



CABLETECH

CABLETECH SDN BHD

Co No.: 202301037338 (1531261-T)

Powering the Future with Innovation and Excellence



Low Voltage Cables



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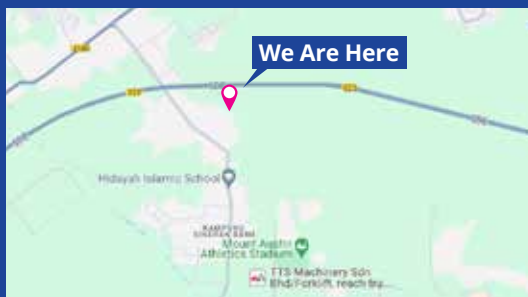
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INTRODUCTION

Founded in 2023, **Cabletech Sdn Bhd ("CABLETECH") manufactures low voltage and fibre optic cables, providing high-quality power and telecom solutions for global industries.** Our experienced team ensures products meet international standards for **quality, safety, and reliability.** Committed to excellence, innovation, and customer satisfaction, CABLETECH plans to expand its product line to include Medium, High, and Extra High Voltage cables in the near future.

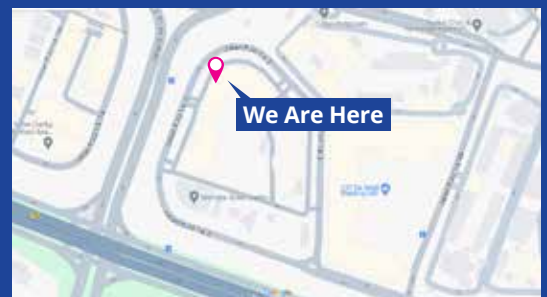
OPERATION

CABLETECH operates at a **state-of-the-art manufacturing facility** equipped with **advanced machinery, testing equipment, and quality control systems** at its factory located in Johor Bahru, Johor, Malaysia.



FACTORY & ADMINISTRATION OFFICE:

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OUR COMMITMENT



EXPLAINS....

PVC "POLYVINYL CHLORIDE"

Has been in use as an insulating and outersheating material for a long time. Since PVC has some degree of flame retardance, and resistance to oils and chemicals, it has found many suitable applications including low power and control uses. Generally, they are two types of PVC, general purpose and heat resistance PVCs with maximum conductor temperatures of 70°C and 90°C respectively.

PVC insulated cables are used in power distribution, building wire, appliance wiring, flexible cord and machine tool wiring. Communications application use PVC coverings on a limited basis. Insulation and jackets made from PVC have several desirable properties that make them the insulation and jacketing material of choice for many common applications. These properties include flexibility, resistance to temperature, resistance to adverse environmental situations and low cost.

XLPE "CROSS-LINKED POLYETHYLENE"

It is designed for high performance applications, capable of handling high voltage and extreme temperature conditions. Cross linked polyethylene is produced from polyethylene under high pressure with organic peroxides as additives. The application of heat and pressure is used to affect the cross linking. This causes the individual molecular chains to link with one another which in turn causes the material to change from a thermoplastic to an elastic material.

An important advantage of XLPE as insulation for medium and high voltage cables is their low dielectric loss. The dielectric loss factor is about one decimal power lower than that of paper insulated cables and about two decimal powers lower than that of PVC-insulated cables. Since the dielectric constant is also more favorable, the mutual capacitance of XLPE cables is also lower, thus reducing the charging currents and earth-leakage currents in networks without the rigid star-point earthing.





CU /PVC INSULATED CABLE



CONSTRUCTION

Conductor : Plain annealed copper

Insulation : RoHS PVC Compound

Colour of cores : Red, Yellow, Blue, Black, Brown, Grey, White, Green or Green/Yellow or Yellow/ Green

MS 2112-3			450/750 V	
Conductor		Thickness of insulation mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape			
1.5	s.c.	0.7	2.9	21
1.5	r.m.	0.7	3.0	23
2.5	s.c.	0.8	3.5	33
2.5	r.m.	0.8	3.6	35
4	r.m.	0.8	4.2	51
6	r.m.	0.8	4.7	72
10	r.m.	1.0	6.1	120
16	c.c.	1.0	6.8	175
25	c.c.	1.2	8.4	280
35	c.c.	1.2	9.6	370
50	c.c.	1.4	11.2	500
70	c.c.	1.4	12.9	710
95	c.c.	1.6	15.0	980
120	c.c.	1.6	16.6	1220
150	c.c.	1.8	18.4	1490
185	c.c.	2.0	20.6	1870
240	c.c.	2.2	23.4	2450
300	c.c.	2.4	26.1	3070

Note : s.c. - solid circular, r.m. - circular stranded, c.c. - compacted circular stranded
Code : H07V-U , H07V-R



CU /PVC INSULATED CABLE /PVC SHEATHED UNARMoured CABLE SINGLE CORE



CONSTRUCTION

Conductor : Plain annealed copper

Insulation : PVC Compound

Colour of cores : Single core - black
: 2 cores - red and black
: 3 cores - red, yellow and blue
: 4 cores - red, yellow, blue and black

OR

Optional colours

Single core - brown or blue

2 cores - brown, blue

3 cores - brown, black, grey

4 cores - brown, black, grey, blue

Formation (i) Single core up (to 300mm²)

(ii) 2, 3 or 4 cores (to 35mm²)

stranded together and the interstices may be filled with non-hygroscopic material or the sheathing compound. A non-hygroscopic binder tape may be applied over the laid - up cores.

Sheath :RoHS PVC Compound (Black)

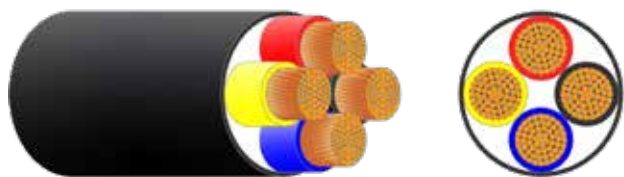
CU/PVC/PVC - SINGLE CORE [BS 6004, MS 2112-4]					300 / 500 V
Conductor		Thickness of insulation mm	Thickness of sheath mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape				
1.5	s.c.	0.7	0.8	4.4	35
1.5	r.m.	0.7	0.8	4.6	38
2.5	s.c.	0.8	0.8	5.0	50
2.5	r.m.	0.8	0.8	5.2	53
4.0	r.m.	0.8	0.9	6.0	74
6.0	r.m.	0.8	0.9	6.5	97
10	r.m.	1.0	0.9	7.9	150
16	c.c.	1.0	1.0	8.8	220
25	c.c.	1.2	1.1	10.6	330
35	c.c.	1.2	1.1	11.8	430

CU/PVC/PVC - SINGLE CORE [BS 6346, MS 2100]					0.6/1 (1.2) kV
Conductor		Thickness of insulation mm	Thickness of sheath mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape				
50	c.c.	1.4	1.4	14.0	590
70	c.c.	1.4	1.4	15.7	810
95	c.c.	1.6	1.5	18.0	1100
120	c.c.	1.6	1.5	19.6	1360
150	c.c.	1.8	1.6	21.6	1650
185	c.c.	2.0	1.7	24.0	2060
240	c.c.	2.2	1.8	27.0	2670
300	c.c.	2.4	1.9	29.9	3330

Note : s.c. - solid circular, r.m. - circular stranded, c.c. - compacted circular stranded



CU /PVC INSULATED CABLE /PVC SHEATHED UNARMoured CABLE MULTICORE



CU/PVC/PVC - TWO CORES [BS 6004, , MS 2112-4]					300 / 500 V
Conductor		Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area mm ²	Shape				
1.5	r.m.	0.7	1.2	8.9	110
2.5	r.m.	0.8	1.2	9.7	140
4	r.m.	0.8	1.2	11.2	200
6	r.m.	0.8	1.2	12.3	260

CU/PVC/PVC - TWO CORES [BS 6346, MS 2102]					0.6/1 (1.2) kV
Conductor		Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area mm ²	Shape				
10	r.m.	1.0	1.8	15.8	400
16	c.c.	1.0	1.8	17.3	540
25	c.c.	1.2	1.8	20.6	800
35	c.c.	1.2	1.8	22.9	1040

CU/PVC/PVC - THREE CORES [BS 6004, MS 2112-4]					300 / 500 V
Conductor		Thickness of insulation	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area mm ²	Shape				
1.5	r.m.	0.7	1.2	9.4	130
2.5	r.m.	0.8	1.2	10.7	180
4	r.m.	0.8	1.2	11.9	240
6	r.m.	0.8	1.4	13.5	330

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded

CU/PVC/PVC - THREE CORES [BS 6346, MS 2102]					0.6/1 (1.2) kV
Conductor		Thickness of insulation mm	Thickness of sheath mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape				
10	r.m.	1.0	1.8	16.7	530
16	c.c.	1.0	1.8	18.3	720
25	c.c.	1.2	1.8	21.9	1080
35	c.c.	1.2	1.8	24.4	1410

CU/PVC/PVC - FOUR CORES [BS 6004, MS 2112-4]					300 / 500 V
Conductor		Thickness of insulation mm	Thickness of sheath mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape				
1.5	r.m.	0.7	1.2	10.2	160
2.5	r.m.	0.8	1.2	11.7	220
4	r.m.	0.8	1.4	13.4	310
6	r.m.	0.8	1.4	14.7	410

CU/PVC/PVC - FOUR CORES [BS 6346, MS 2102]					0.6/1 (1.2) kV
Conductor		Thickness of insulation mm	Thickness of sheath mm	Approx. overall diameter mm	Approx. net weight Kg / Km
Area mm ²	Shape				
10	r.m.	1.0	1.8	18.3	670
16	c.c.	1.0	1.8	20.1	930
25	c.c.	1.2	1.8	24.1	1390
35	c.c.	1.2	1.8	26.9	1840

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded



CU /PVC INSULATED /PVC SHEATHED ARMOURED CABLE SINGLE CORE



CONSTRUCTION

Conductor : Plain annealed copper

Insulation : PVC Compound

Colour of cores : Single core - black
: 2 cores - red and black
: 3 cores - red, yellow and blue
: 4 cores - red, yellow, blue and black
: 5 cores - red, yellow, blue, black
and green / yellow

OR

Optional colours

Single core - brown or blue
2 cores - brown, blue
3 cores - brown, black, grey
4 cores - brown, black, grey, blue
5 cores - brown, black, grey, blue

Formation (i) Single core
(ii) 2, 3, 4 or 5 cores
stranded together and the interstices may be filled with non-hygroscopic material
or the bedding compound. A non-hygroscopic binder tape may be applied over
the laid-up cores.

Bedding : PVC Compound (Black)

Armour (i) Single core - Aluminium wire
(ii) 2, 3, 4 or 5 cores - Galvanized steel wire

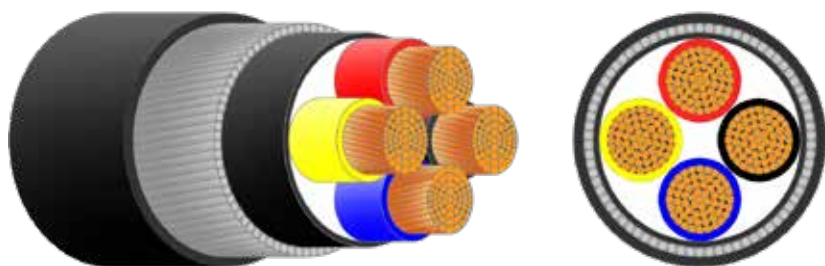
Sheath : PVC Compound (Black)

CU/PVC/PVC/AWA/PVC - SINGLE CORE [BS 6346, MS 2101]							0.6/1 (1.2) kV
Conductor		Thickness of insulation	Thickness of bedding	Thickness of armour wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area mm ²	Shape						
		mm	mm	mm	mm	mm	Kg / Km
50	c.c.	1.4	0.8	1.25	1.5	18.3	800
70	c.c.	1.4	0.8	1.25	1.6	20.2	1050
95	c.c.	1.6	0.8	1.25	1.6	22.3	1360
120	c.c.	1.6	1.0	1.6	1.7	25.7	1730
150	c.c.	1.8	1.0	1.6	1.7	27.5	2050
185	c.c.	2.0	1.0	1.6	1.8	29.9	2430
240	c.c.	2.2	1.0	1.6	1.9	32.9	3160
300	c.c.	2.4	1.0	1.6	1.9	35.6	3850

Note : r.m. - circular stranded, c.c. - compacted circular stranded



CU /PVC INSULATED /PVC SHEATHED ARMoured CABLE MULTICORE



CU/PVC/PVC/SWA/PVC - TWO CORES
[BS 6346, MS 2103]

0.6/1 (1.2) kV

Conductor		Thickness of insulation	Thickness of bedding	Thickness of armour wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area	Shape						Kg / Km
mm ²		mm	mm	mm	mm	mm	
1.5	r.m.	0.6	0.8	0.9	1.4	11.9	300
2.5	r.m.	0.7	0.8	0.9	1.4	13.1	360
4	r.m.	0.8	0.8	0.9	1.4	14.6	440
6	r.m.	0.8	0.8	0.9	1.5	15.9	530
10	r.m.	1.0	0.8	1.25	1.6	19.5	850
16	c.c.	1.0	0.8	1.25	1.6	20.0	1020
25	c.c.	1.2	1.0	1.6	1.7	25.6	1570
35	c.c.	1.2	1.0	1.6	1.8	28.1	1910

CU/PVC/PVC/SWA/PVC - THREE CORES
[BS 6346, MS 2103]

0.6/1 (1.2) kV

Conductor		Thickness of insulation	Thickness of bedding	Thickness of armour wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area	Shape						Kg / Km
mm ²		mm	mm	mm	mm	mm	
1.5	r.m.	0.6	0.8	0.9	1.4	12.3	330
2.5	r.m.	0.7	0.8	0.9	1.4	13.6	400
4	r.m.	0.8	0.8	0.9	1.4	15.2	510
6	r.m.	0.8	0.8	1.25	1.5	17.4	730
10	r.m.	1.0	0.8	1.25	1.6	20.4	990
16	c.c.	1.0	0.8	1.25	1.6	22.0	1230
25	c.c.	1.2	1.0	1.6	1.7	26.9	1900
35	c.c.	1.2	1.0	1.6	1.8	29.6	2340

CU/PVC/PVC/SWA/PVC - FOUR CORES
[BS 6346, MS 2103]

0.6/1 (1.2) kV

Conductor		Thickness of insulation	Thickness of bedding	Thickness of armour wire	Thickness of sheath	Approx. overall diameter	Approx. net weight
Area	Shape						Kg / Km
mm ²		mm	mm	mm	mm	mm	
1.5	r.m.	0.6	0.8	0.9	1.4	13.0	370
2.5	r.m.	0.7	0.8	0.9	1.4	14.5	460
4	r.m.	0.8	0.8	1.25	1.5	17.2	700
6	r.m.	0.8	0.8	1.25	1.5	18.6	850
10	r.m.	1.0	0.8	1.25	1.6	22.0	1180
16	c.c.	1.0	1.0	1.6	1.7	25.1	1680
25	c.c.	1.2	1.0	1.6	1.8	29.3	2310
35	c.c.	1.2	1.0	1.6	1.9	32.3	2870

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded





CU /XLPE INSULATED /PVC SHEATHED UNARMoured CABLE SINGLE CORE



CONSTRUCTION

Conductor

Plain circular, compacted or shaped stranded copper or aluminium conductor, conform to IEC 60228 class 2.

Insulation

XLPE (cross-linked polyethylene) rated at 90°C.

Colours for core identification

Single core - natural (black on request)

Two cores - red, black

Three cores - red, yellow and blue

Four cores - red, yellow, blue and black

Five cores - red, yellow, blue, black and green/yellow

Optional colours

Single core - natural (brown or blue on request)

Two cores - brown, blue

Three cores - brown, black, grey

Four cores - brown, black, grey, blue

Five cores - brown, black, grey, blue and green/yellow

OR

Assembly

Two, three, four or five insulated conductors are laid up together if necessary filled with non- hygroscopic material compatible with the insulation. The filling may be omitted provided the outer shape of the cables remains practically circular and no adhesion occurs between cores and sheath.

Sheath

PVC type ST2 to IEC 60502, colour black.

APPLICATION

These cables are designated for general use including underground burial, where they are not likely to suffer mechanical damage.

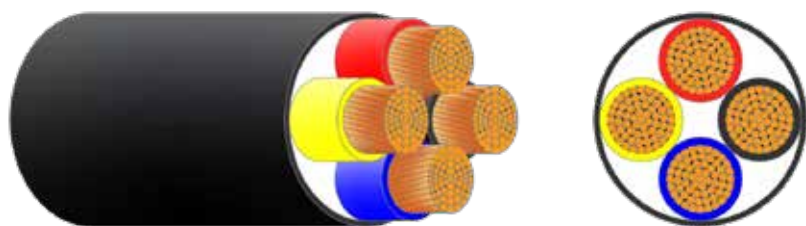
Note: Cables complying with BS5467 and customer's specification are available upon request.

XLPE INSULATED UNARMoured PVC SHEATHED CABLE - SINGLE CORE CU/XLPE/PVC CABLE [IEC 60502-1, MS 2104]						0.6/1 (1.2) kV
Nominal cross sectional area	Conductor Shape	Nominal thickness of insulation	Nominal thickness of sheath	Approximate overall diameter	Approximate weight of vable	
					Copper	Aluminium
mm²		mm	mm	mm	Kg / Km	Kg / Km
1.5	r.m.	0.7	1.4	5.8	50	-
2.5	r.m.	0.7	1.4	6.2	62	-
4	r.m.	0.7	1.4	6.8	81	-
6	r.m.	0.7	1.4	7.3	105	67
10	r.m.	0.7	1.4	8.3	151	88
16	c.c.	0.7	1.4	9.0	211	110
25	c.c.	0.9	1.4	10.6	315	155
35	c.c.	0.9	1.4	11.8	414	192
50	c.c.	1.0	1.4	13.2	542	243
70	c.c.	1.1	1.4	15.1	757	324
95	c.c.	1.1	1.5	17.0	1025	425
120	c.c.	1.2	1.5	18.8	1281	520
150	c.c.	1.4	1.6	20.8	1562	650
185	c.c.	1.6	1.6	23.0	1940	773
240	c.c.	1.7	1.7	25.8	2522	987
300	c.c.	1.8	1.8	28.5	3144	1215

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded



CU /XLPE INSULATED /PVC SHEATHED UNARMoured CABLE MULTICORE



XLPE INSULATED UNARMoured PVC SHEATHED CABLE - TWO CORES
CU/XLPE/PVC CABLE [IEC 60502-1, MS 2016]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
					Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	1.8	9.7	119	-
2.5	r.m.	0.7	1.8	10.5	148	-
4	r.m.	0.7	1.8	11.6	192	-
6	r.m.	0.7	1.8	12.7	247	160
10	r.m.	0.7	1.8	14.6	354	220
16	c.c.	0.7	1.8	16.5	494	289
25	c.c.	0.9	1.8	19.8	735	411
35	c.c.	0.9	1.8	22.1	963	513

XLPE INSULATED UNARMoured PVC SHEATHED CABLE - THREE CORES
CU/XLPE/PVC CABLE [IEC 60502-1, MS 2016]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
					Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	1.8	10.1	141	-
2.5	r.m.	0.7	1.8	11.0	180	-
4	r.m.	0.7	1.8	12.2	240	-
6	r.m.	0.7	1.8	13.4	314	190
10	r.m.	0.7	1.8	15.4	461	260
16	c.c.	0.7	1.8	17.4	656	349
25	c.c.	0.9	1.8	21.0	990	503
35	c.c.	0.9	1.8	23.5	1312	637

XLPE INSULATED UNARMoured PVC SHEATHED CABLE - FOUR CORES
CU/XLPE/PVC CABLE [IEC 60502-1, MS 2106]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
					Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	1.8	10.9	168	-
2.5	r.m.	0.7	1.8	11.9	217	-
4	r.m.	0.7	1.8	13.2	294	-
6	r.m.	0.7	1.8	14.6	394	240
10	r.m.	0.7	1.8	16.9	586	328
16	c.c.	0.7	1.8	19.0	840	421
25	c.c.	0.9	1.8	23.0	1277	617
35	c.c.	0.9	1.8	25.8	1699	787

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded



CU /XLPE INSULATED /PVC SHEATHED ARMoured CABLE SINGLE CORE



CONSTRUCTION

Conductor

Plain circular, compacted or shaped stranded copper or aluminium conductor, conform to IEC 60228 class 2

Insulation

XLPE (cross-linked polyethylene) rated at 90°C.

Colours for core identification

Single core - natural (black on request)

Two cores - red, black

Three cores - red, yellow and blue

Four cores - red, yellow, blue and black

Five cores - red, yellow, blue, black and green/yellow

Optional colours

Single core - natural (brown or blue on request)

Two cores - brown, blue

Three cores - brown, black, grey

Four cores - brown, black, grey, blue

Five cores - brown, black,

OR

Assembly

Two, three, four or five insulated conductors are laid up together, if necessary filled with non-hygroscopic material compatible with the insulation and covered with a layer of PVC bedding which may be an integral part of the filling.

Armour

Single Core - Aluminium wire shall be applied over the PVC bedding.

Multicore - Galvanized steel wire shall be applied over the PVC bedding.

Sheath

PVC type ST2 to IEC 60502 colour black.

APPLICATION

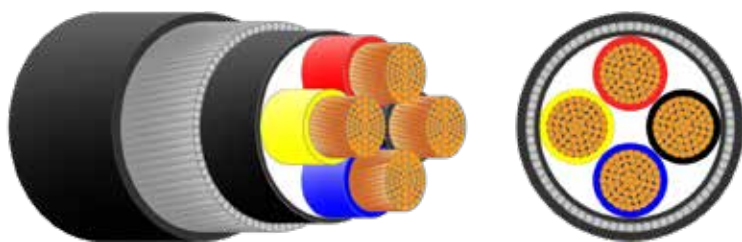
These cables are most suitable for underground burial where there is a risk of mechanical damage.

XLPE INSULATED ARMoured PVC SHEATHED CABLE - SINGLE CORE CU/XLPE/PVC/AWA/PVC CABLE [IEC 60502-1, MS 2015]						0.6/1 (1.2) kV	
Nominal cross sectional area	Conductor Shape	Nominal thickness of insulation	Nominal diameter of aluminium wire	Nominal thickness of sheath	Approximate overall diameter	Approximate weight of cable	
						Copper	Aluminium
mm ²		mm	mm	mm	mm	Kg / Km	Kg / Km
16	c.c.	0.7	0.9	1.8	13.6	357	255
25	c.c.	0.9	0.9	1.8	15.2	482	323
35	c.c.	0.9	0.9	1.8	16.4	597	375
50	c.c.	1.0	1.25	1.8	18.5	788	487
70	c.c.	1.1	1.25	1.8	20.4	1032	598
95	c.c.	1.1	1.25	1.8	22.1	1319	718
120	c.c.	1.2	1.6	1.8	25.1	1657	892
150	c.c.	1.4	1.6	1.8	26.9	1960	1048
185	c.c.	1.6	1.6	1.8	29.1	2375	1205
240	c.c.	1.7	1.6	1.9	31.9	3004	1467
300	c.c.	1.8	1.6	1.9	34.4	3655	1722

Note : Cables complying with BS5467 and customer's specification are available upon request.



CU /XLPE INSULATED /PVC SHEATHED ARMoured CABLE MULTICORE



XLPE INSULATED ARMoured PVC SHEATHED CABLE - TWO CORES
CU/XLPE/PVC/SWA/PVC CABLE [IEC 60502-1, MS 2107]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal diameter of aluminium wire mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
						Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	0.9	1.8	13.5	348	-
2.5	r.m.	0.7	0.9	1.8	14.3	394	-
4	r.m.	0.7	0.9	1.8	15.4	464	-
6	r.m.	0.7	0.9	1.8	16.5	544	467
10	r.m.	0.7	1.25	1.8	19.1	805	676
16	c.c.	0.7	1.25	1.8	21.0	1000	773
25	c.c.	0.9	1.6	1.8	25.0	1489	1133
35	c.c.	0.9	1.6	1.8	27.3	1804	1322

XLPE INSULATED ARMoured PVC SHEATHED CABLE - THREE CORES
CU/XLPE/PVC/SWA/PVC CABLE [IEC 60502-1, MS 2107]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal diameter of aluminium wire mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
						Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	0.9	1.8	13.9	379	-
2.5	r.m.	0.7	0.9	1.8	14.8	437	-
4	r.m.	0.7	0.9	1.8	16.0	525	-
6	r.m.	0.7	0.9	1.8	17.2	628	512
10	r.m.	0.7	1.25	1.8	19.9	937	743
16	c.c.	0.7	1.25	1.8	21.9	1191	860
25	c.c.	0.9	1.6	1.8	26.2	1791	1273
35	c.c.	0.9	1.6	1.8	28.7	2201	1494

XLPE INSULATED ARMoured PVC SHEATHED CABLE - FOUR CORES
CU/XLPE/PVC/SWA/PVC CABLE [IEC 60502-1, MS 2107]

0.6/1 (1.2) kV

Nominal cross sectional area mm ²	Conductor Shape	Nominal thickness of insulation mm	Nominal diameter of aluminium wire mm	Nominal thickness of sheath mm	Approximate overall diameter mm	Approximate weight of cable	
						Copper Kg / Km	Aluminium Kg / Km
1.5	r.m.	0.7	0.9	1.8	14.7	423	-
2.5	r.m.	0.7	0.9	1.8	15.7	496	-
4	r.m.	0.7	0.9	1.8	17.0	602	-
6	r.m.	0.7	1.25	1.8	19.1	845	691
10	r.m.	0.7	1.25	1.8	21.4	1104	846
16	c.c.	0.7	1.6	1.8	24.2	1566	1133
25	c.c.	0.9	1.6	1.8	28.2	2152	1473
35	c.c.	0.9	1.6	1.9	31.2	2692	1752

Note : r.m. - circular stranded, c.c. - compacted circular stranded, s.m. - shaped stranded

APPENDIX: TECHNICAL INFO





TECHNICAL DATA:PVC

CURRENT-CARRYING CAPACITY FOR SINGLE-CORE, UNARMoured WITH OR WITHOUT SHEATH

Ambient temperature : 30°C, Conductor operating temperature : 70°C											
Conductor cross sectional area	Current-carrying capacity										
	Method of installation										
	Enclosed in conduit in thermally insulated wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		On a perforated cable tray horizontal or vertical		In free air		
	2 cables, singlephase a.c. or d.c.	or 4 cables threephase a.c.	2 cables, singlephase a.c. or d.c.	3 or 4 cables threephase a.c.	2 cables, singlephase a.c. or d.c. flat and touching	3 or 4 cables threephase a.c. flat and touching or trefoil	2 cables, singlephase a.c. or d.c. flat and touching	3 or 4 cables threephase a.c. flat and touching or trefoil	2 cables, singlephase a.c. or d.c. or 3 cables threephase a.c.	2 cables, singlephase a.c. or d.c. or 3 cables threephase a.c.	3 cables, trefoil, three phase a.c.
mm ²	A	A	A	A	A	A	A	A	A	A	A
1.5	14.5	13.5	17.5	15.5	20	18	-	-	-	-	-
2.5	19.5	18	24	21	27	25	-	-	-	-	-
4	26	24	32	28	37	33	-	-	-	-	-
6	34	31	41	36	47	43	-	-	-	-	-
10	46	42	57	50	65	59	-	-	-	-	-
16	61	56	76	68	87	79	-	-	-	-	-
25	80	73	101	89	114	104	126	112	146	130	110
35	99	89	125	110	141	129	156	141	181	162	137
50	119	108	151	134	182	167	191	172	219	197	167
70	151	136	192	171	234	214	246	223	281	254	216
95	182	164	232	207	284	261	300	273	341	311	264
120	210	188	269	239	330	303	349	318	396	362	308
150	240	216	300	262	381	349	404	369	456	419	356
185	273	245	341	296	436	400	463	424	521	480	409
240	320	286	400	346	515	472	549	504	615	569	485
300	367	328	458	394	594	545	635	584	709	659	561
400	-	-	546	467	694	634	732	679	852	795	656
500	-	-	626	533	792	723	835	778	982	920	749
630	-	-	720	611	904	826	953	892	1138	1070	855
800	-	-	-	-	1030	943	1086	1020	1265	1188	971
1000	-	-	-	-	1154	1058	1216	1149	1420	1337	1079

VOLTAGE DROP FOR SINGLE-CORE, UNARMoured WITH OR WITHOUT SHEATH

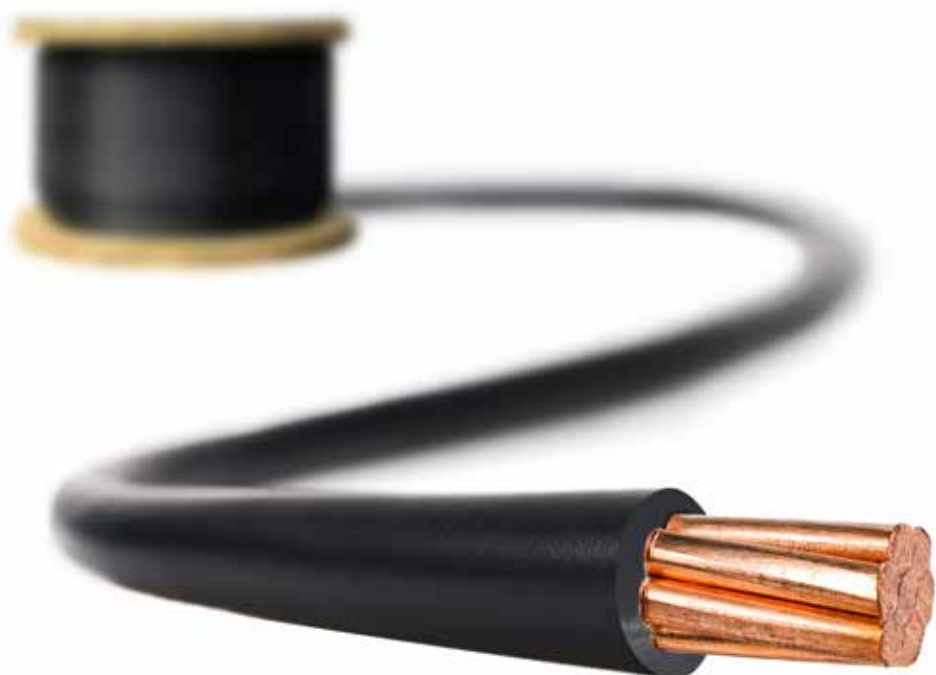
Conductor operating temperature : 70°C								
Conductor cross sectional area	2 cables d.c.	2 cables, single-phase a.c.			3 or 4 cables, three-phase a.c.			
		Enclosed in conduit etc. in or on a wall	Clipped direct or on trays touching	In free air (spaced*)	Enclosed in conduit etc. in or on a wall	Clipped direct, on trays or in free air (in trefoil)	Clipped direct or on trays (flat and touching)	In free air (flat spaced*)
mm ²	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m
1.5	29	29	29	29	25	25	25	25
2.5	18	18	18	18	15	15	15	15
4	11	11	11	11	9.5	9.5	9.5	9.5
6	7.3	7.3	7.3	7.3	6.4	6.4	6.4	6.4
10	4.4	4.4	4.4	4.4	3.8	3.8	3.8	3.8
16	2.8	2.8	2.8	2.8	2.4	2.4	2.4	2.4
25	1.75	1.80	1.75	1.80	1.55	1.50	1.55	1.55
35	1.25	1.30	1.25	1.30	1.10	1.10	1.10	1.15
50	0.93	1.00	0.95	0.97	0.85	0.82	0.84	0.86
70	0.63	0.72	0.66	0.69	0.61	0.57	0.60	0.63
95	0.46	0.56	0.50	0.54	0.48	0.43	0.47	0.51
120	0.36	0.47	0.41	0.45	0.41	0.36	0.40	0.44
150	0.29	0.41	0.34	0.39	0.36	0.30	0.34	0.40
185	0.23	0.37	0.29	0.35	0.32	0.26	0.31	0.36
240	0.180	0.33	0.25	0.31	0.29	0.22	0.27	0.34
300	0.145	0.31	0.22	0.29	0.27	0.190	0.25	0.32
400	0.105	0.29	0.20	0.27	0.25	0.175	0.24	0.31
500	0.086	0.28	0.185	0.26	0.25	0.160	0.23	0.30
630	0.068	0.27	0.175	0.25	0.24	0.150	0.22	0.29
800	0.053	-	0.165	0.25	-	0.145	0.22	0.29
1000	0.042	-	0.160	0.24	-	0.140	0.21	0.28

Note : * Spacings larger than those specified in free air will result in larger voltage drop.

CURRENT-CARRYING CAPACITY FOR MULTICORE, UNARMoured

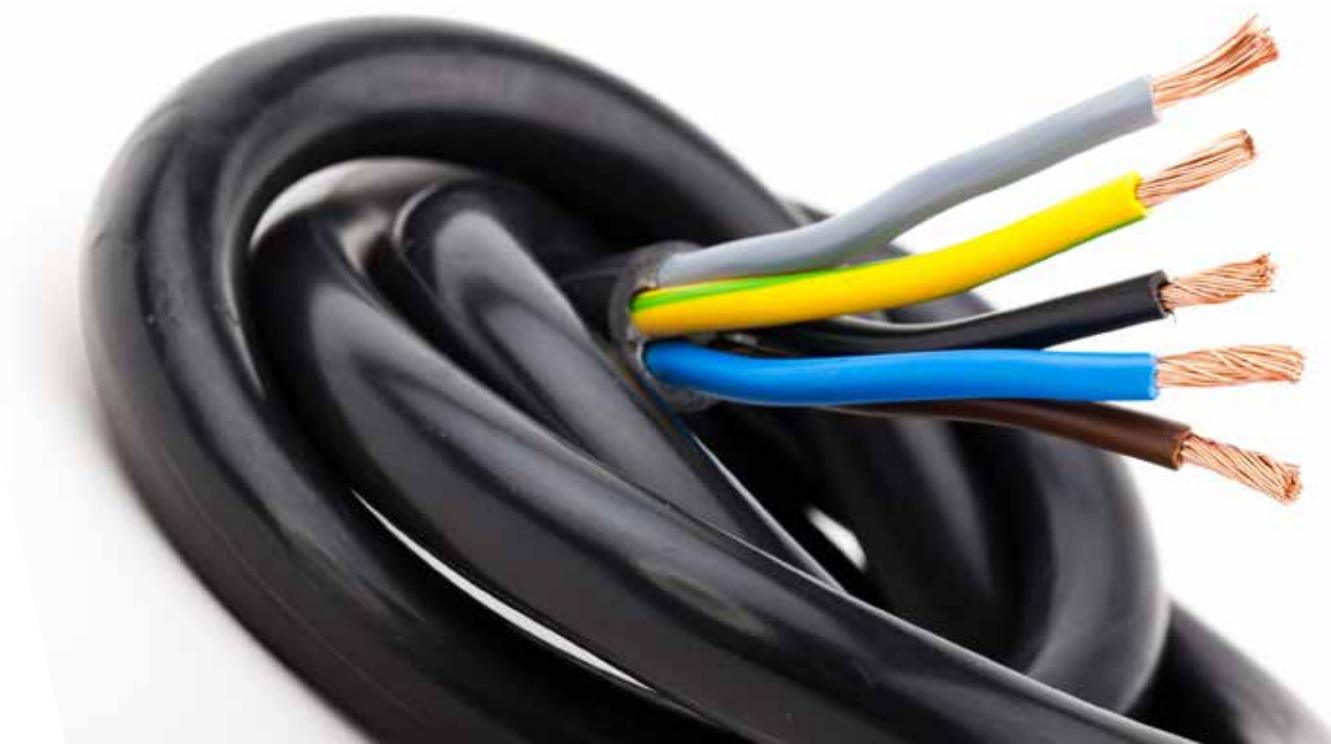
Ambient temperature : 30°C, Conductor operating temperature : 70°C

Conductor cross sectional area	Current-carrying capacity							
	Method of installation							
	Enclosed in conduit in an insulated wall etc.		Enclosed in conduit on a wall or in trunking etc.		Clipped direct		On a perforated cable tray horizontal or in free air	
	1 two-core cable single-phase a.c. or d.c.	1 three-core cable or 1 four-core cable, three-phase a.c.	1 two-core cable single-phase a.c. or d.c.	1 three-core cable or 1 four-core cable, three-phase a.c.	1 two-core cable single-phase a.c. or d.c.	1 three-core cable or 1 four-core cable, three-phase a.c.	1 two-core cable single-phase a.c. or d.c.	1 three-core cable or 1 four-core cable, three-phase a.c.
mm ²	A	A	A	A	A	A	A	A
1.5	14	13	16.5	15	19.5	17.5	22	18.5
2.5	18.5	17.5	23	20	27	24	30	25
4	25	23	30	27	36	32	40	34
6	32	29	38	34	46	41	51	43
10	43	39	52	46	63	57	70	60
16	57	52	69	62	85	76	94	80
25	75	68	90	80	112	96	119	101
35	92	83	111	99	138	119	148	126
50	110	99	133	118	168	144	180	153
70	139	125	168	149	213	184	232	196
95	167	150	201	179	258	223	282	238
120	192	172	232	206	299	259	328	276
150	219	196	258	225	344	299	378	319
185	248	223	294	255	392	341	434	364
240	291	261	344	297	461	403	514	430
300	334	298	394	339	530	464	593	497
400	-	-	470	402	634	557	715	597



VOLTAGE DROP FOR MULTICORE, UNARMoured

Conductor operating temperature : 70°C			
Conductor cross-section area	Two-core cable, d.c.	Two-core cable, single-phase a.c.	Three-or four-core cable, three-phase a.c.
mm ²	mV / A/m	mV / A/m	mV / A/m
1.5	29	29	25
2.5	18	18	15
4	11	11	9.5
6	7.3	7.3	6.4
10	4.4	4.4	3.8
16	2.8	2.8	2.4
25	1.75	1.75	1.50
35	1.25	1.25	1.10
50	0.93	0.94	0.81
70	0.63	0.65	0.57
95	0.46	0.50	0.43
120	0.36	0.41	0.35
150	0.29	0.34	0.29
185	0.23	0.29	0.25
240	0.180	0.24	0.21
300	0.145	0.21	0.185
400	0.105	0.185	0.160



CURRENT-CARRYING CAPACITY FOR SINGLE-CORE ARMoured

Ambient temperature : 30°C, Conductor operating temperature : 70°C

Conductor cross sectional area	Current-carrying capacity										
	Method of installation										
	Clipped direct		On a perforated cable tray		In free air						
					2 cables, single-phase a.c.		2 cables, d.c.		3 or 4 cables, three-phase a.c.		
	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables three-phase a.c. flat and touching	2 cables, single-phase a.c. or d.c. flat and touching	3 or 4 cables three-phase a.c. flat and touching	Horizontal flat spaced	Vertical flat spaced	Horizontal spaced	Vertical spaced	Horizontal flat spaced	Vertical flat spaced	3 cables trefoil
mm ²	A	A	A	A	A	A	A	A	A	A	A
50	193	179	205	189	229	217	229	216	230	212	181
70	245	225	259	238	287	272	294	279	286	263	231
95	296	269	313	285	349	332	357	340	338	313	280
120	342	309	360	327	401	383	415	396	385	357	324
150	395	354	415	375	456	436	482	460	436	407	373
185	447	399	469	422	511	489	548	525	490	456	425
240	525	465	550	492	593	568	648	622	566	528	501
300	594	515	624	547	668	640	748	719	616	578	567
400	687	575	723	618	737	707	885	851	674	632	657
500	763	622	805	673	810	777	1035	997	721	676	731
630	843	669	891	728	893	856	1218	1174	771	723	809
800	919	710	976	777	943	905	1441	1390	824	772	886
1000	975	737	1041	808	1008	967	1685	1627	872	816	945

VOLTAGE DROP FOR SINGLE-CORE ARMoured

Conductor operating temperature : 70°C

Conductor cross sectional area	2 cables d.c.	2 cables, single-phase a.c.		3 or 4 cables, three-phase a.c.		
		Clipped direct or on trays (touching)	In free air (spaced*)	Clipped direct, on trays or in free air (in trefoil touching)	Clipped direct or on trays (flat and touching)	In free air (flat spaced*)
mm ²	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m	mV / A/m
50	0.93	0.95	0.97	0.82	0.84	0.86
70	0.63	0.68	0.72	0.58	0.62	0.68
95	0.46	0.52	0.58	0.45	0.50	0.57
120	0.36	0.43	0.50	0.37	0.43	0.50
150	0.29	0.37	0.44	0.32	0.38	0.45
185	0.23	0.32	0.39	0.27	0.34	0.41
240	0.180	0.27	0.35	0.23	0.30	0.37
300	0.145	0.24	0.32	0.21	0.28	0.34
400	0.105	0.22	0.30	0.195	0.26	0.32
500	0.086	0.21	0.29	0.180	0.25	0.30
630	0.068	0.195	0.27	0.170	0.23	0.28
800	0.053	0.185	0.25	0.160	0.22	0.26
1000	0.042	0.180	0.24	0.155	0.21	0.24

Note : * Spacings larger than those specified in free air will result in larger voltage drop.

CURRENT-CARRYING CAPACITY FOR MULTICORE, ARMOURED

Ambient temperature : 30°C, Conductor operating temperature : 70°C

Conductor cross sectional area	Current-carrying capacity			
	Method of installation			
	Clipped direct		On a perforated cable tray horizontal or vertical or in free air	
	1 two-core cable,	1 three or four core cable, three phase a.c.	1 two-core cable, single phase a.c. or d.c.	1 three or four core cable, three phase a.c.
mm ²	A	A	A	A
1.5	21	18	22	19
2.5	28	25	31	26
4	38	33	41	35
6	49	42	53	45
10	67	58	72	62
16	89	77	97	83
25	118	102	128	110
35	145	125	157	135
50	175	151	190	163
70	222	192	241	207
95	269	231	291	251
120	310	267	336	290
150	356	306	386	332
185	405	348	439	378
240	476	409	516	445
300	547	469	592	410
400	621	540	683	590

VOLTAGE DROP FOR MULTICORE, ARMOURED

Conductor operating temperature : 70°C

Conductor cross-sectional area	Two-core cable, d.c.	Two-core cable, single phase a.c.	Three or four core cable three phase a.c.
mm ²	mV / A/m	mV / A/m	mV / A/m
1.5	29	29	25
2.5	18	18	15
4	11	11	9.5
6	7.3	7.3	6.4
10	4.4	4.4	3.8
16	2.8	2.8	2.4
25	1.75	1.75	1.50
35	1.25	1.25	1.10
50	0.93	0.94	0.81
70	0.63	0.65	0.57
95	0.46	0.50	0.43
120	0.36	0.41	0.35
150	0.29	0.34	0.29
185	0.23	0.29	0.25
240	0.180	0.24	0.21
300	0.145	0.21	0.185
400	0.105	0.185	0.160



RATING FACTOR: PVC

RATING FACTORS FOR GROUPS OF MORE THAN ONE CIRCUIT OF SINGLE-CORE CABLES, OR MORE THAN ONE MULTICORE CABLES

Method of installation		Rating factor													
		Number of circuits or multicore cables													
		2	3	4	5	6	7	8	9	10	12	14	16	18	20
Enclosed, or bunched and clipped direct to a non-metallic surface		0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.48	0.45	0.43	0.41	0.39	0.38
Single layer clipped to a non-metallic surface	Touching	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	-	-	-	-	-	-
	Spaced *	0.94	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Single layer multicore on a perforated metal cable tray, vertical or horizontal	Touching	0.86	0.81	0.77	0.75	0.74	0.73	0.73	0.72	0.71	0.70	-	-	-	-
	Spaced * 0.91	0.91	0.89	0.88	0.87	0.87	-	-	-	-	-	-	-	-	-
Single layer single core on a perforated metal cable tray, touching	Horizontal	0.90	0.85	-	-	-	-	-	-	-	-	-	-	-	-
	Vertical	0.85	-	-	-	-	-	-	-	-	-	-	-	-	-
Single layer multicore touching on ladder support		0.86	0.82	0.80	0.79	0.78	0.78	0.78	0.77	-	-	-	-	-	-

* Note : Spaced by a clearance between adjacent surfaces of at least one cable diameter. Where the horizontal clearances between adjacent cables exceeds twice cable diameter no correction factor needs to be applied.

RATING FACTORS FOR CABLES INSTALLED IN ENCLOSED TRENCHES

Conductor cross sectional area Conductor cross sectional area mm ²	Rating factor									
	Trench size 450 mm wide x 300 mm deep				Trench size 450 mm wide x 600 mm deep			Trench size 600 mm wide x 760 mm deep		
	2 single core cables, or 1 three or four core cables	3 single core cables 2 two-core cables	4 single core cables, or 2 three or four core cables	6 single core cables, 4 two core cables or 3 three or four core cables	6 single core cables, 4 two core cables or 3 three or four core cables	8 single core cables 4 three or four core cables	12 single core cables 8 two or 6 three or four-core cables	12 single core cables 8 two or 6 three or four core cables	18 single core cables, 12 two-core cables or 9 three or four core cables	24 single core cables, 16 two-core cables or 12 three or four core cables
4	0.93	0.90	0.87	0.82	0.86	0.83	0.76	0.81	0.74	0.69
6	0.92	0.89	0.86	0.81	0.86	0.82	0.75	0.80	0.73	0.68
10	0.91	0.88	0.85	0.80	0.85	0.80	0.74	0.78	0.72	0.66
16	0.91	0.87	0.84	0.78	0.83	0.78	0.71	0.76	0.70	0.64
25	0.90	0.86	0.82	0.76	0.81	0.76	0.69	0.74	0.67	0.62
35	0.89	0.85	0.81	0.75	0.80	0.74	0.68	0.72	0.66	0.60
50	0.88	0.84	0.79	0.74	0.78	0.73	0.66	0.71	0.64	0.59
70	0.87	0.82	0.78	0.72	0.77	0.72	0.64	0.70	0.62	0.57
95	0.86	0.81	0.76	0.70	0.75	0.70	0.63	0.68	0.60	0.55
120	0.85	0.80	0.75	0.69	0.73	0.68	0.61	0.66	0.58	0.53
150	0.84	0.78	0.74	0.67	0.72	0.67	0.59	0.64	0.57	0.51
185	0.83	0.77	0.73	0.65	0.70	0.65	0.58	0.63	0.55	0.49
240	0.82	0.76	0.71	0.63	0.69	0.63	0.56	0.61	0.53	0.48
300	0.81	0.74	0.69	0.62	0.68	0.62	0.54	0.59	0.52	0.46
400	0.80	0.73	0.67	0.59	0.66	0.60	0.52	0.57	0.50	0.44
500	0.78	0.72	0.66	0.58	0.64	0.58	0.51	0.56	0.48	0.43
630	0.77	0.71	0.65	0.56	0.63	0.57	0.49	0.54	0.47	0.41

* Note : When cables having different conductor operating temperatures are grouped together the current rating shall be based on the lowest operating temperature of any cable in the group.



RATING FACTORS FOR OTHER AMBIENT TEMPERATURES

Type of protection	Rating factor									
	Ambient temperature (°C)									
	25	30	35	40	45	50	55	60	65	
Protective device is intended to provide shortcircuit protection only *	1.03	1.0	0.94	0.87	0.79	0.71	0.61	0.50	0.35	
Protective device is a semi-enclosed fuse to BS 3036	1.03	1.0	0.97	0.94	0.91	0.87	0.84	0.69	0.48	

*** Note : Except where the device is a semi-enclosed fuse to BS 3036, the factor also applies where the device is intended to provide overload protection.**



TECHNICAL DATA: XLPE

CURRENT RATINGS FOR 0.6 / 1 (1.2) KV UNARMoured XLPE CABLE

Conductor Size (mm²)	Current Rating						Voltage Drop		
	In Air			In Ground					
	1C	2C	3/4C	1C	2C	3/4C	1C	2C	3/4C
	(A)			(A)			(A)		
Copper Conductor									
1.5	25	26	23	35	39	33	27	31	27
2.5	33	36	32	46	52	43	16	19	16
4	44	49	42	59	67	56	10	12	10
6	56	63	54	73	85	71	6.8	7.9	6.8
10	77	86	75	98	113	95	4.0	4.7	4.0
16	102	115	100	125	146	122	2.5	2.9	2.5
25	135	149	127	161	190	158	1.62	1.9	1.65
35	169	185	158	193	229	191	1.18	1.35	1.15
50	207	225	192	228	265	223	0.87	1.00	0.87
70	268	289	246	279	326	274	0.62	0.69	0.60
95	328	352	298	335	391	329	0.47	0.52	0.45
120	383	410	346	380	445	375	0.39	0.42	0.37
150	444	473	399	426	499	421	0.33	0.35	0.30
185	510	542	456	482	566	478	0.28	0.29	0.26
240	607	641	538	558	658	556	0.24	0.24	0.21
300	703	741	621	629	745	630	0.21	0.21	0.185
400	823	865	741	712	849	719	0.195	0.19	0.165
500	946	-	-	802	-	-	0.180	-	-
630	1088	-	-	900	-	-	0.170	-	-
800	1214	-	-	1002	-	-	0.165	-	-
1000	1349	-	-	1090	-	-	0.155	-	-
Aluminium Conductor									
6	46	49	42	60	69	58	1.0	12	10
10	60	67	58	75	87	73	6.8	7.9	6.8
16	78	91	77	97	113	94	4.2	4.8	4.2
25	103	108	97	125	147	123	2.7	3.1	2.7
35	129	135	120	149	177	148	1.9	2.2	1.95
50	159	164	146	177	205	173	1.4	1.65	1.45
70	206	211	187	217	253	213	0.98	1.15	0.97
95	253	257	227	259	303	255	0.74	0.84	0.72
120	296	300	263	295	346	291	0.60	0.66	0.58
150	343	346	304	331	387	326	0.49	0.55	0.47
185	395	397	347	375	440	371	0.41	0.45	0.39
240	471	470	409	436	511	432	0.34	0.35	0.31
300	547	543	471	492	579	490	0.29	0.29	0.26
400	663	645	570	564	665	563	0.24	0.25	0.21
500	770	-	-	643	-	-	0.21	-	-
630	899	-	-	733	-	-	0.19	-	-
800	1038	-	-	825	-	-	0.18	-	-
1000	1211	-	-	924	-	-	0.16	-	-

CURRENT RATINGS FOR 0.6 / 1 (1.2) KV ARMoured XLPE CABLE

Conductor Size (mm ²)	Current Rating						Voltage Drop		
	In Air			In Ground					
	1C	2C	3/4C	1C	2C	3/4C	1C	2C	3/4C
	(A)			(A)			(A)		
Copper Conductor									
1.5	28	29	25	36	40	33	27	31	27
2.5	37	39	33	47	52	43	16	19	16
4	48	52	44	61	67	56	10	12	10
6	60	66	56	75	84	70	6.8	7.9	6.8
10	82	90	78	100	113	94	4.0	4.7	4.0
16	106	115	99	127	141	119	2.5	2.9	2.5
25	140	152	131	163	183	152	1.62	1.9	1.65
35	170	188	162	195	219	182	1.18	1.35	1.15
50	222	228	197	231	259	217	0.87	1.00	0.87
70	285	291	251	284	317	266	0.62	0.69	0.60
95	346	354	304	340	381	319	0.47	0.52	0.45
120	402	410	353	386	433	363	0.39	0.42	0.37
150	463	472	406	431	485	406	0.33	0.35	0.30
185	529	539	463	485	547	458	0.28	0.29	0.26
240	625	636	546	558	632	529	0.24	0.24	0.21
300	720	732	628	623	708	592	0.21	0.21	0.185
400	815	847	728	691	799	667	0.195	0.19	0.165
500	918	-	-	765	-	-	0.180	-	-
630	1027	-	-	841	-	-	0.170	-	-
800	1119	-	-	888	-	-	0.165	-	-
1000	1214	-	-	942	-	-	0.155	-	-
Aluminium Conductor									
6	49	52	44	61	69	57	10	12	10
10	63	67	57	77	87	73	6.8	7.9	6.8
16	82	85	74	98	108	91	4.2	4.8	4.2
25	108	112	98	127	138	116	2.7	3.1	2.7
35	132	138	120	151	165	139	1.95	2.2	1.95
50	162	166	145	177	196	165	1.45	1.65	1.45
70	207	211	185	218	241	203	0.98	1.15	0.97
95	252	254	224	260	288	244	0.74	0.84	0.72
120	292	303	264	296	343	278	0.60	0.66	0.58
150	337	345	305	331	385	311	0.49	0.55	0.47
185	391	412	350	374	437	353	0.41	0.45	0.39
240	465	473	418	433	507	409	0.34	0.35	0.31
300	540	540	488	486	572	461	0.29	0.29	0.26
400	625	628	562	563	655	534	0.24	0.25	0.21
500	714	-	-	629	-	-	0.21	-	-
630	801	-	-	701	-	-	0.19	-	-
800	890	-	-	777	-	-	0.18	-	-
1000	980	-	-	854	-	-	0.16	-	-

* Single core cables with aluminium wire armour

GROUP RATING FACTORS FOR CIRCUITS OF THREE SINGLE CORE CABLE,IN TREFOIL AND LAID FLAT TOUCHING, HORIZONTAL FORMATION

Cable voltage (kV)	Number of circuits	Spacing of circuit (between centres of cable groups)					
		Touching		0.15 m*	0.3m	0.45m	0.6m
		Trefoil	Laid flat				
0.6 / 1	2	0.77	0.80	0.82	0.88	0.90	0.93
	3	0.65	0.68	0.72	0.79	0.83	0.87
	4	0.59	0.63	0.67	0.75	0.81	0.85
	5	0.55	0.58	0.63	0.72	0.78	0.83
	6	0.52	0.56	0.60	0.70	0.77	0.82
	7	0.50	0.54	0.58	0.68	0.76	0.81
	8	0.48	0.52	0.56	0.66	0.75	0.79
	9	0.46	0.50	0.54	0.64	0.74	0.78
	10	0.44	0.48	0.52	0.62	0.73	0.77

Note: This spacing will not be possible for some of the larger diameter cable.

GROUP RATING FACTORS FOR MULTICORE CABLE IN HORIZONTAL FORMATION

Cable voltage (kV)	Number of Cables in Group	Spacing of circuits (between centres of cable groups)				
		Touching	0.15m	0.3m	0.45m	0.6m
0.6 / 1	2	0.81	0.87	0.91	0.93	0.94
	3	0.70	0.78	0.84	0.87	0.90
	4	0.63	0.74	0.81	0.86	0.89
	5	0.59	0.70	0.78	0.83	0.87
	6	0.55	0.67	0.76	0.82	0.86
	7	0.52	0.64	0.74	0.79	0.83
	8	0.50	0.62	0.72	0.77	0.81
	9	0.48	0.60	0.70	0.75	0.79
	10	0.46	0.58	0.68	0.73	0.77

RATING FACTORS FOR SOIL THERMAL RESISTIVITY

Conductor Size (mm ²)	Soil Thermal Resistivity (Km / W)						
	0.8	0.9	1.0	1.5	2.0	2.5	3.0
Single core cables							
Up to 150	1.16	1.11	1.07	0.91	0.81	0.73	0.67
From 185 to 400	1.17	1.12	1.07	0.90	0.80	0.72	0.66
From 500 to 1200	1.18	1.13	1.08	0.90	0.79	0.71	0.65
Multicore cables							
Up to 16	1.09	1.06	1.04	0.95	0.86	0.79	0.74
From 25 to 150	1.14	1.10	1.07	0.93	0.84	0.76	0.70
From 185 to 400	1.16	1.11	1.07	0.92	0.82	0.74	0.68

RATING FACTORS FOR DEPTH OF LAYING (TO CENTRE OF CABLE OR TREFOIL GROUP OF CABLE)

Depth of Laying (m)	0.6 / 1 (1.2) kV Cables		
	up to 50 mm ²	70mm ² to 300mm ²	above 300mm ²
0.5	1.00	1.00	1.00
0.6	0.99	0.98	0.97
0.8	0.97	0.96	0.94
1.00	0.95	0.94	0.92
1.25	0.94	0.92	0.90
1.50	0.93	0.91	0.89
1.75	0.92	0.89	0.87
2.00	0.91	0.88	0.86
2.50	0.90	0.87	0.85
3.0 or above	0.89	0.86	0.83





METRIC CONDUCTOR SIZES AND RESISTANCE

METRIC CONDUCTOR SIZES AND RESISTANCE (AT 20°C)

Nominal crosssectional area mm ²	Minimum number of wires in the conductor						Maximum resistance of conductor at 20°C		
	Circular conductor		Circular compacted conductor		Shaped conductor		Annealed copper conductor		Plain aluminium conductor
	Cu	Al	Cu	Al	Cu	Al	Plain wires	Metalcoated wires Metalcoated wires	
							ohm / km	ohm / km	
1.5	7	-	6	-	-	-	12.1	12.2	-
2.5	7	-	6	-	-	-	7.41	7.56	-
4	7	7	6	-	-	-	4.61	4.70	7.41
6	7	7	6	-	-	-	3.08	3.11	4.61
10	7	7	6	-	-	-	1.83	1.84	3.08
16	7	7	6	6	-	-	1.15	1.16	1.91
25	7	7	6	6	6	6	0.727	0.734	1.20
35	7	7	6	6	6	6	0.524	0.529	0.868
50	19	19	6	6	6	6	0.387	0.391	0.641
70	19	19	12	12	12	12	0.268	0.270	0.443
95	19	19	15	15	15	15	0.193	0.195	0.320
120	37	37	18	15	18	15	0.153	0.154	0.253
150	37	37	18	15	18	15	0.124	0.126	0.206
185	37	37	30	30	30	30	0.0991	0.1000	0.164
240	37	37	34	30	34	30	0.0754	0.0762	0.125
300	61	61	34	30	34	30	0.0601	0.0607	0.100
400	61	61	53	53	53	53	0.0470	0.0475	0.0778
500	61	61	53	53	53	53	0.0366	0.0369	0.0605
630	91	91	53	53	53	53	0.0283	0.0286	0.0469
800	91	91	53	53	-	-	0.0221	0.0224	0.0367
1000	91	91	53	53	-	-	0.0176	0.0177	0.0291





SHORT CIRCUIT CURRENT FOR XLPE AND PVC INSULATED CABLES

XLPE Cable $I = \frac{0.143 A}{\sqrt{t}}$

PVC Cable $I = \frac{0.115 A}{\sqrt{t}}$ For A equal and less than 300mm²

$I = \frac{0.103 A}{\sqrt{t}}$ For A greater than 400mm²

I : Short Circuit Current in KA
A: Conductor Cross-Section Area in mm²
t : Time of short Circuit in second

Copper Conductor	Max Conductor Resistance at 20°C	Short Circuit Current Rating At 1 Second	
Size		XLPE Cable 600/1000V	PVC Cable (450/750 & 600/1000V)
mm ²	ohm/km	KA	KA
1.5	12.1	0.215	0.173
2.5	7.41	0.358	0.288
4	4.61	0.572	0.46
6	3.08	0.858	0.69
10	1.83	1.43	1.15
16	1.15	2.288	1.84
25	0.727	3.575	2.875
35	0.524	5.005	4.025
50	0.387	7.15	5.75
70	0.268	10.01	8.05
95	0.193	13.585	10.925
120	0.153	17.16	13.8
150	0.124	21.45	17.25
185	0.0991	26.455	21.275
240	0.0754	34.32	27.6
300	0.0601	42.9	34.5
400	0.047	57.2	41.2
500	0.0366	71.5	51.5
630	0.0283	90.09	64.89
800	0.0221	114.4	82.4
1000	0.0176	143	103





COMMON CONVERSION FACTOR

Equivalent					Reciprocal
Mass					
1	cwt	=	50.802	kg	0.0197
1	oz	=	28.349	gm	0.0352
1	lb	=	0.4536	kg	2.2046
1	lb	=	0.00454	tonne (metric)	220.26
1	ton (long)	=	1.016	tonne (metric)	0.09842
Length					
1	in	=	25.4	mm	0.03937
1	ft	=	0.3048	m	3.2808
1	yd	=	0.9144	m	1.0936
1	mile	=	1.6093	km	0.6214
Area					
1	in ²	=	645.16	mm ²	0.00155
1	ft ²	=	0.0929	m ²	10.7642
1	yd ²	=	0.8361	m ²	1.196
Volume					
1	in ³	=	16.387	cm ³ (ml or cc)	0.061
1	ft ³	=	0.0283	m ³	35.3335
1	ft ³	=	6.229	gal (Imp)	0.1605
1	ft ³	=	28.328	l	0.0353
1	yd ³	=	0.7645	m ³	1.3079
1	gal (USA)	=	0.8327	gal (Imp)	1.2009
Force					
1	lbf	=	0.4535	kgf	2.2046
1	kgf	=	9.8065	N	0.1019
1	ton (long) f	=	9.964	kN	0.10036
Pressure and Stress					
1	atm	=	0.1013	MPa	9.869
1	atm	=	1.0133	bar	0.9869
1	lbf / in ² (psi)	=	6.894	kN / mm ² (kPa)	0.145
1	bar	=	1.0197	kgf / cm ²	0.09806
Energy (Work and Heat)					
1	HP.h	=	2544.5	Btu	0.00393
1	Btu	=	0.000293	kW.h	3413
1	Btu	=	1.0551	kJ	0.9478
1	Btu	=	107.59	kgf.m	0.00929
1	cal	=	4.187	J	0.239

1 mil = 0.001 in = 0.0254 mm

1 CM (Circular mil) = 0.7854 x 10⁻⁶in² = 0.5067 x 10⁻³mm²



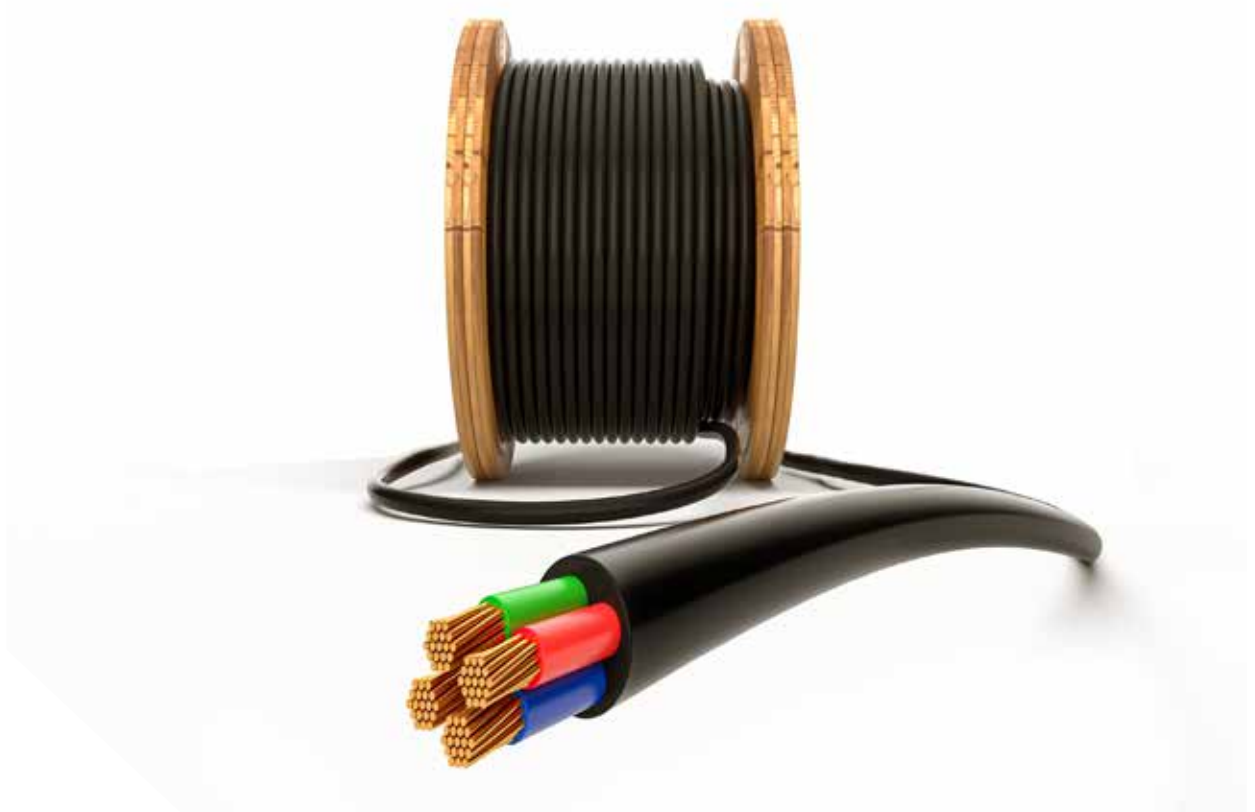
COMMON CONVERSION FACTOR

To Calculate	Given	D.C	A.C. single phase	A.C. 3 phase
Current (A)	kW	$A = \frac{1000 \times kW}{V}$	$A = \frac{1000 \times kW}{V \times pf}$	$A = \frac{1000 \times kW}{1.73 \times V \times pf}$
Current (A)	kVA	---	$A = \frac{1000 \times kVA}{V}$	$A = \frac{1000 \times kVA}{1.73 \times V}$
Current (A)	hp	$A = \frac{746 \times hp}{V \times eff}$	$A = \frac{746 \times hp}{V \times eff \times pf}$	$A = \frac{746 \times hp}{1.73 \times eff \times pf}$
Power (kW)	VA	$A = \frac{A \times V}{1000}$	$A = \frac{A \times V \times pf}{1000}$	$A = \frac{1.73 \times A \times V \times pf}{1000}$
Apparent Power (kVA)	VA	---	$A = \frac{A \times V}{1000}$	$A = \frac{1.73 \times A \times V}{1000}$

pf - Power factor of equipment or system under consideration

eff - Efficiency of motor or machinery

V - Line voltage





NOTES





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