

 ADDISON



**Caledonian**

# **Caledonian Submarine Cables**

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)  
[www.addison-cables.com](http://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.

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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## Medium Voltage Submarine Cables

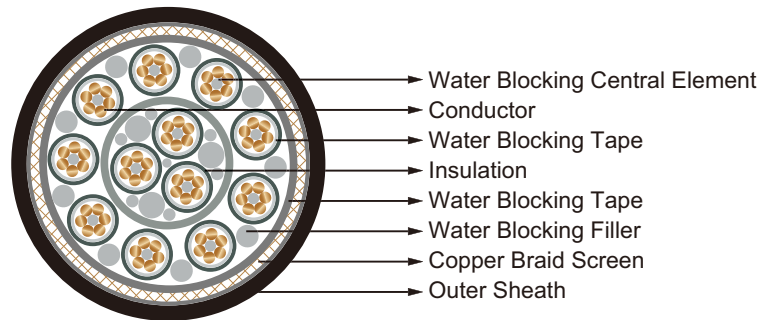
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### Longitudinally Water Blocked Cable



### 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 No. × mm <sup>2</sup>	Maximum Transfer impedance m Ω /m
2×1.5	30
3×1.5	30
3G1.5	30
7×1.5	30



## Low Voltage Water Blocked Cables

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

### Dimension and Weight

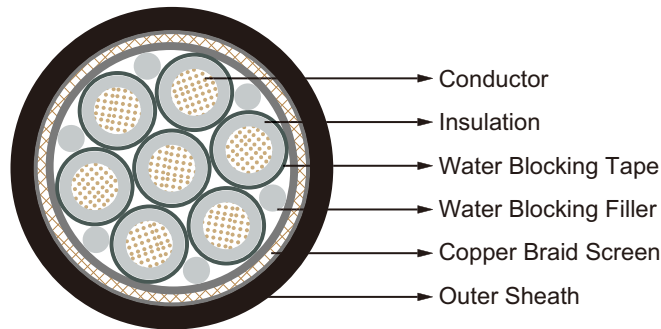
#### 500V

Number of Cores × Nominal Cross Section Area	Maximum Single Core Diameter	Minimum Sheath Thickness	Minimum Overall Diameter	Maximum Overall Diameter	Maximum Weight
No. × mm <sup>2</sup>	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. × mm <sup>2</sup>	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



## Low Voltage Water Blocked Cables

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Number of Cores × Nominal Cross Section Area	Maximum Transfer impedance
No. × mm <sup>2</sup>	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
7×1.5	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. × mm <sup>2</sup>	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. × mm <sup>2</sup>	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



# Caledonian Submarine Cables

## Low Voltage Water Blocked Cables

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Number of Cores × Nominal Cross Section Area No. × mm <sup>2</sup>	Maximum Single Core Diameter mm	Minimum Sheath Thickness mm	Minimum Overall Diameter mm	Maximum Overall Diameter mm	Maximum Weight 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
7×1.5	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 No. × mm <sup>2</sup>	Maximum Single Core Diameter mm	Minimum Sheath Thickness mm	Minimum Overall Diameter mm	Maximum Overall Diameter mm	Maximum Weight 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

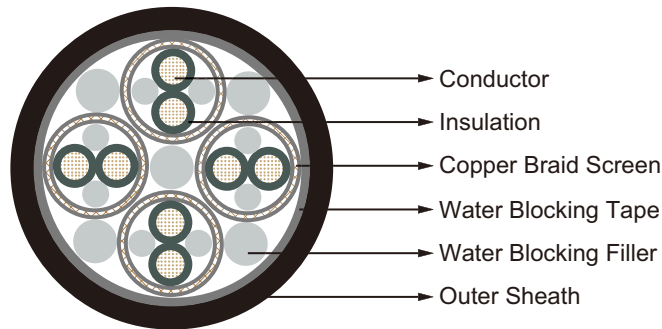




## Low Voltage Water Blocked Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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 No. × mm <sup>2</sup>	Maximum Transfer impedance 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. × mm <sup>2</sup>	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

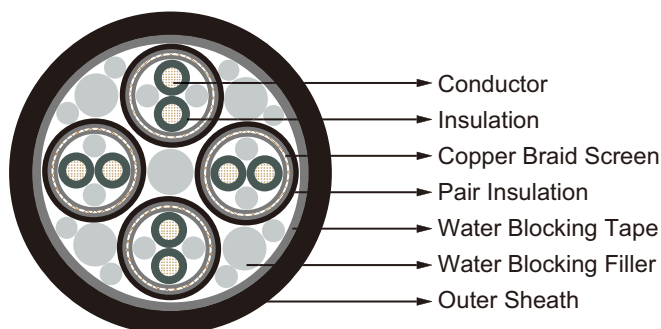




## Low Voltage Water Blocked Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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. × mm <sup>2</sup>	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. × mm <sup>2</sup>	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

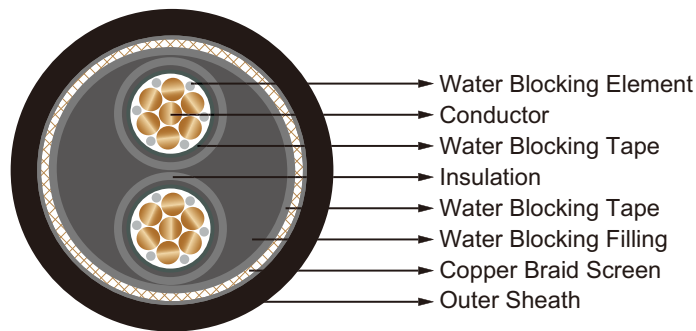




## Low Voltage Water Blocked Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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. × mm <sup>2</sup>	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. × mm <sup>2</sup>	mm	mm	mm	mm	kg/km
2×10 fix	5.9	2.0	20.3	21.5	650

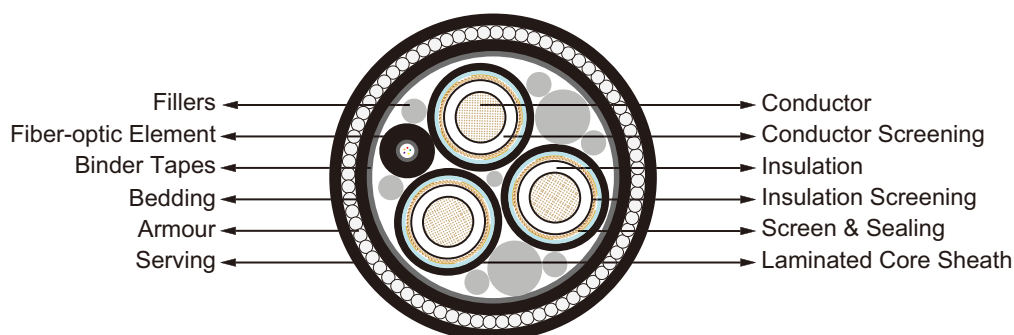




## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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
mm <sup>2</sup>	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
mm <sup>2</sup>	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
mm <sup>2</sup>	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



## Medium Voltage Submarine Cables

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### 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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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





# Caledonian Submarine Cables

## Medium Voltage Submarine Cables

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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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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

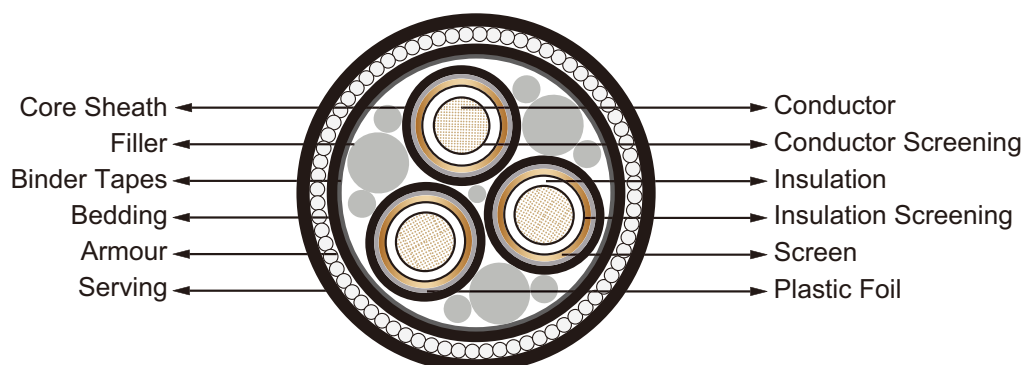




## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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 mm <sup>2</sup>	Capacitance μF/mm	Inductance mH/km	Current Rating 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 mm <sup>2</sup>	Capacitance μF/mm	Inductance mH/km	Current Rating 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 mm <sup>2</sup>	Capacitance μF/mm	Inductance mH/km	Current Rating 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



## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	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



# Caledonian Submarine Cables

## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Screen Cross Section Area mm <sup>2</sup>	Nominal Core Sheath Thickness mm	Nominal Core Diameter mm	Nominal Bedding Thickness mm	Nominal Steel Wire Diameter mm	Serving Thickness mm	Overall Diameter mm	Weight 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

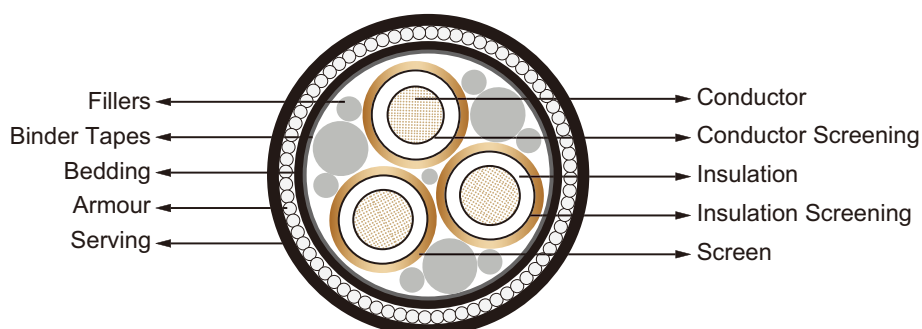




## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 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
mm <sup>2</sup>	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
mm <sup>2</sup>	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
mm <sup>2</sup>	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



## Medium Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### Dimension and Weight

#### 6/10(12) kV

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Screen Cross Section Area mm <sup>2</sup>	Nominal Bedding Thickness mm	Nominal Steel Wire Diameter mm	Serving Thickness mm	Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Screen Cross Section Area mm <sup>2</sup>	Nominal Bedding Thickness mm	Nominal Steel Wire Diameter mm	Serving Thickness mm	Overall Diameter mm	Weight 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

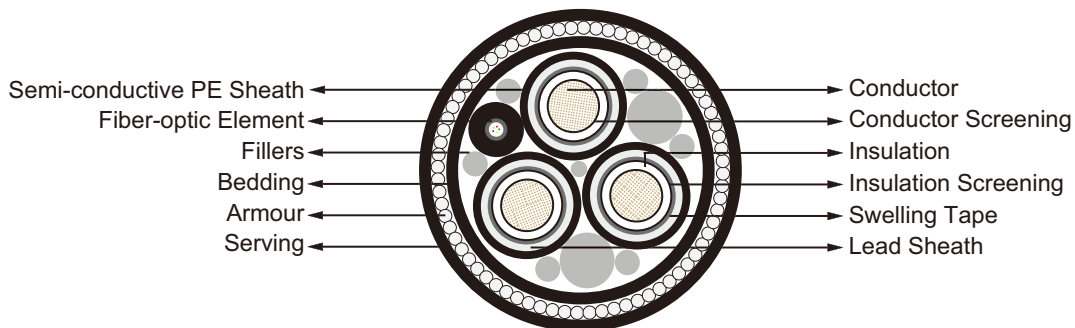
#### 18/30(36) kV

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Screen Cross Section Area mm <sup>2</sup>	Nominal Bedding Thickness mm	Nominal Steel Wire Diameter mm	Serving Thickness mm	Overall Diameter mm	Weight 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.



## High Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### Electrical Data

#### 26/45(52) kV

Nominal Cross Section Area mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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



## High Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### Dimension and Weight

#### 26/45(52) kV

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### 127/220(245) kV

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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

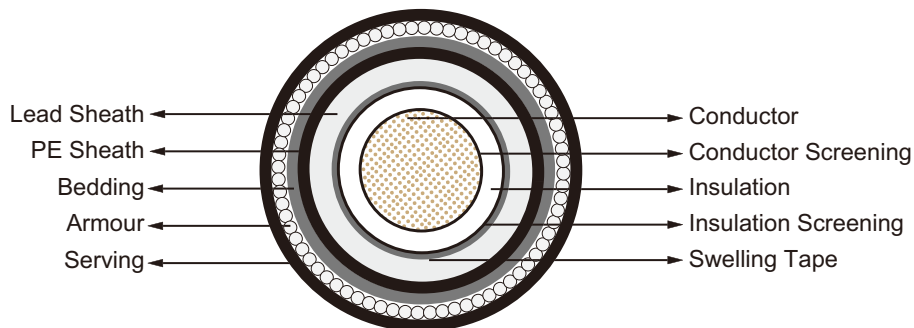
### 160/275(300) kV

Nominal Cross Section Area mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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.



## High Voltage Submarine Cables

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

### Electrical Data

#### 127/220(245) kV

Nominal Cross Section Area mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Capacitance μF/km	Inductance mH/km	Charging Current per phase @50Hz A/km
630	0.13	1.40	9.6
800	0.15	1.37	10.7





Nominal Cross Section Area mm <sup>2</sup>	Capacitance µF/km	Inductance mH/km	Charging Current per phase @50Hz 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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 mm <sup>2</sup>	Nominal Conductor Diameter mm	Nominal Insulation Thickness mm	Nominal Diameter Over Insulation mm	Nominal Lead Sheath Thickness mm	Nominal Overall Diameter mm	Weight 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

[www.caledonian-cables.co.uk](http://www.caledonian-cables.co.uk)

Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Diameter Over Insulation	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm <sup>2</sup>	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	Nominal Lead Sheath Thickness	Nominal Overall Diameter	Weight
mm <sup>2</sup>	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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