1.8
240	0.24	0.37	2.0
300	0.26	0.36	2.2
400	0.29	0.35	2.3
500	0.32	0.33	2.6
630	0.35	0.32	2.9
800	0.38	0.31	3.1
1000	0.42	0.30	3.5

38/66(72.5) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
95	0.17	0.44	2.0
120	0.18	0.43	2.1
150	0.19	0.41	2.3
185	0.20	0.40	2.4
240	0.22	0.38	2.6
300	0.24	0.37	2.8
400	0.26	0.35	3.1
500	0.29	0.34	3.5
630	0.32	0.33	3.7
800	0.35	0.32	4.1
1000	0.38	0.31	4.6

64/110(123) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
185	0.14	0.46	2.8
240	0.15	0.43	3.0
300	0.17	0.41	3.5
400	0.20	0.38	3.9
500	0.22	0.37	4.3
630	0.24	0.36	4.7
800	0.26	0.34	5.2
1000	0.28	0.33	5.6

76/132(145) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
185	0.13	0.47	3.0
240	0.14	0.44	3.4
300	0.16	0.42	3.8
400	0.18	0.40	4.3
500	0.20	0.38	4.6
630	0.21	0.37	5.1
800	0.23	0.36	5.6
1000	0.25	0.35	6.1

87/150(170) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
240	0.13	0.47	3.4
300	0.14	0.44	3.7
400	0.15	0.42	4.1
500	0.17	0.40	4.7
630	0.19	0.38	5.3
800	0.21	0.37	5.7
1000	0.23	0.36	6.3

127/220(245) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
500	0.14	0.43	5.7
630	0.16	0.41	6.4
800	0.17	0.40	6.9
1000	0.19	0.38	7.4

160/275(300) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
500	0.14	0.44	6.8
630	0.16	0.42	7.7
800	0.17	0.40	8.3
1000	0.18	0.39	9.0

Dimension and Weight

26/45(52) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
95	11.2	8.0	29.6	1.3	109.0	20.8
120	12.6	8.0	31.0	1.3	112.0	22.3
150	14.2	8.0	32.6	1.4	116.0	24.4
185	15.8	8.0	34.2	1.4	119.0	26.2
240	18.1	8.0	36.5	1.5	124.0	29.5
300	20.4	8.0	38.8	1.6	130.0	32.9
400	23.2	8.0	41.6	1.7	136.0	37.9
500	26.2	8.0	45.0	1.8	144.0	43.2
630	29.8	8.0	48.6	1.9	152.0	49.7
800	33.7	8.0	52.5	2.1	162.0	58.6
1000	37.9	8.0	57.3	2.2	173.0	68.1

38/66(72.5) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
95	11.2	9.0	31.6	1.3	113.0	21.6
120	12.6	9.0	33.0	1.4	116.0	23.8
150	14.2	9.0	34.6	1.4	120.0	25.7
185	15.8	9.0	36.2	1.4	124.0	28.0
240	18.1	9.0	38.5	1.6	129.0	31.3
300	20.4	9.0	40.8	1.6	134.0	34.3
400	23.2	9.0	43.6	1.7	141.0	39.2
500	26.2	9.0	47.0	1.9	149.0	45.4
630	29.8	9.0	50.6	2.0	157.0	52.0
800	33.7	9.0	54.5	2.1	167.0	60.1
1000	37.9	9.0	59.3	2.3	178.0	70.7

64/110(123) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
185	15.8	16.0	50.2	2.0	156.0	40.9
240	18.1	15.0	50.5	2.0	157.0	42.5
300	20.4	14.0	50.8	2.0	157.0	44.1
400	23.2	13.0	51.6	2.0	159.0	47.2
500	26.2	13.0	55.0	2.1	167.0	53.0
630	29.8	13.0	58.6	2.3	176.0	60.7
800	33.7	13.0	62.5	2.4	185.0	69.5
1000	37.9	13.0	67.3	2.6	197.0	80.5

76/132(145) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
185	15.8	18.0	54.2	2.1	165.0	44.9
240	18.1	17.0	54.5	2.1	166.0	46.3
300	20.4	16.0	54.8	2.1	167.0	48.0
400	23.2	15.0	55.6	2.1	168.0	51.1
500	26.2	15.0	59.0	2.3	176.0	58.0
630	29.8	15.0	62.6	2.4	185.0	65.2
800	33.7	15.0	66.5	2.5	194.0	74.0
1000	37.9	15.0	71.3	2.7	206.0	85.4

87/150(170) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
240	18.1	21.0	62.5	2.4	184.0	55.5
300	20.4	20.0	62.8	2.4	185.0	57.3
400	23.2	19.0	63.6	2.4	187.0	60.5
500	26.2	18.0	65.0	2.5	190.0	65.1
630	29.8	17.0	66.6	2.5	194.0	69.7
800	33.7	17.0	70.5	2.7	204.0	79.8
1000	37.9	17.0	75.3	2.8	215.0	90.5

High Voltage Submarine Cables

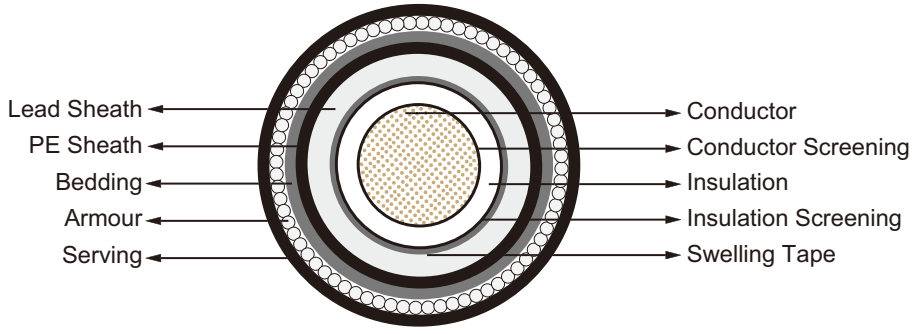
127/220(245) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
500	26.2	24.0	77.6	2.9	219.0	81.3
630	29.8	23.0	79.2	3.0	224.0	86.7
800	33.7	23.0	83.1	3.1	234.0	95.3
1000	37.9	23.0	87.3	3.1	241.0	104.0

160/275(300) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
500	26.2	26.0	81.6	2.9	229.0	84.7
630	29.8	24.0	81.2	3.0	228.0	88.9
800	33.7	24.0	85.1	3.1	237.0	97.6
1000	37.9	24.0	89.3	3.1	247.0	106.3

XLPE Insulated DC High-Voltage Submarine Cable



Application

These submarine cables are used for power transmission to offshore islands, oil platforms or to cross-rivers and lakes. Cable design based on the mayor national or international standards e.g. VDE, IEC and ICEA or according to customers design and standards.

Construction

- **Conductor:** Copper conductor, water blocked.
- **Conductor Screening:** Extruded semi-conductive compound.
- **Insulation:** XLPE.
- **Insulation Screening:** Extruded semi-conductive compound.
- **Separator:** Swelling tape.
- **Core Sheath1:** Lead Sheath.
- **Core Sheath2:** PE sheath.
- **Bedding:** Bedding layer.
- **Armour:** Galvanized steel wires filled with bitumen compound.
- **Serving:** Polypropylene yarn.

Electrical Data

127/220(245) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
500	0.14	1.42	5.8
630	0.16	1.40	6.4
800	0.17	1.37	6.9
1000	0.19	1.35	7.4
1200	0.20	1.33	7.8
1400	0.21	1.32	8.2
1600	0.22	1.31	8.6

160/275(300) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
500	0.14	1.42	6.8
630	0.16	1.40	7.7
800	0.17	1.37	8.3
1000	0.18	1.35	9.0
1200	0.19	1.33	9.5
1400	0.20	1.32	10.0
1600	0.21	1.31	10.4

200/345(362) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
630	0.14	1.40	8.8
800	0.15	1.37	9.7
1000	0.17	1.35	10.7
1200	0.18	1.33	11.1
1400	0.19	1.32	11.6
1600	0.20	1.31	12.1

230/400(420) kV

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	µF/km	mH/km	A/km
630	0.13	1.40	9.6
800	0.15	1.37	10.7

Nominal Cross Section Area	Capacitance	Inductance	Charging Current per phase @50Hz
mm²	μF/km	mH/km	A/km
1000	0.16	1.35	11.7
1200	0.18	1.33	12.9
1400	0.19	1.32	13.5
1600	0.19	1.31	14.1

Dimension and Weight

127/220(245) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nomanal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
500	26.2	24.0	77.6	2.9	111.0	29.3
630	29.8	23.0	79.2	3.0	112.8	31.2
800	33.7	23.0	83.1	3.1	117.5	34.5
1000	37.9	23.0	87.3	3.1	121.9	37.7
1200	41.2	23.0	90.6	3.1	125.2	40.4
1400	44.4	23.0	93.8	3.1	128.6	43.2
1600	47.4	23.0	96.8	3.1	131.8	46.0

160/275(300) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nomanal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
500	26.2	26.0	81.6	3.0	115.2	31.1
630	29.8	24.0	81.2	3.0	114.8	31.8
800	33.7	24.0	85.1	3.1	119.5	35.2
1000	37.9	24.0	89.3	3.1	123.9	38.4
1200	41.2	24.0	92.6	3.1	127.4	41.6
1400	44.4	24.0	95.8	3.1	130.6	44.4
1600	47.4	24.0	98.8	3.1	133.8	47.2

200/345(362) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nomanal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
630	29.8	28.0	89.2	3.1	123.4	35.2
800	33.7	27.0	91.1	3.1	125.9	37.5
1000	37.9	26.0	93.3	3.1	128.1	39.9
1200	41.2	25.0	94.6	3.1	129.4	42.0

High Voltage Submarine Cables

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nomanal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
1400	44.4	25.0	97.8	3.1	132.8	44.9
1600	47.4	25.0	100.8	3.1	135.8	47.7

230/400(420) kV

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nomanal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm²	mm	mm	mm	mm	mm	kg/m
630	29.8	32.0	98.2	3.1	132.8	38.8
800	33.7	30.0	98.1	3.1	133.1	40.2
1000	37.9	29.0	100.3	3.1	135.3	42.6
1200	41.2	27.0	99.6	3.1	134.6	44.0
1400	44.4	27.0	102.8	3.1	138.0	46.9
1600	47.4	27.0	105.8	3.1	141.0	49.7

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