

الكابلات السعودية
Saudi Cable



www.saudicable.com

LOW VOLTAGE CABLES CATALOGUE



This catalogue provides essential technical information on Saudi Cable Company's low voltage cables, including PVC and XLPE insulations, armored and un-armored designs, single and multicore cables and the range of sheathing options. Cables are divided by insulation and armoring types.

Each section provides detailed technical specifications, construction data, electrical capacities, and cable handling instructions. This information assists customers in selecting the most suitable cables for their specific requirements.



CONTENTS

1

INTRODUCTION

Product specification, cable selection, cable services

LOW VOLTAGE CABLES

Constructional data:

5

Bare conductors

7

PVC insulated unarmored cables

19

PVC insulated armored cables

33

XLPE insulated unarmored cables

42

XLPE insulated armored cables

57

LOW VOLTAGE ELECTRICAL CHARACTERISTICS DATA

Maximum conductor resistance, current carrying capacity, star reactance, operating capacitance, de-rating factors and short circuit currents

86

CABLE HANDLING AND INSTALLATION PARAMETERS



INTRODUCTION

This brochure contains technical information on all SCC low voltage cables including PVC and XLPE insulations, armoured and un-armoured designs, single and multicore cables and the range of sheathing options. Cables are divided by insulation and armouring types. Each section contains the appropriate technical details and constructional data. Current carrying capacities and other electrical data applicable to low voltage cables, in addition to cable handling instructions are at the end of this brochure.

PRODCUT SPECIFICATIONS

All cable designs in this brochure adhere to IEC 60502, BS 6346, and BS 5467 standards. Saudi Cable Company also offers alternative designs to meet specialized requirements, including enhanced fire performance and environmental protection. Cables can be customized with alternative sheathing materials, colors, or made to customer specifications and recognized standards, particularly for low smoke and non-halogen materials. Please contact our Technology department, Product Management department to discuss your specific needs.

50+ years
Of Experience



Financial
Resilience



Product Range
Diversity



Industry
Expertise



Global
Presence

Company Figures



Manufacture Capacity
60,000 MT/Year



Facility Space
+200,000 m²



Skilled Workforce
+500 Employee



Footprint
+20 Countries



CABLE SELECTION

It is essential that the type of cable ordered is suitable for its intended use. Cable choice will be based on a whole range of factors including installation specifications, relevant local regulations and the performance characteristics of appropriate cable types. It is therefore impossible to provide a conclusive guide to cable selection and we would recommend to contact our specialists to get the suitable designs meet your specific cable requirements.

CONDUCTORS

SCC standard low voltage cable designs use plain circular or sectoral stranded, copper or aluminum conductors conforming to IEC 60228 Class 1 and 2. As finished conductor diameters can sometimes vary, please contact our technical department for actual dimensions.

PVC INSULATION

SCC low voltage cables supplied with PVC insulation and sheaths are manufactured from PVC compounds produced at the company's in-house plastics compounding plant. These cables are supplied as standard with heat resistive PVC insulation conforming to BS 50363-3, rated 90°C. PVC insulation to BS 50363-3 rated 70°C is also available on request.

XLPE INSULATION

Low voltage cables can also be supplied with cross linked polyethylene (XLPE) insulation where higher performance specifications are required. XLPE insulated cables offer higher current ratings, superior short circuit ratings and improved moisture resistance over the equivalent PVC insulated cables. Round XLPE insulated multicore cables require a filler between assembled cores, where the gaps between cores are filled with a non-hydroscopic material compatible with the insulation.

ARMOURING

All single core cables are armored using Aluminum wires applied concentrically over a taped or extruded bedding. Multicore cables are armored using either galvanized steel wires or galvanized steel tapes applied helically over a PVC bedding.





OVERSHEATHS

SCC low voltage cables are normally supplied with PVC type ST2 over sheath complying with IEC 60502 , and are colored black. Other colors may be provided to suit a range of installation considerations such as the effect of UV radiations and different soil conditions. Anti-termite formulations can also be supplied as well as graphite- coated over sheath where on-site DC testing of the sheath is required. Please contact our technical department for full details.

Low voltage cables can also be supplied with polyethylene over sheath. Polyethylene offers the advantage of much greater impermeability to moisture compared to PVC and can also offer much greater abrasion resistance. These can be important factors when selecting cables for use in hostile environments. All sheaths are designed with easy strip characteristics to further reduce the time and cost of cable preparation and installation. Also, finished cables are marked on their outer sheath to help cable identification on site.

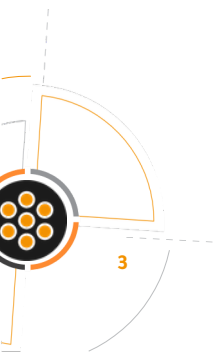
FLAME PERFORMANCE OF CABLE SHEATHS

Cables can be supplied with special flame-retardant PVC over sheaths to comply with the IEC 60332-1/IEC 60332-3 standard. We can also supply cables with Low Smoke Halogen Free (LSHF) sheaths according to BS 7211, BS 6724, or other equivalent international standards.

QUALITY ASSURANCE

Effective quality assurance procedures are essential to ensure the consistency and long-term reliability and performance of all products. SCC has always recognized the importance of Quality Assurance. and this commitment is reflected in the company's accreditation to ISO 9001 standard.

At SCC, Quality Assurance is an integral part of the production and supply process and maintained at all stages from order entry and manufacture through to testing, packaging and shipping. All Quality Assurance procedures are regularly audited by international standards organizations and all routine voltage testing is carried out to more stringent levels than that required by standard specifications.





CABLE DIMENSIONS AND WEIGHTS

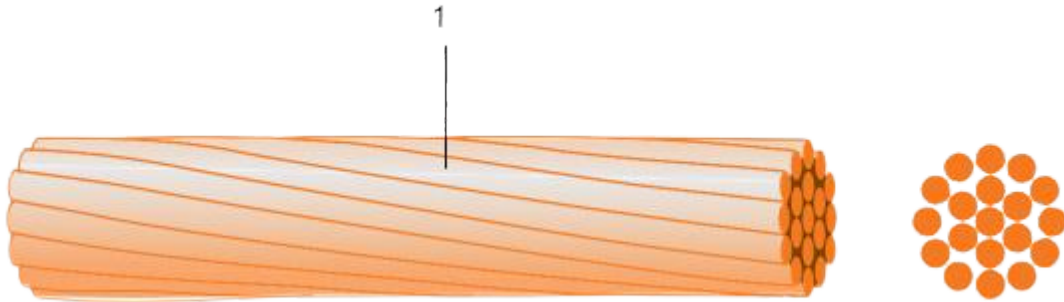
Approximate cable diameters are provided in this brochure in order to assist in the selection of installation accessories. However as finished diameters can sometimes vary, please contact our technical department for actual dimensions of all finished products. Similarly, cable weights can vary, and the data supplied should be considered as approximate.

As it is company policy to continually improve our products, we reserve the right to alter specifications and data shown in this brochure without prior notice.





1. Bare Copper Conductor



DESCRIPTION

Plain bare soft drawn, stranded copper conductors, per IEC 60228, class 2. Sizes: 2.5 to 500 mm²

FEATURES

Highest conductivity per unit area of all metals to conduct electricity.

Excellent corrosion resistance.

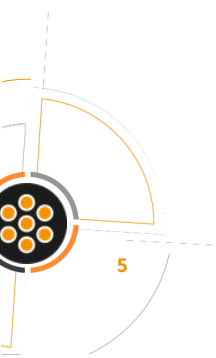
Flexible, easily worked and framed into place.

Totally recyclable with high scrap value.

APPLICATION

Soft drawn copper conductors are used for grounding electrical systems, where high conductivity and flexibility is required.

Note: In the interests of product improvement, SCC reserves the right to alter cable specifications.



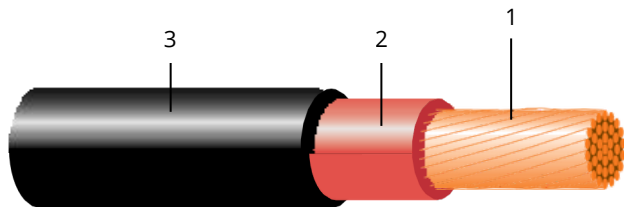


DIMENSIONS AND WEIGHTS

Conductor				Packing	
Nominal Cross Sectional Area (mm ²)	Number and Nominal dia. of Wires (mm)	Overall Diameter Approx. (mm)	Max. DC Resistance at 20°C (ohm/km)	Net Weight Approx. (kg/km)	Standard Package (m+/-5%)
2.5	7x0.66	1.9	7.4100	21.0	9000
4	7x0.84	2.4	4.6100	33.4	5000
6	7x1.02	3.0	3.0800	50.4	8000
10	7x1.37	3.75	1.8300	84.5	9000
16	7x1.75	4.75	1.1500	134.5	5000
25	7x2.22	6.0	0.7270	213	3600
35	7x2.62	7.0	0.5240	296	2500
50	19x1.85	8.3	0.3870	401	2500
70	19x2.22	10.0	0.2680	578	2400
95	19x2.62	11.5	0.1930	808	2500
120	37x2.14	12.8	0.1530	1015	2000
150	37x2.34	14.2	0.1240	1263	1000
185	37x2.62	16.4	0.0991	1585	1000
240	61x2.34	18.6	0.0754	2085	1000
300	61x2.62	21.0	0.0601	2629	1000
400	61x2.94	23.5	0.0470	3365	500
500	61x3.36	26.6	0.0366	4314	500

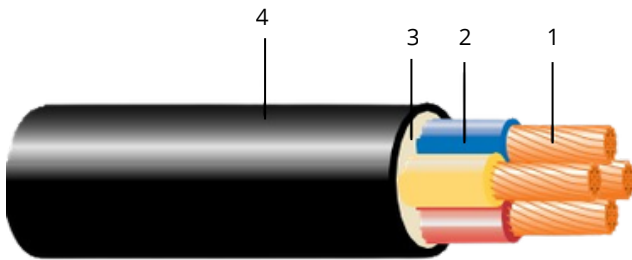


SINGLE CORE



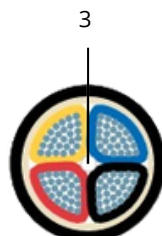
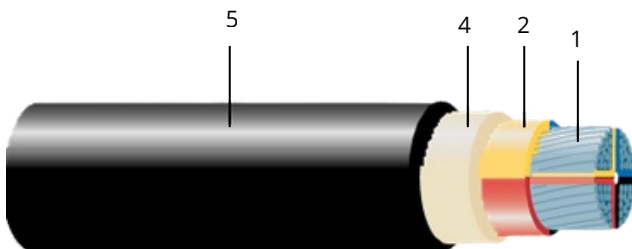
- 1. Stranded Conductor
- 2. PVC Insulation
- 3. PVC Sheath

MULTICORE CIRCULAR STRANDED CONDUCTOR



- 1. Stranded Copper Conductor
- 2. PVC Insulation
- 3. Extruded Bedding
- 4. PVC Sheath

MULTICORE SECTORAL STRANDED CONDUCTOR



- 1. Sectoral Aluminium
- 2. PVC Insulation
- 3. Centre Filler
- 4. Extruded bedding
- 5. PVC Sheath





DESCRIPTION

Single core and multicore cables with Copper or Aluminum conductors, PVC insulated, and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC 60502-1.

CONSTRUCTION

Conductor

Plain circular or sector, solid or stranded, Copper or Aluminum conductors, per IEC: 60228 class 1 and 2.

Insulation

Heat resistive PVC to BS 50363-3 rated 90°C for continuous operation (PVC to BS 50363-3 rated 70°C also available on request).

Sheath

PVC type ST2 to IEC 60502, Color black.

Assembly

Two, three or four insulated cores are laid up and filled with non-hygroscopic material compatible with the insulation.

Colors for core identification

Single core - red (black Color on request)

Two cores - red and black

Three cores - red, yellow and blue

Four cores - red, yellow, blue and black

APPLICATION

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

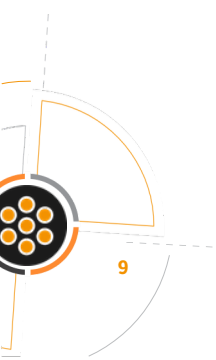
Note: In the interests of product improvement, SCC reserve the right to alter cable specifications.





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard package (m±5%)
Single Core						
1.5	1	0.8	1.4	5.0	41	1000/2000
1.5	7	0.8	1.4	5.4	44	1000/2000
2.5	1	0.8	1.4	5.6	53	1000/2000
2.5	7	0.8	1.4	5.8	57	1000/2000
4	1	1.0	1.4	6.0	78	1000/2000
4	7	1.0	1.4	6.7	82	1000/2000
6	1	1.0	1.4	7.2	100	1000/2000
6	7	1.0	1.4	7.5	105	1000/2000
10	1	1.0	1.4	7.8	145	1000/2000
10	7	1.0	1.4	8.1	149	1000/2000
16	6	1.0	1.4	9.3	222	1000/2000
25	6	1.2	1.4	11.0	324	500/1000
35	6	1.2	1.4	12.1	409	500/1000
50	6	1.4	1.4	13.8	570	500/1000
70	12	1.4	1.4	15.3	749	500/1000
95	15	1.6	1.5	18.2	1148	500/1000





DIMENSIONS AND WEIGHTS

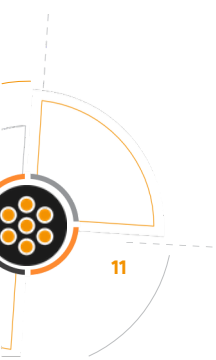
Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core						
120	18	1.6	1.5	19.1	1263	500/1000
150	18	1.8	1.6	21.0	1553	500/1000
185	30	2	1.7	23.5	1915	500
240	34	2.2	1.8	26.5	2529	500
300	34	2.4	1.9	29.3	3120	500
400	53	2.6	2	32.4	3970	500
500	53	2.8	2.1	36.0	5005	500
630	53	2.8	2.2	40.2	6378	500



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Two Core						
1.5sd	1.00	0.8	1.8	10.5	140	1000
1.5sd	7.00	0.8	1.8	10.9	144	1000
2.5sd	1.00	0.8	1.8	11.4	169	1000
2.5rm	7.00	0.8	1.8	11.7	173	1000
4sd	1.00	1.0	1.8	13.2	227	1000
4rm	7.00	1.0	1.8	13.5	232	1000
6sd	1.00	1.0	1.8	13.8	289	1000
6rm	7.00	1.0	1.8	14.9	294	1000
10sd	1.00	1.0	1.8	15.4	373	1000
10rm	7.00	1.0	1.8	16.1	378	1000
16rm	6.00	1.0	1.8	18.1	514	1000
25rm	6.00	1.2	1.8	21.2	739	1000
35rm	6.00	1.2	1.8	23.3	948	1000

SD: Solid Conductor RM: Round Multi-wire Conductor

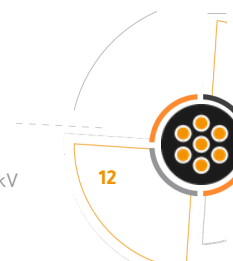




DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Three Core						
1.5sd	1	0.8	1.8	11.0	163	1000
1.5rm	7	0.8	1.8	11.2	166	1000
2.5sd	1	0.8	1.8	11.8	201	1000
2.5rm	7	0.8	1.8	12.1	205	1000
4sd	1	1.0	1.8	13.8	280	1000
4rm	7	1.0	1.8	14.0	284	1000
6sd	1	1.0	1.8	15.0	355	1000
6rm	7	1.0	1.8	15.3	359	1000
10sd	1	1.0	1.8	16.4	485	1000
10rm	7	1.0	1.8	16.8	491	1000
16rm	6	1.0	1.8	18.9	682	1000
25rm	6	1.2	1.8	22.3	1003	1000
35sm	6	1.2	1.8	22.8	1250	1000
50sm	6	1.4	1.8	25.4	1693	1000
70sm	12	1.4	1.9	29.5	2278	500
95sm	15	1.6	2.1	32.8	3105	500
120sm	18	1.6	2.2	35.6	3840	500
150sm	18	1.8	2.3	39.5	4725	500
185sm	30	2.0	2.5	44.3	5837	250/500
240sm	34	2.2	2.7	50.2	7687	250/500
300sm	34	2.4	2.9	54.9	9423	250
400sm	53	2.6	3.1	59.3	12160	250
500sm	53	2.8	3.4	65.7	15200	250

SD: Solid Conductor RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core						
1.5sd	1	0.8	1.8	11	196	1000
1.5rm	7	0.8	1.8	11.2	197	1000
2.5sd	1	0.8	1.8	12	243	1000
2.5rm	7	0.8	1.8	12.2	247	1000
4sd	1	1	1.8	14	343	1000
4rm	7	1	1.8	14.3	348	1000
6sd	1	1	1.8	15.3	440	1000
6rm	7	1	1.8	15.8	444	1000
10sd	1	1	1.8	17.2	613	1000
10rm	7	1	1.8	17.5	617	1000
16rm	6	1	1.8	19.8	867	1000
25rm	6	1.2	1.8	23.6	1286	1000
35sm	6	1.2	1.8	25	1685	500
50sm	6	1.4	1.9	29.4	2246	500
70sm	12	1.4	2.1	33	3076	500
95sm	15	1.6	2.2	38	4100	500
120sm	18	1.6	2.3	41.6	5050	500
150sm	18	1.8	2.5	46.3	6219	250
185sm	30	2	2.7	51	7635	250
240sm	34	2.2	2.9	57.8	10077	250
300sm	34	2.4	3.1	63.9	12428	250
400sm	53	2.6	3.4	70.5	16044	250
500sm	53	2.8	3.6	77.6	19900	250

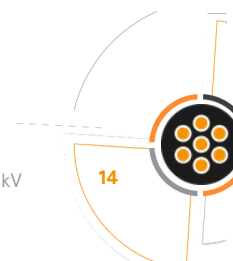
SD: Solid Conductor RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor				Insulation		Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)		Minimum Number of Wires		Nominal Thickness (mm)		Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Ph	Ne	Ph	Ne	Ph	Ne				
Four Core With reduced neutral									
10rm	6rm	7	7	1	1	1.8	17.5	579	500/1000
16rm	10rm	6	7	1	1	1.8	19.9	812	500/1000
25rm	16rm	6	7	1.2	1	1.8	23.7	1192	500/1000
35sm	16rm	6	6	1.2	1	1.8	24	1425	500/1000
50sm	25rm	6	6	1.4	1.2	1.9	28	1965	500/1000
70sm	35rm	12	6	1.4	1.2	2	31.4	2648	500/1000
95sm	50rm	15	19	1.6	1.4	2.2	36.4	3600	500
120sm	70rm	18	19	1.6	1.4	2.3	39.9	4545	500
150sm	70rm	18	19	1.8	1.4	2.4	43.4	5420	250
185sm	95rm	30	19	2	1.6	2.6	48.3	6800	250
240sm	120rm	34	37	2.2	1.6	2.8	54.2	8880	250
300sm	150rm	34	37	2.4	1.8	3	60	10910	250
400sm	185rm	53	37	2.6	2	3.2	67.5	13880	250
500sm	240rm	53	61	2.8	2.2	3.5	75.3	17600	250

SD - Solid Conductor SM - Sectoral Mult-Wire Conductor





DIMENSIONS AND WEIGHTS

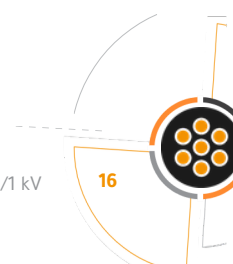
Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core						
16	7	1.0	1.4	9.4	131	1000/2000
25	6	1.2	1.4	11.0	180	500/1000
35	6	1.2	1.4	12.1	219	500/1000
50	6	1.4	1.4	14.1	288	500/1000
70	12	1.4	1.4	15.6	359	500/1000
95	15	1.6	1.5	18.0	483	500/1000
120	15	1.6	1.5	20.5	591	500/1000
150	15	1.8	1.6	21.4	692	500/1000
185	30	2.0	1.7	23.6	849	500
240	30	2.2	1.8	26.4	1076	500
300	30	2.4	1.9	29.2	1320	500
400	53	2.6	2.0	32.5	1645	500
500	53	2.8	2.1	36.2	2071	250
630	53	2.8	2.2	40.0	2543	250



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Two core						
16rm	7	1	1.8	15.6	322	1000
25rm	6	1.2	1.8	18.8	432	1000
35rm	6	1.2	1.8	20.9	520	1000
Three core						
16rm	7	1.0	1.8	17.6	289	500/1000
25rm	6	1.2	1.8	20.3	403	500/1000
35rm	6	1.2	1.8	22.8	488	500/1000
50sm	6	1.4	1.8	26.7	632	500/1000
70sm	12	1.4	1.9	30.0	840	500/1000
95sm	15	1.6	2.1	34.4	1112	500/1000
120sm	15	1.6	2.2	37.6	1358	500/1000
150sm	15	1.8	2.3	41.7	1641	500/1000
185sm	30	2.0	2.5	46.5	2023	250/1000
240sm	30	2.2	2.7	52.4	2590	250/500
300sm	30	2.4	2.9	57.9	3184	250/500
400sm	53	2.6	3.1	65.9	4050	250
500sm	53	2.8	3.4	72.7	5125	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Cross Sectional Area Nominal (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core						
16rm	7	1.0	1.8	20.0	480	500/1000
25rm	6	1.2	1.8	23.6	680	500/1000
35sm	6	1.2	1.8	25.1	821	500/1000
50sm	6	1.4	1.9	29.2	1090	500/1000
70sm	12	1.4	2.1	32.9	1346	500/1000
95sm	15	1.6	1.2	37.6	1846	500/1000
120sm	15	1.6	2.3	39.9	2217	500/1000
150sm	15	1.8	2.5	44.5	2698	250/ 1000
185sm	30	2.0	2.7	50.3	3320	250/500
240sm	30	2.2	2.9	56.5	4244	250/500
300sm	30	2.4	3.1	62.6	5214	250
400sm	53	2.6	3.4	70.8	6598	250
500sm	53	2.8	3.6	78.8	8292	250

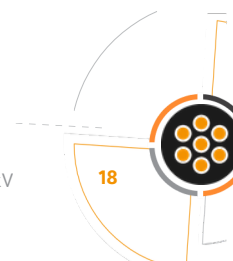
RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

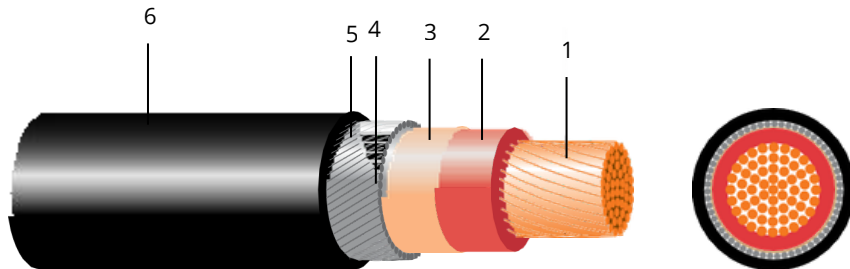
Conductor				Insulation		Outer sheath		Packaging	
Cross Sectional Area Nominal (mm ²)		Minimum Number of Wires		Nominal Thickness (mm)		Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Ph	Ne	Ph	Ne	Ph	Ne				
Four Core With reduced neutral									
25rm	16rm	7	7	1.2	1	1.8	23.8	631	500/1000
35sm	16rm	6	7	1.2	1	1.8	24.8	727	500/1000
50sm	25rm	6	6	1.4	1.2	1.9	28.9	982	500
70sm	35rm	12	6	1.4	1.2	2.9	32.2	1249	500
95sm	50rm	15	6	1.6	1.4	2.2	36.7	1668	500
120sm	70rm	15	12	1.6	1.4	2.3	39.6	2025	500
150sm	70rm	15	12	1.8	1.4	2.4	44.2	2380	250
185sm	95rm	30	15	2	1.6	2.6	49.5	2980	250
240sm	120rm	30	15	2.2	1.6	2.8	55.4	3760	250
300sm	150rm	30	15	2.4	1.8	3	61.2	4600	250
400sm	185rm	53	30	2.6	2	3.2	69.1	5800	250
500sm	240rm	53	30	2.8	2.2	3.5	76.5	7300	250

RM: Round Multi-wire Conductor SM: Sectoral Mult-Wire Conductor.



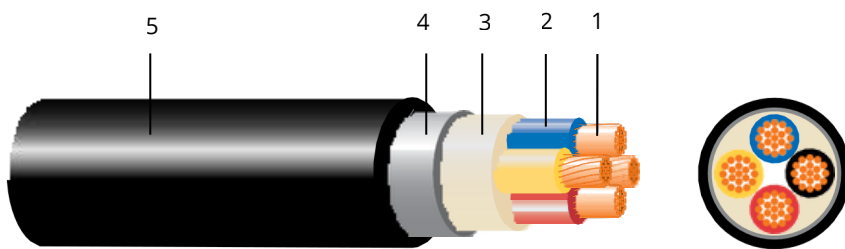


SINGLE CORE



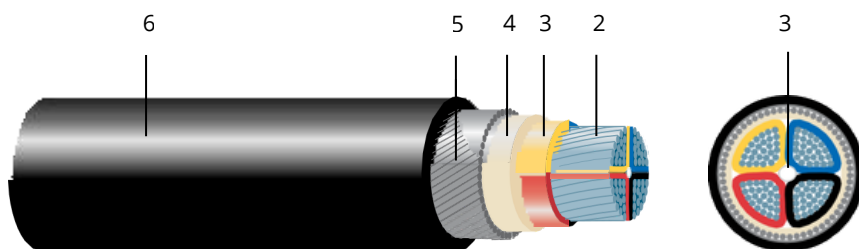
1. Stranded Copper Conductor
2. PVC Insulation
3. Bedding tape
4. Armour (AW)
5. Non-hygroscopic separation tape
6. PVC Sheath

MULTICORE CIRCULAR STRANDED CONDUCTOR

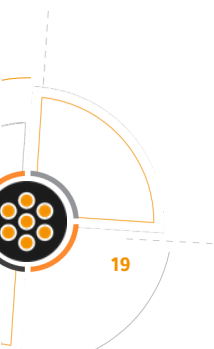


1. Stranded Copper Conductor
2. PVC Insulation
3. Extruded Bedding
4. Double Steel Tape Armour
5. PVC Sheath

MULTICORE SECTORAL STRANDED CONDUCTOR



1. Sectoral Aluminium Conductor
2. PVC Insulation Centre
3. Filling
4. Extruded Bedding Round
5. Steel Wire Armour PVC
6. PVC Sheath





DESCRIPTION

Single core and multicore cables with Copper or Aluminum conductors, PVC insulated, armored and PVC sheathed. Cables are rated 0.6/1 KV and conform 1-to IEC: 60502-1.

CONSTRUCTION

Conductor

Plain circular or sector, solid or stranded, copper or Aluminum conductors, per IEC: 60228 class 1 and 2.

Insulation

Heat resistive PVC to BS 50363-3 rated 90°C for continuous operation (PVC type 1 to BS 50363-3 rated 70°C also available on request).

Assembly and bedding

Two, three or four insulated cores are laid up, filled with non-hygroscopic material compatible with the insulation and covered with layer of PVC bedding which may be an integral part of the filling (the bedding for single core cable shall consist of taped bedding).

Armour

For single core cables, a layer of aluminum wires applied concentrically over taped bedding. For multicore cables, galvanized steel tape or galvanized steel wires applied helically over PVC bedding.

Sheath

PVC type ST2 to IEC 60502, color black.

Colors for core identification

Single core - red (black Color on request)

Two cores - red and black

Three cores - red, yellow and blue

Four cores - red, yellow, blue and black

APPLICATION

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



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Cross Sectional Area Nominal (mm ²)	Minimum Number of Wires	Nominal Thickness of Insulation (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Sheath (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Two Core							
1.5	7	0.8	0.2	1.8	13.6	262	1000
2.5	7	0.8	0.2	1.8	14.5	301	1000
4	7	1	0.2	1.8	16.5	358	1000
6	7	1	0.2	1.8	17.8	457	1000
10	7	1	0.2	1.8	19.3	571	1000
16	7	1	0.2	1.8	21.5	739	1000
25	7	1.2	0.2	1.8	24.9	1019	1000
35	7	1.2	0.2	1.8	27.2	1257	1000
Three Core							
1.5rm	7	0.8	0.2	1.8	13.7	272	1000
2.5rm	7	0.8	0.2	1.8	14.6	319	1000
4rm	7	1	0.2	1.8	16.6	418	1000
6sd	1	1	0.2	1.8	17.5	500	1000
6rm	7	1	0.2	1.8	18	507	1000
10sd	1	1	0.2	1.8	19.2	650	1000
10rm	7	1	0.2	1.8	19.5	656	1000

SD: Solid Conductor RM: Round Multi-wire Conductor



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Cross Sectional Area Nominal (mm ²)	Minimum Number of Wires	Nominal Thickness of Insulation (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Sheath (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Three Core							
16rm	7	1	0.2	1.8	21.8	872	1000
25rm	7	1.2	0.2	1.8	25.3	1233	1000
35sm	6	1.2	0.2	1.8	27.5	1521	1000
50sm	6	1.4	0.2	1.9	31.6	2000	1000
70sm	12	1.4	0.2	2	35.5	2952	1000
95sm	15	1.6	0.5	2.2	40.3	3899	500
120sm	18	1.6	0.5	2.3	43.7	4707	500
150sm	18	1.8	0.5	2.5	48	5702	500
185sm	30	2	0.5	2.6	53	6918	250
240sm	34	2.2	0.5	2.8	59.3	8945	250
300sm	34	2.4	0.5	3	65.1	10895	250
400sm	53	2.6	0.5	3.3	73	13359	250
500sm	53	2.8	0.5	3.5	80.8	17317	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness of Insulation (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Sheath (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core							
1.5rm	7	0.8	0.2	1.8	14.2	294	1000
2.5rm	7	0.8	0.2	1.8	15.2	353	1000
4rm	7	1	0.2	1.8	18.9	474	1000
6sd	1	1	0.2	1.8	18.3	573	1000
6rm	7	1	0.2	1.8	18.7	579	1000
10sd	1	1	0.2	1.8	20.3	770	1000
10rm	7	1	0.2	1.8	20.7	777	1000
16rm	7	1	0.2	1.8	23	1047	1000
25rm	7	1.2	0.2	1.8	26.7	1504	1000
35sm	6	1.2	0.2	1.9	27.5	1932	500
50sm	6	1.4	0.2	2	32	2826	500
70sm	12	1.4	0.5	2.2	35.7	3742	500
95sm	15	1.6	0.5	2.4	41	4972	500
120sm	18	1.6	0.5	2.5	44.8	6027	250
150sm	18	1.8	0.5	2.6	50	7345	250
185sm	30	2	0.5	2.8	55	8909	250
240sm	34	2.2	0.5	3	60.8	11567	250
300sm	34	2.4	0.5	3.2	68.3	14124	250
400sm	53	2.6	0.5	3.5	77.5	17934	250
500sm	53	2.8	0.8	3.8	85.5	23063	250

SD: Solid Conductor RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor				Insulation		Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)		Minimum Number of Wires		Nominal Thickness (mm)		Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
10rm	6rm	7	7	1	1	0.2	1.8	20.3	830	1000
16rm	10rm	6	7	1	1	0.2	1.8	21.8	1000	1000
25rm	16rm	6	6	1.2	1	0.2	1.8	25.7	1412	1000
35sm	16rm	6	6	1.2	1	0.2	1.8	26.9	1716	500
50sm	25rm	6	6	1.4	1.2	0.2	1.9	31.3	2313	500
70sm	35rm	12	6	1.4	1.2	0.2	2.1	34.8	3408	500
95sm	50rm	15	6	1.6	1.4	0.5	2.3	39.9	4505	500
120sm	70rm	18	12	1.6	1.4	0.5	2.4	43.7	5533	250
150sm	70rm	18	12	1.8	1.4	0.5	2.5	47.2	6507	250
185sm	95rm	30	15	2	1.6	0.5	2.7	52.8	8018	250
240sm	120rm	34	18	2.2	1.6	0.5	2.9	58.9	10283	250
300sm	150rm	34	18	2.4	1.8	0.5	3.1	64.9	12534	250
400sm	185rm	53	30	2.6	2	0.5	3.3	73	15791	250
500sm	240rm	53	34	2.8	2.2	0.8	3.6	80.9	20022	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

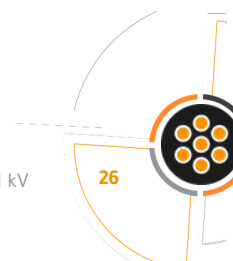
Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Dia of Aluminum Wire (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core							
35	6	1.2	1.6	1.8	18	648	1000
50	6	1.4	1.6	1.8	19.8	819	1000
70	12	1.4	1.6	1.8	21.4	1053	1000
95	15	1.6	1.6	1.8	23.9	1376	1000
120	18	1.6	1.6	1.8	25.3	1639	1000
150	18	1.8	1.6	1.8	27.3	1969	500
185	30	2	1.6	1.8	29.9	2383	500
240	34	2.2	1.6	1.9	33	3064	500
300	34	2.4	2	2	35.9	3721	500
400	53	2.6	2	2.1	39.1	4647	500
500	53	2.8	2	2.2	43.6	5868	500
630	53	2.8	2	2.4	48.1	7360	500



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area mm ²	Minimum Number of Wires	Nominal Thickness mm	Nominal Diameter of Steel Wire mm	Nominal Thickness mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Package m±5%
Two Core							
1.5	7	0.8	1.25	1.8	13.6	419	1000
2.5	7	0.8	1.25	1.8	14.5	467	1000
4	7	1	1.25	1.8	16.4	568	1000
6	7	1	1.25	1.8	17.6	649	1000
10	6	1	1.25	1.8	19.1	775	1000
16	6	1	1.25	1.8	21.2	956	1000
25rm	7	1.2	1.25	1.8	24.6	1259	500
35rm	7	1.2	1.25	1.8	26.9	1527	500

RM: Round Multi-wire Conductor

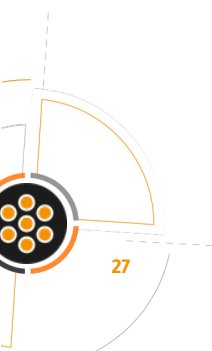




DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Diameter of Steel Wire (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Three Core							
1.5	7	0.8	1.25	1.8	13.6	431	1000
2.5	7	0.8	1.25	1.8	14.6	491	1000
4	7	1	1.25	1.8	16.7	617	1000
6	7	1	1.25	1.8	18.1	723	1000
10	6	1	1.25	1.8	19.8	893	1000
16	6	1	1.25	1.8	22.2	1139	1000
25rm	7	1.2	1.25	1.8	25.9	1545	500
35sm	6	1.2	1.25	1.8	27.8	184	500
50sm	6	1.4	1.6	2	32.5	2530	500
70sm	12	1.4	1.6	2.1	35.9	3248	500
95sm	15	1.6	1.6	2.2	40.6	4227	400
120sm	18	1.6	2	2.3	44.8	5380	500
150sm	18	1.8	2	2.5	49	6436	500
185sm	30	2	2	2.7	54	7722	500
240sm	34	2.2	2	2.9	60.2	9836	500
300sm	34	2.4	2.5	3.1	66.9	12397	250
400sm	53	2.6	3.15	3.4	76.6	16217	250
500sm	53	2.8	3.15	3.6	83.7	19820	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.

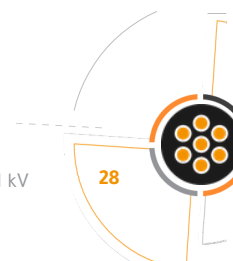




DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area mm ²	Minimum Number of Wires	Nominal Thickness mm	Nominal Diameter of Steel Wire mm	Nominal Thickness mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Package m±5%
Four core							
1.5	7	0.8	1.25	1.8	14.5	489	1000
2.5	7	0.8	1.25	1.8	15.6	564	1000
4	7	1	1.25	1.8	18	720	1000
6	7	1	1.25	1.8	19.5	854	1000
10	6	1	1.25	1.8	21.4	1071	1000
16	6	1	1.25	1.8	24	1386	500
25rm	7	1.2	1.25	1.8	28.2	1854	500
35sm	6	1.2	1.25	1.9	30.3	2482	500
50sm	6	1.4	1.6	2.1	35	3394	500
70sm	12	1.4	1.6	2.2	37.6	4311	500
95sm	15	1.6	2	2.4	44	5670	500
120sm	18	1.6	2	2.5	48.1	7170	500
150sm	18	1.8	2	2.7	53.3	8458	250
185sm	30	2	2	2.9	58.2	10331	250
240sm	34	2.2	2.5	3.1	64.3	13093	250
300sm	34	2.4	2.5	3.3	70.3	15712	250
400sm	53	2.6	3.15	3.6	82	20660	250
500sm	53	2.8	3.15	3.9	90.3	25300	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.





DIMENSIONS AND WEIGHTS

Conductor				Insulation		Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)		Minimum Number of Wires		Nominal Thickness (mm)		Nominal Diameter of Steel Wire (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
16rm	10rm	7	7	1	1	1.25	1.8	24.5	1439	1000
25rm	16rm	6	7	1.2	1	1.25	1.8	28.3	1891	500
35sm	16rm	6	6	1.2	1	1.25	1.9	29.4	2075	500
50sm	25rm	6	6	1.4	1.2	1.6	2	34.3	2858	500
70sm	35rm	12	6	1.4	1.2	1.6	2.1	37.6	3665	500
95sm	50rm	15	6	1.6	1.4	2	2.3	43.2	5024	500
120sm	70rm	18	12	1.6	1.4	2	2.4	47	6131	500
150sm	70rm	18	12	1.8	1.4	2	2.6	50.6	7147	500
185sm	95rm	30	15	2	1.6	2	2.7	56.1	8724	250
240sm	120rm	34	18	2.2	1.6	2.5	2.9	63.3	11552	250
300sm	150rm	34	18	2.4	1.8	2.5	3.1	69.3	13913	250
400sm	185rm	53	30	2.6	2	3.15	3.4	78.9	18057	250
500sm	240rm	53	34	2.8	2.2	3.15	3.7	86.6	22291	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area mm ²	Minimum Number of Wires	Nominal Thickness mm	Nominal Thickness of Steel Tape mm	Nominal Thickness mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Package m±5%
Two core							
16rm	7	1	0.2	1.8	18.7	453	1000
25rm	6	1.2	0.2	1.8	22	604	500/1000
35rm	6	1.2	0.2	1.8	24.4	718	500/1000
Three core							
16rm	7	1	0.2	1.8	20.6	581	500/1000
25rm	6	1.2	0.2	1.8	24.1	784	500/1000
35sm	6	1.2	0.2	1.8	26	911	500/1000
50sm	6	1.4	0.2	1.9	30	1172	500
70sm	12	1.4	0.2	2	33.4	1759	500
95sm	15	1.6	0.5	2.2	38.1	2229	500
120sm	18	1.6	0.5	2.3	41.5	2598	500
150sm	18	1.8	0.5	2.5	45.7	3071	250
185sm	30	2	0.5	2.6	50.7	3686	250
240sm	30	2.2	0.5	2.8	56.8	4561	250
300sm	30	2.4	0.5	3	62.5	5462	250
400sm	53	2.6	0.5	3.3	70.8	6769	250
500sm	53	2.8	0.5	3.5	78	9021	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness of Insulation (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Sheath (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four core							
16rm	7	1	0.2	1.8	22.5	695	500/1000
25rm	6	1.2	0.2	1.8	26.4	949	500/1000
35sm	6	1.2	0.2	1.9	28.8	1109	500
50sm	6	1.4	0.5	2	33.1	1745	500
70sm	12	1.4	0.5	2.2	36.8	2133	500
95sm	15	1.6	0.5	2.4	42.1	2724	500
120sm	18	1.6	0.5	2.5	45.8	3192	250
150sm	18	1.8	0.5	2.6	51	3810	250
185sm	30	2	0.5	2.8	56.1	4567	250
240sm	30	2.2	0.5	3	63	5682	250
300sm	30	2.4	0.5	3.2	69.3	6835	250
400sm	53	2.6	0.5	3.5	78.6	9250	250
500sm	53	2.8	0.8	3.8	86.6	11270	250

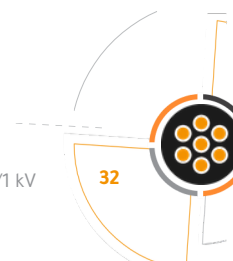
RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

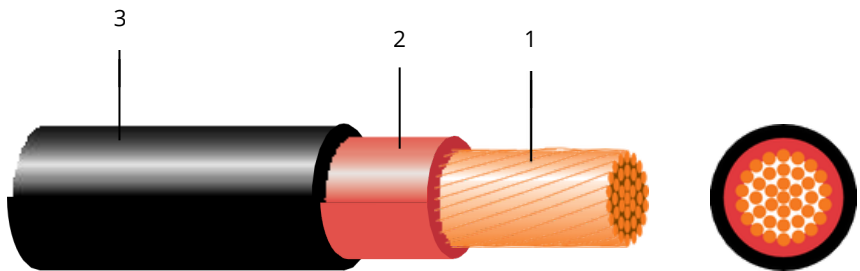
Conductor				Insulation		Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area mm ²		Minimum Number of wires		Nominal Thickness of Insulation mm		Nominal Thickness of Steel Tape mm	Nominal Thickness of Sheath mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Package m±5%
Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
25rm	16rm	7	7	1.2	1	0.2	1.8	26.5	910	500/1000
35sm	16rm	6	7	1.2	1	0.2	1.8	26.9	999	500/1000
50sm	25rm	6	6	1.4	1.2	0.2	1.9	31.3	1308	500/1000
70sm	35rm	12	6	1.4	1.2	0.5	2.1	34.8	1943	500/1000
95sm	50rm	15	6	1.6	1.4	0.5	2.3	39.9	2479	500/1000
120sm	70rm	18	12	1.6	1.4	0.5	2.4	43.7	2928	250/500
150sm	70rm	18	12	1.8	1.4	0.5	2.5	47.2	3371	250/500
185sm	95rm	30	15	2	1.6	0.5	2.7	52.8	4109	250/500
240sm	120rm	30	15	2.2	1.6	0.5	2.9	58.9	5059	250
300sm	150rm	30	15	2.4	1.8	0.5	3.1	64.9	6071	250
400sm	185rm	53	30	2.6	2	0.5	3.3	73.1	7505	250
500sm	240rm	53	30	2.8	2.2	0.8	3.6	80.9	10000	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



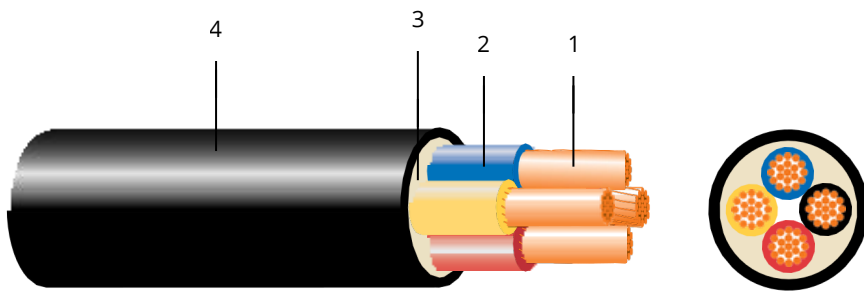


SINGLE CORE



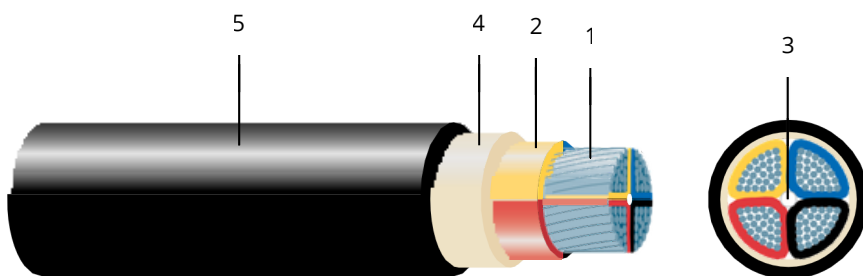
- 1. Stranded Conductor
- 2. XLPE Insulation
- 3. PVC Sheath

MULTICORE CIRCULAR STRANDED CONDUCTOR

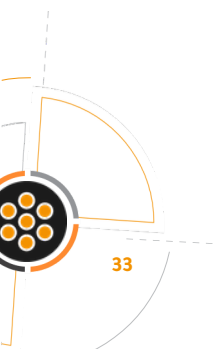


- 1. Stranded Copper Conductor
- 2. XLPE Insulation
- 3. Extruded bedding
- 4. PVC Outer sheath

MULTICORE SECTORAL STRANDED CONDUCTOR



- 1. Stranded Copper Conductor
- 2. XLPE Insulation
- 3. Center Filler
- 4. Extruded PVC Bedding
- 5. PVC Sheath





DESCRIPTION

Single core and multicore cables with Copper or Aluminum conductors, XLPE insulated, and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC 60502-1.

CONSTRUCTION

Conductor

Plain circular or sector, solid or stranded, copper or aluminum conductors, per IEC: 60228 class 1 and 2.

Insulation

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

Assembly

Two, three or four insulated cores are laid up and filled with non-hygroscopic material compatible with the insulation.

Sheath

PVC type ST2 to IEC 60502-1, color black.

Colors for core identification

- Single core - red (black Color on request)
 - Two cores - red, and black
 - Three cores - red, yellow and blue
 - Four cores - red, yellow, blue and black
-

APPLICATION

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



DIMENSIONS AND WEIGHTS

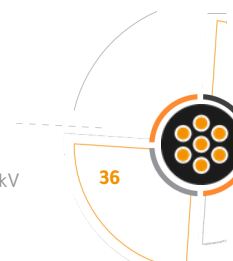
Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core						
1.5	1	0.7	1.4	5	36	1000
1.5	7	0.7	1.4	5.3	38	1000
2.5	1	0.7	1.4	5.4	47	1000
2.5	7	0.7	1.4	5.7	49	1000
4	1	0.7	1.4	6	62	1000
4	7	0.7	1.4	6.3	66	1000
6	1	0.7	1.4	6.6	85	1000
6	7	0.7	1.4	6.9	88	1000
10	7	0.7	1.4	7.6	129	1000
16	6	0.7	1.4	8.7	188	1000
25	6	0.9	1.4	10.3	285	1000
35	6	0.9	1.4	11.4	382	1000
50	19	1	1.4	13	508	1000
70	19	1.1	1.4	14.7	704	1000
95	19	1.1	1.5	16.7	956	1000
120	37	1.2	1.5	18.3	1215	1000
150	37	1.4	1.6	20.2	1452	1000
185	37	1.6	1.6	23	1855	1000
240	34	1.7	1.7	25.4	2386	500
300	34	1.8	1.8	28.1	2980	500



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area mm ²	Minimum Number of Wires	Nominal Thickness mm	Nominal Thickness mm	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard Package m±5%
Single Core						
400	53	2	1.9	31.1	3796	500
500	53	2.2	2	34.6	4773	500
630	53	2.4	2.2	39.4	6145	500
Two Core						
1.5sd	1	0.7	1.8	10.2	140	1000
1.5rm	7	0.7	1.8	10.5	143	1000
2.5sd	1	0.7	1.8	11	173	1000
2.5rm	7	0.7	1.8	11.3	176	1000
4sd	1	0.7	1.8	12	220	1000
4rm	7	0.7	1.8	12.3	223	1000
6sd	1	0.7	1.8	13.3	280	1000
6rm	7	0.7	1.8	13.7	286	1000
10rm	7	0.7	1.8	14.9	388	1000
16rm	6	0.7	1.8	16.8	560	1000
25rm	6	0.9	1.8	20	672	1000
35rm	6	0.9	1.8	22.1	873	1000

SD: Solid Conductor RM: Round Multi-wire Conductor





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Three core						
1.5sd	1	0.7	1.8	10.5	162	1000
1.5rm	7	0.7	1.8	10.8	165	1000
2.5sd	1	0.7	1.8	11.3	203	1000
2.5rm	7	0.7	1.8	11.6	207	1000
4sd	1	0.7	1.8	12.3	263	1000
4rm	7	0.7	1.8	12.7	268	1000
6sd	1	0.7	1.8	13.5	342	1000
6rm	7	0.7	1.8	14	348	1000
10rm	7	0.7	1.8	15.5	487	1000
16rm	6	0.7	1.8	17.6	692	1000
25rm	6	0.9	1.8	21	1015	1000
35sm	6	0.9	1.8	21.4	1152	1000
50sm	6	1	1.8	23.2	1525	500
70sm	12	1.1	1.9	28.5	2200	500
95sm	15	1.1	2	29.8	2852	500
120sm	18	1.2	2.1	33	3608	500
150sm	18	1.4	2.3	37	4372	500
185sm	30	1.6	2.4	44.2	5596	250
240sm	34	1.7	2.6	46	7088	250
300sm	34	1.8	2.8	50.9	8778	250
400sm	53	2	3	60.1	11327	250
500sm	53	2.2	3.3	67	14312	250

SD: Solid Conductor RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core						
1.5sd	1	0.7	1.8	10.4	170	1000
1.5rm	7	0.7	1.8	10.7	173	1000
2.5sd	1	0.7	1.8	11.4	216	1000
2.5rm	7	0.7	1.8	11.7	219	1000
4sd	1	0.7	1.8	12.6	284	1000
4rm	7	0.7	1.8	12.9	288	1000
6sd	1	0.7	1.8	14.1	373	1000
6rm	7	0.7	1.8	14.3	377	1000
10rm	7	0.7	1.8	16	487	1000
16rm	6	0.7	1.8	18.4	777	1000
25rm	6	0.9	1.8	22.2	1183	1000
35sm	6	0.9	1.8	23.9	1531	500
50sm	6	1	1.9	26.3	1952	500
70sm	12	1.1	2	29.8	2760	500
95sm	15	1.1	2.1	35	3747	500
120sm	18	1.2	2.3	39.3	4746	500
150sm	18	1.4	2.4	43.3	5832	500
185sm	30	1.6	2.6	49.4	6058	250
240sm	34	1.7	2.8	53.5	9444	250
300sm	34	1.8	3	59.7	11831	250
400sm	53	2	3.3	68.8	15200	250
500sm	53	2.2	3.5	74.5	18960	250

SD: Solid Conductor RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core						
16	7	0.7	1.4	9	108	1000
25	6	0.9	1.4	10.5	149	1000
35	6	0.9	1.4	11.5	185	1000
50	6	1	1.4	13.3	238	1000
70	12	1.1	1.4	15.4	318	1000
95	15	1.1	1.5	18	480	1000
120	15	1.2	1.5	19.7	509	1000
150	15	1.4	1.6	20.6	624	1000
185	30	1.6	1.6	22.5	733	1000
240	30	1.7	1.7	25	925	500
300	30	1.8	1.8	27.5	1127	500
400	53	2	1.9	31.4	1475	500
500	53	2.2	2	34.5	1800	500
630	53	2.4	2.2	39	2286	500
Two core						
16rm	7	0.7	1.8	16	270	1000
25rm	6	0.9	1.8	19	365	1000
35rm	6	0.9	1.8	21.1	445	1000

RM: Round Multi-wire Conductor



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Three core						
16rm	7	0.7	1.8	17.8	312	1000
25rm	6	0.9	1.8	21	447	1000
35sm	6	0.9	1.8	22.8	555	1000
50sm	6	1	1.8	25.9	722	500
70sm	12	1.1	1.9	29.5	958	500
95sm	15	1.1	2	33.2	1240	500
120sm	15	1.2	2.1	37.1	1527	500
150sm	15	1.4	2.3	41.2	1856	500
185sm	30	1.6	2.4	45.6	2289	250
240sm	30	1.7	2.6	51.6	2967	250
300sm	30	1.8	2.8	50.9	3420	250
400sm	53	2	3	64.8	4592	250
500sm	53	2.2	3.3	71.7	5795	250
Four Core						
16rm	7	0.7	1.8	18.6	378	1000
25rm	7	0.9	1.8	22.2	550	1000
35sm	6	0.9	1.8	24.1	688	500
50sm	6	1	1.9	27.7	900	500
70sm	12	1.1	2	30.8	1203	500
95sm	15	1.1	2.1	35.9	1567	500
120sm	15	1.2	2.3	38.2	1880	500
150sm	15	1.4	2.4	43.6	2393	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

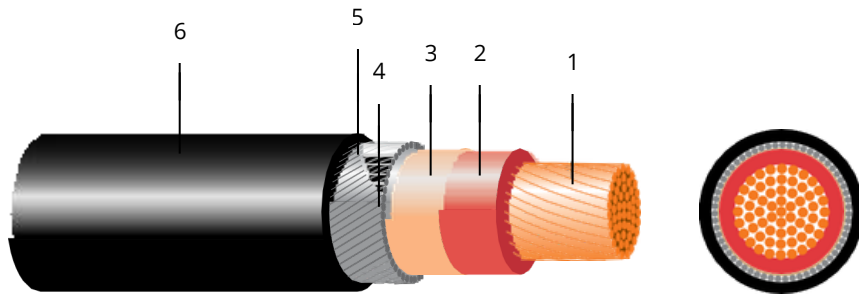
Conductor		Insulation	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
185sm	30	1.6	2.6	48.8	2977	250
240sm	30	1.7	2.8	54.6	3863	250
300sm	30	1.8	3	60.2	4703	250
400sm	55	2	3.3	68.3	5830	250
500sm	53	2.2	3.5	77.3	7594	250

Ph	Ne	Ph	Ne	Ph	Ne				
Four Core With reduced neutral									
25rm	16rm	6	7	0.9	0.7	1.8	23.0	543	1000
35sm	16rm	6	7	0.9	0.7	1.8	23.4	631	500
50sm	25rm	6	6	1.0	0.9	1.8	26.9	824	500
70sm	35rm	12	6	1.1	0.9	1.9	30.7	1091	500
95sm	50rm	15	6	1.1	1.0	2.1	34.7	1421	500
120sm	70rm	15	12	1.2	1.1	2.2	38.8	1779	500
150sm	70rm	15	12	1.4	1.1	2.3	42.3	2097	500
185sm	95rm	30	15	1.6	1.1	2.5	47.4	2669	250
240sm	120rm	30	15	1.7	1.2	2.7	53	3374	250
300sm	150rm	30	15	1.8	1.4	2.9	58.3	4119	250
400sm	185rm	53	30	2.0	1.6	3.1	66.3	5215	250
500sm	240rm	53	30	2.2	1.7	3.4	73.6	6603	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.

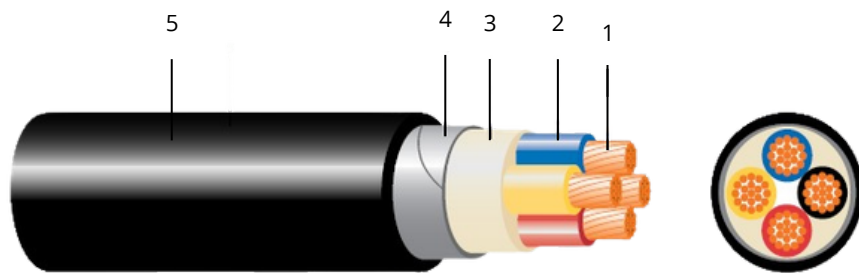


SINGLE CORE



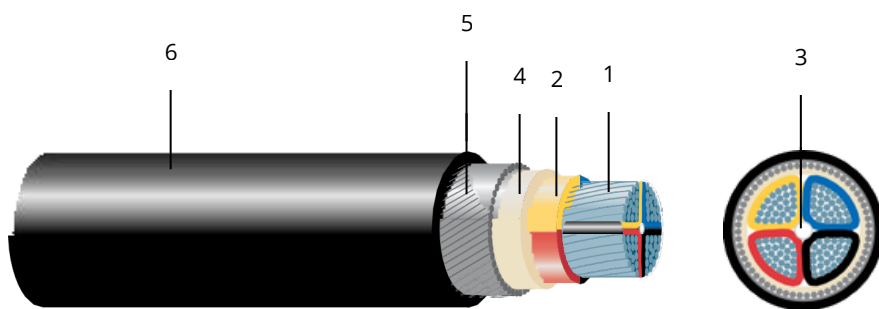
1. Stranded Copper Conductor
2. XLPE Insulation
3. Bedding tape
4. Armour (AW)
5. Non-hygroscopic separation tape
6. PVC Sheath

MULTICORE CIRCULAR STRANDED

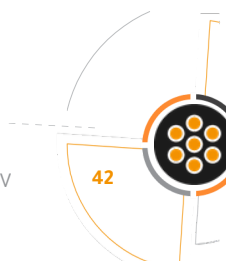


1. Stranded Copper Conductor
2. XLPE Insulation
3. Extruded Bedding
4. Double Steel Tape Armour
5. PVC Sheath

MULTICORE SECTORAL STRANDED



1. Sectoral Aluminium Conductor
2. XLPE Insulation
3. Centre Filling
4. Extruded Bedding
5. Round Steel Wire Armour
6. PVC Sheath





DESCRIPTION

Single core and multicore cables with Copper or Aluminum conductors, XLPE insulated, armored and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC 60502-1.

CONSTRUCTION

Conductor

Plain circular or sector, solid or stranded, Copper or Aluminum conductors, per IEC: 60228 class 1 and 2.

Insulation

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

Assembly and bedding

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

Armour

For single core cables, a layer of Aluminum wires applied concentrically over bedding. For multicore cables, galvanized steel tape or galvanized steel wires applied helically over PVC bedding.

Sheath

PVC type ST2 to IEC 60502-1, Color black.

Colors for core identification

Single core - red (black Color on request)

Two cores - red, and black

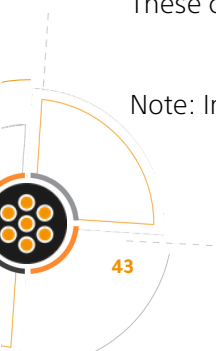
Three cores - red, yellow and blue

Four cores - red, yellow, blue and black

APPLICATION

These cable are designed for underground burial where there is a risk of mechanical damage.

Note: In the interests of product improvement, SCC reserve the right to alter cable specifications.

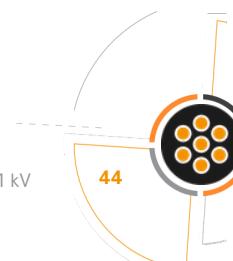




DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx mm	Net Weight Approx kg/km	Standard package m±5%
Two core							
1.5rm	7	0.7	0.2	1.8	13.3	241	1000
2.5rm	7	0.7	0.2	1.8	14.2	280	1000
4rm	7	0.7	0.2	1.8	15.3	334	1000
6rm	7	0.7	0.2	1.8	16.6	402	1000
10rm	7	0.7	0.2	1.8	18.2	513	1000
16rm	7	0.7	0.2	1.8	20.4	676	1000
25rm	7	0.9	0.2	1.8	23.9	946	1000
35rm	7	0.9	0.2	1.8	26.3	1185	500
Three core							
1.5rm	7	0.7	0.2	1.8	13.7	265	1000
2.5rm	7	0.7	0.2	1.8	14.6	313	1000
4rm	7	0.7	0.2	1.8	15.8	382	1000
6rm	7	0.7	0.2	1.8	17.2	470	1000
10rm	7	0.7	0.2	1.8	18.9	619	1000
16rm	6	0.7	0.2	1.8	21.2	836	1000
25rm	6	0.9	0.2	1.8	25	1195	1000
35sm	6	0.9	0.2	1.8	26.3	1440	500

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
50sm	6	1	0.2	1.9	29.9	1882	500
70sm	12	1.1	0.2	2	33.8	2472	500
95sm	15	1.1	0.5	2.2	38.4	3577	500
120sm	18	1.2	0.5	2.3	42.2	4339	500
150sm	18	1.4	0.5	2.4	46.6	5251	250
185sm	30	1.6	0.5	2.6	51.2	6355	250
240sm	34	1.7	0.5	2.8	57.5	8260	250
300sm	34	1.8	0.5	2.9	62.8	10122	250
400sm	53	2	0.5	3.2	71.3	12877	250
500sm	53	2.2	0.5	3.4	79.2	16700	250
Four core							
1.5rm	7	0.7	0.2	1.8	14.5	301	1000
2.5rm	7	0.7	0.2	1.8	15.5	357	1000
4rm	7	0.7	0.2	1.8	16.7	438	1000
6rm	7	0.7	0.2	1.8	18.1	541	1000
10rm	7	0.7	0.2	1.8	19.8	720	1000
16rm	7	0.7	0.2	1.8	22.2	980	1000
25rm	7	0.9	0.2	1.8	26	1405	500
35sm	6	0.9	0.2	1.8	27.2	1816	500
50sm	6	1	0.2	1.9	31.2	2390	500
70sm	12	1.1	0.5	2.1	35.5	3612	500
95sm	15	1.1	0.5	2.3	39	4735	500

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall diameter Approx (mm)	Net weight Approx (kg/km)	Standard package (m±5%)
120sm	18	1.2	0.5	2.4	42.5	5589	250
150sm	18	1.4	0.5	2.6	47.8	6979	250
185sm	30	1.6	0.5	2.7	52.6	8446	250
240sm	34	1.7	0.5	3	58	10832	250
300sm	34	1.8	0.5	3.1	65.4	13548	250
400sm	53	2	0.5	3.2	72.3	16827	250
500sm	53	2.2	0.5	3.4	80.3	22000	250

Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
10rm	6rm	7	7	0.7	0.7	0.2	1.8	20.7	765	1000
16rm	10rm	7	7	0.7	0.7	0.2	1.8	22.2	928	1000
25rm	16rm	7	7	0.9	0.7	0.2	1.8	26	1319	500
35sm	16rm	6	7	0.9	0.7	0.2	1.8	25.3	1582	500
50sm	25rm	6	7	1	0.9	0.2	1.9	29.3	2121	500
70sm	35rm	12	7	1.1	0.9	0.2	2	33.2	3168	500
95sm	50rm	15	19	1.1	1	0.5	2.2	37.4	4149	500
120sm	70rm	18	19	1.2	1.1	0.5	2.3	41.7	5183	500
150sm	70rm	18	19	1.4	1.1	0.5	2.5	45.4	6151	250
185sm	95rm	30	19	1.6	1.1	0.5	2.6	50.5	7542	250
240sm	120rm	34	37	1.7	1.2	0.5	2.8	56.4	9704	250
300sm	150rm	34	37	1.8	1.4	0.5	3	62	11823	250
400sm	185rm	53	37	2	1.6	0.5	3.3	70.2	14947	250
500sm	240rm	53	61	2.2	1.7	0.5	3.5	77.8	18775	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.

DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness of Insulation (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness of Sheath (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Single Core							
35	6	0.9	1.6	1.8	16.6	566	1000
50	6	1	1.6	1.8	18.2	717	1000
70	12	1.1	1.6	1.8	20	949	1000
95	15	1.1	1.6	1.8	22	1233	1000
120	18	1.2	1.6	1.8	23.7	1497	1000
150	18	1.4	1.6	1.8	25.7	1807	500
185	30	1.6	1.6	1.8	28.2	2196	500
240	34	1.7	1.6	1.9	31.1	2834	500
300	34	1.8	1.6	1.9	34.6	3518	500
400	53	2	2	2.1	37.8	4411	500
500	53	2.2	2	2.2	41.4	5489	500
630	53	2.4	2	2.4	47.2	7089	500
Two core							
1.5rm	7	0.7	1.25	1.7	13.4	405	1000
2.5rm	7	0.7	1.25	1.8	14.3	451	1000
4rm	7	0.7	1.25	1.8	15.3	514	1000
6rm	7	0.7	1.25	1.8	16.6	592	1000
10rm	6	0.7	1.25	1.8	18.1	713	1000
16rm	6	0.7	1.25	1.8	20.2	888	1000
25rm	7	0.9	1.6	1.8	23.4	1171	1000
35rm	7	0.9	1.6	1.8	25.6	1422	500

RM: Round Multi-wire Conductor



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Thickness Nominal (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net weight Approx (kg/km)	Standard Package (m±5%)
Three Core							
1.5rm	7	0.7	1.25	1.8	13.7	490	1000
2.5rm	7	0.7	1.25	1.8	14.6	552	1000
4rm	7	0.7	1.25	1.8	15.8	638	1000
6rm	7	0.7	1.25	1.8	17.1	745	1000
10rm	6	0.7	1.25	1.8	18.7	914	1000
16rm	6	0.7	1.25	1.8	21	1159	1000
25rm	6	0.9	1.6	1.8	24.5	1555	1000
35sm	6	0.9	1.6	1.8	26.3	1687	1000
50sm	6	1	1.6	1.9	29.9	2379	500
70sm	12	1.1	2	2	34.4	3036	500
95sm	15	1.1	2	2.2	38.2	3902	500
120sm	18	1.2	2	2.3	40.9	5181	500
150sm	18	1.4	2.5	2.5	45.2	6411	500
185sm	30	1.6	2.5	2.6	47.7	7529	250
240sm	34	1.7	2.5	2.8	54.3	9673	250
300sm	34	1.8	2.5	3	59.1	11607	250
400sm	53	2	2.5	3.2	63.4	14030	250
500sm	53	2.2	3.15	3.5	71.9	18414	250

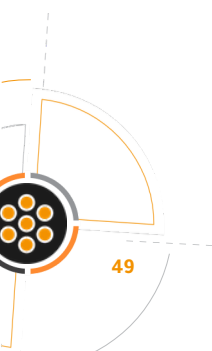
RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net weight Approx (kg/km)	Standard package (m±5%)
Four Core							
1.5rm	7	0.7	1.25	1.8	14.5	479	1000
2.5rm	7	0.7	1.25	1.8	15.5	550	1000
4rm	7	0.7	1.25	1.8	16.8	647	1000
6rm	7	0.7	1.25	1.8	18.3	771	1000
10rm	6	0.7	1.25	1.8	20.1	975	1000
16rm	6	0.7	1.6	1.8	22.6	1270	1000
25rm	6	0.9	1.6	1.8	26.6	1692	500
35sm	6	0.9	1.6	1.9	28.7	2111	500
50sm	6	1	1.6	2	31.9	2950	500
70sm	12	1.1	2	2.2	36.4	4159	500
95sm	15	1.1	2	2.3	42.8	5714	500
120sm	18	1.2	2.5	2.5	46.3	6844	500
150sm	18	1.4	2.5	2.6	49	7680	500
185sm	30	1.6	2.5	2.8	54.6	9235	250
240sm	34	1.7	2.5	3	62.2	12520	250
300sm	34	1.8	2.5	3.2	67.3	15069	250
400sm	53	2	3.15	3.5	78.2	19708	250
500sm	53	2.2	3.15	3.8	86	24222	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.





DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)

Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
16rm	10rm	6	7	0.7	0.7	0.8	1.8	23.6	1192	1000
25rm	16rm	6	6	0.9	0.7	1.6	1.8	27.5	1647	500
35sm	16rm	6	6	0.7	0.7	1.6	1.8	27.9	1926	500
50sm	25rm	6	6	1	0.9	1.6	1.9	32.4	2648	500
70sm	35rm	12	6	1.1	0.9	2	2.1	36.1	3461	500
95sm	50rm	15	6	1.1	1	2	2.2	40	4451	500
120sm	70rm	18	12	1.2	1.1	2	2.3	45	5800	500
150sm	70rm	18	12	1.4	1.1	2.5	2.5	48.6	6743	500
185sm	95rm	30	15	1.6	1.1	2.5	2.7	55.6	8734	250
240sm	120rm	34	18	1.7	1.2	2.5	2.9	55.6	11090	250
300sm	150rm	34	18	1.8	1.4	2.5	3	67.3	13606	250
400sm	185rm	53	30	2	1.6	2.5	3.3	76	17369	250
500sm	240rm	53	34	2.2	1.7	3.15	3.6	83.5	21355	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Diameter of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard package (m±5%)
Two Core							
16rm	7	0.7	0.2	1.8	18.8	456	1000
25rm	6	0.9	0.2	1.8	21.9	592	1000
35rm	6	0.9	0.2	1.8	24.1	696	500
Three Core							
16rm	7	0.7	0.2	1.8	19.6	519	1000
25rm	6	0.9	0.2	1.8	26	790	1000
35sm	6	0.9	0.2	1.8	26.6	896	500
50sm	6	1	0.2	1.9	30.5	1139	500
70sm	12	1.1	0.2	2	34.5	1768	500
95sm	15	1.1	0.2	2.2	38.7	2195	500
120sm	15	1.2	0.5	2.3	43	2653	500
150sm	15	1.4	0.5	2.4	47.8	3069	250
185sm	30	1.6	0.5	2.6	52	3739	250
240sm	30	1.7	0.5	2.8	57.9	4540	250
300sm	30	1.8	0.5	2.9	63.7	5491	250
400sm	53	2	0.5	3.2	68	6108	250
500sm	53	2.2	0.5	3.4	75.1	7520	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Diameter of Steel Tape (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core							
16rm	7	0.7	0.2	1.8	22.0	666	1000
25rm	6	0.9	0.2	1.8	26.3	898	500
35sm	6	0.9	0.2	1.8	27.0	961	500
50sm	6	1	0.2	1.9	30.9	1225	500
70sm	12	1.1	0.2	2.1	35.2	1950	500
95sm	15	1.1	0.2	2.3	39.0	2308	500
120sm	15	1.2	0.5	2.4	42.5	2753	250
150sm	15	1.4	0.5	2.6	48.9	3426	250
185sm	30	1.6	0.5	2.7	53.9	4233	250
240sm	30	1.7	0.5	3.0	58.3	4967	250
300sm	30	1.8	0.5	3.1	65.5	6255	250
400sm	53	2	0.5	3.2	75.5	8364	250
500sm	53	2.2	0.5	3.4	83.4	10256	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall diameter Approx (mm)	Net weight Approx (kg/km)	Standard package (m±5%)

Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
25rm	16rm	6	7	0.9	0.7	0.2	1.8	26.2	790	500
35sm	16rm	6	7	0.9	0.7	0.2	1.8	26.6	896	500
50sm	25rm	6	6	1	0.9	0.2	1.9	30.5	1139	500
70sm	35rm	12	6	1.1	0.9	0.2	2	34.5	1768	500
95sm	50rm	15	6	1.1	1	0.5	2.2	38.7	2195	500
120sm	70rm	15	12	1.2	1.1	0.5	2.3	43	2653	500
150sm	70rm	15	12	1.4	1.1	0.5	2.5	46.7	3069	250
185sm	95rm	30	15	1.6	1.1	0.5	2.6	52	3739	250
240sm	120rm	30	15	1.7	1.2	0.5	2.8	57.9	4540	250
300sm	150rm	30	15	1.8	1.4	0.5	3	63.6	5492	250
400sm	185rm	53	30	2	1.6	0.5	3.3	72	6753	250
500sm	240rm	53	30	2.2	1.7	0.5	3.5	79.7	9099	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Diameter of Steel Wire (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Two Core							
25rm	7	0.9	1.25	1.8	23.3	866	1000
35rm	7	0.9	1.25	1.8	25.4	995	500
Three Core							
25rm	7	0.9	1.6	1.8	25.7	1075	1000
35sm	6	0.9	1.6	1.8	27.5	1169	1000
50sm	6	1	1.6	1.9	30	1422	1000
70sm	12	1.1	2	2	34.4	1946	500
95sm	15	1.1	2	2.2	38.2	2359	500
120sm	15	1.2	2	2.3	42.9	3058	500
150sm	15	1.4	2.5	2.5	47.1	3569	500
185sm	30	1.6	2.5	2.6	51.7	4199	500
240sm	30	1.7	2.5	2.8	58.8	5578	250
300sm	30	1.8	2.5	3	59.3	6110	250
400sm	53	2	2.5	3.2	73.7	8716	250
500sm	53	2.2	3.15	3.5	80.9	10396	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Diameter of Steel Wire (mm)	Nominal Thickness (mm)	Overall Diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)
Four Core							
16rm	7	0.7	1.25	1.8	24.1	921	1000
25rm	7	0.9	1.25	1.8	27.8	1118	500
35sm	6	0.9	1.25	1.9	29.8	1294	500
50sm	6	1	1.6	2	31.9	1704	500
70sm	12	1.1	1.6	2.2	36.3	2382	500
95sm	15	1.1	2	2.3	43	3400	500
120sm	15	1.2	2	2.5	46.3	3969	500
150sm	15	1.4	2	2.6	50.4	4531	250
185sm	30	1.6	2	2.8	55.7	5342	250
240sm	30	1.7	2.5	3	61.6	6614	250
300sm	30	1.8	2.5	3.2	67	7698	250
400sm	53	2	3.15	3.5	76.8	10017	250
500sm	53	2.2	3.15	3.8	84.9	12054	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



DIMENSIONS AND WEIGHTS

Conductor		Insulation	Armouring	Outer sheath		Packaging	
Nominal Cross Sectional Area (mm ²)	Minimum Number of Wires	Nominal Thickness (mm)	Nominal Thickness of Steel Tape (mm)	Nominal Thickness (mm)	Overall diameter Approx (mm)	Net Weight Approx (kg/km)	Standard Package (m±5%)

Ph	Ne	Ph	Ne	Ph	Ne					
Four Core With reduced neutral										
25rm	16rm	7	7	0.9	0.7	1.25	1.8	27.7	1151	500
35sm	16rm	6	7	0.9	0.7	1.25	1.8	28.2	1250	500
50sm	25rm	6	6	1	0.9	1.6	1.9	32.8	1729	500
70sm	35rm	12	6	1.1	0.9	1.6	2.1	36	2318	500
95sm	50rm	15	6	1.1	1	1.6	2.2	41.5	2891	500
120sm	70rm	15	12	1.2	1.1	2	2.3	45.8	3693	500
150sm	70rm	15	12	1.4	1.1	2	2.5	49.8	3872	500
185sm	95rm	30	15	1.6	1.1	2.5	2.7	56	5109	250
240sm	120rm	30	15	1.7	1.2	2.5	2.9	62.1	6087	250
300sm	150rm	30	15	1.8	1.4	2.5	3	67.8	7132	250
400sm	185rm	53	30	1.7	1.6	2.5	3.3	77.5	9486	250
500sm	240rm	53	30	2.2	1.7	3.15	3.6	85.2	11386	250

RM: Round Multi-wire Conductor SM: Sectoral Multi-Wire Conductor.



LOW VOLTAGE CABLES ELECTRICAL CHARACTERISTICS

General

Current carrying capacities have been calculated in accordance with IEC 60287 'Calculation of the continuous current rating of cables'. The values given in the tables are valid for one circuit in a three-phase system under conditions specified below. For the grouping of cables derating factors must be used.

The construction of all PVC and XLPE cables is based on IEC 60502. As a base for our calculations, we have used the practical constructional data and tolerances which may slightly vary from manufacturer to manufacturer.

All conductor data are based on IEC 60228. The conductors of single core cables 16mm² and above are compacted. Multicore cables (three and four cores) 35mm² and above have sectoral conductors.

Please note that, the current carrying capacities presented in SCC technical data sheets are intended as a guide to assist operating engineers in selecting cables for safety and reliability. The current carrying capacities are in no sense guaranteed values.

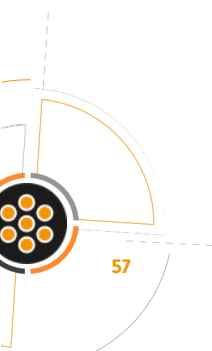
Basic Assumptions and Conditions of Installation	
Ambient ground temperature	35°C
Ambient air temperature	40°C
Depth of cable burial	0.5m
Thermal resistivity of soil	1.2K.m/W
Cables in air are assumed to be protected from direct solar radiation.	

Single core cables

Installed as indicated in the tables. Spacing between cables in flat formation is assumed to be one cable diameter.

Three and four core cables

It is usual to assume the same current carrying capacity for four core cables as for three core cables. Our calculated values are based actually on three core cables. These values are suitable with enough accuracy also for four core cables in most cases. Only for large four core cables in air the values may be found to be too conservative, due to the large cable surface and consequent high heat dissipation factor.





Cables in ducts or pipes

The term 'ducts' applies to earthenware material having thermal resistivity 1.2 K.m/W. The term 'pipes' applies " to fibre material that has thermal resistivity 4.8 K.m/W.

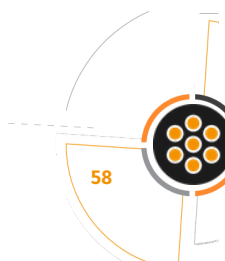
resistivity 4.8 K.m/W.

The tables are sufficiently accurate also for metal, concrete or asbestos ducts/pipes except that in case of single core cables in AC systems ferrous ducts or pipes shall not be used.

The dimensions of ducts or pipes are assumed as follows:

Duct or Pipe Diameter		
Cable Diameter (mm)	Inside (mm)	Outside (mm)
Up to & including 65	100	130
Above 65	125	160

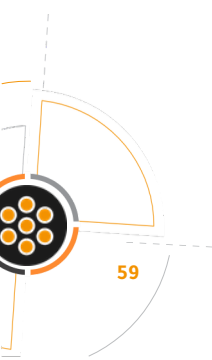
The above duct/pipe dimensions are the basis for our calculation in order to conform to international practice. However, in actual installations the more realistic approach will be inner diameter of duct/pipe approximate 1.5 x ϕ cable.





CURRENT CARRYING CAPACITY

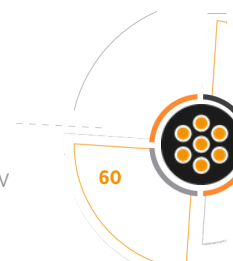
Conductor	Conductor Resistance			Current Carrying Capacity					
Cross sectional area mm ²	DC at 20°C Maximum ohm/km	AC at 70°C in flat formation	AC at 70°C in trefoil formation	In Ground			In Air		
		Approx ohm/km 	Approx ohm/km 	Direct laid Approx amps 	Direct laid Approx amps 	In duct Approx amps 	Free Approx amps 	Free Approx amps 	In pipes Approx amps 
1.5	12.1	14.5	14.5	25	24	18	20	18	15
2.5	7.41	8.87	8.87	33	31	24	27	23	19
4	4.61	5.52	5.52	42	41	31	36	31	25
6	3.08	3.69	3.69	53	51	39	46	40	32
10	1.83	2.19	2.19	70	68	52	62	54	43
16	1.15	1.38	1.38	91	87	67	83	71	56
25	0.727	0.87	0.87	116	112	87	109	94	73
35	0.524	0.627	0.627	140	134	104	135	116	89
50	0.387	0.463	0.464	166	158	125	164	141	107
70	0.268	0.321	0.322	204	194	154	208	179	134
95	0.193	0.232	0.232	245	233	186	259	222	163
120	0.153	0.184	0.185	279	264	212	301	258	188
150	0.124	0.15	0.151	313	296	238	345	296	213
185	0.0991	0.12	0.1215	354	334	270	399	343	243
240	0.0754	0.0922	0.0941	412	385	313	476	407	285
300	0.0601	0.0743	0.0767	466	433	353	551	469	324
400	0.047	0.0593	0.0623	531	488	399	642	542	369
500	0.0366	0.0476	0.0513	603	546	449	747	624	417
630	0.0283	0.0386	0.0431	686	609	501	875	717	470





CURRENT CARRYING CAPACITY

Conductor	Conductor Resistance		In Ground			In Air		
	DC at 20°C Maximum ohm/km	AC at 70°C Approx ohm/km	Unarmoured		Armoured	Unarmoured		Armoured
			Direct laid Approx	Laid in ducts Approx amps	Direct laid Approx amps	Free Approx amps	In pipes Approx amps	Free Approx amps
1.5	12.1	14.5	21	18	-	16	14	-
2.5	7.41	8.87	27	23	-	22	19	-
4	4.61	5.52	36	30	36	29	24	29
6	3.08	3.69	45	37	45	37	31	37
10	1.83	2.19	60	50	60	50	41	51
16	1.15	1.38	78	65	78	66	54	66
25	0.727	0.87	100	83	100	87	70	88
35	0.524	0.628	125	101	124	106	84	109
50	0.387	0.464	149	121	147	130	102	133
70	0.268	0.322	183	148	180	163	126	167
95	0.193	0.232	219	178	215	201	154	204
120	0.153	0.185	249	203	245	233	177	235
150	0.124	0.151	280	229	273	268	202	268
185	0.0991	0.121	315	259	306	308	230	305
240	0.0754	0.0939	364	301	349	364	269	355
300	0.0601	0.0764	409	339	387	417	306	401
400	0.047	0.0619	465	386	428	485	352	454
500	0.0366	0.0507	520	441	468	554	406	506





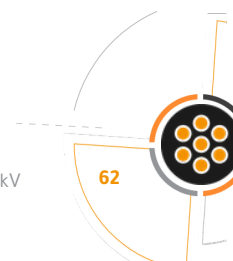
CURRENT CARRYING CAPACITY

Conductor	Conductor Resistance			Current Carrying Capacity					
	DC at 20°C Maximum ohm/km	AC at 90°C in flat formation  Approx ohm/km	AC at 90°C in trefoil formation  Approx ohm/km	In Ground			In Air		
Cross sectional area mm ²				Direct laid  Approx	Direct laid  Approx	In duct  Approx	Free  Approx	Free  Approx	In pipes  Approx
1.5	12.1	15.43	15.2	29	28	21	25	21	18
2.5	7.41	9.45	9.3	38	37	28	33	27	23
4	4.61	5.88	5.88	48	47	36	44	37	31
6	3.08	3.93	3.93	61	58	44	56	45	38
10	1.83	2.33	2.33	81	78	60	77	62	51
16	1.15	1.47	1.47	105	101	77	102	83	67
25	0.727	0.927	0.926	134	128	100	134	109	87
35	0.524	0.668	0.668	161	154	120	165	133	106
50	0.387	0.493	0.493	190	183	143	201	163	127
70	0.268	0.342	0.342	235	224	177	256	206	159
95	0.193	0.246	0.247	282	267	214	317	256	194
120	0.153	0.195	0.196	322	305	244	369	297	223
150	0.124	0.158	0.159	360	342	274	422	341	254
185	0.0991	0.126	0.127	409	385	311	490	394	289
240	0.0754	0.096	0.098	475	444	361	583	468	340
300	0.0601	0.077	0.079	537	499	408	675	540	386
400	0.047	0.06	0.063	613	565	462	788	625	441
500	0.0366	0.047	0.05	697	633	519	917	719	500
630	0.0283	0.036	0.04	795	707	580	1076	827	565



CURRENT CARRYING CAPACITY

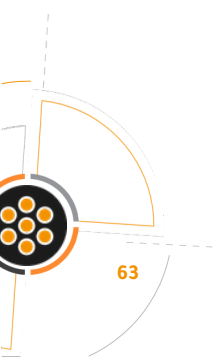
Conductor	Conductor Resistance		In Ground			In Air		
	DC at 20°C Maximum ohm/km	AC at 90°C Approx ohm/km	Unarmoured		Armoured	Unarmoured		Armoured
			Direct laid Approx ohm/km	Laid in ducts Approx amps	Direct laid Approx amps	Free Approx amps	In pipes Approx amps	Free Approx amps
1.5	12.1	15.43	24	20	-	20	17	-
2.5	7.41	9.45	32	27	-	27	22	-
4	4.61	5.88	41	35	41	36	29	36
6	3.08	3.93	51	43	51	44	37	44
10	1.83	2.33	69	57	69	60	49	61
16	1.15	1.47	90	74	89	81	64	81
25	0.727	0.926	115	96	119	106	83	113
35	0.524	0.668	144	116	143	129	100	133
50	0.387	0.493	172	139	170	159	120	163
70	0.268	0.342	210	171	207	199	150	203
95	0.193	0.247	252	205	249	246	183	249
120	0.153	0.196	287	234	282	285	210	287
150	0.124	0.159	323	265	315	328	240	327
185	0.0991	0.127	363	299	353	376	273	372
240	0.0754	0.098	420	347	404	445	321	433
300	0.0601	0.079	473	392	449	510	365	491
400	0.0470	0.063	544	452	504	601	426	565
500	0.0366	0.050	610	517	553	687	492	630





CURRENT CARRYING CAPACITY

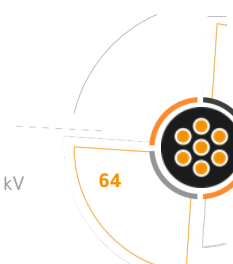
Conductor	Conductor Resistance			Current Carrying Capacity					
Cross sectional area mm ²	DC at 20°C Maximum ohm/km	AC at 90°C in flat formation Approx ohm/km	AC at 90°C in trefoil formation Approx ohm/km	In Ground			In Air		
				Direct laid Approx amps 	Direct laid Approx amps 	In duct Approx amps 	Free Approx amps 	Free Approx amps 	In pipes Approx amps 
1.5	12.1	15.4	15.4	31	30	22	27	22	19
2.5	7.41	9.45	9.45	40	39	29	36	29	24
4	4.61	5.88	5.88	52	50	38	47	38	32
6	3.08	3.93	3.93	65	63	47	60	49	40
10	1.83	2.33	2.33	87	83	63	82	66	54
16	1.15	1.47	1.47	112	107	82	109	88	70
25	0.727	0.927	0.927	144	137	105	145	116	92
35	0.524	0.668	0.669	172	165	127	178	143	112
50	0.387	0.494	0.494	204	195	151	218	175	134
70	0.268	0.342	0.343	251	238	187	277	222	168
95	0.193	0.247	0.248	301	286	225	344	274	205
120	0.153	0.196	0.197	345	327	258	409	326	237
150	0.124	0.159	0.16	385	363	290	461	367	269
185	0.0991	0.128	0.129	436	410	330	534	425	308
240	0.0754	0.098	0.1	507	474	382	638	505	361
300	0.0601	0.079	0.0815	573	532	431	740	583	411
400	0.047	0.0629	0.0661	654	600	489	865	676	469
500	0.0366	0.0504	0.0543	744	673	550	1009	779	533
630	0.0283	0.0407	0.0453	847	752	615	1184	900	603





CURRENT CARRYING CAPACITY

Conductor	Conductor Resistance		In Ground			In Air		
Cross sectional area mm ²	DC at 20°C	AC at 90°C	Unarmoured		Armoured	Unarmoured		Armoured
	Maximum ohm/km	Approx ohm/km	Direct laid Approx ohm/km	Laid in ducts Approx amps	Direct laid Approx amps	Free Approx amps	In pipes Approx amps	Free Approx amps
1.5	12.1	15.4	27	22	-	22	18	-
2.5	7.41	9.45	35	29	-	29	24	-
4	4.61	5.88	45	37	46	38	31	39
6	3.08	3.93	56	46	57	48	39	50
10	1.83	2.33	76	62	76	67	52	67
16	1.15	1.47	98	80	98	88	68	89
25	0.727	0.927	128	104	128	118	90	120
35	0.524	0.669	157	125	158	142	107	149
50	0.387	0.494	187	149	188	175	129	182
70	0.268	0.343	229	183	229	220	161	229
95	0.193	0.248	276	220	274	272	196	280
120	0.153	0.197	313	251	310	316	226	322
150	0.124	0.16	350	283	346	363	258	368
185	0.0991	0.129	395	321	387	418	295	420
240	0.0754	0.0998	458	372	444	496	346	491
300	0.0601	0.0812	516	420	494	571	394	557
400	0.047	0.0656	584	478	549	665	454	635
500	0.0366	0.0536	655	538	597	760	515	705





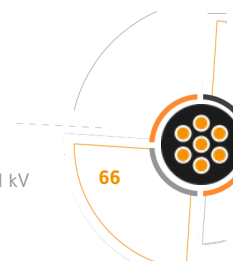
CURRENT CARRYING CAPACITY

Conductor	Conductor Resistance			Current Carrying Capacity					
	DC at 20°C Maximum ohm/km	AC at 90°C in flat formation	AC at 90°C in trefoil formation	In Ground			In Air		
Cross sectional area mm ²		Approx ohm/km 	Approx ohm/km 	Direct laid Approx amps 	Direct laid Approx amp 	In duct Approx amps 	Free Approx amps 	Free Approx amps 	In pipes Approx amps 
16	1.91	2.45	2.45	81	78	60	79	64	51
25	1.2	1.54	1.54	104	99	78	103	85	67
35	0.868	1.113	1.114	125	119	92	128	103	82
50	0.641	0.822	0.822	148	141	111	155	126	98
70	0.443	0.568	0.569	182	173	137	198	159	123
95	0.32	0.41	0.411	218	208	165	245	198	151
120	0.253	0.324	0.325	249	236	189	286	230	173
150	0.206	0.264	0.265	278	265	213	327	264	196
185	0.164	0.21	0.212	317	299	242	380	307	225
240	0.125	0.16	0.163	369	347	282	454	366	266
300	0.1	0.128	0.131	418	393	320	525	424	303
400	0.0778	0.1	0.104	480	449	367	618	497	351
500	0.0605	0.0776	0.082	552	511	419	725	581	403
630	0.0469	0.0601	0.0624	637	582	478	865	683	465



CURRENT CARRYING CAPACITY

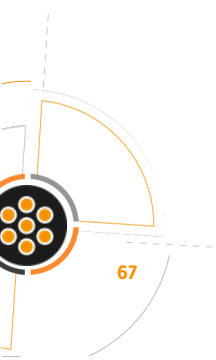
Conductor	Conductor Resistance		In Ground			In Air		
Cross sectional area mm ²	DC at 20°C Maximum ohm/km	AC at 90°C Approx ohm/km	Unarmoured		Armoured	Unarmoured		Armoured
			Direct laid Approx ohm/km	Laid in ducts Approx amps	Direct laid Approx amps	Free  Approx amps	In pipes Approx amps	Free  Approx amps
16	1.91	2.45	69	57	69	62	49	63
25	1.2	1.54	90	74	89	82	65	83
35	0.868	1.113	111	90	110	100	77	103
50	0.641	0.822	133	107	131	123	93	126
70	0.443	0.568	162	132	160	154	116	157
95	0.32	0.411	195	158	193	190	142	193
120	0.253	0.324	222	182	219	221	163	223
150	0.206	0.264	250	205	245	254	186	255
185	0.164	0.211	282	232	277	292	213	292
240	0.125	0.161	329	271	319	347	251	342
300	0.1	0.129	371	307	358	400	286	391
400	0.0778	0.102	426	354	404	471	334	453
500	0.0605	0.080	485	403	453	545	383	515





CURRENT CARRYING CAPACITY

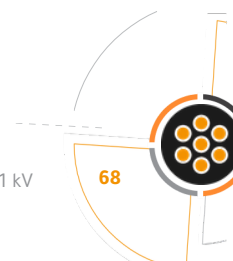
Conductor	Conductor Resistance			Current Carrying Capacity					
	DC at 20°C Maximum ohm/km	AC at 90°C in flat formation Approx ohm/km	AC at 90°C in trefoil formation Approx ohm/km	In Ground			In Air		
Cross sectional area mm ²		 Approx ohm/km	 Approx ohm/km	Direct laid  Approx amps	Direct laid  Approx amp	In duct  Approx amps	Free  Approx amps	Free  Approx amps	In pipes  Approx amps
16	1.91	2.45	2.45	87	83	63	85	68	54
25	1.2	1.54	1.54	111	107	82	112	90	71
35	0.868	1.113	1.113	133	128	98	138	111	87
50	0.641	0.822	0.822	158	151	117	169	135	104
70	0.443	0.568	0.569	194	185	145	215	172	131
95	0.32	0.411	0.411	233	222	175	266	213	159
120	0.253	0.325	0.325	266	252	201	312	249	184
150	0.206	0.265	0.265	298	282	226	357	285	209
185	0.164	0.211	0.212	339	320	257	416	332	241
240	0.125	0.161	0.163	395	371	300	497	396	283
300	0.1	0.13	0.131	448	419	340	578	459	324
400	0.0778	0.1016	0.1037	514	479	390	681	540	375
500	0.0605	0.0799	0.0826	590	546	446	801	631	432
630	0.0469	0.0632	0.0666	681	621	509	954	746	498





CURRENT CARRYING CAPACITY

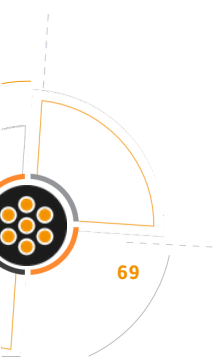
Conductor	Conductor Resistance		In Ground			In Air		
	DC at 20°C Maximum ohm/km	AC at 90°C Approx ohm/km	Unarmoured		Armoured	Unarmoured		Armoured
			Direct laid Approx ohm/km	Laid in ducts Approx amps	Direct laid Approx amps	Free  Approx amps	In pipes Approx amps	Free  Approx amps
16	1.91	2.45	76	62	76	68	53	69
25	1.2	1.54	99	81	99	92	70	93
35	0.868	1.113	121	96	122	110	83	115
50	0.641	0.822	145	116	146	136	100	141
70	0.443	0.569	178	142	178	171	125	178
95	0.32	0.411	214	171	213	211	152	218
120	0.253	0.325	243	195	242	246	176	252
150	0.206	0.265	272	220	270	282	200	288
185	0.164	0.212	309	250	305	326	230	331
240	0.125	0.163	359	292	352	388	271	390
300	0.1	0.131	406	331	395	449	310	445
400	0.0778	0.1034	466	381	447	530	362	516
500	0.0605	0.0822	529	434	497	614	416	586





ELECTRICAL CHARACTERISTICS

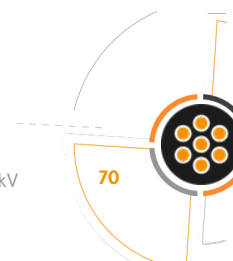
Conductor	Reactance			Capacitance
Size mm ²	Single core Ohm/km	Three core Ohm/km	Four core Ohm/km	μF/km
1.5	0.187	0.1386	0.1446	0.564
2.5	0.1737	0.1293	0.1354	0.667
4	0.1663	0.1297	0.1358	0.661
6	0.155	0.1218	0.1281	0.781
10	0.1428	0.1136	0.1201	0.959
16	0.1324	0.1081	0.1147	1.174
25	0.1287	0.107	0.1131	1.1795
35	0.1226	0.1031	0.1097	1.362
50	0.1162	0.0997	0.1064	1.363
70	0.1107	0.0961	0.1029	1.587
95	0.1083	0.0951	0.1019	1.669
120	0.104	0.092	0.0989	1.855
150	0.1036	0.0921	0.099	1.847
185	0.1033	0.0926	0.0995	1.798
240	0.1014	0.0914	0.0983	1.867
300	0.1004	0.0907	0.0976	1.934
400	0.0997	0.0906	0.0975	1.955
500	0.0981	0.0896	0.0965	2.068





ELECTRICAL CHARACTERISTICS

Conductor	Reactance			Capacitance
Size mm ²	Single Core Ohm/km	Three Core Ohm/km	Four Core Ohm/km	μF/km
1.5	0.1847	0.1338	0.1399	0.191
2.5	0.1715	0.125	0.1312	0.227
4	0.1593	0.1173	0.1237	0.272
6	0.1485	0.1109	0.1174	0.325
10	0.137	0.1044	0.1111	0.404
16	0.1287	0.1	0.1068	0.483
25	0.1241	0.1004	0.1072	0.476
35	0.1184	0.0973	0.1041	0.553
50	0.1115	0.0934	0.1003	0.568
70	0.1074	0.0919	0.0988	0.617
95	0.1037	0.0894	0.0963	0.723
120	0.1006	0.0878	0.0948	0.751
150	0.1008	0.0888	0.0957	0.705
185	0.0996	0.0889	0.0958	0.7
240	0.0975	0.0874	0.0943	0.747
300	0.0961	0.0865	0.0935	0.793
400	0.0959	0.0868	0.0938	0.777
500	0.0948	0.0863	0.0933	0.809
630	0.0938	-	-	0.852





CABLES LAID DIRECT IN GROUND

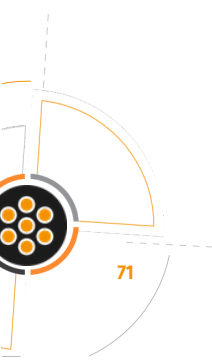
If the site conditions are not the same as the standard conditions for which the ampacities are calculated, the current ratings in the previous tables are to be multiplied with the appropriate rating factors given in the following tables.

Rating factors for variation in ground temperature

Insulation	Ground Temperature (°C)						
	25	30	35	40	45	50	55
XLPE Insulated cables	1.09	1.04	1	0.95	0.90	0.85	0.80
PVC (rated 90°C) cables	1.1	1.05	1	0.95	0.89	0.84	0.77

Rating factors for variation in depth of burial (to center of cable in the trefoil group of cables)

Size of Conductor			
Depth of Laying m	Up to 50mm ²	70mm ² to 300mm ²	Above 300mm ²
0.50	1.00	1.00	1.00
0.60	0.99	0.98	0.97
0.80	0.97	0.96	0.94
1.00	0.95	0.93	0.92
1.25	0.94	0.92	0.89
1.50	0.93	0.90	0.87
1.75	0.92	0.89	0.86
2.00	0.91	0.88	0.85





CABLES LAID DIRECT IN GROUND

Rating factors for variation in thermal resistivity of soil (average values)

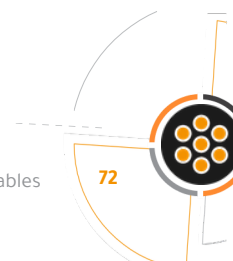
Size of Conductor mm ²	Soil Thermal Resistivity In °C.m/W					
	0.8	0.9	1.0	1.5	2.0	2.5
Single Core Cables up to 150	1.16	1.12	1.07	0.91	0.81	0.73
from 185-300	1.17	1.12	1.07	0.91	0.80	0.73
from 400-630	1.17	1.12	1.07	0.91	0.80	0.73

Multicore Cables up to 16	1.12	1.08	1.05	0.93	0.84	0.77
from 25-150	1.14	1.10	1.06	0.92	0.82	0.75
from 185-500	1.15	1.10	1.07	0.92	0.81	0.74

CABLES INSTALLED IN AIR

Rating factors for variation in air temperature

Insulation	Air Temperature (°C)						
	25	30	35	40	45	50	55
XLPE	1.14	1.10	1.05	1	0.95	0.89	0.84
PVC (rated 90°C)	1.15	1.11	1.05	1	0.94	0.88	0.82



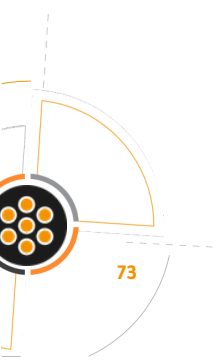
CABLES INSTALLED IN AIR

Group rating factors for multicore cables in flat formation

Number of Cables In Group	Touching	Spacing		
		0.15m	0.3m	0.45m
2	0.81	0.87	0.91	0.93
3	0.70	0.78	0.84	0.88
4	0.63	0.74	0.81	0.86
5	0.59	0.70	0.78	0.84
6	0.55	0.68	0.77	0.83

Group rating factors for circuits of three single core cables, in trefoil or laid touching in flat horizontal formation

Number of Cores	Touching		Spacing		
	Trefoil	Flat	0.15m	0.30m	0.45m
2	0.78	0.81	0.83	0.88	0.91
3	0.66	0.7	0.73	0.79	0.84
4	0.61	0.64	0.68	0.73	0.81
5	0.56	0.6	0.64	0.73	0.79
6	0.53	0.57	0.61	0.71	0.78





CABLES INSTALLED IN DUCTS

Rating factors for variation in thermal resistivity of soil (average values)

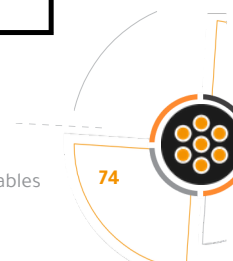
Size of Conductor mm ²	Soil Thermal Resistivity in °C.m/W					
	0.8	0.9	1.0	1.5	2.0	2.5
Single Core Cables up to 150	1.10	1.07	1.04	0.94	0.86	0.80
from 185-300	1.11	1.08	1.05	0.93	0.85	0.79
from 400-630	1.12	1.08	1.05	0.93	0.84	0.78

Multicore Cables Up to 16	1.04	1.03	1.02	0.97	0.92	0.88
from 25-150	1.06	1.04	1.03	0.95	0.90	0.85
from 185-500	1.07	1.05	1.03	0.95	0.88	0.83

CABLES INSTALLED IN DUCTS

Rating factors for depth of laying (to center of duct or trefoil group of ducts.)

Depth of Laying (m)	Single Core	Multi Core
0.5	1	1
0.6	0.98	0.99
0.8	0.95	0.98
1	0.93	0.96
1.25	0.91	0.95
1.5	0.89	0.94
1.75	0.88	0.94
2	0.87	0.93
2.5	0.86	0.92
3 or more	0.85	0.81



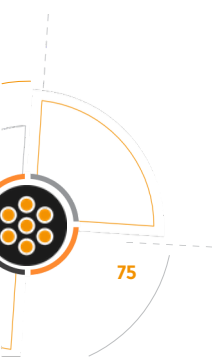
CABLES INSTALLED IN DUCTS

Group rating factors for single core cables in trefoil single way ducts, horizontal formation

Number of Circuits	Touching 	Spacing	
		 0.45m	 0.60m
2	0.87	0.91	0.93
3	0.78	0.84	0.87
4	0.74	0.81	0.85
5	0.70	0.79	0.83
6	0.69	0.78	0.82

Group rating factors for multicore cables in single way ducts, horizontal formation

Number of Circuits	Touching 	Spacing		
		 0.30m	 0.45m	 0.60m
2	0.90	0.93	0.95	0.96
3	0.83	0.88	0.91	0.93
4	0.79	0.85	0.89	0.92
5	0.75	0.83	0.88	0.91
6	0.73	0.82	0.87	0.90





PERMISSIBLE SHORT-CIRCUIT CURRENT

The permissible short-circuit currents as presented in figures 1 to 6 are calculated in accordance with IEC 60949.

The calculation method neglects heat loss and is accurate enough for the majority of practical cases. Any error is in the safe side. However, caution should be exercised when using large size conductors and an installation radius less than 8 x cable diameter where high deforming forces may occur. Where such conditions cannot be avoided, it is recommended to reduce the short circuit rating by 15% or contact SCC technical department.

The following formulae have been derived from IEC 60949:

$$\text{Figure 1 : } I_k = \frac{0.1038}{\sqrt{t}} \cdot s$$

$$\text{Figure 2 : } I_k = \frac{0.075}{\sqrt{t}} \cdot s$$

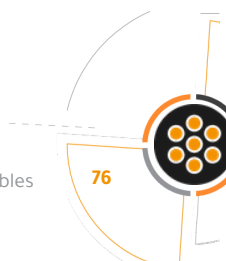
$$\text{Figure 3 : } I_k = \frac{0.143}{\sqrt{t}} \cdot s$$

$$\text{Figure 4 : } I_k = \frac{0.100}{\sqrt{t}} \cdot s$$

I_k : Short-circuit current (kA)

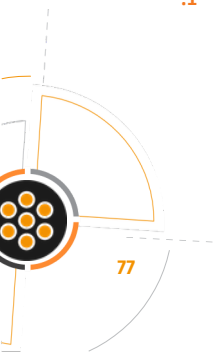
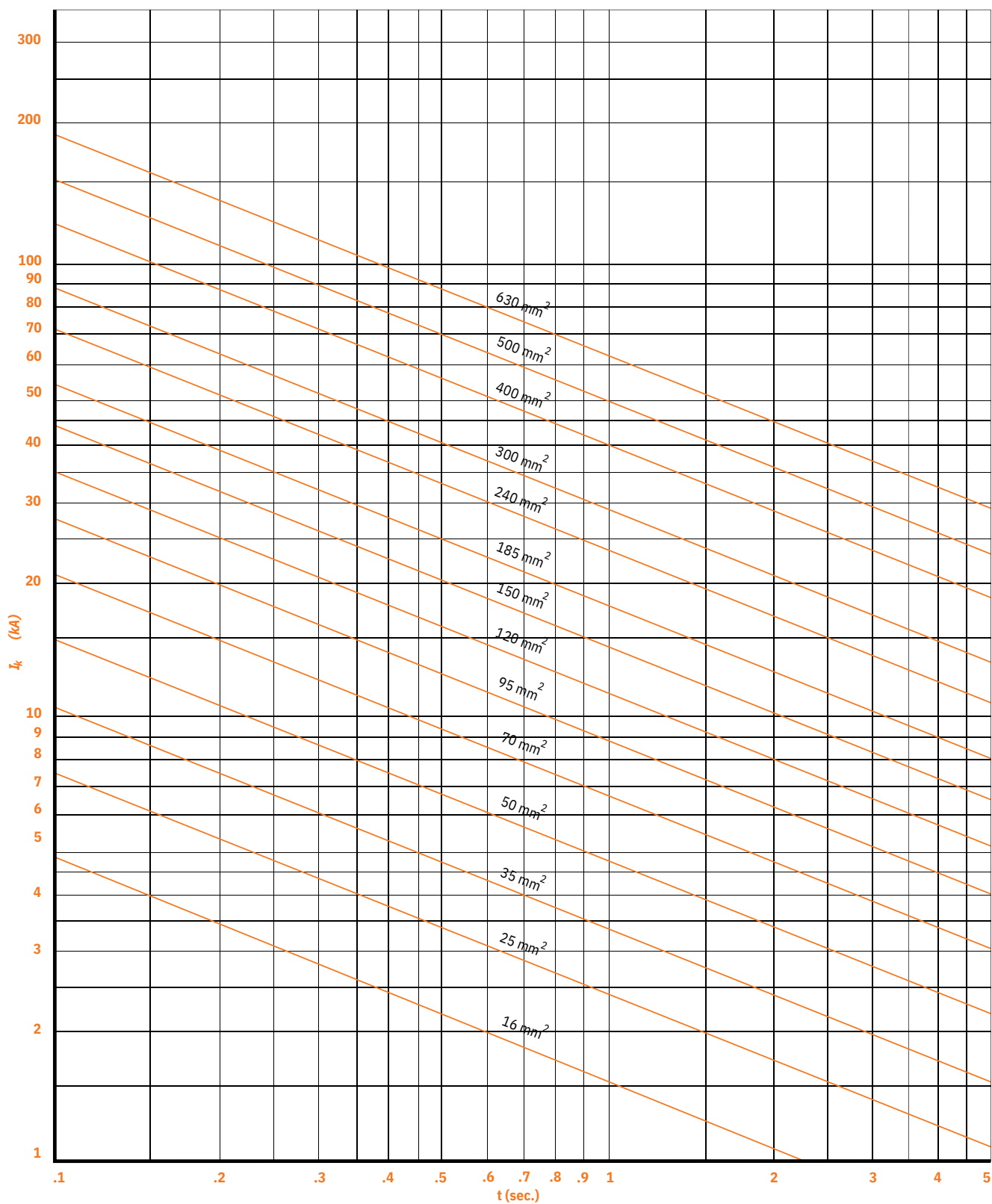
t : Duration of short-circuit current (sec.)

s : Cross-sectional area of conductor (mm²)



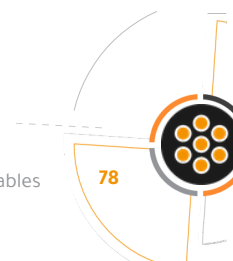
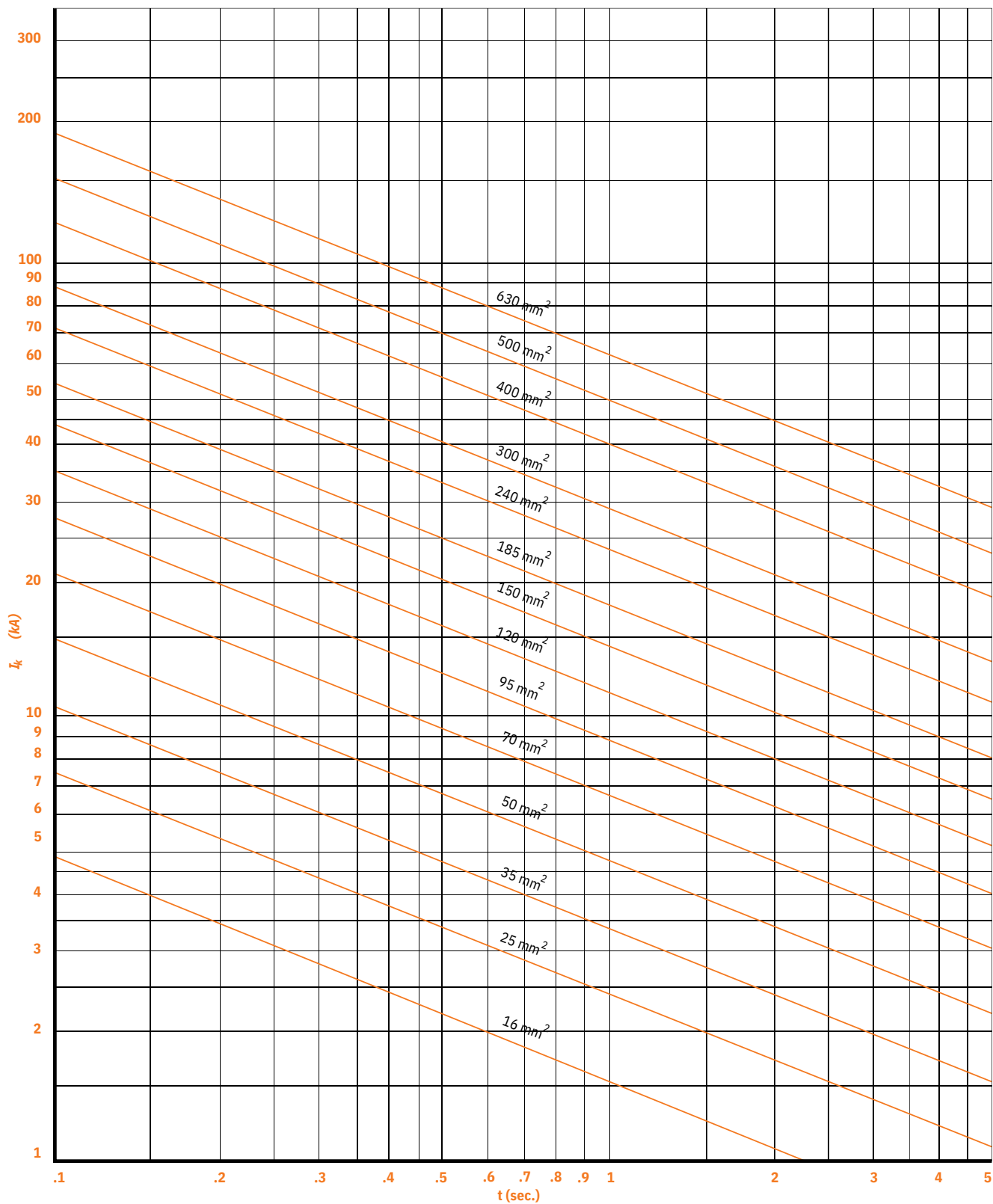


THERMAL SHORT-CIRCUIT CURRENT RATING



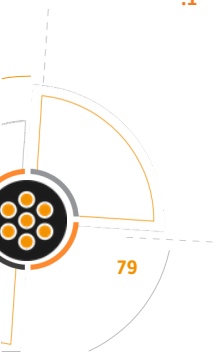
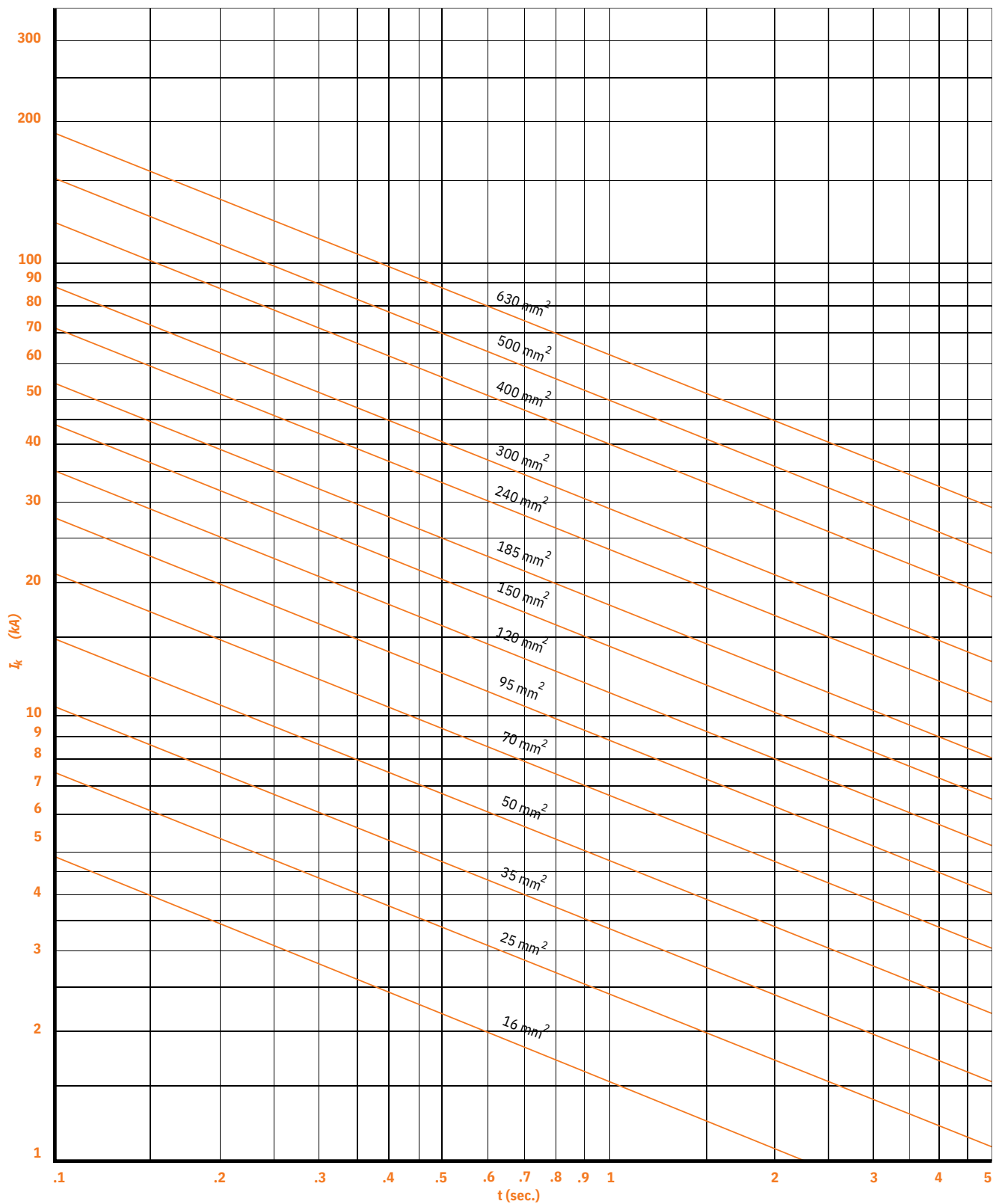


THERMAL SHORT-CIRCUIT CURRENT RATING



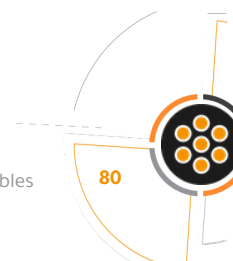
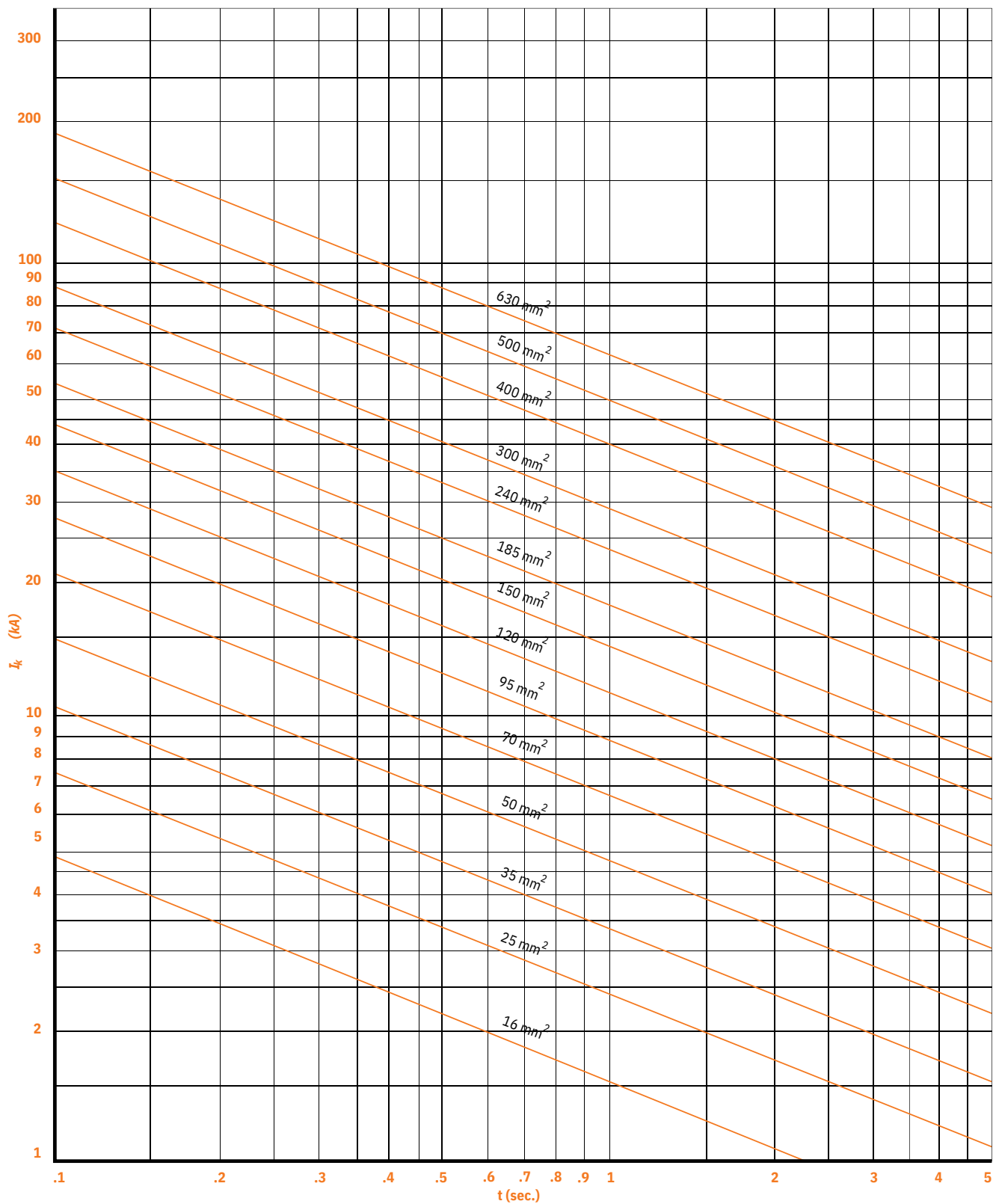


THERMAL SHORT-CIRCUIT CURRENT RATING





THERMAL SHORT-CIRCUIT CURRENT RATING





VOLTAGE DROP

The tabulated voltage drop values are based on a load power factor of 85% lagging and given for a current of one ampere for a one-meter run. For any given cable length, the values should be multiplied by the length (in meters) and by the current (in amperes) that the cables are to carry.

Example

150 meters of three core cable PVC insulated (rated 90°C)
PVC sheathed installed in air
To carry 100 amperes load
Supply voltage 380 volt
Three phase system 60Hz.

The formula applicable is the following:

$$V_{ap} = \frac{V_p \times 1000}{I \times L}$$

Where

- I = Current in amperes
- L = Route length in meters
- V_{ap} = Approximate voltage drop/ampere/meter
- V_p = Maximum permissible voltage drop (say 2.5% of 380 volts)

By substituting current, route length and maximum permissible voltage drop.

$$V_{ap} = \frac{9.5 \times 1000}{100 \times 150} = 0.63\text{mV}$$

To determine a suitable size of conductor, select a cable from the following tables, such that the voltage drop value from this column is less than the calculated value of 0.63mV. Also ensure that it will carry the desired current. For this example, the nearest voltage drop is 0.58 mV corresponding to size 70 mm².

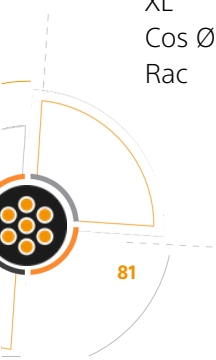
In situations where the load power factor is other than 85% lagging, the following equations should be used to calculate the voltage drop.

Single Phase System

$$V = 2 \times (R_{ac} \cos \phi + X_L \sin \phi)$$

Three phase system

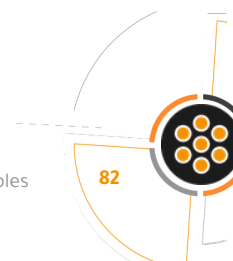
- $V = \sqrt{3} \times (R_{ac} \cos \phi + X_L \sin \phi)$
- V = Voltage drop volt/amp/meter
- X_L = Inductive reactance of cable Ohm/meter
- $\cos \phi$ = Power factor of load
- R_{ac} = A.C. resistance of conductor at maximum conductor temperature Ohm/meter



APPROXIMATE VOLTAGE DROP AT 60HZ FOR SINGLE CORE STRANDED PLAIN COPPER / ALUMINIUM CONDUCTORS PVC INSULATION PVC SHEATH



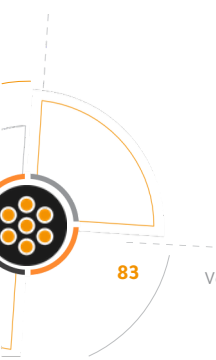
Nominal Area of Conductor mm ²	Copper Conductor mV/amp/m		Aluminium Conductor mV/amp/m	
	PVC Rated 90°C Flat	PVC Rated 90°C Trefoil	PVC Rated 90°C Flat	PVC Rated 90°C Trefoil
1.5	22.6	22.5	-	-
2.5	13.9	13.8	-	-
4	8.7	8.7	-	-
6	5.9	54.8	-	-
10	3.5	3.5	-	-
16	2.3	2.2	3.7	3.7
25	1.5	1.5	2.4	2.3
35	1.1	1.1	1.7	1.7
50	0.83	0.82	1.3	1.3
70	0.61	0.6	0.94	0.92
95	0.47	0.45	0.71	0.69
120	0.39	0.38	0.58	0.56
150	0.34	0.33	0.49	0.48
185	0.29	0.28	0.41	0.4
240	0.25	0.24	0.34	0.33
300	0.22	0.21	0.29	0.28
400	0.2	0.18	0.25	0.24
500	0.18	0.17	0.22	0.21
630	0.16	0.15	0.19	0.18



APPROXIMATE VOLTAGE DROP AT 60HZ FOR THREE AND FOUR CORE STRANDED PLAIN COPPER / ALUMINIUM CONDUCTORS PVC INSULATION PVC SHEATH



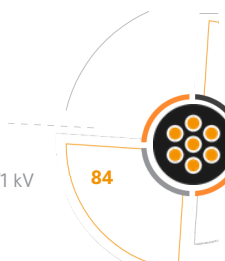
Nominal Area of Conductor mm ²	Copper Conductor mV/amp/m PVC Rated 90°C	Aluminium Conductor mV/amp/m PVC Rated 90°C
1.5	22.5	-
2.5	13.8	-
4	8.6	-
6	5.8	-
10	3.5	-
16	2.2	3.6
25	1.4	2.3
35	1.1	1.7
50	0.8	1.3
70	0.58	0.91
95	0.44	0.68
120	0.37	0.55
150	0.32	0.47
185	0.27	0.39
240	0.23	0.32
300	0.2	0.27
400	0.18	0.23
500	0.15	0.20



APPROXIMATE VOLTAGE DROP AT 60HZ FOR SINGLE CORE STRANDED PLAIN COPPER / ALUMINIUM CONDUCTORS XLPE INSULATION PVC SHEATH



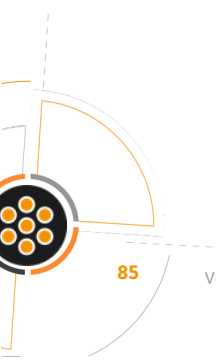
Nominal Area of Conductor mm ²	Copper Conductor mV/amp/m		Aluminium Conductor mV/amp/m	
	Flat	Trefoil	Flat	Trefoil
1.5	22.9	22.8	-	-
2.5	14.1	14.1	-	-
4	8.8	8.8	-	-
6	5.9	5.9	-	-
10	3.6	3.6	-	-
16	2.3	2.3	3.7	3.7
25	1.5	1.5	2.4	2.4
35	1.1	1.1	1.8	1.7
50	0.84	0.83	1.3	1.3
70	0.61	0.6	0.95	0.93
95	0.47	0.46	0.71	0.7
120	0.39	0.38	0.58	0.57
150	0.34	0.33	0.5	0.48
185	0.29	0.28	0.42	0.4
240	0.25	0.24	0.34	0.33
300	0.22	0.21	0.29	0.28
400	0.19	0.18	0.25	0.24
500	0.17	0.16	0.22	0.21
630	0.16	0.15	0.19	0.18



**APPROXIMATE VOLTAGE DROP AT 60 HZ FOR THREE AND FOUR CORES STRANDED
PLAIN COPPER / ALUMINUM CONDUCTORS , XLPE INSULATION, PVC SHEATH**



Nominal Area of Conductor mm ²	Copper Conductor mV/amp/m	Aluminium Conductor mV/amp/m
1.5	22.8	-
2.5	14	-
4	8.7	-
6	5.9	-
10	3.5	-
16	2.2	3.7
25	1.5	2.4
35	1.1	1.7
50	0.81	1.3
70	0.58	0.92
95	0.44	0.68
120	0.37	0.56
150	0.31	0.47
185	0.27	0.39
240	0.23	0.32
300	0.2	0.27
400	0.18	0.23
500	0.15	0.20





LOW VOLTAGE CABLES
CABLE HANDLING AND LAYING PARAMETERS



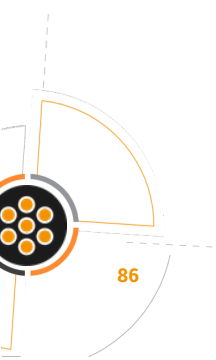
MINIMUM RECOMMENDED BENDING RADIUS

Bending power cables at short Radius may permanently damage the insulation, shielding, or jacket, ultimately resulting in cable failure. Therefore, it is crucial to avoid sharp bends or twists.

Bending Radius

Cable Type	Radius (mm)
Single core cables Armoured or Unarmoured	15 D
Multicore cables Armoured	15 D
Multicore cables Unarmoured	12 D

Where D = Overall diameter of the cable





PULLING TENSIONS AND SIDEWALL PRESSURES

The maximum allowable pulling force is dependent on the cable design, the mechanical limitations, the conductor material and the method of laying and pulling the cables. Each factor has finite limitations and should under no circumstances be exceeded.

The maximum pulling tension should not exceed as follows:

A) Cable equipped with a pulling eye attached to the conductor.

1. The maximum tension in kg is 5 times the conductor cross sectional area in mm² for Copper and 3 times the cross-sectional area for Aluminum.
2. For multicore cables, the maximum tension can be increased by number of cores in the cable, provided pulling eye is attached to each conductor.

B) Cable equipped with a cable stocking over the sheath.

1. For Unarmored cables, the maximum tension in kg is 0.5 times the square of the overall cable diameter (i.e. $0.5D^2$).
2. For armored cables, the maximum tension in kg is 1.2 times the square of the overall diameter (i.e. $1.2D^2$).
3. For laid up cables, when all conductors have the same cross-sectional area, the equivalent overall diameter of the assembly is given by:

$$D_e = k \cdot D \text{ mm} \quad \text{Where:}$$

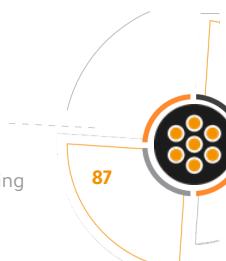
D_e	= assembly diameter in
mm k	= 2 for 2 cables
k	= 2.16 for 3 cables
k	= 2.42 for 4 cables
D	= overall cable diameter

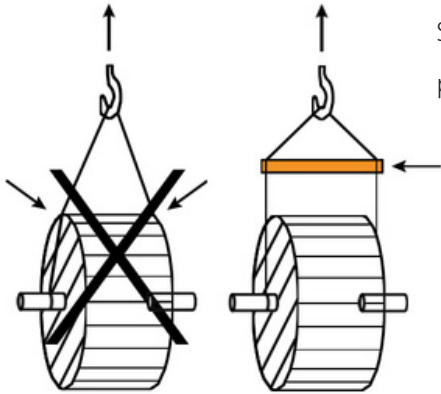
Maximum side wall pressure is given by the following formula:

$$\text{Max. side wall pressure} = \frac{\text{Max. Pulling tension}}{\text{Min. Bending radius}}$$

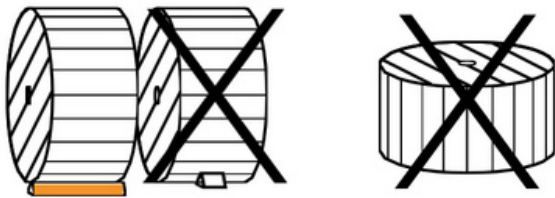
The maximum side wall pressure shall not exceed 500 kg/m, i.e., the tension in the cable in kg as it leaves the bend shall not exceed 500 times the radius of the bend in meters.

It is acceptable to pull the cable in either direction. As a matter of fact, it is an intelligent design to select pulling direction resulting in minimum stress on both the cable and the pulling equipment. This, however, is controlled by the limitations of working space at the ends in consideration.





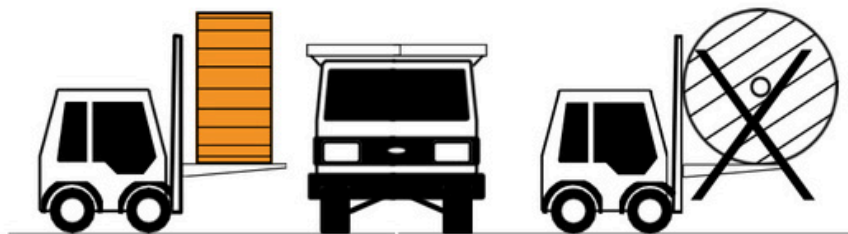
Lifting cable drums using crane.



Do not lay drums flat on their sides, use proper stops to prevent drums rolling.

SCC low voltage cables should be installed by trained personnel in accordance with good engineering practices.

recognized codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often supplied in heavy cable reels and handling these reels can constitute a safety hazard. In particular, dangers may arise during the removal of steel binding straps and during the removal of retaining battens and timbers which may expose projecting nails. For detail information refer to our handling and installation catalogue.



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.



Roll in the direction shown by the arrow.



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