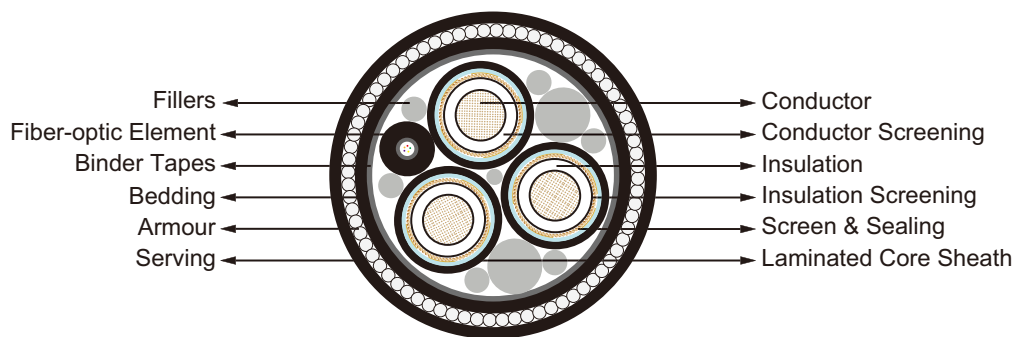


## XLPE Insulated AC Medium-voltage Submarine Cable With Fibre Optic Cable

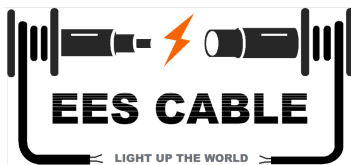


### Application

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.



# Medium Voltage Submarine Cables

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## Electrical Data

### 6/10(12) kV

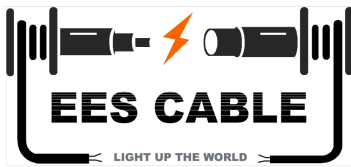
Nominal Cross Section Area	Capacitance	Inductance	Current Rating
mm <sup>2</sup>	μF/mm	mH/km	A
35	0.23	0.43	167
50	0.26	0.41	199
70	0.29	0.38	241
95	0.32	0.37	288
120	0.35	0.35	327
150	0.38	0.34	363
185	0.42	0.33	405
240	0.47	0.32	464

### 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

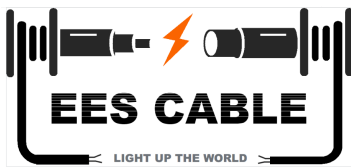
Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>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

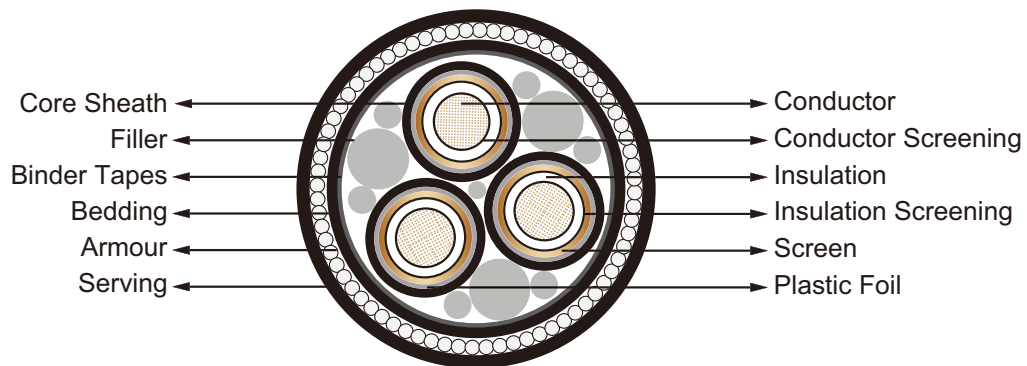


# Medium Voltage Submarine Cables

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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

## XLPE Insulated AC Medium-voltage Submarine Cable

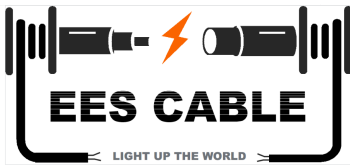


### Application

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.



# Medium Voltage Submarine Cables

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## Electrical Data

### 6/10(12) kV

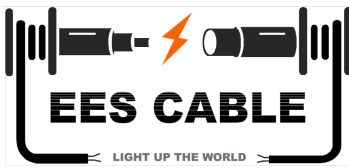
Nominal Cross Section Area mm <sup>2</sup>	Capacitance μF/mm	Inductance mH/km	Current Rating A
35	0.23	0.41	166
50	0.26	0.39	196
70	0.29	0.37	240
95	0.32	0.35	287
120	0.35	0.34	325
150	0.38	0.33	364
185	0.42	0.32	408
240	0.47	0.30	471

### 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

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## Dimension and Weight

### 6/10(12) kV

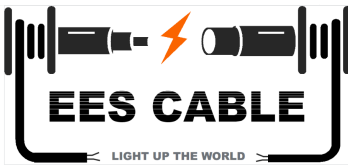
Nominal Cross Section Area	Nominal Conductor Diameter	Nominal Insulation Thickness	Nominal Screen Cross Section Area	Nominal Core Sheath Thickness	Nominal Core Diameter	Nominal Bedding Thickness	Nominal Steel Wire Diameter	Serving Thickness	Overall Diameter	Weight
mm <sup>2</sup>	mm	mm	mm <sup>2</sup>	mm	mm	mm	mm	mm	mm	kg/m
35	7.0	3.4	16	2.5	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



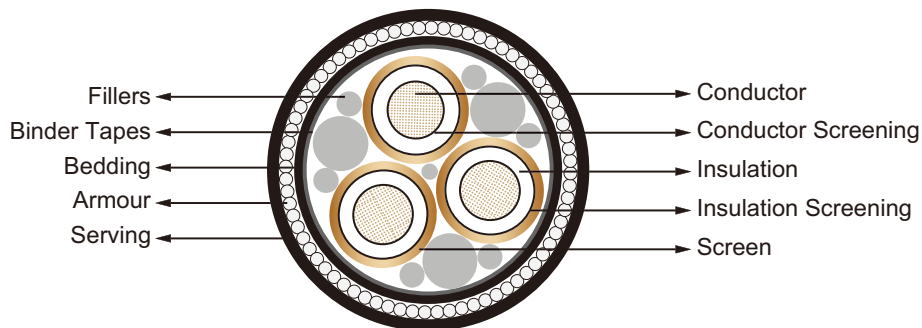
# Medium Voltage Submarine Cables

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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
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.