

ISO 9001

BUREAU VERITAS
Certification



FEC Cables (M) Sdn. Bhd.



Medium Voltage Cables

CORPORATE HISTORY

FEC Cables (M) Sdn. Bhd. was first established in 1967 and was previously known as Furukawa Electric Cables (M) Sdn. Bhd. In all the years until 2003, the company had been under the management and control of Furukawa Electric Co. Ltd. of Japan.

In 2003, the company was renamed FEC Cables (M) Sdn. Bhd. following the acquisition of its major equity stake by Permodalan Nasional Berhad, Malaysia's government-owned premier multi-billion dollar investment institution.

The Company had started a technical collaboration from world renowned cable manufacturer, The Furukawa Electric Co. Ltd Japan (Furukawa Japan).

FEC Cables has benefited enormously from the technical collaboration and the subsequent technology transfer with Furukawa Japan. FEC Cables inherited from Furukawa Japan not only its advanced technology and technical know-how but also the disciplines of producing quality products using material conforming to the international standards of manufacturing cables.

Today FEC Cables plays a prominent role as a forerunner in the cable industry.

FEC Cables has been actively involved in serving various industrial sectors, namely the power, telecommunications, construction as well as the oil and gas sectors.

INTRODUCTION OF COMPANY

When there is talk of high quality electric wires and cables, the one company that comes to mind is FEC Cables (Malaysia) Sdn. Bhd. FEC is a subsidiary of Permodalan Nasional Berhad and was formerly known as Furukawa Electric Cables (M) Sdn. Bhd. Having established its Shah Alam plant in 1967 on a 7-acre site at the Shah Alam Industrial Estate, Furukawa has come a long way.

The technical collaboration with our Japanese counterpart, Furukawa Japan, has brought about an amazing success for us. In terms of quality, we have climbed the ladders of product manufacturing, steadily and successfully, pushing FEC towards the pinnacle of excellence.

Putting our customers' demands and needs as our number one priority, we opened our second plant in 1995, on a 27-acre freehold land site in Bukit Raja Industrial area, Klang. In our quest for excellence, we equip the plant with the latest technological aids for the manufacture of a wide range of low and medium voltage cables.

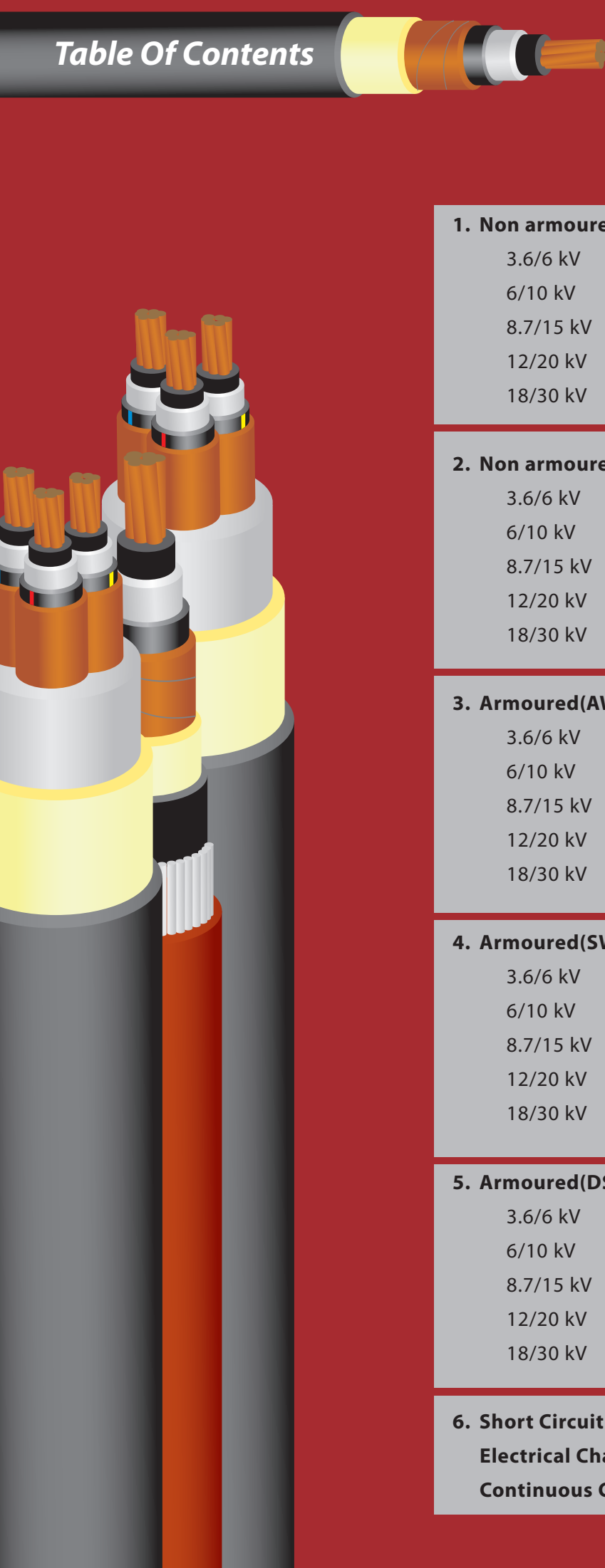
The certification of the ISO 9001 for both plants only proves that we do not compromise on quality and customer satisfaction. Our dedicated and hard-working employees are the backbone of our success. This was greatly helped by the state-of-the-art technology equipment which has led us towards excellence.

Moving towards a new century, we pledge to continually strive towards progressive and dynamic growth as FEC Cables continues its efforts in contributing to the development of Malaysia.





Medium Voltage Cables



1. Non armoured cables (One core)

3.6/6 kV	5
6/10 kV	6
8.7/15 kV	7
12/20 kV	8
18/30 kV	9

2. Non armoured cables (Three core)

3.6/6 kV	10
6/10 kV	11
8.7/15 kV	12
12/20 kV	13
18/30 kV	14

3. Armoured(AWA) cables (One core)

3.6/6 kV	15
6/10 kV	16
8.7/15 kV	17
12/20 kV	18
18/30 kV	19

4. Armoured(SWA) cables (Three core)

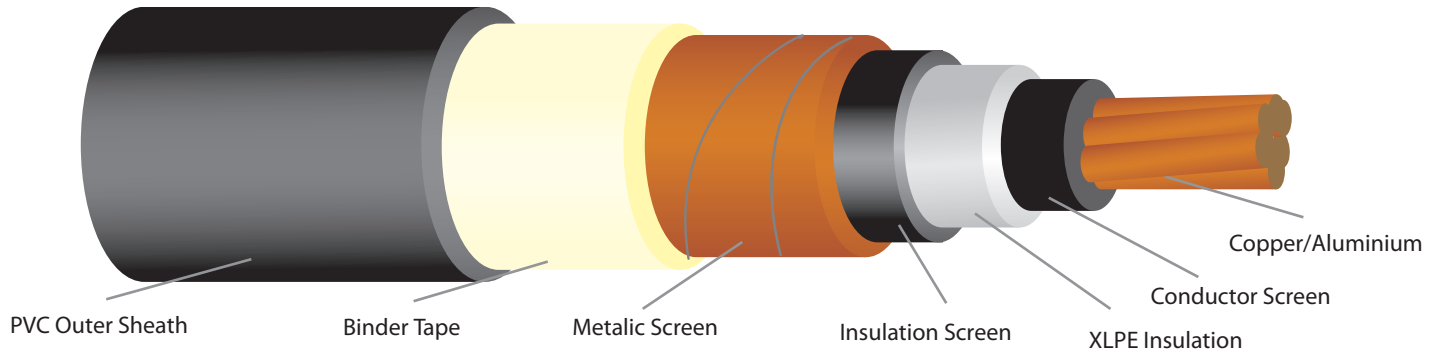
3.6/6 kV	20
6/10 kV	21
8.7/15 kV	22
12/20 kV	23
18/30 kV	24

5. Armoured(DSTA) cables (Three core)

3.6/6 kV	25
6/10 kV	26
8.7/15 kV	27
12/20 kV	28
18/30 kV	29

6. Short Circuit Current, Calculation Base for Electrical Characteristics and Correction Factors for Continuous Current Rating	30
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Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



1 Core

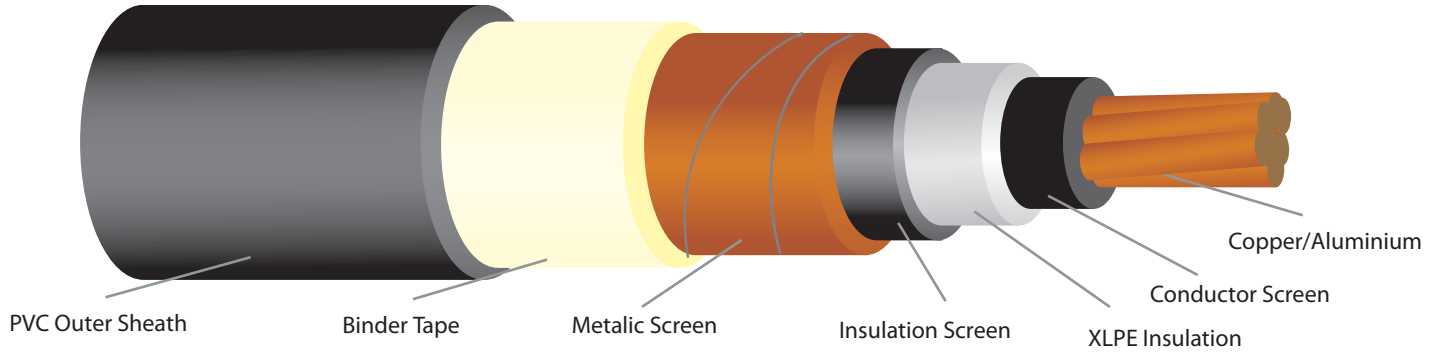
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	2.5										2.6	2.8	3.0	3.2	
Nominal outer-sheath thickness	mm	1.4	1.5		1.6		1.7		1.8		1.9	2.0	2.1	2.2	2.3	
Approx. overall dia.	mm	17.5	18.5	20.0	21.5	23.0	25.0	26.5	28.0	30.0	32.5	35.5	38.5	42.5	47.0	
Cable net. weight (approx.)	kg/km	Cu	420	540	670	820	1,060	1,350	1,610	1,910	2,300	2,930	3,570	4,460	5,510	7,020
		Al	-	380	450	520	620	750	860	980	1,130	1,390	1,650	2,000	2,410	3,010

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0983	0.0794	0.0635	0.0512	0.0418
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0800	0.0633
Capacitance	μF/km	Cu	0.21	0.24	0.28	0.31	0.35	0.40	0.43	0.47	0.52	0.56	0.57	0.60	0.62	0.71
Reactance at 50Hz	Ω/km	Cu	0.134	0.125	0.119	0.114	0.108	0.104	0.100	0.0973	0.0946	0.0920	0.0904	0.0883	0.0868	0.0849
Current rating In air at 40°C	A	Cu	105	135	165	200	250	305	355	410	470	560	645	750	865	1,000
		Al	-	105	130	155	195	240	280	320	365	435	505	590	690	815
Current rating In the ground at 25°C	A	Cu	110	145	170	205	250	300	340	380	430	495	560	635	720	810
		Al	-	110	135	160	195	235	265	300	340	390	445	505	580	660
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed

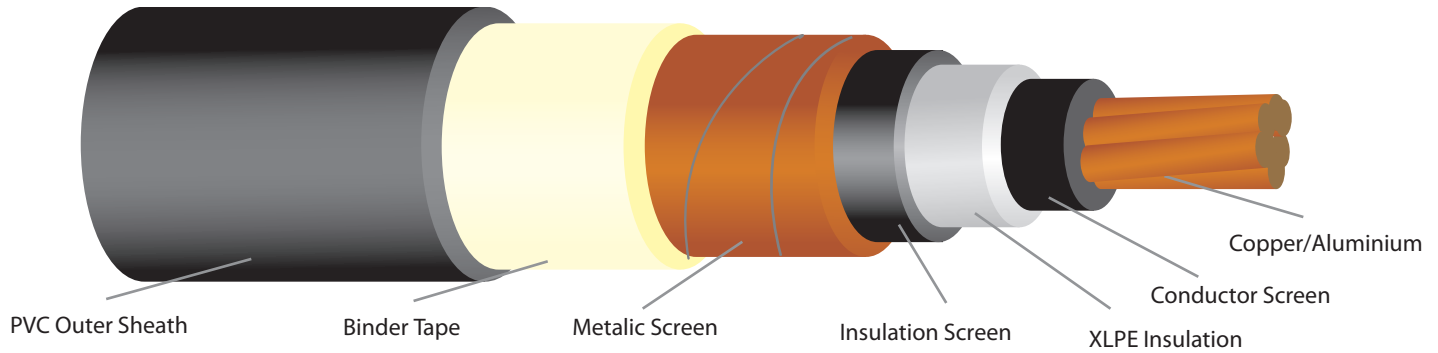

1 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	3.4														
Nominal outer-sheath thickness	mm	1.5		1.6		1.7		1.8		1.9	2.0		2.1	2.2	2.3	
Approx. overall dia.	mm	19.5	20.5	22.0	23.0	25.0	27.0	28.5	30.0	32.0	34.5	36.5	39.5	42.5	47.5	
Cable net weight (approx.)	kg/km	Cu	490	600	740	880	1,140	1,430	1,710	2,000	2,400	3,030	3,640	4,510	5,540	7,050
		Al	-	440	520	580	710	830	950	1,070	1,240	1,490	1,720	2,050	2,440	3,040

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0793	0.0634	0.0511	0.0417
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0800	0.0633
Capacitance	μF/km	Cu	0.17	0.19	0.22	0.24	0.27	0.31	0.33	0.36	0.40	0.44	0.48	0.53	0.59	0.68
Reactance at 50Hz	Ω/km	Cu	0.142	0.132	0.126	0.120	0.114	0.109	0.106	0.102	0.0994	0.0958	0.0927	0.0900	0.0876	0.0856
Current rating In air at 40°C	A	Cu	105	140	170	205	255	310	360	415	475	565	645	750	865	1,000
		Al	-	110	130	160	200	245	280	320	370	440	505	590	690	815
Current rating In the ground at 25°C	A	Cu	110	145	170	205	250	300	340	380	430	500	560	635	720	810
		Al	-	110	135	160	195	235	265	300	340	390	445	505	580	660
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



1 Core

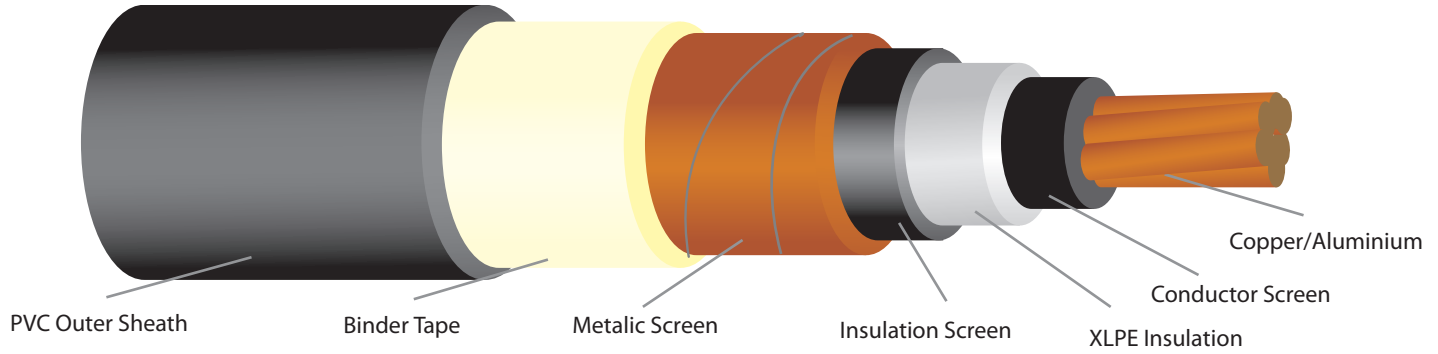
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	4.5														
Nominal outer-sheath thickness	mm	-	1.6	1.7			1.8	1.9		2.0		2.1	2.2	2.3	2.4	
Approx. overall dia.	mm	-	23.0	24.5	25.5	27.5	29.0	31.0	32.5	34.0	36.5	39.0	42.0	45.0	50.0	
Cable net weight (approx.)	kg/km	Cu	-	700	840	990	1,240	1,550	1,840	2,140	2,550	3,170	3,810	4,690	5,730	7,160
		Al	-	540	620	690	810	950	1,080	1,210	1,380	1,630	1,890	2,230	2,630	3,280

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0979	0.0790	0.0630	0.0507	0.0413
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0798	0.0631
Capacitance	μF/km	Cu	-	0.16	0.18	0.20	0.22	0.25	0.27	0.29	0.31	0.35	0.38	0.42	0.46	0.53
Reactance at 50Hz	Ω/km	Cu	-	0.142	0.136	0.130	0.122	0.117	0.113	0.110	0.106	0.102	0.0986	0.0955	0.0926	0.0901
Current rating In air at 40°C	A	Cu	-	140	175	210	260	320	365	420	480	570	655	760	875	1,010
		Al	-	110	135	160	200	245	285	325	375	445	510	595	695	815
Current rating In the ground at 25°C	A	Cu	-	145	170	205	250	300	340	380	430	500	560	640	720	815
		Al	-	110	135	160	195	235	265	300	340	390	445	505	580	660
Short circuit current for 1 sec.	kA	Cu	-	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed

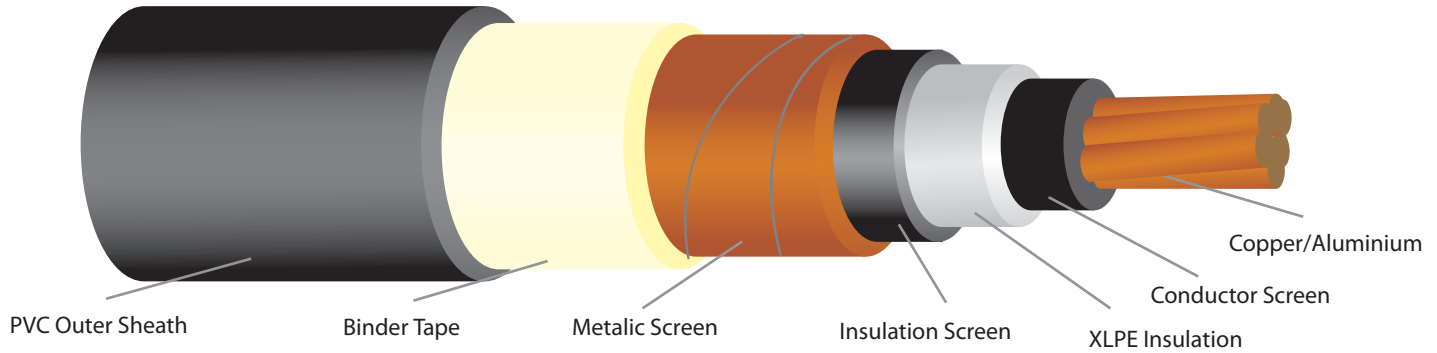

1 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	-	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	5.5														
Nominal outer-sheath thickness	mm	-	-	1.7	1.8		1.9		2.0		2.1	2.2	2.3	2.4	2.5	
Approx. overall dia.	mm	-	-	26.0	27.5	29.5	31.0	32.5	34.5	36.0	38.5	41.0	44.0	47.5	52.0	
Cable net weight (approx.)	kg/km	Cu	-	-	920	1,080	1,340	1,660	1,930	2,250	2,650	3,300	3,940	4,830	5,900	7,450
		Al	-	-	700	790	910	1,060	1,180	1,320	1,490	1,760	2,020	2,370	2,810	3,450

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	-	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0788	0.0629	0.0505	0.0410
		Al	-	-	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0797	0.0629
Capacitance	μF/km	Cu	-	-	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.39	0.44
Reactance at 50Hz	Ω/km	Cu	-	-	0.141	0.135	0.128	0.122	0.117	0.114	0.110	0.105	0.102	0.0988	0.0956	0.0928
Current rating In air at 40°C	A	Cu	-	-	175	210	265	320	370	420	485	575	660	760	880	1,010
		Al	-	-	135	165	205	250	285	325	375	445	510	595	695	815
Current rating In the ground at 25°C	A	Cu	-	-	170	205	250	300	340	380	430	500	565	640	725	815
		Al	-	-	135	160	195	235	265	300	340	390	445	505	575	660
Short circuit current for 1 sec.	kA	Cu	-	-	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	-	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



1 Core

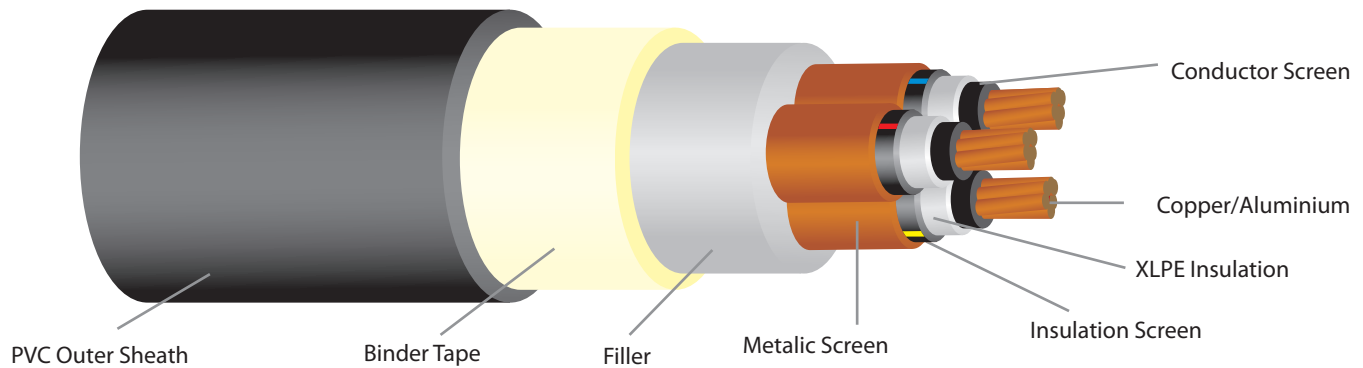
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	-	-	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	8.0														
Nominal outer-sheath thickness	mm	-	-	-	1.9	2.0	2.1			2.2	2.3		2.5		2.7	
Approx. overall dia.	mm	-	-	-	33.0	35.0	36.5	38.0	39.5	41.5	44.0	46.5	49.5	52.5	57.5	
Cable net weight (approx.)	kg/km	Cu	-	-	-	1,350	1,640	1,970	2,260	2,570	3,000	3,670	4,320	5,270	6,330	7,950
		Al	-	-	-	1,050	1,210	1,370	1,500	1,640	1,840	2,130	2,390	2,820	3,230	3,940

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	-	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	-	-	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	-	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0786	0.0625	0.0501	0.0405
		Al	-	-	-	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0795	0.0627
Capacitance	μF/km	Cu	-	-	-	0.13	0.15	0.16	0.18	0.19	0.20	0.22	0.24	0.26	0.29	0.32
Reactance at 50Hz	Ω/km	Cu	-	-	-	0.147	0.139	0.132	0.127	0.123	0.119	0.115	0.110	0.106	0.102	0.0993
Current rating In air at 40°C	A	Cu	-	-	-	215	270	325	375	430	490	580	665	770	885	1,020
		Al	-	-	-	165	210	255	290	330	380	450	515	600	700	820
Current rating In the ground at 25°C	A	Cu	-	-	-	205	250	300	340	380	430	500	565	640	725	820
		Al	-	-	-	160	195	235	265	300	340	390	445	505	580	660
Short circuit current for 1 sec.	kA	Cu	-	-	-	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	-	-	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



3 Core

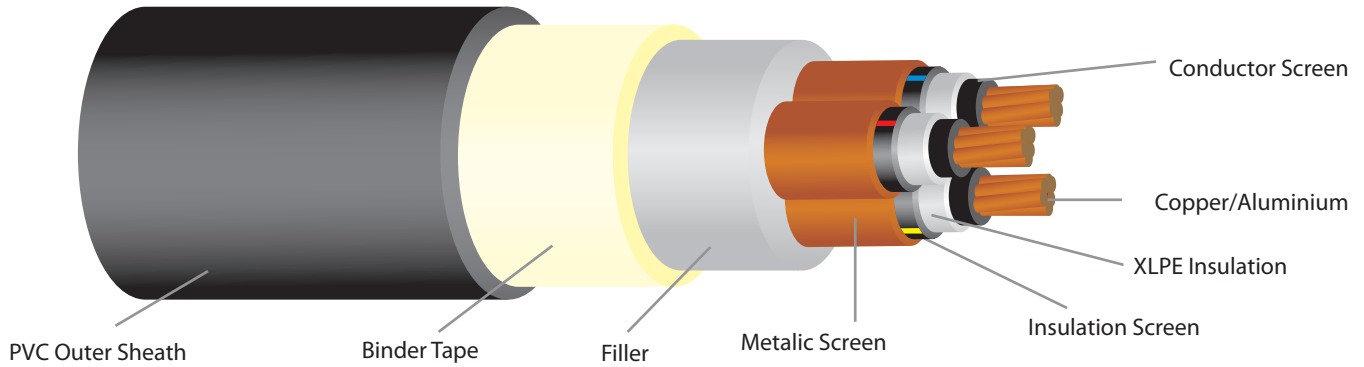
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	2.5										2.6	2.8	3.0	3.2
Nominal outer-sheath thickness	mm	2.0	2.1	2.1	2.2	2.3	2.5	2.6	2.7	2.8	3.0	3.2	3.4	3.7	
Approx. overall dia.	mm	34.0	36.5	39.5	42.0	46.0	50.5	53.5	57.0	61.0	67.0	73.0	80.0	88.0	
Cable net. weight (approx.)	kg/km	Cu	1,370	1,750	2,150	2,610	3,400	4,370	5,240	6,180	7,430	9,460	11,530	14,380	17,800
		Al	-	1,270	1,480	1,710	2,100	2,560	2,950	3,370	3,900	4,780	5,710	6,930	8,410

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0988	0.0800	0.0643	0.0522
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	μF/km	0.21	0.24	0.28	0.31	0.35	0.40	0.43	0.47	0.52	0.56	0.57	0.60	0.62	
Reactance at 50Hz	Ω/km	0.118	0.109	0.105	0.100	0.0949	0.0914	0.0885	0.0860	0.0837	0.0817	0.0805	0.0790	0.0779	
Current rating In air at 40°C	A	Cu	100	130	160	195	240	295	340	385	445	525	600	690	790
		Al	-	105	125	150	190	230	265	300	350	410	475	550	640
Current rating In the ground at 25°C	A	Cu	110	140	170	200	245	290	330	370	420	485	545	620	695
		Al	-	110	130	155	190	225	255	290	325	380	430	490	560
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



3 Core

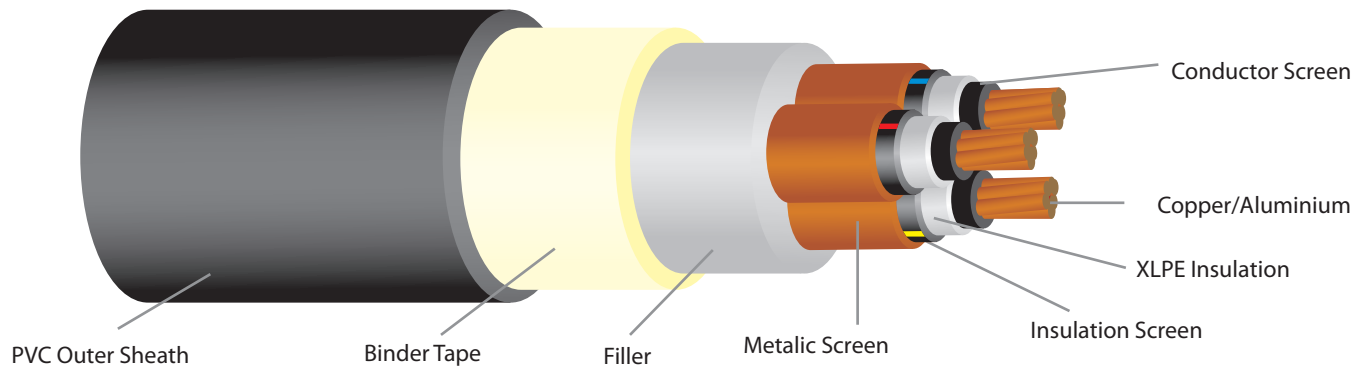
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	3.4													
Nominal outer-sheath thickness	mm	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.3	3.5	3.7	
Approx. overall dia.	mm	38.0	41.0	44.0	46.5	50.5	54.5	57.5	61.0	65.0	70.5	75.5	82.0	89.0	
Cable net weight (approx.)	kg/km	Cu	1,590	1,990	2,420	2,920	3,730	4,680	5,570	6,530	7,800	9,820	11,830	14,610	17,900
		Al	-	1,500	1,750	2,010	2,430	2,870	3,270	3,710	4,270	5,140	6,000	7,160	8,520

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0986	0.0798	0.0641	0.0521
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	μF/km	0.17	0.19	0.22	0.24	0.27	0.31	0.33	0.36	0.40	0.44	0.48	0.53	0.59	
Reactance at 50Hz	Ω/km	0.128	0.118	0.113	0.108	0.102	0.0976	0.0944	0.0915	0.0888	0.0856	0.0833	0.0809	0.0788	
Current rating In air at 40°C	A	Cu	105	135	165	195	245	300	345	390	450	530	600	690	790
		Al	-	105	130	155	190	235	270	305	350	415	475	550	640
Current rating In the ground at 25°C	A	Cu	110	140	170	200	245	295	330	375	420	485	545	620	695
		Al	-	110	130	155	190	225	260	290	325	380	430	490	560
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



3 Core

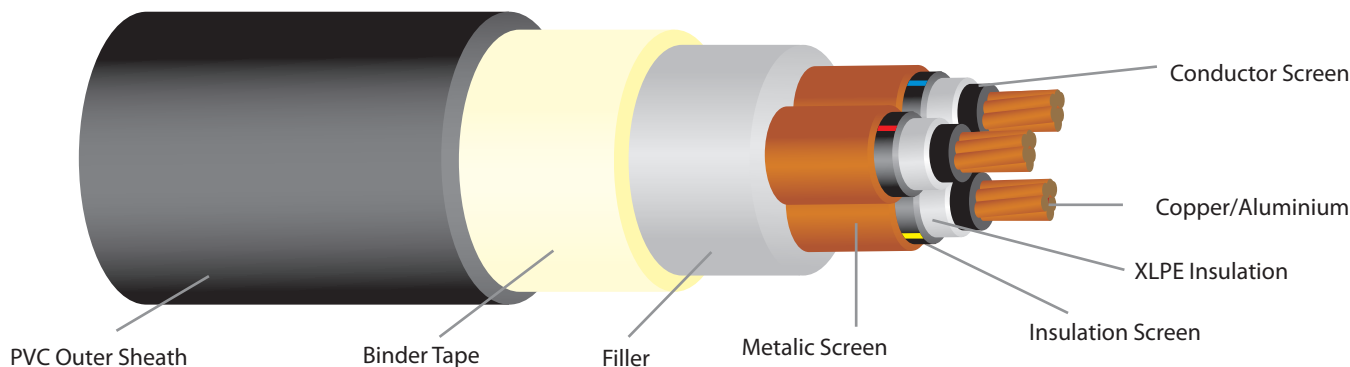
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	4.5													
Nominal outer-sheath thickness	mm	-	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.4	3.7	3.9	
Approx. overall dia.	mm	-	46.0	49.0	51.5	56.0	59.5	63.0	66.5	70.0	76.0	80.5	87.0	94.0	
Cable net. weight (approx.)	kg/km	Cu	-	2,370	2,830	3,330	4,170	5,150	6,060	7,050	8,350	10,410	12,420	15,290	18,640
		Al	-	1,890	2,160	2,420	2,870	3,340	3,770	4,240	4,820	5,740	6,600	7,840	9,250

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0983	0.0794	0.0636	0.0515
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0799
Capacitance	μF/km	-	0.16	0.18	0.20	0.22	0.25	0.27	0.29	0.31	0.35	0.38	0.42	0.46	
Reactance at 50Hz	Ω/km	-	0.131	0.124	0.118	0.112	0.107	0.103	0.0994	0.0962	0.0924	0.0896	0.0868	0.0842	
Current rating In air at 40°C	A	Cu	-	140	170	200	250	305	350	395	455	530	610	695	795
		Al	-	105	130	155	195	235	270	310	355	420	480	555	645
Current rating In the ground at 25°C	A	Cu	-	140	170	200	245	295	335	375	420	485	550	620	700
		Al	-	110	130	155	190	225	260	290	330	380	430	495	565
Short circuit current for 1 sec.	kA	Cu	-	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed



3 Core

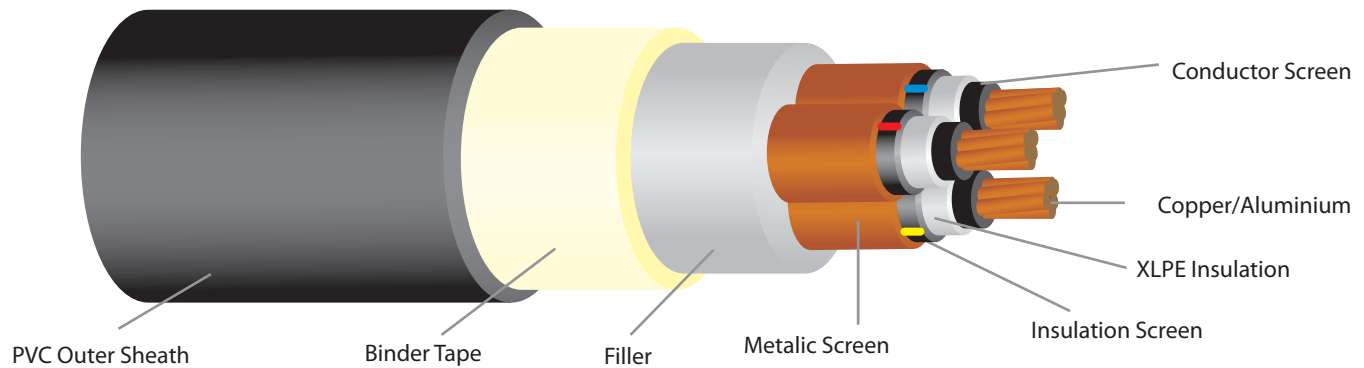
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	-	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	5.5													
Nominal outer-sheath thickness	mm	-	-	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.4	3.6	3.8	4.0	
Approx. overall dia.	mm	-	-	53.0	56.0	60.0	64.0	67.0	70.5	74.5	80.0	85.0	91.0	98.0	
Cable net weight (approx.)	kg/km	Cu	-	-	3,130	3,650	4,520	5,520	6,440	7,450	8,810	10,870	12,940	15,800	19,190
		Al	-	-	2,470	2,750	3,210	3,710	4,150	4,640	5,280	6,190	7,120	8,360	9,810

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	-	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792	0.0634	0.0512
		Al	-	-	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.101	0.0798
Capacitance	μF/km	-	-	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.39	
Reactance at 50Hz	Ω/km	-	-	0.130	0.124	0.117	0.112	0.108	0.104	0.100	0.0963	0.0933	0.0902	0.0873	
Current rating In air at 40°C	A	Cu	-	-	170	205	250	305	350	400	455	535	610	700	800
		Al	-	-	130	160	195	240	275	310	355	420	480	555	645
Current rating In the ground at 25°C	A	Cu	-	-	170	200	245	295	335	375	420	490	550	620	700
		Al	-	-	130	155	190	225	260	290	330	380	430	495	565
Short circuit current for 1 sec.	kA	Cu	-	-	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	-	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Sheathed

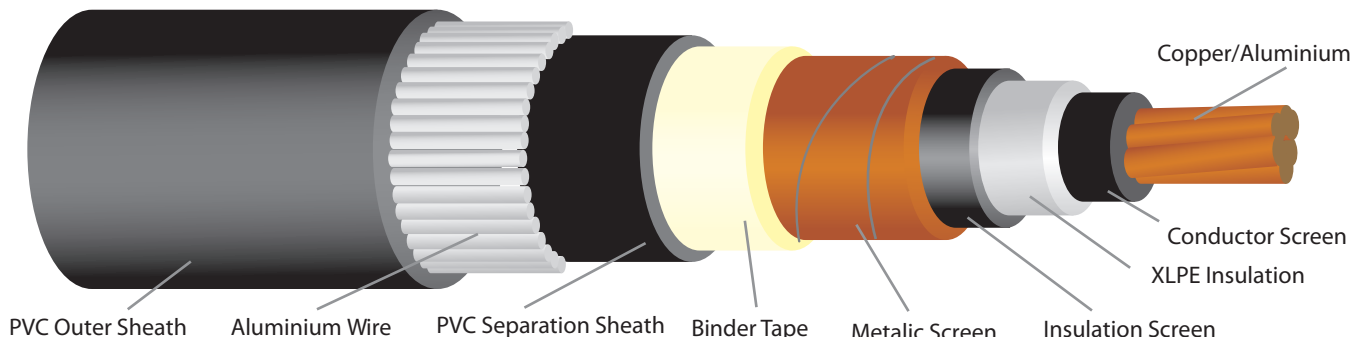

3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	-	-	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	-	
Nominal insulation thickness	mm	8.0													
Nominal outer-sheath thickness	mm	-	-	-	3.1	3.2	3.3	3.4	3.5	3.6	3.8	4.0	4.2	-	
Approx. overall dia.	mm	-	-	-	67.5	71.5	75.5	79.0	82.0	86.0	91.5	97.0	103.0	-	
Cable net weight (approx.)	kg/km	Cu	-	-	-	4,720	5,650	6,710	7,690	8,750	10,140	12,320	14,480	17,440	-
		Al	-	-	-	3,810	4,340	4,900	5,400	5,940	6,610	7,640	8,660	10,000	-

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	-	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	-
		Al	-	-	-	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	-
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	-	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0789	0.0629	-
		Al	-	-	-	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	-
Capacitance	μF/km	-	-	-	0.13	0.15	0.16	0.18	0.19	0.20	0.22	0.24	0.26	-	
Reactance at 50Hz	Ω/km	-	-	-	0.137	0.129	0.123	0.118	0.114	0.110	0.105	0.102	0.0981	-	
Current rating In air at 40°C	A	Cu	-	-	-	205	255	310	355	400	460	540	610	700	-
		Al	-	-	-	160	200	240	280	315	360	425	480	560	-
Current rating In the ground at 25°C	A	Cu	-	-	-	200	245	295	330	375	420	490	550	625	-
		Al	-	-	-	155	190	225	260	290	330	380	430	495	-
Short circuit current for 1 sec.	kA	Cu	-	-	-	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	-
		Al	-	-	-	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	-

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Aluminium Wire Armour, PVC Sheathed



1 Core

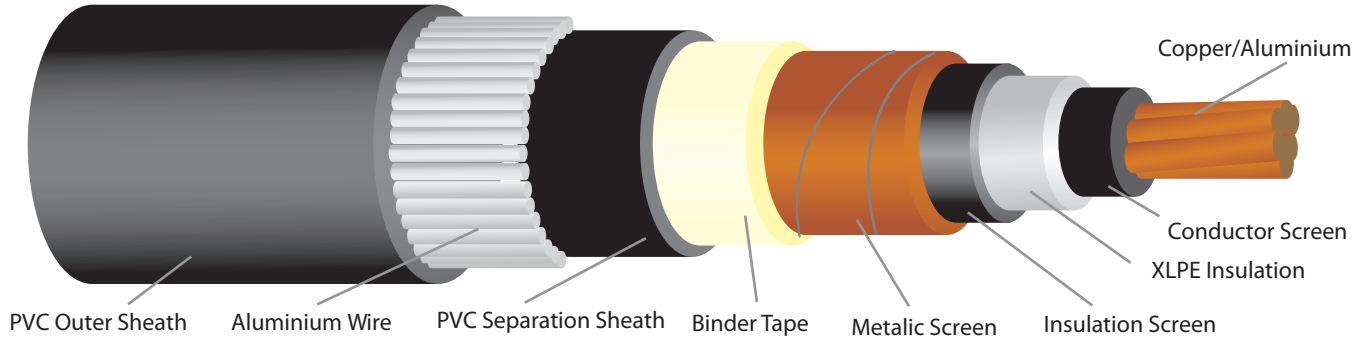
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	2.5										2.6	2.8	3.0	3.2	
Nominal separation thickness	mm	1.2												1.3	1.4	
Separation sheath dia. (approx.)	mm	16.3	17.5	18.8	19.9	21.7	23.4	24.8	26.3	28.0	30.6	33.2	36.3	39.9	44.7	
Nominal of hard-drawn Al wire	mm	1.0	1.6						2.0						2.5	2.5
Nominal outer-sheath thickness	mm	1.8					1.9			2.0		2.1	2.2	2.3	2.5	2.6
Approx. overall dia.	mm	22.0	24.5	26.0	27.0	28.5	30.5	32.0	33.5	36.0	39.0	42.0	45.0	50.0	55.0	
Cable net weight (approx.)	kg/km	Cu	660	870	1,020	1,180	1,440	1,770	2,050	2,380	2,870	3,560	4,250	5,200	6,500	8,150
	kg/km	Al	-	710	800	880	1,010	1,170	1,300	1,450	1,710	2,010	2,330	2,740	3,400	4,100

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
	Ω/km	Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0786	0.0625	0.0499	0.0402
	Ω/km	Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0796	0.0628
Capacitance	μF/km		0.21	0.24	0.28	0.31	0.35	0.40	0.43	0.47	0.52	0.56	0.57	0.60	0.62	0.71
Reactance at 50Hz	Ω/km		0.150	0.142	0.135	0.128	0.120	0.114	0.109	0.106	0.104	0.0999	0.0973	0.0944	0.0937	0.0916
Current rating In air at 40°C	A	Cu	110	145	180	215	265	325	375	425	490	580	665	770	890	1,030
	A	Al	-	115	140	165	205	250	290	330	385	455	520	605	710	830
Current rating In the ground at 25°C	A	Cu	115	145	175	210	255	305	345	385	440	505	570	645	725	815
	A	Al	-	115	135	160	195	235	270	300	340	395	445	510	580	660
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
	kA	Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Aluminium Wire Armour, PVC Sheathed

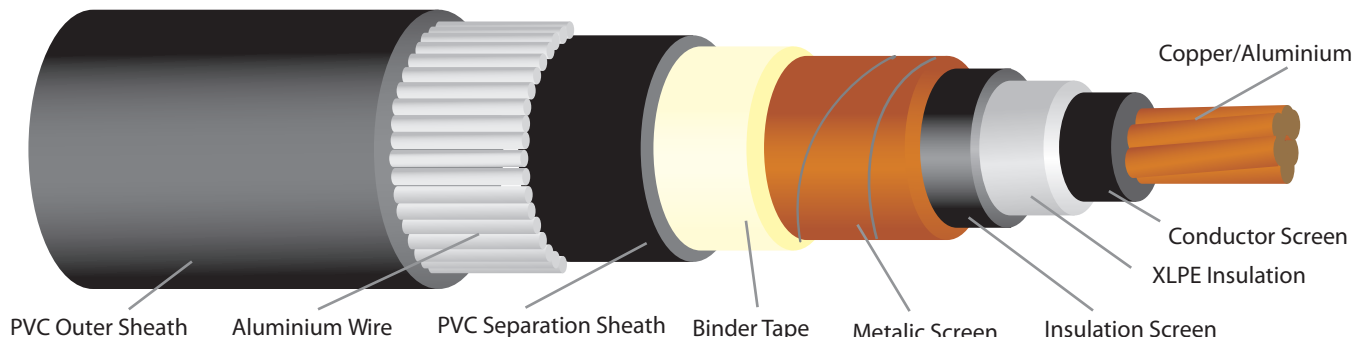

1 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630		
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3		
Nominal insulation thickness	mm	3.4															
Nominal separation thickness	mm	1.2												1.3	1.4		
Separation sheath dia. (approx.)	mm	18.1	19.3	20.6	21.7	23.5	25.2	26.6	28.1	29.8	32.2	34.4	37.1	40.3	45.1		
Nominal of hard-drawn Al wire	mm	1.6						2.0						2.5	2.5		
Nominal outer-sheath thickness	mm	1.8				1.9			2.0	2.1			2.2		2.4	2.5	2.6
Approx. overall dia.	mm	25.0	26.5	27.5	28.5	30.5	32.5	34.0	36.5	38.0	41.0	43.0	46.0	50.5	55.5		
Cable net. weight (approx.)	kg/km	Cu	820	970	1,110	1,270	1,560	1,880	2,180	2,600	3,010	3,700	4,340	5,280	6,550	8,200	
		Al	-	810	890	970	1,130	1,280	1,420	1,670	1,850	2,150	2,420	2,820	3,450	4,190	

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0976	0.0785	0.0624	0.0499	0.0402
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0796	0.0628
Capacitance	µF/km	0.17	0.19	0.22	0.24	0.27	0.31	0.33	0.36	0.40	0.44	0.48	0.53	0.59	0.68	
Reactance at 50Hz	Ω/km	0.158	0.147	0.139	0.132	0.125	0.118	0.113	0.111	0.107	0.102	0.0991	0.0957	0.0942	0.0921	
Current rating In air at 40°C	A	Cu	115	150	180	215	270	325	375	430	495	585	665	770	890	1,030
		Al	-	115	140	165	210	255	290	335	385	455	520	610	710	830
Current rating In the ground at 25°C	A	Cu	115	145	175	205	255	305	345	390	435	505	570	645	725	815
		Al	-	115	135	160	195	235	270	300	340	395	445	510	580	660
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Aluminium Wire Armour, PVC Sheathed



1 Core

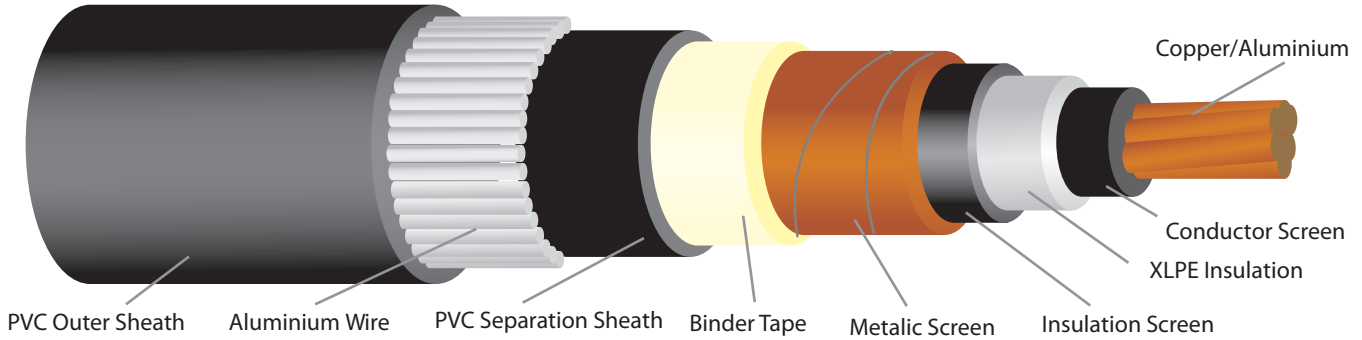
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	-	4.5													
Nominal separation thickness	mm	-	1.2										1.3	1.3	1.4	
Separation sheath dia. (approx.)	mm	-	21.5	22.8	23.9	25.7	27.4	28.8	30.3	32.0	34.4	36.6	39.5	42.5	47.3	
Nominal of hard-drawn Al wire	mm	-	1.6				2.0					2.5				
Nominal outer-sheath thickness	mm	-	1.8	1.9			2.0	2.1	2.1	2.2	2.3	2.3	2.5	2.6	2.7	
Approx. overall dia.	mm	-	28.5	30.0	31.0	33.0	35.5	37.0	38.5	40.5	43.0	45.5	49.5	53.0	58.0	
Cable net. weight (approx.)	kg/km	Cu	-	1,090	1,250	1,420	1,700	2,120	2,440	2,760	3,210	3,890	4,550	5,680	6,800	8,450
		Al	-	930	1,030	1,120	1,270	1,530	1,680	1,830	2,050	2,350	2,630	3,220	3,700	4,440

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0975	0.0784	0.0623	0.0497	0.0400
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0795	0.0627
Capacitance	µF/km	-	0.16	0.18	0.20	0.22	0.25	0.27	0.29	0.31	0.35	0.38	0.42	0.46	0.53	
Reactance at 50Hz	Ω/km	-	0.152	0.144	0.137	0.129	0.124	0.119	0.115	0.111	0.106	0.102	0.100	0.0972	0.0948	
Current rating In air at 40°C	A	Cu	-	150	180	215	270	330	380	435	495	585	670	775	890	1,025
		Al	-	115	140	170	210	255	295	335	385	455	520	610	710	830
Current rating In the ground at 25°C	A	Cu	-	145	175	205	255	305	345	385	435	505	565	645	725	810
		Al	-	115	135	160	195	235	270	300	340	395	445	510	580	660
Short circuit current for 1 sec.	kA	Cu	-	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Aluminium Wire Armour, PVC Sheathed

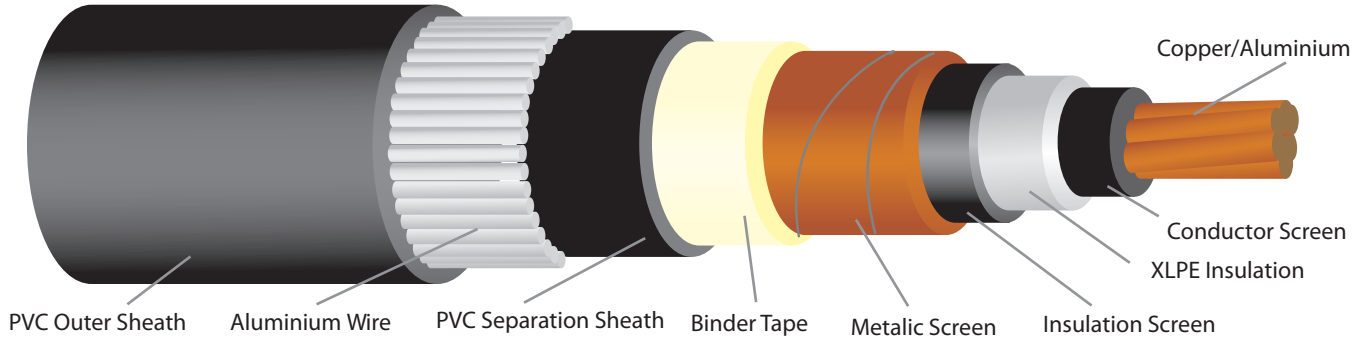

1 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	-	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	-	-	5.5												
Nominal separation thickness	mm	-	-	1.2								1.3		1.4		
Separation sheath dia. (approx.)	mm	-	-	24.6	25.7	27.5	29.2	30.6	32.1	33.8	36.2	38.6	41.3	44.5	49.1	
Nominal of hard-drawn Al wire	mm	-	-	1.6			2.0					2.5				
Nominal outer-sheath thickness	mm	-	-	1.9	2.0	2.0	2.1	2.1	2.2	2.2	2.3	2.4	2.5	2.6	2.8	
Approx. overall dia.	mm	-	-	32.0	33.0	35.5	37.5	39.0	40.5	42.5	45.0	48.5	51.5	55.0	60.0	
Cable net. weight (approx.)	kg/km	Cu	-	-	1,360	1,540	1,910	2,260	2,560	2,910	3,340	4,040	4,890	5,840	6,990	8,660
		Al	-	-	1,140	1,240	1,480	1,660	1,800	1,980	2,180	2,490	2,970	3,380	3,890	4,660

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	-	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	0.668	0.494	0.342	0.247	0.196	0.159	0.127	0.0975	0.0783	0.0622	0.0496	0.0399
		Al	-	-	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0794	0.0626
Capacitance	μF/km	-	-	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.39	0.44	
Reactance at 50Hz	Ω/km	-	-	0.148	0.141	0.134	0.127	0.122	0.118	0.114	0.109	0.106	0.102	0.0995	0.0969	
Current rating In air at 40°C	A	Cu	-	-	185	220	275	335	380	435	495	585	675	775	890	1,025.0
		Al	-	-	140	170	210	260	295	335	385	455	525	610	710	830
Current rating In the ground at 25°C	A	Cu	-	-	175	205	255	305	345	385	435	505	570	645	725	810
		Al	-	-	135	160	195	235	270	300	340	395	445	510	580	660
Short circuit current for 1 sec.	kA	Cu	-	-	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	-	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Aluminium Wire Armour, PVC Sheathed



1 Core

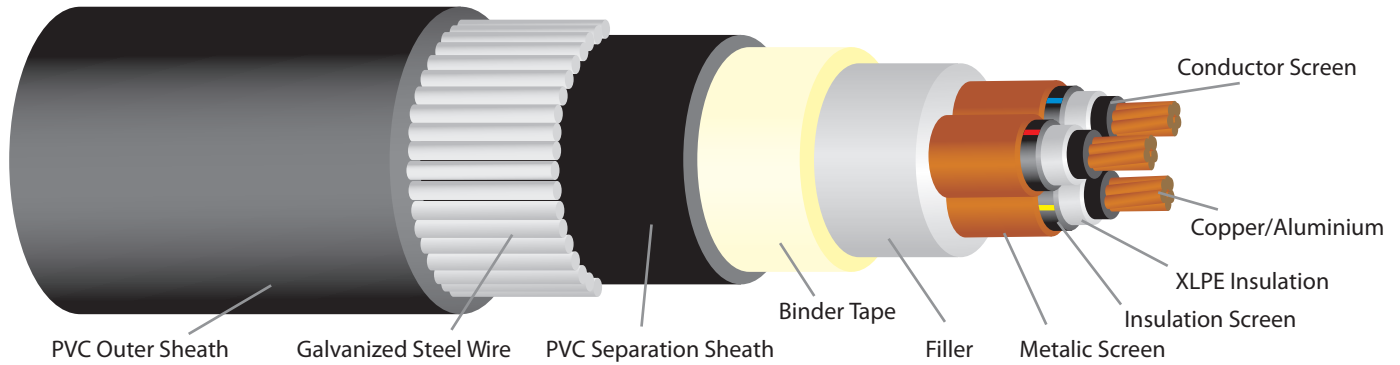
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Conductor dia. (approx.)	mm	-	-	-	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	30.3	
Nominal insulation thickness	mm	-	-	-	8.0											
Nominal separation thickness	mm	-	-	-	1.2				1.3			1.4		1.5		
Separation sheath dia. (approx.)	mm	-	-	-	30.8	32.6	34.3	35.7	37.4	39.1	41.5	43.9	46.6	49.8	54.4	
Nominal of hard-drawn Al wire	mm	-	-	-	2.0				2.5							
Nominal outer-sheath thickness	mm	-	-	-	2.2		2.3		2.4	2.5		2.6	2.7	2.8	2.9	
Approx. overall dia.	mm	-	-	-	39.5	41.0	43.0	44.5	47.5	49.5	51.5	54.5	57.0	60.5	65.5	
Cable net. weight (approx.)	kg/km	Cu	-	-	-	2,000	2,300	2,670	2,990	3,500	3,980	4,680	5,420	6,400	7,580	9,290
		Al	-	-	-	1,700	1,870	2,070	2,230	2,580	2,810	3,140	3,500	3,940	4,480	5,280

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	630	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	-	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366	0.0283
		Al	-	-	-	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605	0.0469
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	-	0.494	0.342	0.247	0.196	0.159	0.127	0.0974	0.0782	0.0620	0.0494	0.0396
		Al	-	-	-	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	0.0793	0.0624
Capacitance	μF/km	-	-	-	0.13	0.15	0.16	0.18	0.19	0.20	0.22	0.24	0.26	0.29	0.32	
Reactance at 50Hz	Ω/km	-	-	-	0.152	0.143	0.136	0.130	0.128	0.123	0.117	0.113	0.109	0.105	0.102	
Current rating In air at 40°C	A	Cu	-	-	-	220	275	335	385	440	500	590	675	775	890	1025
		Al	-	-	-	170	215	260	300	340	390	460	525	610	710	825
Current rating In the ground at 25°C	A	Cu	-	-	-	205	255	305	345	385	435	505	565	640	720	810
		Al	-	-	-	160	195	235	265	300	340	395	445	505	575	655
Short circuit current for 1 sec.	kA	Cu	-	-	-	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1	90.8
		Al	-	-	-	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6	59.8

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Wire Armour, PVC Sheathed

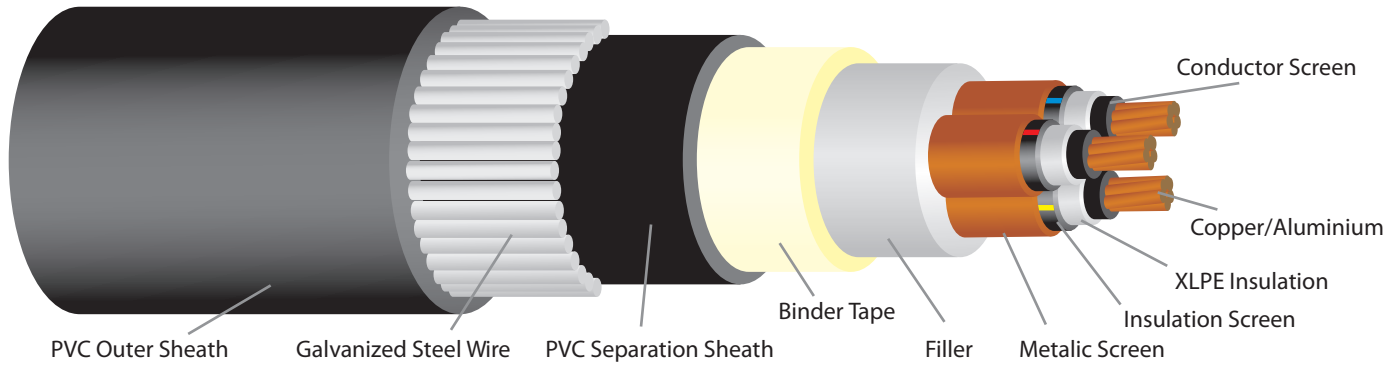

3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	2.5										2.6	2.8	3.0	3.2
Nominal separation thickness	mm	1.2			1.3	1.4		1.5		1.6	1.7	1.8	2.0	2.1	
Separation sheath dia. (approx.)	mm	31.6	34.2	37.0	39.6	43.7	47.3	50.6	53.8	57.7	63.5	69.3	76.3	83.9	
Nominal of galvanized steel wire	mm	2.0				2.5					3.15				
Nominal outer-sheath thickness	mm	2.2	2.3		2.5	2.6	2.7	2.8	2.9	3.0	3.2	3.5	3.8	4.0	
Approx. overall dia.	mm	40.5	43.0	46.0	50.0	54.0	58.0	61.5	65.0	69.0	75.0	83.0	90.5	98.5	
Cable net. weight (approx.)	kg/km	Cu	2,830	3,330	3,840	4,870	5,910	7,020	8,080	9,210	10,710	13,090	16,410	19,880	23,820
		Al	-	2,850	3,170	3,960	4,600	5,200	5,790	6,400	7,180	8,420	10,590	12,440	14,440

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0988	0.0800	0.0643	0.0522
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	µF/km	0.21	0.24	0.28	0.31	0.35	0.40	0.43	0.47	0.52	0.56	0.57	0.60	0.62	
Reactance at 50Hz	Ω/km	0.117	0.109	0.105	0.100	0.0949	0.0914	0.0885	0.0860	0.0837	0.0817	0.0805	0.0790	0.0779	
Current rating In air at 40°C	A	Cu	105	135	165	195	245	300	340	385	440	515	585	665	745
		Al	-	105	130	155	190	235	270	305	345	405	460	530	605
Current rating In the ground at 25°C	A	Cu	110	140	170	200	245	290	330	365	415	475	530	590	650
		Al	-	110	130	155	190	225	255	285	320	370	415	470	530
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Wire Armour, PVC Sheathed



3 Core

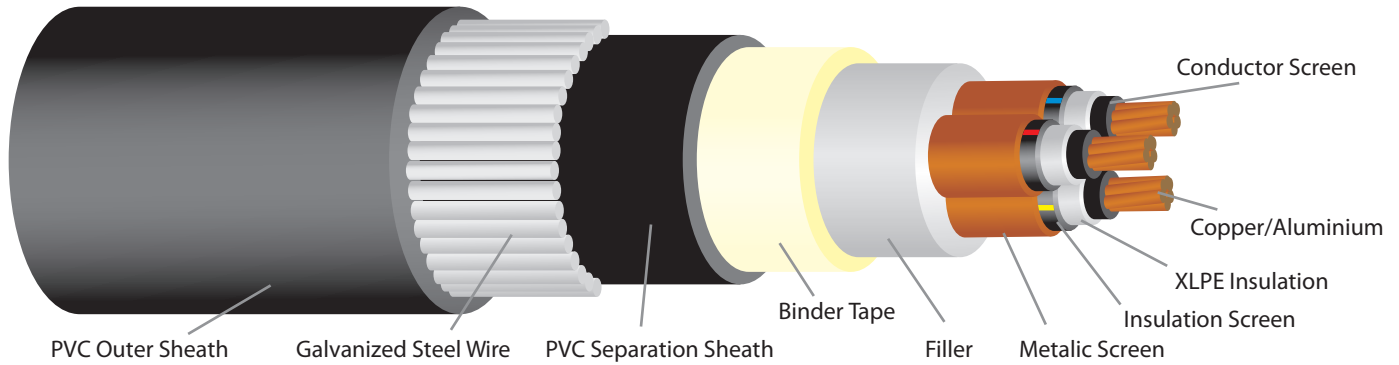
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	3.4													
Nominal separation thickness	mm	1.2	1.3		1.4		1.5	1.6		1.7	1.8	1.9	2.0	2.1	
Separation sheath dia. (approx.)	mm	35.5	38.3	41.1	43.7	47.6	51.4	54.6	57.9	61.7	67.1	72.1	78.1	84.7	
Nominal of galvanized steel wire	mm	2.0	2.5									3.15			
Nominal outer-sheath thickness	mm	2.3	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.2	3.4	3.6	3.8	4.0	
Approx. overall dia.	mm	44.5	48.5	51.5	54.0	58.0	62.5	66.0	69.5	73.5	80.5	86.0	92.0	99.5	
Cable net. weight (approx.)	kg/km	Cu	3,220	4,130	4,740	5,380	6,420	7,600	8,690	9,840	11,370	14,560	16,960	20,210	24,000
		Al	-	3,650	4,070	4,480	5,110	5,790	6,400	7,030	7,840	9,880	11,140	12,770	14,610

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0986	0.0798	0.0641	0.0521
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	μF/km	0.17	0.19	0.22	0.24	0.27	0.31	0.33	0.36	0.40	0.44	0.48	0.53	0.59	
Reactance at 50Hz	Ω/km	0.128	0.118	0.113	0.108	0.102	0.0976	0.0944	0.0915	0.0888	0.0856	0.0833	0.0809	0.0788	
Current rating In air at 40°C	A	Cu	105	140	170	200	250	300	345	390	445	520	585	665	745
		Al	-	110	130	155	195	235	270	305	345	410	460	530	605
Current rating In the ground at 25°C	A	Cu	110	140	170	200	245	290	330	365	410	475	525	590	650
		Al	-	110	130	155	190	225	255	285	320	370	415	470	530
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Wire Armour, PVC Sheathed

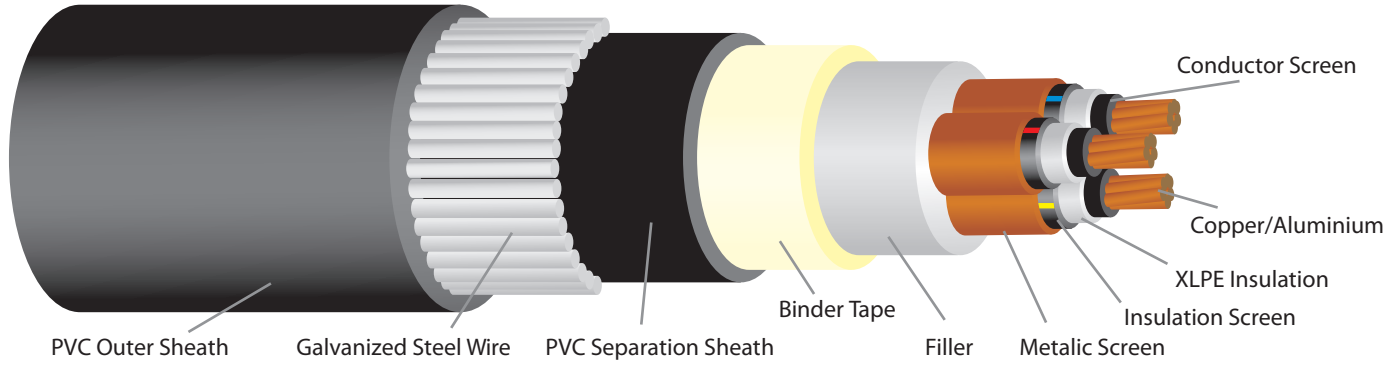

3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	-	4.5												
Nominal separation thickness	mm	-	1.4		1.5		1.6	1.7		1.8	1.9	2.0	2.1	2.2	
Separation sheath dia. (approx.)	mm	-	43.3	46.1	48.7	52.6	56.4	59.7	62.9	66.7	72.1	77.1	83.1	89.7	
Nominal of galvanized steel wire	mm	-	2.5									3.15			
Nominal outer-sheath thickness	mm	-	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.4	3.6	3.7	4.0	4.2	
Approx. overall dia.	mm	-	54.0	57.0	59.5	63.5	67.5	71.0	74.5	80.0	86.0	91.0	97.5	104.5	
Cable net. weight (approx.)	kg/km	Cu	-	4,790	5,420	6,080	7,160	8,350	9,460	10,640	13,090	15,550	17,950	21,300	25,140
		Al	-	4,310	4,760	5,180	5,850	6,530	7,170	7,820	9,560	10,870	12,130	13,860	15,760

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0983	0.0794	0.0636	0.0515
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0799
Capacitance	μF/km	-	0.16	0.18	0.20	0.22	0.25	0.27	0.29	0.31	0.35	0.38	0.42	0.46	
Reactance at 50Hz	Ω/km	-	0.131	0.124	0.118	0.112	0.107	0.103	0.0994	0.0962	0.0924	0.0896	0.0868	0.0842	
Current rating In air at 40°C	A	Cu	-	140	170	200	250	305	350	395	450	520	590	665	750
		Al	-	110	130	155	195	235	270	305	350	410	465	535	610
Current rating In the ground at 25°C	A	Cu	-	140	170	200	245	290	330	370	410	475	530	590	650
		Al	-	110	130	155	190	225	255	285	320	370	415	470	530
Short circuit current for 1 sec.	kA	Cu	-	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Wire Armour, PVC Sheathed



3 Core

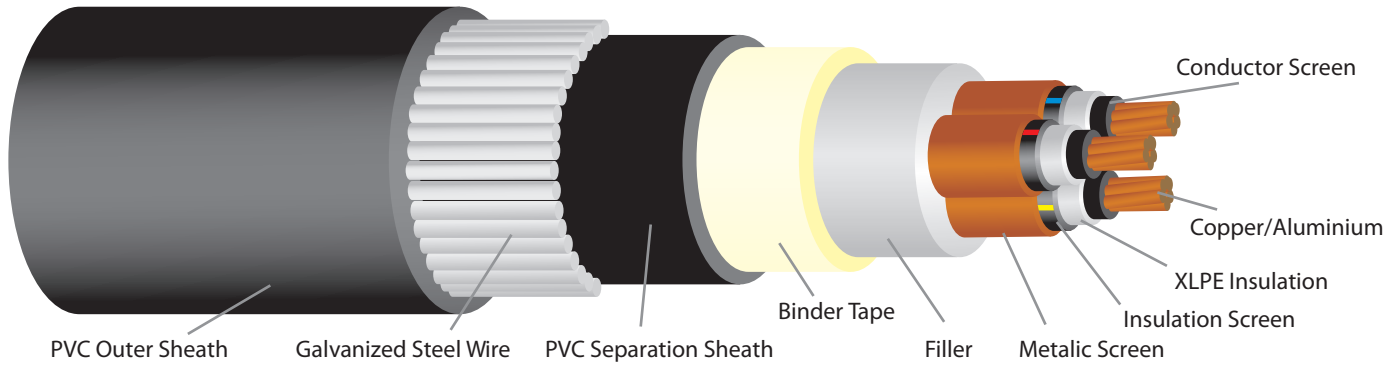
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	-	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	-	
Nominal insulation thickness	mm	-	-	5.5										-	
Nominal separation thickness	mm	-	-	1.5	1.6		1.7		1.8	1.9	2.0		2.2	-	
Separation sheath dia. (approx.)	mm	-	-	50.2	52.8	56.6	60.5	63.5	67.0	70.8	76.2	80.9	87.2	-	
Nominal of galvanized steel wire	mm	-	-	2.5					3.15					-	
Nominal outer-sheath thickness	mm	-	-	2.8	2.9	3.1	3.2	3.3	3.4	3.6	3.7	3.9	4.1	-	
Approx. overall dia.	mm	-	-	61.0	64.0	68.0	72.0	76.5	80.5	84.5	90.0	95.5	102.0	-	
Cable net. weight (approx.)	kg/km	Cu	-	-	5,980	6,660	7,740	9,000	10,930	12,190	13,870	16,330	18,770	22,150	-
		Al	-	-	5,310	5,750	6,440	7,190	8,640	9,380	10,340	11,650	12,950	14,710	-

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	-	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	-
		Al	-	-	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	-
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792	0.0634	-
		Al	-	-	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	0.101	-
Capacitance	µF/km	-	-	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	-	
Reactance at 50Hz	Ω/km	-	-	0.130	0.124	0.117	0.112	0.108	0.104	0.100	0.0963	0.0933	0.0902	-	
Current rating In air at 40°C	A	Cu	-	-	170	205	250	305	350	395	450	520	590	665	-
		Al	-	-	135	160	195	240	275	310	350	410	465	535	-
Current rating In the ground at 25°C	A	Cu	-	-	170	200	240	290	330	365	410	470	525	585	-
		Al	-	-	130	155	190	225	255	285	320	370	415	470	-
Short circuit current for 1 sec.	kA	Cu	-	-	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	-
		Al	-	-	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	-

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Wire Armour, PVC Sheathed


3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	-	-	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	-	-	
Nominal insulation thickness	mm	-	-	-	8.0								-	-	
Nominal separation thickness	mm	-	-	-	1.8		1.9	2.0		2.1	2.2	2.3	-	-	
Separation sheath dia. (approx.)	mm	-	-	-	64.2	68.0	71.9	75.1	78.4	82.2	87.6	92.5	-	-	
Nominal of galvanized steel wire	mm	-	-	-	3.15								-	-	
Nominal outer-sheath thickness	mm	-	-	-	3.4	3.5	3.6	3.7	3.8	4.0	4.1	4.3	-	-	
Approx. overall dia.	mm	-	-	-	77.5	81.5	85.5	89.0	92.5	97.0	102.5	107.5	-	-	
Cable net. weight (approx.)	kg/km	Cu	-	-	-	9,310	10,470	11,850	13,080	14,360	16,120	18,670	21,240	-	-
		Al	-	-	-	8,410	9,160	10,040	10,790	11,550	12,590	13,990	15,420	-	-

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	-	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	-	-
		Al	-	-	-	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	-	-
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	-	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0789	-	-
		Al	-	-	-	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	-	-
Capacitance	μF/km	-	-	-	0.13	0.15	0.16	0.18	0.19	0.20	0.22	0.24	-	-	
Reactance at 50Hz	Ω/km	-	-	-	0.137	0.129	0.123	0.118	0.114	0.110	0.105	0.102	-	-	
Current rating In air at 40°C	A	Cu	-	-	-	205	255	310	350	395	450	520	590	-	-
		Al	-	-	-	160	200	240	275	310	350	410	465	-	-
Current rating In the ground at 25°C	A	Cu	-	-	-	200	240	290	325	365	410	470	525	-	-
		Al	-	-	-	155	190	225	255	285	320	370	415	-	-
Short circuit current for 1 sec.	kA	Cu	-	-	-	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	-	-
		Al	-	-	-	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	-	-

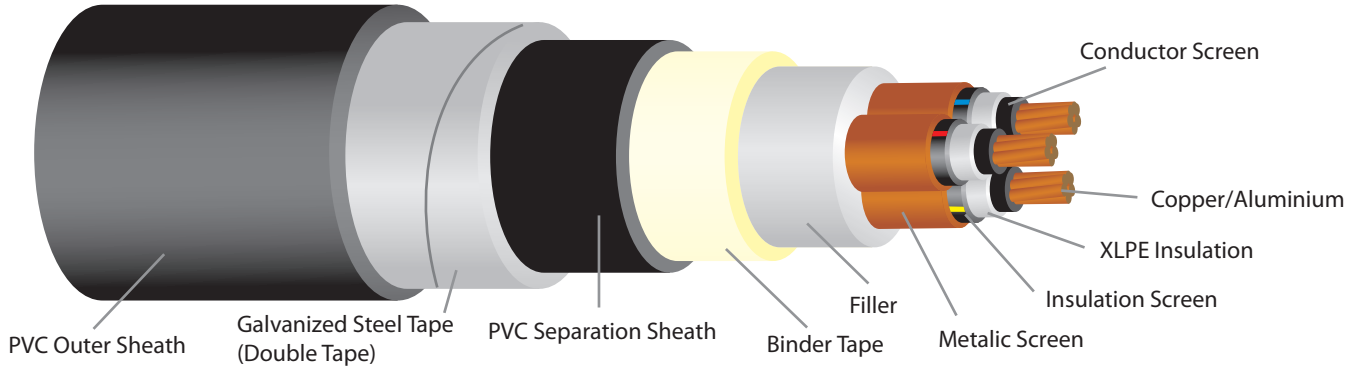
MEDIUM VOLTAGE

3.6/6 (Max. 7.2) kV

SPECIFICATION

IEC 60502-2

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Tape Armour, PVC Sheathed



3 Core

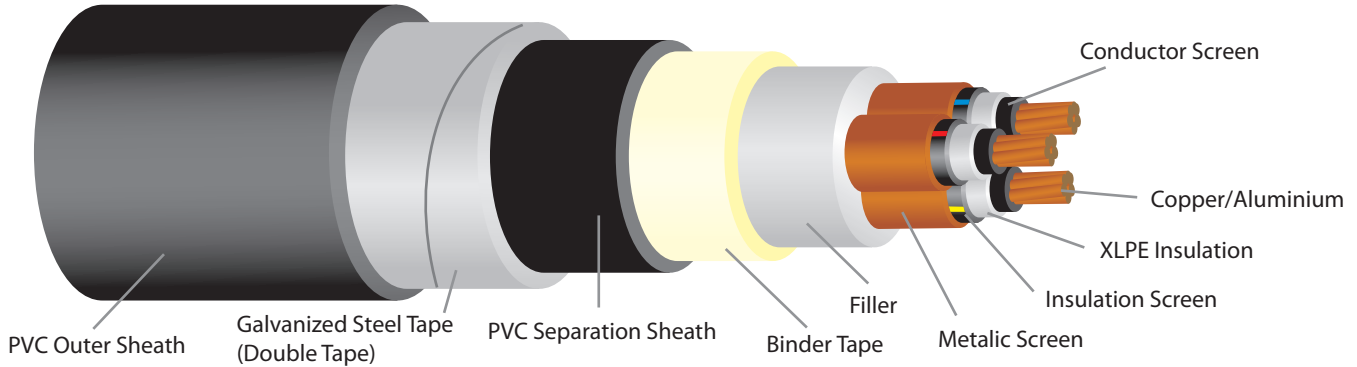
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	2.5										2.6	2.8	3.0	3.2
Nominal separation thickness	mm	1.2			1.3	1.4		1.5		1.6	1.7	1.8	2.0	2.1	
Separation sheath dia. (approx.)	mm	31.6	34.2	37.0	39.6	43.7	47.3	50.6	53.8	57.7	63.5	69.3	76.3	83.9	
Nominal of galvanized steel tape	mm	0.2	0.5										0.8		
Nominal outer-sheath thickness	mm	2.1	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.1	3.3	3.6	3.9	
Approx. overall dia.	mm	37.0	41.0	44.0	46.5	51.0	55.0	58.0	61.5	65.5	72.0	78.0	87.0	95.0	
Cable net weight (approx.)	kg/km	Cu	1,790	2,620	3,110	3,660	4,570	5,590	6,560	7,590	8,960	11,170	13,420	17,500	21,260
		Al	-	2,140	2,440	2,750	3,260	3,780	4,270	4,770	5,430	6,490	7,600	10,050	11,870

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0988	0.0800	0.0643	0.0522
		Al	-	1.54	1.11	0.866	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	μF/km	0.21	0.24	0.28	0.31	0.35	0.40	0.43	0.47	0.52	0.56	0.57	0.60	0.62	
Reactance at 50Hz	Ω/km	0.118	0.109	0.105	0.100	0.0949	0.0914	0.0885	0.0860	0.0837	0.0817	0.0805	0.0790	0.0779	
Current rating In air at 40°C	A	Cu	100	135	160	195	240	295	340	385	440	520	590	680	775
		Al	-	105	130	155	190	235	270	305	350	410	470	545	630
Current rating In the ground at 25°C	A	Cu	110	140	170	200	240	290	330	370	415	480	540	610	685
		Al	-	110	130	155	190	225	255	285	325	375	425	485	555
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Tape Armour, PVC Sheathed

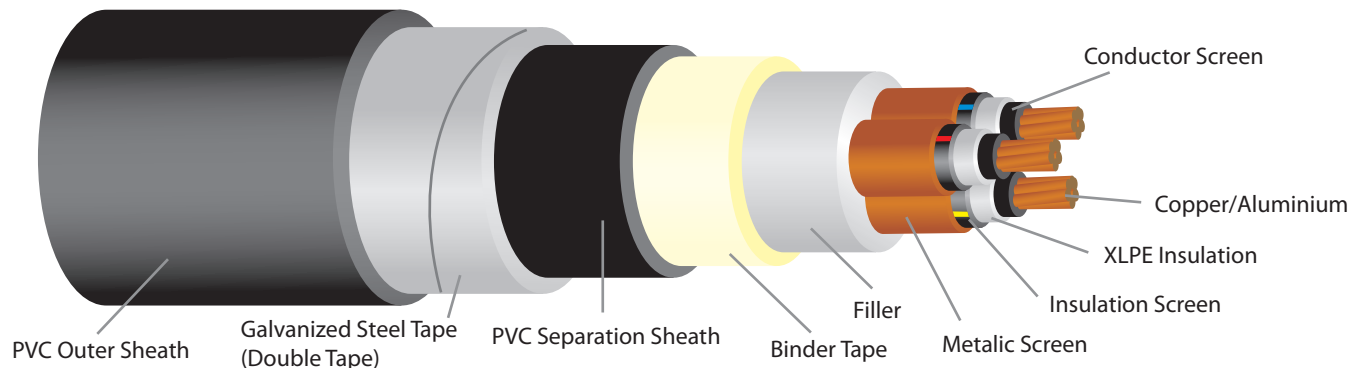

3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	4.7	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	3.4													
Nominal separation thickness	mm	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1				
Separation sheath dia. (approx.)	mm	35.5	38.3	41.1	43.7	47.6	51.4	54.6	57.9	61.7	67.1	72.1	78.1	84.7	
Nominal of galvanized steel tape	mm	0.5											0.8		
Nominal outer-sheath thickness	mm	2.2	2.3	2.4	2.5	2.6	2.7	2.9	3.0	3.1	3.3	3.4	3.7	3.9	
Approx. overall dia.	mm	42.0	45.0	48.0	51.0	55.0	59.0	62.5	66.0	70.0	76.0	81.0	89.0	96.0	
Cable net. weight (approx.)	kg/km	Cu	2,490	2,980	3,480	4,050	4,960	6,030	7,050	8,100	9,500	11,690	13,830	17,790	21,400
		Al	-	2,500	2,810	3,140	3,650	4,220	4,760	5,280	5,970	7,020	8,010	10,350	12,010

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	1.15	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	1.47	0.927	0.668	0.494	0.342	0.247	0.196	0.160	0.128	0.0986	0.0798	0.0641	0.0521
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0801
Capacitance	µF/km	0.17	0.19	0.22	0.24	0.27	0.31	0.33	0.36	0.40	0.44	0.48	0.53	0.59	
Reactance at 50Hz	Ω/km	0.128	0.118	0.113	0.108	0.102	0.0976	0.0944	0.0915	0.0888	0.0856	0.0833	0.0809	0.0788	
Current rating In air at 40°C	A	Cu	105	135	165	195	245	300	340	385	445	520	590	680	775
		Al	-	105	130	155	190	230	265	300	345	405	465	540	625
Current rating In the ground at 25°C	A	Cu	110	140	170	200	240	290	330	370	415	480	540	610	685
		Al	-	110	130	155	190	225	255	285	325	375	425	485	555
Short circuit current for 1 sec.	kA	Cu	2.41	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Tape Armour, PVC Sheathed



3 Core

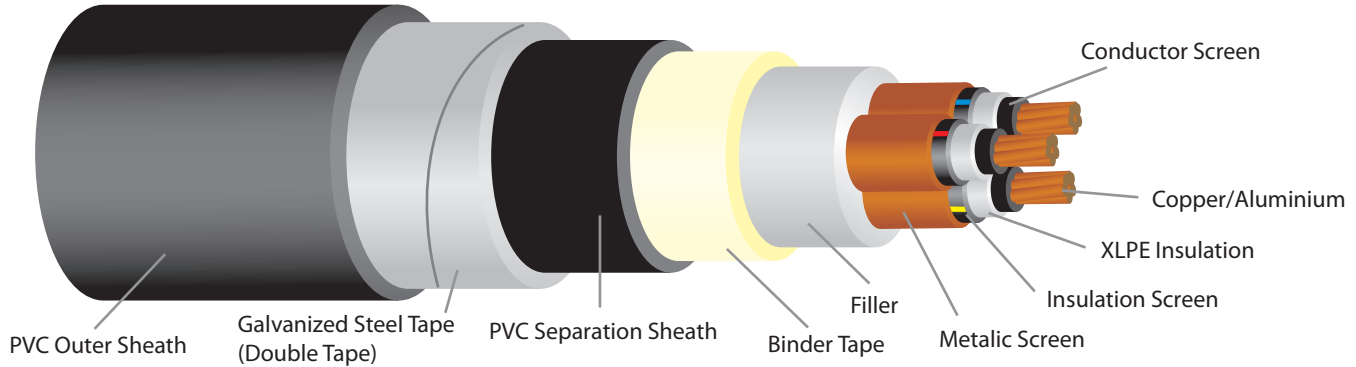
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	5.9	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3	
Nominal insulation thickness	mm	-	4.5												
Nominal separation thickness	mm	-	1.4		1.5		1.6	1.7		1.8	1.9	2.0	2.1	2.2	
Separation sheath dia. (approx.)	mm	-	43.3	46.1	48.7	52.6	56.4	59.7	62.9	66.7	72.1	77.1	83.1	89.7	
Nominal of galvanized steel tape	mm	-	0.5										0.8		
Nominal outer-sheath thickness	mm	-	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.3	3.4	3.6	3.9	4.1	
Approx. overall dia.	mm	-	50.5	53.5	56.5	60.5	64.5	68.0	71.5	75.5	81.0	87.5	94.5	101.5	
Cable net. weight (approx.)	kg/km	Cu	-	3,490	4,020	4,600	5,550	6,650	7,670	8,750	10,210	12,420	15,570	18,720	22,380
		Al	-	3,010	3,350	3,700	4,240	4,840	5,380	5,930	6,680	7,750	9,750	11,270	12,990

Electrical Data

Nominal cross sectional area	mm ²		16	25	35	50	70	95	120	150	185	240	300	400	500
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	0.727	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	1.20	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	0.927	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0983	0.0794	0.0636	0.0515
		Al	-	1.54	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.102	0.0799
Capacitance	μF/km	-	0.16	0.18	0.20	0.22	0.25	0.27	0.29	0.31	0.35	0.38	0.42	0.46	
Reactance at 50Hz	Ω/km	-	0.131	0.124	0.118	0.112	0.107	0.103	0.0994	0.0962	0.0924	0.0896	0.0868	0.0842	
Current rating In air at 40°C	A	Cu	-	140	170	200	250	300	345	395	450	525	600	685	780
		Al	-	105	130	155	195	235	270	305	350	410	470	545	630
Current rating In the ground at 25°C	A	Cu	-	140	170	200	245	290	330	370	415	480	540	610	690
		Al	-	110	130	155	190	225	255	285	325	375	425	485	555
Short circuit current for 1 sec.	kA	Cu	-	3.72	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	2.48	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Tape Armour, PVC Sheathed

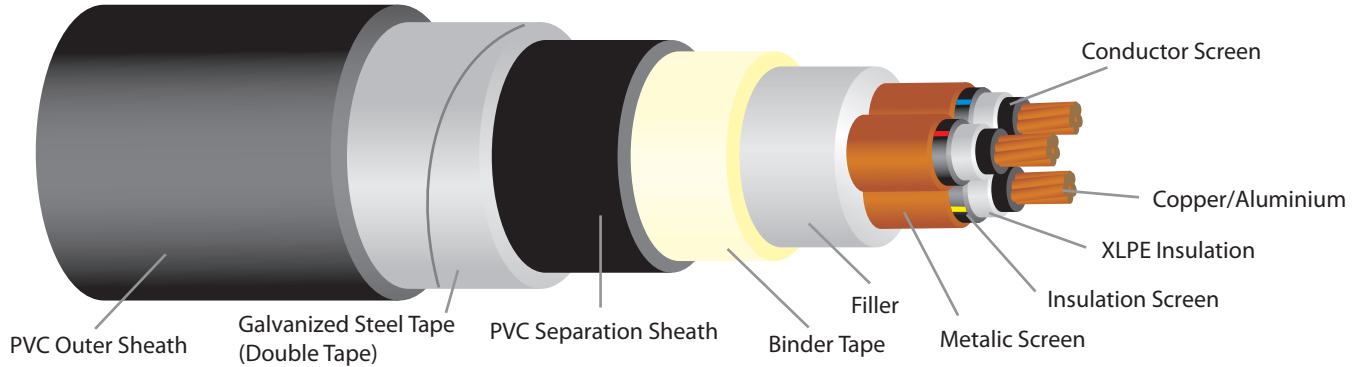

3 Core
Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500		
Conductor dia. (approx.)	mm	-	-	7.0	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	23.3	26.3		
Nominal insulation thickness	mm	-	-	5.5												
Nominal separation thickness	mm	-	-	1.5	1.6		1.7		1.8	1.9	2.0	2.0	2.2	2.3		
Separation sheath dia. (approx.)	mm	-	-	50.2	52.8	56.6	60.5	63.5	67.0	70.8	76.2	80.9	87.2	93.8		
Nominal of galvanized steel tape	mm	-	-	0.5							0.8					
Nominal outer-sheath thickness	mm	-	-	2.7	2.8	2.9	3.1	3.2	3.3	3.4	3.6	3.8	4.0	4.2		
Approx. overall dia.	mm	-	-	58.0	60.5	64.5	69.0	72.0	76.0	80.0	87.0	92.0	98.5	105.5		
Cable net. weight (approx.)	kg/km	Cu	-	-	4,450	5,050	6,020	7,180	8,190	9,320	10,780	13,980	16,240	19,440	23,140	
		Al	-	-	3,780	4,150	4,720	5,370	5,900	6,510	7,250	9,300	10,420	11,990	13,760	

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	0.524	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	0.0470	0.0366
		Al	-	-	0.868	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	0.0778	0.0605
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	0.668	0.494	0.342	0.247	0.196	0.159	0.128	0.0981	0.0792	0.0634	0.0512
		Al	-	-	1.11	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.130	0.101	0.0798
Capacitance	µF/km	-	-	0.16	0.17	0.19	0.21	0.23	0.25	0.27	0.30	0.32	0.35	0.39	
Reactance at 50Hz	Ω/km	-	-	0.130	0.124	0.117	0.112	0.108	0.104	0.100	0.0963	0.0933	0.0902	0.0873	
Current rating In air at 40°C	A	Cu	-	-	170	200	250	305	350	395	450	530	600	685	780
		Al	-	-	130	155	190	235	270	305	350	415	470	545	630
Current rating In the ground at 25°C	A	Cu	-	-	170	200	245	290	330	370	415	480	545	615	690
		Al	-	-	130	155	190	225	255	285	325	375	425	485	555
Short circuit current for 1 sec.	kA	Cu	-	-	5.18	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	57.7	72.1
		Al	-	-	3.45	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	38.1	47.6

Copper And Aluminium Conductor XLPE Insulated, Copper Tape Screened, PVC Separation Sheathed, Zinc-Coated Steel Tape Armour, PVC Sheathed



3 Core

Dimensional

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Conductor dia. (approx.)	mm	-	-	-	8.1	9.7	11.4	12.8	14.3	16.0	18.4	20.6	-	-	
Nominal insulation thickness	mm	-	-	-	8.0								-	-	
Nominal separation thickness	mm	-	-	-	1.8		1.9	2.0	2.0	2.1	2.2	2.3	-	-	
Separation sheath dia. (approx.)	mm	-	-	-	64.2	68.0	71.9	75.1	78.4	82.2	87.6	92.5	-	-	
Nominal of galvanized steel tape	mm	-	-	-	0.5				0.8				-	-	
Nominal outer-sheath thickness	mm	-	-	-	3.2	3.3	3.5	3.6	3.7	3.9	4.0	4.2	-	-	
Approx. overall dia.	mm	-	-	-	73.0	77.0	81.0	86.0	89.0	93.5	99.0	104.5	-	-	
Cable net. weight (approx.)	kg/km	Cu	-	-	-	6,480	7,520	8,750	10,760	11,950	13,570	15,970	18,370	-	-
		Al	-	-	-	5,580	6,210	6,940	8,470	9,140	10,040	11,290	12,550	-	-

Electrical Data

Nominal cross sectional area	mm ²	16	25	35	50	70	95	120	150	185	240	300	400	500	
Max. conductor resistance DC at 20°C	Ω/km	Cu	-	-	-	0.387	0.268	0.193	0.153	0.124	0.0991	0.0754	0.0601	-	-
		Al	-	-	-	0.641	0.443	0.320	0.253	0.206	0.164	0.125	0.100	-	-
Max. conductor resistance 50Hz at 90°C	Ω/km	Cu	-	-	-	0.494	0.342	0.247	0.196	0.159	0.128	0.0978	0.0789	-	-
		Al	-	-	-	0.822	0.568	0.411	0.325	0.265	0.211	0.161	0.129	-	-
Capacitance	µF/km	-	-	-	0.13	0.15	0.16	0.18	0.19	0.20	0.22	0.24	-	-	
Reactance at 50Hz	Ω/km	-	-	-	0.137	0.129	0.123	0.118	0.114	0.110	0.105	0.102	-	-	
Current rating In air at 40°C	A	Cu	-	-	-	205	255	305	350	395	450	530	600	-	-
		Al	-	-	-	160	195	240	275	310	355	415	475	-	-
Current rating In the ground at 25°C	A	Cu	-	-	-	200	240	290	330	370	415	480	540	-	-
		Al	-	-	-	155	190	225	255	285	325	375	425	-	-
Short circuit current for 1 sec.	kA	Cu	-	-	-	7.36	10.2	13.8	17.4	21.8	26.8	34.7	43.4	-	-
		Al	-	-	-	4.89	6.80	9.19	11.5	14.4	17.7	22.9	28.6	-	-

Short Circuit Current

The thermally permissible short circuit current for a conductor of specified size may be calculated from the equations below (based on IEC 60949). For purposes of calculation, the standard short circuit duration period is up to 5 sec.

1. Copper Conductor :

$$I = \frac{143 \cdot S}{t} \sqrt{1 + 0.41 \sqrt{\frac{t}{s}} + 0.12 \left(\frac{t}{s}\right)} \quad (A)$$

2. Aluminium Conductor :

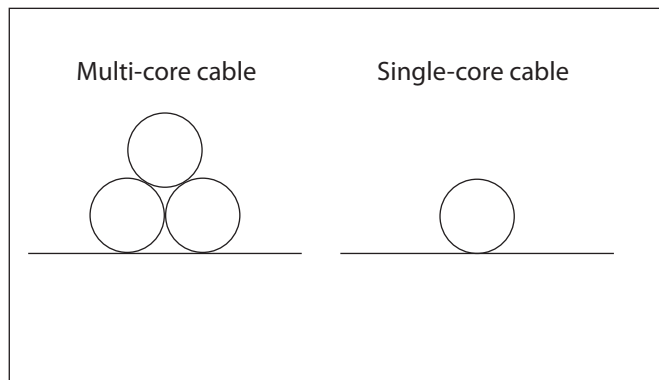
$$I = \frac{94 \cdot S}{t} \sqrt{1 + 0.57 \sqrt{\frac{t}{s}} + 0.16 \left(\frac{t}{s}\right)} \quad (A)$$

where s : conductor size in mm^2
 t : short circuit period in seconds

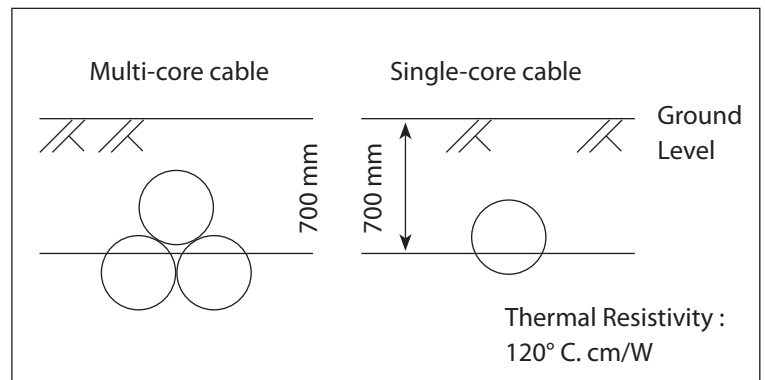
Calculation Base for Electrical Characteristics

Installation

In air (Ambient temperature : 40 °C)



In the ground (Ambient temperature : 25 °C)



Correction Factors For Continuous Current Rating

Ambient Temperature (°C)	15	20	25	30	35	40	45	50	55
Installation									
In Air	1.22	1.18	1.14	1.10	1.05	1.0	0.95	0.89	0.84
In Ground	1.07	1.04	1.0	0.96	0.92	0.88	0.83	0.78	0.73



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