CONTENTS

INTRODUCTION

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

PRODUCT SPECIFICATIONS

All cable designs outlined in this brochure use constructions covered by IEC 502, BS 6346 and BS 5467. Please note, however, that SCC can also supply a range of alternative designs to meet more specialised customer needs including enhanced fire performance and added environmental protection. Cables can also be supplied with alternative sheathing materials and colours, or can be made to individual customer specifications or other recognised standards. In particular, cables can be manufactured to meet specific requirements for the elimination of smoke and toxic gases using low smoke and non-halogen emitting materials. In all cases, please contact our technical department to discuss your specific needs.

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 advise you to contact us for our specialist advice on suitable designs to meet your specific cable needs.

CONDUCTORS

Copper rods used in making copper conductors are manufactured in SCC's in-house copper rod mill while aluminium rods used for aluminium conductors are sourced from Midal Cables in Bahrain, a member of SCC Group.

SCC standard low voltage cable designs use plain circular or sectoral stranded, copper or aluminium conductors conforming to IEC 228 Class 1 and 2. Approximate diameters of conductors are provided in this brochure, however as finished diameters can sometimes vary, please contact our technical department for actual dimensions. Sectoral solid aluminium conductors can be supplied upon request.

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 type 5 insulation conforming to BS 6746, rated 85°C. PVC type 1 insulation to BS 6746 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 equivalent PVC insulated cables. XLPE insulated multicore cables requiring a filler between insulation and sheath are filled with a non-hydroscopic material compatible with the insulation.

ARMOURING

All single core cables are armoured using aluminium wires applied concentrically over a taped or extruded bedding. Multicore cables are armoured using either galvanised steel wires or steel tapes applied helically over a PVC bedding.

OVERSHEATHS

SCC low voltage cables are normally supplied with PVC type ST2 oversheaths complying with IEC 502, and are coloured black. Other colours may be provided to suit a range of installation considerations such as the effect of UV radiations and differing soil compositions. Anti-termite formulations can also be supplied as well as graphite-coated oversheaths where on-site testing of the sheath is required. Please contact our technical department for full details.

Low voltage cables can also be supplied with polyethylene oversheaths. 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. In addition, finished cables are marked on their outer sheath to aid cable identification on site.

FIRE PERFORMANCE OF CABLE SHEATHS

Cables can be supplied with special flame retardant PVC oversheaths to comply with the IEC 332-1 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 ASSURED

Effective Quality Assurance procedures are essential to ensure the consistency and long term reliability and performance of all products. SCC has always recognised the importance of Quality Assurance and this commitment is reflected in the company's accreditation to ISO 9002 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 organisations 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.

CABLE SERVICES

SCC TECHNICAL SUPPORT AND INSTALLATION SERVICES

Please note that SCC offers technical support for all cable installation projects and can also offer comprehensive cable installation services if required. Please contact our Customer Service department for details.

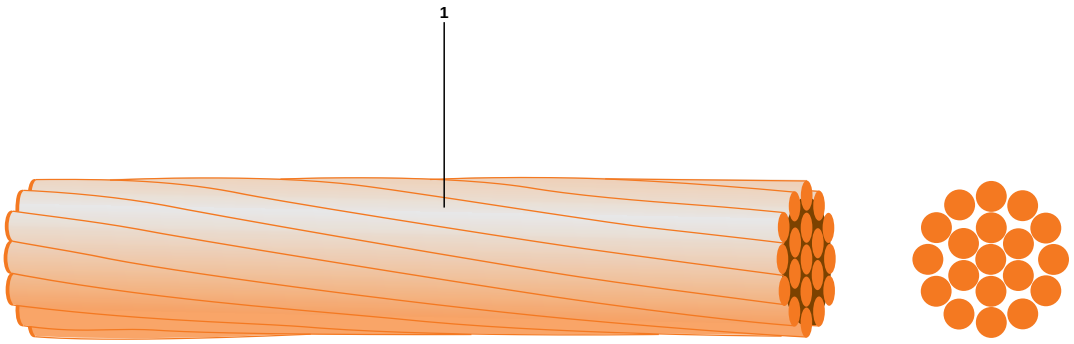
ACCESSORIES

A full range of cable accessories, including jointing materials, terminations and connectors are available from SCC Mass Centres. Mass Centres are located throughout Saudi Arabia and most items can be despatched from stock.

AVAILABILITY

A full range of cable accessories, including jointing materials, terminations and connectors are available from SCC Mass Centres. Mass Centres are located throughout Saudi Arabia and most items can be despatched from stock.

1. Bare Copper Conductor



DESCRIPTION

Plain bare soft drawn, stranded copper conductors, per IEC:228, class 2. Sizes: 2.5 to 500 mm^2.

FEATURES

1. Highest conductivity per unit area of all metals to conduct electricity.
2. Excellent corrosion resistance.
3. Flexible, easily worked and framed into place.
4. Totally recyclable with high scrap value.

APPLICATION

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

TO ORDER

Order by catalogue number, quantity and packaging required.

Example

CXX1-28X 1km (2x500m) on wooden reels.

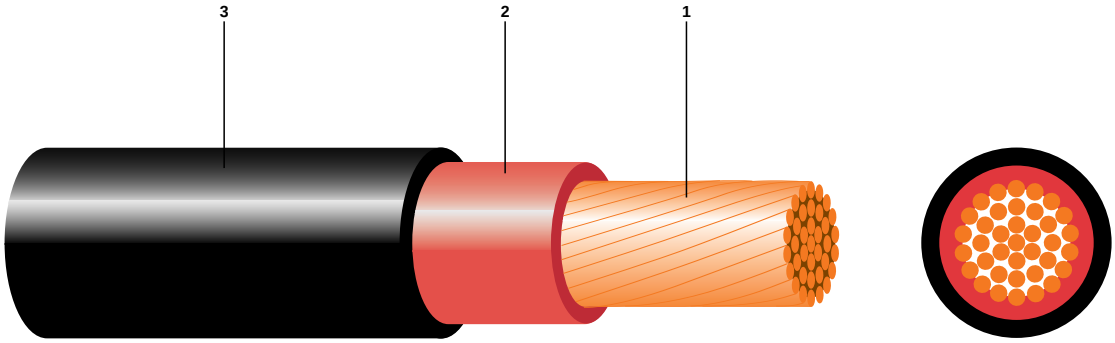
Note: In the interests of product improvement, SCC reserves the right to alter cable specifications.

DIMENSIONS AND WEIGHTS

	Conductor				Packaging	
Catalogue number	Cross sectional area Nominal 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%
CXX1-05X	2.5	7x0.66	1.9	7.4100	21	9000
CXX1-06X	4	7x0.84	2.4	4.6100	34	5000
CXX1-07X	6	7x1.02	3.0	3.0800	51	8000
CXX1-08X	10	7x1.33	4.0	1.8300	86	9000
CXX1-09X	16	7x1.68	5.0	1.1500	137	5000
CXX1-10X	25	7x2.11	6.3	0.7270	217	3600
CXX1-11X	35	7x2.48	7.4	0.5240	301	2500
CXX1-14X	50	19x1.75	8.8	0.3870	408	2500
CXX1-16X	70	19x2.11	10.6	0.2680	589	2400
CXX1-17X	95	19x2.48	12.4	0.1930	818	2500
CXX1-19X	120	37x2.00	14.0	0.1530	1032	2000
CXX1-21X	150	37x2.22	15.5	0.1240	1273	1000
CXX1-22X	185	37x2.48	17.4	0.0991	1593	1000
CXX1-24X	240	61x2.22	20.0	0.0754	2094	1000
CXX1-26X	300	61x2.48	22.3	0.0601	2627	1000
CXX1-27X	400	61x2.81	25.3	0.0470	3359	500
CXX1-28X	500	61x3.18	28.6	0.0366	4314	500

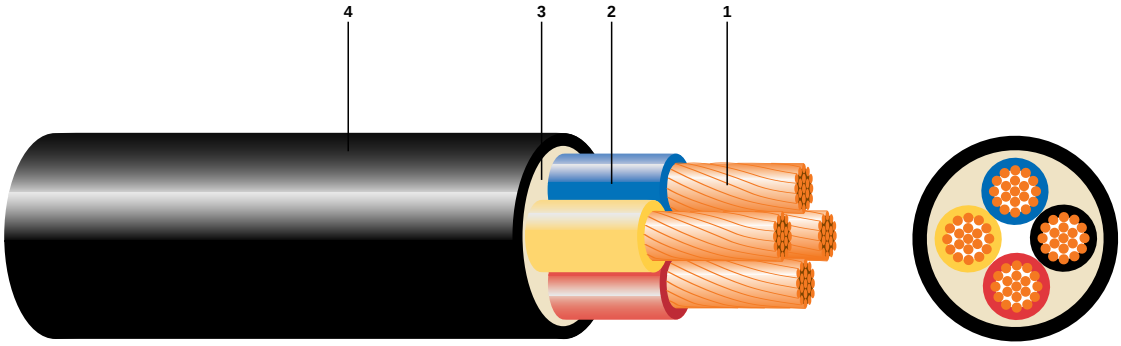
SINGLE CORE

1. Stranded Conductor
2. PVC Insulation Type 5
3. PVC Sheath



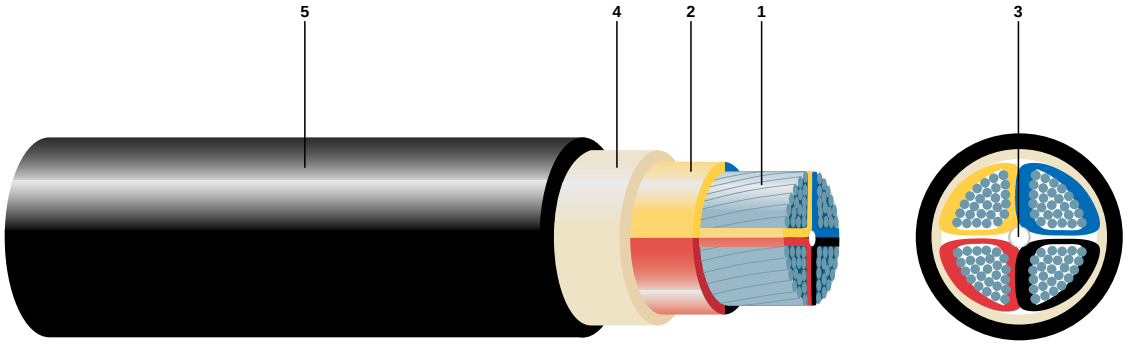
MULTICORE CIRCULAR STRANDED CONDUCTOR

1. Stranded Copper Conductor
2. PVC Insulation Type 5
3. Extruded Bedding
4. PVC Sheath



MULTICORE SECTORAL STRANDED CONDUCTOR

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



DESCRIPTION

Single core and multicore cables with copper or aluminium conductors, PVC insulated and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC: 502.

CONSTRUCTION

Conductor
Plain circular or sector, solid or stranded, copper or aluminium conductors, per IEC:228 class 1 and 2.

Insulation
Heat resistive PVC type 5 to BS6746 rated 85°C for continuous operation (PVC type 1 to BS6746 rated 70°C also available on request).

Sheath
PVC type ST2 to IEC 502, colour black.

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

Colours for core identification

Single core	-	red (black colour 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.

TO ORDER
Order by catalogue number, quantity and packaging required.

Example
CJH3-06A 10km (10x1000m) on wooden reels.

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

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core							
AJB1-04A	1.5	1	0.8	1.4	6.4	50	1000/2000
CJB1-04A	1.5	7	0.8	1.4	6.6	52	1000/2000
AJB1-05A	2.5	1	0.8	1.4	6.8	62	1000/2000
CJB1-05A	2.5	7	0.8	1.4	7.0	65	1000/2000
AJB1-06A	4	1	1.0	1.4	7.8	87	1000/2000
CJB1-06A	4	7	1.0	1.4	8.0	90	1000/2000
AJB1-07A	6	1	1.0	1.4	8.3	110	1000/2000
CJB1-07A	6	7	1.0	1.4	8.6	115	1000/2000
AJB1-08A	10	1	1.0	1.4	9.1	155	1000/2000
CJB1-08A	10	7	1.0	1.4	9.5	160	1000/2000
EJB1-09A	16	6	1.0	1.4	10.5	225	1000/2000
EJB1-10A	25	6	1.2	1.4	11.9	330	500/1000
EJB1-11A	35	6	1.2	1.4	13.3	435	500/1000
EJB1-14A	50	6	1.4	1.4	15.2	570	500/1000
EJB1-16A	70	12	1.4	1.4	17.0	775	500/1000
EJB1-17A	95	15	1.6	1.5	19.4	1065	500/1000
EJB1-19A	120	18	1.6	1.5	21.0	1295	500/1000
EJB1-21A	150	18	1.8	1.6	23.3	1595	500/1000
EJB1-22A	185	30	2.0	1.7	26.0	1980	500
EJB1-24A	240	34	2.2	1.8	27.7	2660	500
EJB1-26A	300	34	2.4	1.9	30.6	3300	500
EJB1-27A	400	53	2.6	2.0	34.1	4180	500
EJB1-28A	500	53	2.8	2.1	37.8	5290	500
EJB1-30A	630	53	2.8	2.2	42.8	6570	500

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core							
AJH2-04A	1.5re	1	0.8	1.8	12.2	146	1000
CJH2-04A	1.5rm	7	0.8	1.8	12.6	190	1000
AJH2-05A	2.5re	1	0.8	1.8	13.0	225	1000
CJH2-05A	2.5rm	7	0.8	1.8	13.1	240	1000
AJH2-06A	4re	1	1.0	1.8	14.8	305	1000
CJH2-06A	4rm	7	1.0	1.8	15.2	315	1000
AJH2-07A	6re	1	1.0	1.8	15.8	370	1000
CJH2-07A	6rm	7	1.0	1.8	16.4	390	1000
AJH2-08A	10re	1	1.0	1.8	17.4	495	1000
CJH2-08A	10rm	7	1.0	1.8	18.2	530	1000
EJH2-09A	16rm	6	1.0	1.8	20.2	710	1000
EJH2-10A	25rm	6	1.2	1.8	23.6	1005	1000
EJH2-11A	35rm	6	1.2	1.8	25.8	1275	1000
Three Core							
AJH3-04A	1.5re	1	0.8	1.8	12.7	205	1000
CJH3-04A	15rm	7	0.8	1.8	13.1	220	1000
AJH3-05A	2.5re	1	0.8	1.8	13.5	255	1000
CJH3-05A	2.5rm	7	0.8	1.8	14.0	275	1000
AJH3-06A	4re	1	1.0	1.8	15.5	350	1000
CJH3-06A	4rm	7	1.0	1.8	15.9	365	1000
AJH3-07A	6re	1	1.0	1.8	16.5	440	1000
CJH3-07A	6rm	7	1.0	1.8	17.2	455	1000
AJH3-08A	10re	1	1.0	1.8	18.3	600	1000
CJH3-08A	10rm	7	1.0	1.8	18.0	555	1000
EJH3-09A	16rm	6	1.0	1.8	20.0	755	1000
EJH3-10A	25rm	6	1.2	1.8	23.7	1115	1000
FJH3-11A	35sm	6	1.2	1.8	22.2	1315	1000
FJH3-14A	50sm	6	1.4	1.8	25.7	1745	1000
FJH3-16A	70sm	12	1.4	1.9	28.6	2400	500
FJH3-17A	95sm	15	1.6	2.1	32.9	3200	500
FJH3-19A	120sm	18	1.6	2.2	37.8	4050	500
FJH3-21A	150sm	18	1.8	2.3	39.7	4990	500
FJH3-22A	185sm	30	2.0	2.5	43.9	6205	250/500
FJH3-23A	250sm	34	2.2	2.7	49.3	8075	250/500
FJH3-26A	300sm	34	2.4	2.9	54.6	10065	250
FJH3-27A	400sm	53	2.6	3.1	61.8	12775	250
FJH3-28A	500sm	53	2.8	3.4	68.4	16250	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four Core							
AJH4-04A	1.5re	1	0.8	1.8	13.4	240	1000
CJH4-04A	1.5rm	7	0.8	1.8	13.9	255	1000
AJH4-05A	2.5re	1	0.8	1.8	14.4	300	1000
CJH4-05A	2.5rm	7	0.8	1.8	14.9	310	1000
AJH4-06A	4re	1	1.0	1.8	16.6	420	1000
CJH4-06A	4rm	7	1.0	1.8	17.1	435	1000
AJH4-07A	6re	1	1.0	1.8	17.8	525	1000
CJH4-07A	6rm	7	1.0	1.8	18.5	545	1000
AJH4-08A	10re	1	1.0	1.8	19.7	745	1000
CJH4-08A	10rm	7	1.0	1.8	20.7	760	1000
EJH4-09A	16rm	6	1.0	1.8	23.1	1050	1000
EJH4-10A	25rm	6	1.2	1.8	26.0	1460	1000
FJH4-11A	35sm	6	1.2	1.8	25.1	1690	500/1000
FJH4-14A	50sm	6	1.4	1.9	29.2	2275	500
FJH4-16A	70sm	12	1.4	2.1	32.9	3140	500
FJH4-17A	95sm	15	1.6	2.2	37.6	4280	500
FJH4-19A	120sm	18	1.6	2.3	39.9	5250	500
FJH4-21A	150sm	18	1.8	2.5	44.5	6485	250
FJH4-22A	185sm	30	2.0	2.7	50.3	8095	250
FJH4-23A	240sm	34	2.2	2.9	56.5	10520	250
FJH4-26A	300sm	34	2.4	3.1	62.6	13110	250
FJH4-27A	400sm	53	2.6	3.4	70.8	16675	250
FJH4-28A	500sm	53	2.8	3.6	78.8	21175	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness Nominal 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										
CJHB-52A	10rm	6rm	7	7	1.0	1.0	1.8	19.6	720	500/1000
EJHB-53A	16rm	10rm	6	7	1.0	1.0	1.8	22.0	995	500/1000
EJHB-54A	25rm	16rm	6	7	1.2	1.0	1.8	25.7	1450	500/1000
EJHB-55A	35sm	16rm	6	6	1.2	1.0	1.8	26.0	1530	500/1000
EJHB-58A	50sm	25rm	6	6	1.4	1.2	1.9	30.2	2120	500/1000
EJHB-59A	70sm	35rm	12	6	1.4	1.2	2.0	33.8	2910	500/1000
EJHB-62A	95sm	50rm	15	19	1.6	1.4	2.2	38.8	3965	500
EJHB-63A	120sm	70rm	18	19	1.6	1.4	2.3	41.0	4840	500
EJHB-64A	150sm	70rm	18	19	1.8	1.4	2.4	45.5	5915	250
EJHB-66A	185sm	95rm	30	19	2.0	1.6	2.6	51.8	7470	250
EJHB-67A	240sm	120rm	34	37	2.2	1.6	2.8	58.1	9635	250
EJHB-69A	300sm	150rm	34	37	2.4	1.8	3.0	64.4	11960	250
EJHB-70A	400sm	185rm	53	37	2.6	2.0	3.2	71.9	15205	250
EJHB-71A	500sm	240rm	53	61	2.8	2.2	3.5	77.0	19130	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core							
PJB1-09A	16	7	1.0	1.4	10.6	132	1000/2000
YJB1-10A	25	6	1.2	1.4	12.3	186	500/1000
YJB1-11A	35	6	1.2	1.4	13.5	230	500/1000
YJB1-14A	50	6	1.4	1.4	15.3	291	500/1000
YJB1-16A	70	12	1.4	1.4	17.1	376	500/1000
YJB1-17A	95	15	1.6	1.5	19.6	504	500/1000
YJB1-19A	120	15	1.6	1.5	21.2	594	500/1000
YJB1-21A	150	15	1.8	1.6	23.6	726	500/1000
YJB1-22A	185	30	2.0	1.7	26	898	500
YJB1-24A	240	30	2.2	1.8	29.5	1140	500
YJB1-26A	300	30	2.4	1.9	32.5	1404	500
YJB1-27A	400	53	2.6	2.0	36.3	1753	500
YJB1-28A	500	53	2.8	2.1	40	2163	250
YJB1-30A	630	53	2.8	2.2	44.2	2656	250
Two core							
PJH2-09A	16rm	7	1.0	1.8	20.4	500	1000
YJH2-10A	25rm	6	1.2	1.8	23.8	710	1000
YJH2-11A	35rm	6	1.2	1.8	26.1	870	1000
Three core							
PJH3-09A-301	16rm	7	1.0	1.8	21.5	575	500/1000
YJH3-10A-301	25rm	6	1.2	1.8	25.2	810	500/1000
RJH3-11A	35rm	6	1.2	1.8	22.2	675	500/1000
RJH3-14A	50sm	6	1.4	1.8	25.7	885	500/1000
RJH3-16A	70sm	12	1.4	1.9	28.6	1150	500/1000
RJH3-17A	95sm	15	1.6	2.1	32.9	1555	500/1000
RJH3-18A	120sm	15	1.6	2.2	37.8	1880	500/1000
RJH3-21A	150sm	15	1.8	2.3	39.7	2335	500/1000
RJH3-22A	185sm	30	2.0	2.5	43.9	2830	250/1000
RJH3-23A	240sm	30	2.2	2.7	49.3	3585	250/500
RJH3-25A	300sm	30	2.4	2.9	54.6	4445	250/500
RJH3-27A	400sm	53	2.6	3.1	61.8	5660	250
RJH3-28A	500sm	53	2.8	3.4	68.4	7035	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

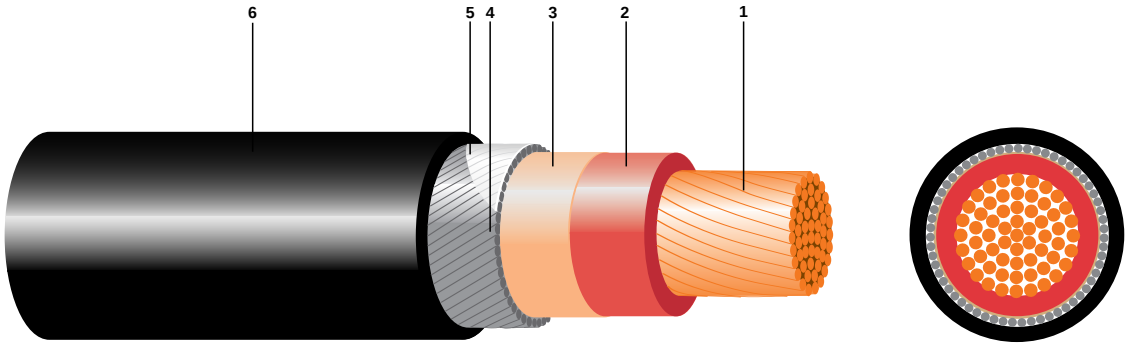
	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four Core							
PJH4-09A-301	16rm	7	1	1.8	23.3	675	500/1000
YJH4-10A-301	25rm	6	1.2	1.8	27.5	955	500/1000
RJH4-11A	35sm	6	1.2	1.8	25.1	870	500/1000
RJH4-14A	50sm	6	1.4	1.9	29.2	1160	500/1000
RJH4-16A	70sm	12	1.4	2.1	32.9	1530	500/1000
RJH4-17A	95sm	15	1.6	2.2	37.6	2045	500/1000
RJH4-18A	120sm	15	1.6	2.3	39.9	2450	500/1000
RJH4-21A	150sm	15	1.8	2.5	44.5	3000	250/1000
RJH4-22A	185sm	30	2.0	2.7	50.3	3740	250/500
RJH4-23A	240sm	30	2.2	2.9	56.5	4725	250/500
RJH4-25A	300sm	30	2.4	3.1	62.6	5850	250
RJH4-27A	400sm	53	2.6	3.4	70.8	7485	250
RJH4-28A	500sm	53	2.8	3.6	78.8	9275	250

	Conductor				Insulation		Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness Nominal 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										
YJHB-54A	25rm	16rm	7	7	1.2	1.0	1.8	27.3	856	500/1000
RJHB-55A	35sm	16rm	6	7	1.2	1.0	1.8	24.5	800	500/1000
RJHB-58A	50sm	25rm	6	6	1.4	1.2	1.9	29.2	1110	500
RJHB-59A	70sm	35rm	12	6	1.4	1.2	2.9	32.5	1430	500
RJHB-62A	95sm	50rm	15	6	1.6	1.4	2.2	36.7	1900	500
RJHB-63A	120sm	70rm	15	12	1.6	1.4	2.3	39.6	2260	500
RJHB-64A	150sm	70rm	15	12	1.8	1.4	2.4	44.0	2780	250
RJHB-66A	185sm	95rm	30	15	2.0	1.6	2.6	49.5	3455	250
RJHB-67A	240sm	120rm	30	15	2.2	1.6	2.8	55.4	4405	250
RJHB-69A	300sm	150rm	30	15	2.4	1.8	3.0	61.0	5415	250
RJHB-70A	400sm	185rm	53	30	2.6	2.0	3.2	71.9	7045	250
RJHB-71A	500sm	240rm	53	30	2.8	2.2	3.5	77.0	8625	250

rm - circular stranded conductor sm - sectoral stranded conductor

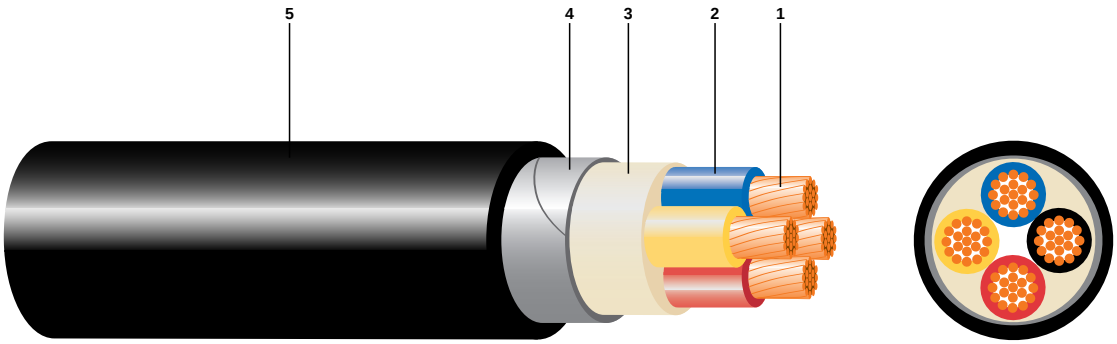
SINGLE CORE

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



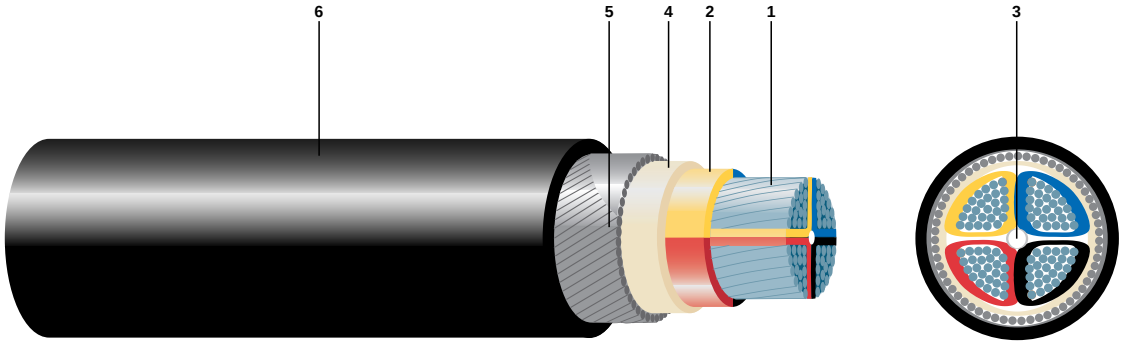
MULTICORE CIRCULAR STRANDED

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



MULTICORE SECTORAL STRANDED

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



DESCRIPTION

Single core and multicore cables with copper or aluminium conductors, PVC insulated, armoured and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC: 502.

CONSTRUCTION

Conductor
Plain circular or sector, solid or stranded, copper or aluminium conductors, per IEC:228 class 1 and 2.

Insulation
Heat resistive PVC type 5 to BS6746 rated 85°C for continuous operation (PVC type 1 to BS6746 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 aluminium 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 502, colour black.

Colours for core identification

Single core	-	red (black colour 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.

TO ORDER
Order by catalogue number, quantity and packaging required.

Example
FJM4-11A-A01 8km (16x500m) on wooden reels

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

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness of insulation Nominal mm	Thickness of steel tape Nominal mm	Thickness of sheath Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
CJM2-04A-A03	1.5	7	0.8	0.2	1.8	14.2	335	1000
CJM2-05A-A01	2.5	7	0.8	0.2	1.8	15.0	380	1000
CJM2-06A-A01	4	7	1.0	0.2	1.8	17.0	495	1000
CJM2-07A-A01	6	7	1.0	0.2	1.8	18.8	520	1000
CJM2-08A-A01	10	7	1.0	0.2	1.8	20.6	665	1000
EJM2-09A-A01	16	7	1.0	0.2	1.8	22.6	860	1000
EJM2-10A-A01	25	7	1.2	0.2	1.8	24.8	1200	1000
EJM2-11A-A01	35	7	1.2	0.2	1.8	27.0	1540	1000
Three Core								
CJM3-04A-A01	1.5rm	7	0.8	0.2	1.8	14.7	345	1000
CJM3-05A-A02	2.5rm	7	0.8	0.2	1.8	15.6	425	1000
CJM3-06A-A01	4rm	7	1.0	0.2	1.8	17.7	555	1000
AJM3-07A-A01	6re	1	1.0	0.2	1.8	18.9	640	1000
CJM3-07A-A04	6rm	7	1.0	0.2	1.8	19.6	610	1000
AJM3-08A-A01	10re	1	1.0	0.2	1.8	20.7	820	1000
CJM3-08A-A01	10rm	7	1.0	0.2	1.8	21.6	865	1000
EJM3-09A-A01	16rm	7	1.0	0.2	1.8	23.7	1030	1000
EJM3-10A-A01	25rm	7	1.2	0.2	1.8	26.3	1540	1000
FJM3-11A-A01	35sm	6	1.2	0.2	1.8	26.4	1685	1000
FJM3-14A-A01	50sm	6	1.4	0.2	1.9	30.1	2110	1000
FJM3-16A-A01	70sm	12	1.4	0.2	2.0	33.4	2825	1000
FJM3-17A-A01	95sm	15	1.6	0.5	2.2	39.5	4190	500
FJM3-19A-A01	120sm	18	1.6	0.5	2.3	42.4	5015	500
FJM3-21A-A01	150sm	18	1.8	0.5	2.5	47.0	6250	500
FJM3-22A-A01	185sm	30	2.0	0.5	2.6	51.0	7515	250
FJM3-23A-A01	240sm	34	2.2	0.5	2.8	56.3	9525	250
FJM3-26A-A01	300sm	34	2.4	0.5	3.0	62.4	11705	250
FJM3-27A-A01	400sm	53	2.6	0.5	3.3	79.0	15195	250
FJM3-28A-A01	500sm	53	2.8	0.5	3.5	82.0	18095	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four Core								
CJM4-04A-A01	1.5rm	7	0.8	0.2	1.8	15.6	410	1000
CJM4-05A-A02	2.5rm	7	0.8	0.2	1.8	16.5	480	1000
CJM4-06A-A01	4rm	7	1.0	0.2	1.8	18.9	640	1000
AJM4-07A-A01	6re	1	1.0	0.2	1.8	20.3	745	1000
CJM4-07A-A01	6rm	7	1.0	0.2	1.8	21.0	770	1000
AJM4-08A-A01	10re	1	1.0	0.2	1.8	21.8	975	1000
CJM4-08A-A01	10rm	7	1.0	0.2	1.8	23.2	1030	1000
EJM4-09A-A01	16rm	7	1.0	0.2	1.8	25.6	1250	1000
EJM4-10A-A01	25rm	7	1.2	0.2	1.8	28.6	1870	1000
FJM4-11A-A01	35sm	6	1.2	0.2	1.9	29.7	2140	500
FJM4-14A-A01	50sm	6	1.4	0.2	2.0	34.0	2790	500
FJM4-16A-A01	70sm	12	1.4	0.5	2.2	39.0	4150	500
FJM4-17A-A01	95sm	15	1.6	0.5	2.4	44.4	5470	500
FJM4-19A-A01	120sm	18	1.6	0.5	2.5	46.7	6560	250
FJM4-21A-A01	150sm	18	1.8	0.5	2.6	51.6	7920	250
FJM4-22A-A01	185sm	30	2.0	0.5	2.8	57.8	9760	250
FJM4-23A-A01	240sm	34	2.2	0.5	3.0	63.5	12415	250
FJM4-26A-A01	300sm	34	2.4	0.5	3.2	69.6	15330	250
FJM4-27A-A01	400sm	53	2.6	0.5	3.5	78.2	19180	250
FJM4-28A-A01	500sm	53	2.8	0.8	3.8	88.4	24165	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness of steel tape Nominal mm	Thickness Nominal 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											
CJMB-52A-A01	10rm	6rm	7	7	1.0	1.0	0.2	1.8	22.7	975	1000
EJMB-53A-A01	16rm	10rm	6	7	1.0	1.0	0.2	1.8	25.1	1180	1000
EJMB-54A-A01	25rm	16rm	6	6	1.2	1.0	0.2	1.8	28.8	1670	1000
FJMB-55A-A01	35sm	16rm	6	6	1.2	1.0	0.2	1.8	29.5	1975	500
FJMB-58A-A01	50sm	25rm	6	6	1.4	1.2	0.2	1.9	33.8	2620	500
FJMB-59A-A01	70sm	35rm	12	6	1.4	1.2	0.2	2.1	37.6	3455	500
FJMB-62A-A01	95sm	50rm	15	6	1.6	1.4	0.5	2.3	43.8	5020	500
FJMB-63A-A01	120sm	70rm	18	12	1.6	1.4	0.5	2.4	46.3	6035	250
FJMB-64A-A01	150sm	70rm	18	12	1.8	1.4	0.5	2.5	50.9	7205	250
FJMB-66A-A01	185sm	95rm	30	15	2.0	1.6	0.5	2.7	57.2	8955	250
FJMB-67A-A01	240sm	120rm	34	18	2.2	1.6	0.5	2.9	63.9	11370	250
FJMB-69A-A01	300sm	150rm	34	18	2.4	1.8	0.5	3.1	70.4	13920	250
FJMB-70A-A01	400sm	185rm	53	30	2.6	2.0	0.5	3.3	79.0	17580	250
FJMB-71A-A01	500sm	240rm	53	34	2.8	2.2	0.8	3.6	87.2	21570	250

rm - circular stranded conductor

sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Dia. of aluminium wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core								
EJW1-11A-A02	35	6	1.2	1.6	1.8	18.3	680	1000
EJW1-14A-A05	50	6	1.4	1.6	1.8	20.0	840	1000
EJW1-16A-A01	70	12	1.4	1.6	1.8	21.8	1075	1000
EJW1-17A-A03	95	15	1.6	1.6	1.8	23.9	1390	1000
EJW1-19A-A01	120	18	1.6	1.6	1.8	25.4	1650	1000
EJW1-21A	150	18	1.8	1.6	1.8	27.2	1965	500
EJW1-22A	185	30	2.0	1.6	1.8	29.5	2390	500
EJW1-24A	240	34	2.2	1.6	1.9	32.4	3020	500
EJW1-26A	300	34	2.4	2.0	2.0	36.2	3770	500
EJW1-27A	400	53	2.6	2.0	2.1	39.6	4720	500
EJW1-28A	500	53	2.8	2.0	2.2	44.0	5925	500
EJW1-30A	630	53	2.8	2.0	2.4	48.0	7425	500

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
CJL2-04A-A02	1.5	7	0.8	1.25	1.8	15.1	490	1000
CJL2-05A-A05	2.5	7	0.8	1.25	1.8	15.9	550	1000
CJL2-06A-A06	4	7	1.0	1.25	1.8	17.9	690	1000
CJL2-07A-A03	6	7	1.0	1.25	1.8	19.1	800	1000
EJL2-08A-A01	10	6	1.0	1.25	1.8	20.9	985	1000
EJL2-09A-A03	16	6	1.0	1.25	1.8	22.7	1205	1000
EJL2-10A	25rm	7	1.2	1.60	1.8	26.6	1710	500
EJL2-11A	35rm	7	1.2	1.60	1.8	28.8	2050	500

rm - circular stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Three core								
CJL3-04A-A02	1.5	7	0.8	1.25	1.8	15.6	525	1000
CJL3-05A-A04	2.5	7	0.8	1.25	1.8	16.5	600	1000
CJL3-06A-A02	4	7	1.0	1.25	1.8	18.6	765	1000
CJL3-07A-A04	6	7	1.0	1.25	1.8	19.9	890	1000
EJL3-08A-A01	10	6	1.0	1.25	1.8	21.9	1120	1000
EJL3-09A-A01	16	6	1.0	1.25	1.8	23.8	1395	1000
EJL3-10A	25rm	7	1.2	1.6	1.8	29.4	2085	500
FJL3-11A	35sm	6	1.2	1.6	1.8	28.4	2250	500
FJL3-14A	50sm	6	1.4	1.6	2.0	32.3	2840	500
FJL3-16A	70sm	12	1.4	2.0	2.1	36.4	3880	500
FJL3-17A	95sm	15	1.6	2.0	2.2	40.6	4940	400
FJL3-19A	120sm	18	1.6	2.0	2.3	44.4	5830	500
FJL3-21A	150sm	18	1.8	2.5	2.5	49.4	7440	500
FJL3-22A	185sm	30	2.0	2.5	2.7	53.7	8875	500
FJL3-23A	240sm	34	2.2	2.5	2.9	59.6	11080	500
FJL3-26A	300sm	34	2.4	2.5	3.1	65.0	13365	250
FJL3-27A	400sm	53	2.6	3.15	3.4	73.8	17335	250
FJL3-28A	500sm	53	2.8	3.15	3.6	81.0	21310	250
Four core								
CJL4-04A-A01	1.5	7	0.8	1.25	1.8	16.5	585	1000
CJL4-05A-A07	2.5	7	0.8	1.25	1.8	17.4	665	1000
CJL4-06A-A01	4	7	1.0	1.25	1.8	19.8	865	1000
CJL4-07A-A01	6	7	1.0	1.25	1.8	21.3	1020	1000
EJL4-08A-A01	10	6	1.0	1.25	1.8	23.5	1300	1000
EJL4-09A	16	6	1.0	1.6	1.8	26.3	1800	500
EJL4-10A	25rm	7	1.2	1.6	1.8	29.7	2455	500
FJL4-11A	35sm	6	1.2	1.6	1.9	31.3	2775	500
FJL4-14A	50sm	6	1.4	2.0	2.1	37.0	3820	500
FJL4-16A	70sm	12	1.4	2.0	2.2	40.6	5015	500
FJL4-17A	95sm	15	1.6	2.0	2.4	46.6	6240	500
FJL4-19A	120sm	18	1.6	2.5	2.5	49.3	7800	500
FJL4-21A	150sm	18	1.8	2.5	2.7	54.4	9300	250
FJL4-22A	185sm	30	2.0	2.5	2.9	60.6	11300	250
FJL4-23A	240sm	34	2.2	2.5	3.1	66.9	14120	250
FJL4-26A	300sm	34	2.4	2.5	3.3	73.6	17100	250
FJL4-27A	400sm	53	2.6	3.15	3.6	84.1	22210	250
FJL4-28A	500sm	53	2.8	3.15	3.9	92.5	27400	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Diameter of steel wire Nominal mm	Thickness Nominal 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											
EJLB-53A	16rm	10rm	7	7	1.0	1.0	1.6	1.8	27.1	1755	1000
EJLB-54A	25rm	16rm	6	7	1.2	1.0	1.6	1.8	30.8	2325	500
FJLB-55A	35sm	16rm	6	6	1.2	1.0	1.6	1.9	31.3	2585	500
FJLB-58A	50sm	25rm	6	6	1.4	1.2	2.0	2.0	36.4	3350	500
FJLB-59A	70sm	35rm	12	6	1.4	1.2	2.0	2.1	40.4	4550	500
FJLB-62A	95sm	50rm	15	6	1.6	1.4	2.0	2.3	45.4	5780	500
FJLB-63A	120sm	70rm	18	12	1.6	1.4	2.5	2.4	49.1	7330	500
FJLB-64A	150sm	70rm	18	12	1.8	1.4	2.5	2.6	54.2	8640	500
FJLB-66A	185sm	95rm	30	15	2.0	1.6	2.5	2.7	59.8	10425	250
FJLB-67A	240sm	120rm	34	18	2.2	1.6	2.5	2.9	66.5	12980	250
FJLB-69A	300sm	150rm	34	18	2.4	1.8	2.5	3.1	72.8	15640	250
FJLB-70A	400sm	185rm	53	30	2.6	2.0	3.15	3.4	82.8	22525	250
FJLB-71A	500sm	240rm	53	34	2.8	2.2	3.15	3.7	91.5	27310	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two core								
PJM2-09A-A01	16rm	7	1.0	0.2	1.8	22.4	760	1000
YJM2-10A-A01	25rm	6	1.2	0.2	1.8	25.2	970	500/1000
YJM,2-11A-A01	35rm	6	1.2	0.2	1.8	27.2	1115	500/1000
Three core								
PJM3-09A-A01	16rm	7	1.0	0.2	1.8	23.9	840	500/1000
YJM3-10A-A01	25rm	6	1.2	0.2	1.8	26.6	1085	500/1000
RJM3-11A-A01	35sm	6	1.2	0.2	1.8	26.4	1010	500/1000
RJM3-14A-A01	50sm	6	1.4	0.2	1.9	30.1	1250	500
RJM3-16A-A01	70sm	12	1.4	0.2	2.0	33.4	1590	500
RJM3-17A-A01	95sm	15	1.6	0.5	2.2	39.5	2475	500
RJM3-18A-A01	120sm	18	1.6	0.5	2.3	42.4	2850	500
RJM3-21A-A01	150sm	18	1.8	0.5	2.5	47.0	3365	250
RJM3-22A-A01	185sm	30	2.0	0.5	2.6	51.0	4060	250
RJM3-23A-A01	240sm	30	2.2	0.5	2.8	56.3	4980	250
RJM3-25A-A01	300sm	30	2.4	0.5	3.0	61.6	5930	250
RJM3-27A-A01	400sm	53	2.6	0.5	3.3	67.2	7245	250
RJM3-28A-A01	500sm	53	2.8	0.5	3.5	73.9	8810	250
Four core								
PJM4-09A-A01	16rm	7	1.0	0.2	1.8	25.9	970	500/1000
YJM4-10A-A01	25rm	6	1.2	0.2	1.8	28.8	1255	500/1000
RJM4-11A-A01	35sm	6	1.2	0.2	1.9	29.5	1230	500
RJM4-14A-A01	50sm	6	1.4	0.2	2.0	34.0	1610	500
RJM4-16A-A01	70sm	12	1.4	0.5	2.2	39.5	2405	500
RJM4-17A-A01	95sm	15	1.6	0.5	2.4	44.4	3100	500
RJM4-18A-A01	120sm	18	1.6	0.5	2.5	47.2	3525	250
RJM4-21A-A01	150sm	18	1.8	0.5	2.6	51.6	4240	250
RJM4-22A-A01	185sm	30	2.0	0.5	2.8	57.3	5170	250
RJM4-23A-A01	240sm	30	2.2	0.5	3.0	64.3	6370	250
RJM4-25A-A01	300sm	30	2.4	0.5	3.2	70.8	7580	250
RJM4-27A-A01	400sm	53	2.6	0.5	3.5	79.6	9410	250
RJM4-28A-A01	500sm	53	2.8	0.8	3.8	89.6	12455	250

rm - circular stranded conductor sm - sectoral stranded conductor

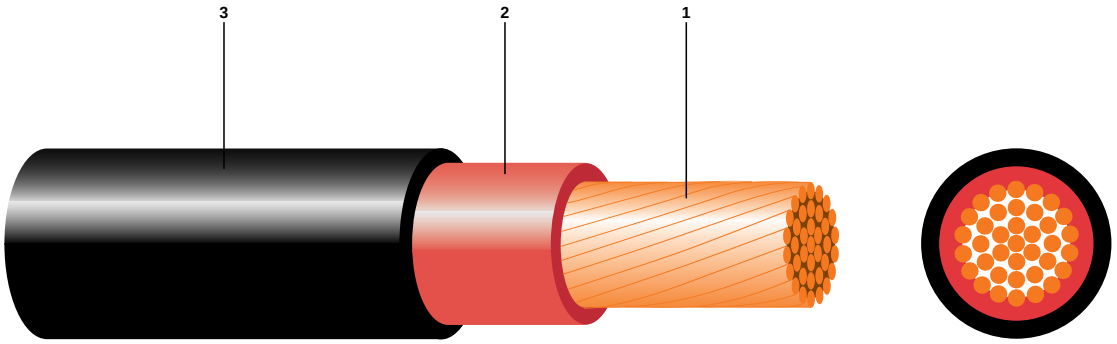
DIMENSIONS AND WEIGHTS

Catalogue item code	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness of insulation Nominal mm		Thickness of steel tape Nominal mm	Thickness of sheath Nominal 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											
YJMB-54A-A01	25rm	16rm	7	7	1.2	1.0	0.2	1.8	28.1	1215	500/1000
RJMB-55A-A01	35sm	16rm	6	7	1.2	1.0	0.2	1.8	29.3	1175	500/1000
RJMB-58A-A01	50sm	25rm	6	6	1.4	1.2	0.2	1.9	33.4	1510	500/1000
RJMB-59A-A01	70sm	35rm	12	6	1.4	1.2	0.2	2.1	37.3	1930	500/1000
RJMB-61A-A01	95sm	50rm	15	6	1.6	1.4	0.5	2.3	43.5	2885	500/1000
RJMB-63A-A01	120sm	70rm	18	12	1.6	1.4	0.5	2.4	46.6	3520	250/500
RJMB-64A-A01	150sm	70rm	18	12	1.8	1.4	0.5	2.5	51.1	3895	250/500
RJMB-66A-A01	185sm	95rm	30	15	2	1.6	0.5	2.7	57.4	4835	250/500
RJMB-67A-A01	240sm	120rm	30	15	2.2	1.6	0.5	2.9	62.4	6145	250
RJMB-69A-A01	300sm	150rm	30	15	2.4	1.8	0.5	3.1	68.0	7370	250
RJMB-70A-A01	400sm	185rm	53	30	2.6	2.0	0.5	3.3	79.3	8780	250
RJMB-71A-A01	500sm	240rm	53	30	2.8	2.2	0.8	3.6	85.6	11180	250

rm - circular stranded conductor sm - sectoral stranded conductor

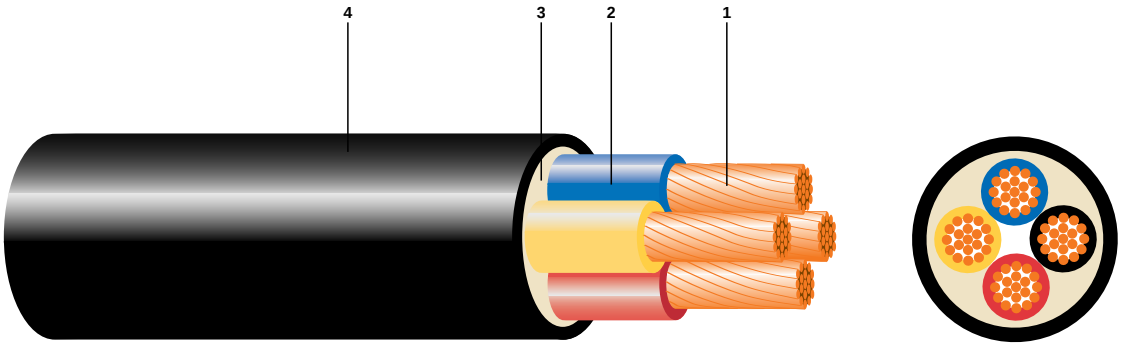
SINGLE CORE

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



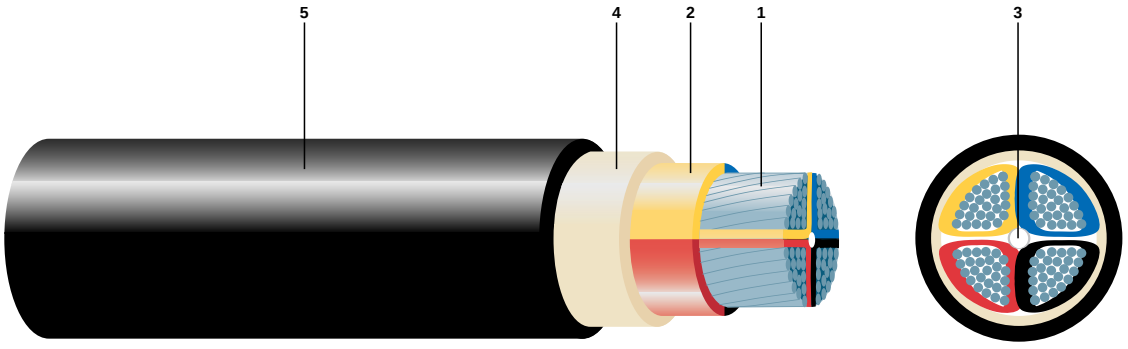
MULTICORE CIRCULAR STRANDED CONDUCTOR

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



MULTICORE SECTORAL STRANDED CONDUCTOR

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



DESCRIPTION

Single core and multicore cables with copper or aluminium conductors, XLPE insulated and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC: 502.

CONSTRUCTION

Conductor
Plain circular or sector, solid or stranded, copper or aluminium conductors, per IEC:228 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 502, colour black.

Colours for core identification

Single core	-	red (black colour 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.

TO ORDER
Order by catalogue number, quantity and packaging required.

Example
CNH4-10A, 10km, (10x1000m), on wooden reels.

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

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core							
ANB1-04A	1.5	1	0.7	1.4	5.8	44	1000
CNB1-04A	1.5	7	0.7	1.4	6.4	45	1000
ANB1-05A	2.5	1	0.7	1.4	6.6	57	1000
CNB1-05A	2.5	7	0.7	1.4	6.8	60	1000
ANB1-06A	4	1	0.7	1.4	7.1	74	1000
CNB1-06A	4	7	0.7	1.4	7.3	78	1000
ANB1-07A	6	1	0.7	1.4	7.6	96	1000
CNB1-07A	6	7	0.7	1.4	7.9	100	1000
CNB1-08A	10	7	0.7	1.4	8.8	146	1000
ENB1-09A	16	6	0.7	1.4	9.8	210	1000
ENB1-10A	25	6	0.9	1.4	11.5	310	1000
ENB1-11A	35	6	0.9	1.4	12.6	405	1000
ENB1-14A	50	19	1.0	1.4	14.3	525	1000
ENB1-16A	70	19	1.1	1.4	16.3	740	1000
ENB1-17A	95	19	1.1	1.5	18.3	1000	1000
ENB1-19A	120	37	1.2	1.5	20.1	1240	1000
ENB1-21A	150	37	1.4	1.6	22.3	1520	1000
ENB1-22A	185	37	1.6	1.6	24.6	1885	1000
ENB1-24A	240	34	1.7	1.7	26.5	2510	500
ENB1-26A	300	34	1.8	1.8	29.2	3120	500
ENB1-27A	400	53	2	1.9	32.5	3960	500
ENB1-28A	500	53	2.2	2.0	36.2	5030	500
ENB1-30A	630	53	2.4	2.2	41.8	6355	500

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core							
ANH2-04A	1.5re	1	0.7	1.8	11.8	131	1000
CNH2-04A	1.5rm	7	0.7	1.8	12.1	134	1000
ANH2-05A	2.5re	1	0.7	1.8	12.6	165	1000
CNH2-05A	2.5rm	7	0.7	1.8	13.0	175	1000
ANH2-06A	4re	1	0.7	1.8	13.5	210	1000
CNH2-06A	4rm	7	0.7	1.8	14.0	225	1000
ANH2-07A	6re	1	0.7	1.8	14.5	270	1000
CNH2-07A	6rm	7	0.7	1.8	15.1	290	1000
CNH2-08A	10rm	7	0.7	1.8	17.0	410	1000
ENH2-09A	16rm	6	0.7	1.8	19.0	580	1000
ENH2-10A	25rm	6	0.9	1.8	22.4	870	1000
ENH2-11A	35rm	6	0.9	1.8	24.6	1130	1000
Three core							
ANH3-04A	1.5re	1	0.7	1.8	12.2	149	1000
CNH3-04A	1.5rm	7	0.7	1.8	12.6	150	1000
ANH3-05A	2.5re	1	0.7	1.8	13.0	191	1000
CNH3-05A	2.5rm	7	0.7	1.8	13.5	203	1000
ANH3-06A	4re	1	0.7	1.8	14.1	251	1000
CNH3-06A	4rm	7	0.7	1.8	14.6	270	1000
ANH3-07A	6re	1	0.7	1.8	15.2	327	1000
CNH3-07A	6rm	7	0.7	1.8	15.8	350	1000
CNH3-08A	10rm	7	0.7	1.8	17.8	506	1000
ENH3-09A	16rm	6	0.7	1.8	20.0	725	1000
ENH3-10A	25rm	6	0.9	1.8	23.6	1100	1000
FNH3-11A	35sm	6	0.9	1.8	21.0	1215	1000
FNH3-14A	50sm	6	1.0	1.8	24.1	1610	500
FNH3-16A	70sm	12	1.1	1.9	27.3	2260	500
FNH3-17A	95sm	15	1.1	2.0	30.6	3060	500
FNH3-19A	120sm	18	1.2	2.1	33.9	3820	500
FNH3-21A	150sm	18	1.4	2.3	38.0	4730	500
FNH3-22A	185sm	30	1.6	2.4	41.9	5880	250
FNH3-23A	240sm	34	1.7	2.6	47.0	7650	250
FNH3-26A	300sm	34	1.8	2.8	55.0	9250	250
FNH3-27A	400sm	53	2.0	3.0	59.1	12135	250
FNH3-28A	500sm	53	2.2	3.3	65.7	15500	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core							
ANH4-04A	1.5re	1	0.7	1.8	12.9	250	1000
CNH4-04A	1.5rm	7	0.7	1.8	13.3	255	1000
ANH4-05A	2.5re	1	0.7	1.8	13.9	305	1000
CNH4-05A	2.5rm	7	0.7	1.8	14.4	315	1000
ANH4-06A	4re	1	0.7	1.8	15.0	385	1000
CNH4-06A	4rm	7	0.7	1.8	15.7	400	1000
ANH4-07A	6re	1	0.7	1.8	16.2	495	1000
CNH4-07A	6rm	7	0.7	1.8	17.1	510	1000
CNH4-08A	10rm	7	0.7	1.8	19.2	715	1000
ENH4-09A	16rm	6	0.7	1.8	21.6	995	1000
ENH4-10A	25rm	6	0.9	1.8	25.8	1465	1000
FNH4-11A	35sm	6	0.9	1.8	25.2	1590	500
FNH4-14A	50sm	6	1.0	1.9	29.3	2125	500
FNH4-16A	70sm	12	1.1	2.0	33.4	2995	500
FNH4-17A	95sm	15	1.1	2.1	37.4	4040	500
FNH4-19A	120sm	18	1.2	2.3	40.2	5130	500
FNH4-21A	150sm	18	1.4	2.4	44.7	6335	500
FNH4-22A	185sm	30	1.6	2.6	50.8	7735	250
FNH4-23A	240sm	34	1.7	2.8	56.8	10150	250
FNH4-26A	300sm	34	1.8	3.0	63.1	12642	250
FNH4-27A	400sm	53	2.0	3.3	70.0	16155	250
FNH4-28A	500sm	53	2.2	3.5	79.0	20570	250

re - circular solid conductor rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core							
PNB1-09A	16	7	0.7	1.4	9.9	115	1000
YNB1-10A	25	6	0.9	1.4	11.6	162	1000
YNB1-11A	35	6	0.9	1.4	12.8	200	1000
YNB1-14A	50	6	1.0	1.4	14.4	255	1000
YNB1-16A	70	12	1.1	1.4	16.4	335	1000
YNB1-17A	95	15	1.1	1.5	18.5	440	1000
YNB1-19A	120	15	1.2	1.5	20.3	530	1000
YNB1-21A	150	15	1.4	1.6	22.6	650	1000
YNB1-22A	185	30	1.6	1.6	24.8	800	1000
YNB1-24A	240	30	1.7	1.7	28.3	1010	500
YNB1-26A	300	30	1.8	1.8	31.1	1245	500
YNB1-27A	400	53	2.0	1.9	34.7	1565	500
YNB1-28A	500	53	2.2	2.0	38.4	1940	500
YNB1-30A	630	53	2.4	2.2	43.2	2460	500
Two core							
PNH2-09A	16rm	7	0.7	1.8	19.2	455	1000
YNH2-10A	25rm	6	0.9	1.8	22.6	640	1000
YNH2-11A	35rm	6	0.9	1.8	24.9	790	1000
Three core							
PNH3-09A	16rm	7	0.7	1.8	20.2	485	1000
YNH3-10A	25rm	6	0.9	1.8	23.9	700	1000
RNH3-11A	35sm	6	0.9	1.8	21.0	580	1000
RNH3-14A	50sm	6	1.0	1.8	24.1	745	500
RNH3-16A	70sm	12	1.1	1.9	27.3	1010	500
RNH3-17A	95sm	15	1.1	2.0	30.6	1325	500
RNH3-19A	120sm	15	1.2	2.1	33.9	1650	500
RNH3-21A	150sm	15	1.4	2.3	38.0	2080	500
RNH3-22A	185sm	30	1.6	2.4	41.9	2505	250
RNH3-23A	240sm	30	1.7	2.6	47.0	3165	250
RNH3-26A	300sm	30	1.8	2.8	55.0	3900	250
RNH3-27A	400sm	53	2.0	3.0	59.11	5020	250
RNH3-28A	500sm	53	2.2	3.3	65.7	6290	250

rm - circular stranded conductor sm -sectoral stranded conductor

DIMENSIONS AND WEIGHTS

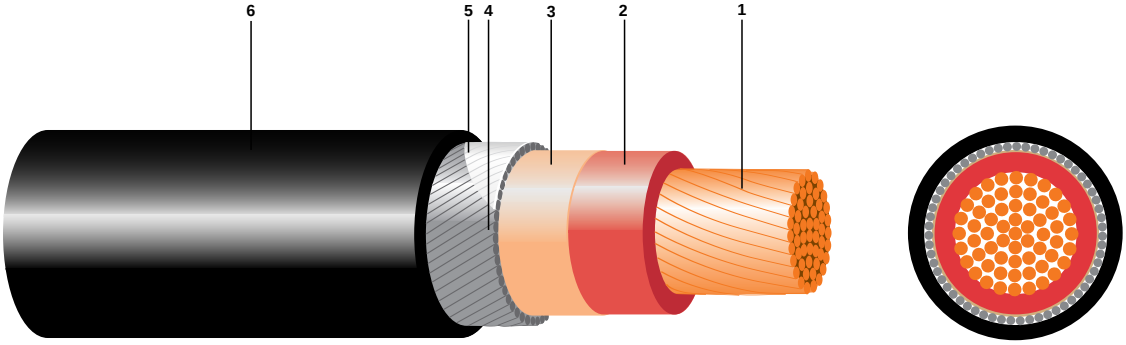
Catalogue number	Conductor		Insulation	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four Core							
PNH4-09A-301	16rm	7	0.7	1.8	21.9	570	1000
YNH4-10A	25rm	7	0.9	1.8	23.9	810	1000
RNH4-11A	35sm	6	0.9	1.8	23.7	725	500
RNH4-14A	50sm	6	1.0	1.9	27.3	950	500
RNH4-16A	70sm	12	1.1	2.0	31.2	1295	500
RNH4-17A	95sm	15	1.1	2.1	34.9	1675	500
RNH4-19A	120sm	15	1.2	2.3	38.8	2100	500
RNH4-21A	150sm	15	1.4	2.4	43.3	2575	250
RNH4-22A	185sm	30	1.6	2.6	48.2	3200	250
RNH4-23A	240sm	30	1.7	2.8	54.0	4150	250
RNH4-26A	300sm	30	1.8	3.0	63.1	5045	250
RNH4-27A	400sm	55	2.0	3.3	67.9	6460	250
RNH4-28A	500sm	53	2.2	3.5	75.1	8125	250

Catalogue number	Conductor			Insulation		Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires	Thickness Nominal mm		Thickness Nominal 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									
YNHB-54A	25rm	16rm	6 7	0.9	0.7	1.8	25.2	775	1000
RNHB-55A	35sm	16rm	6 7	0.9	0.7	1.8	23.0	700	500
RNHB-58A	50sm	25rm	6 6	1.0	0.9	1.8	26.9	925	500
RNHB-59A	70sm	35rm	12 6	1.1	0.9	1.9	30.8	1255	500
RNHB-62A	95sm	50rm	15 6	1.1	1.0	2.1	34.1	1630	500
RNHB-63A	120sm	70rm	15 12	1.2	1.1	2.2	37.5	2030	500
RNHB-64A	150sm	70rm	15 12	1.4	1.1	2.3	41.9	2515	500
RNHB-66A	185sm	95rm	30 15	1.6	1.1	2.5	50.3	3095	250
RNHB-67A	240sm	120rm	30 15	1.7	1.2	2.7	56.6	3900	250
RNHB-69A	300sm	150rm	30 15	1.8	1.4	2.9	62.9	4795	250
RNHB-70A	400sm	185rm	53 30	2.0	1.6	3.1	68.7	6340	250
RNHB-71A	500sm	240rm	53 30	2.2	1.7	3.4	73.9	7725	250

rm - circular stranded conductor sm - sectoral stranded conductor

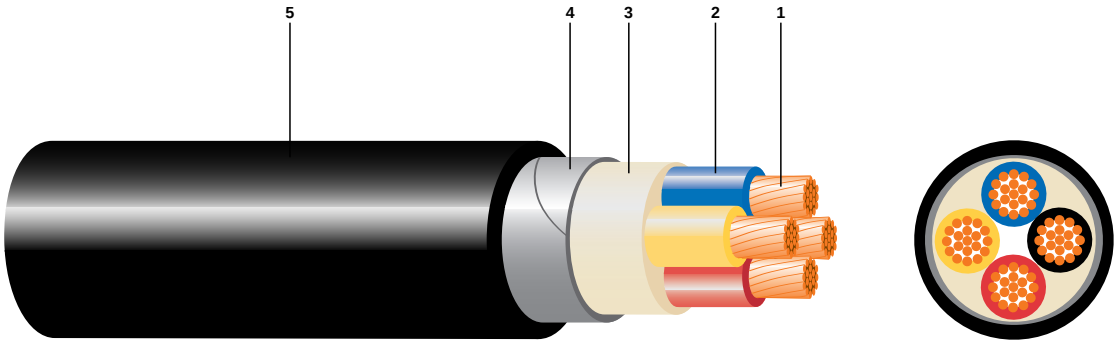
SINGLE CORE

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



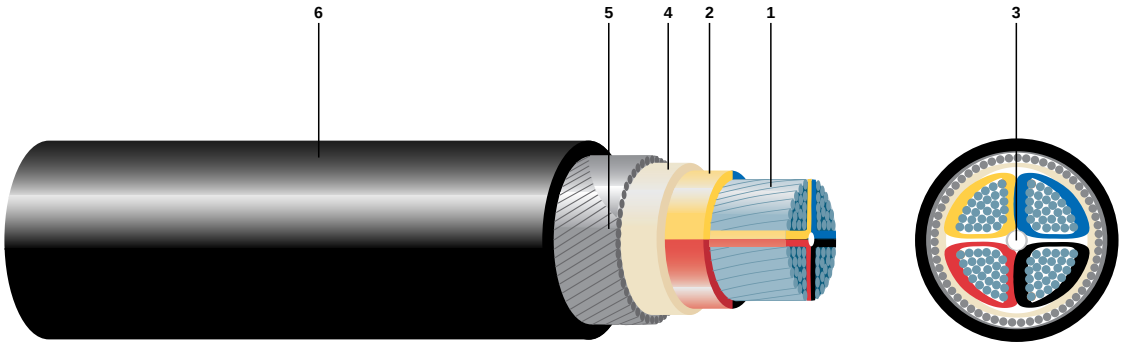
MULTICORE CIRCULAR STRANDED

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 aluminium conductors, XLPE insulated, armoured and PVC sheathed. Cables are rated 0.6/1 KV and conform to IEC: 502.

CONSTRUCTION

Conductor
Plain circular or sector, solid or stranded, copper or aluminium conductors, per IEC:228 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 aluminium 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 502, colour black.

Colours for core identification

Single core	-	red (black colour 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.

TO ORDER
Order by catalogue number, quantity and packaging required.

Example
ENMB-54A-A01, 20KM, (40 x 500m) on wooden or steel reels.

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

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
CNM2-04A-A01	1.5rm	7	0.7	0.2	1.8	13.8	310	1000
CNM2-05A-A01	2.5rm	7	0.7	0.2	1.8	14.6	355	1000
CNM2-06A-A01	4rm	7	0.7	0.2	1.8	15.6	405	1000
CNM2-07A-A01	6rm	7	0.7	0.2	1.8	17.3	460	1000
CNM2-08A-A01	10rm	7	0.7	0.2	1.8	19.2	605	1000
ENM2-09A-A01	16rm	7	0.7	0.2	1.8	21.3	760	1000
ENM2-10A-A01	25rm	7	0.9	0.2	1.8	24.6	1070	1000
ENM2-11A-A01	35rm	7	0.9	0.2	1.8	25.6	1425	500
Three core								
CNM3-04A-A01	1.5rm	7	0.7	0.2	1.8	14.3	335	1000
CNM3-05A-A01	2.5rm	7	0.7	0.2	1.8	15.1	390	1000
CNM3-06A-A01	4rm	7	0.7	0.2	1.8	16.2	470	1000
CNM3-07A-A01	6rm	7	0.7	0.2	1.8	18.1	580	1000
CNM3-08A-A01	10rm	7	0.7	0.2	1.8	20.1	780	1000
ENM3-09A-A01	16rm	6	0.7	0.2	1.8	22.2	1010	1000
ENM3-10A-A02	25rm	6	0.9	0.2	1.8	25.9	1400	1000
FNM3-11A-A01	35sm	6	0.9	0.2	1.8	25.2	1560	500
FNM3-14A-A01	50sm	6	1.0	0.2	1.9	29.4	2030	500
FNM3-16A-A01	70sm	12	1.1	0.2	2.0	31.7	2700	500
FNM3-17A-A01	95sm	15	1.1	0.5	2.2	37.8	3980	500
FNM3-19A-A01	120sm	18	1.2	0.5	2.3	41.8	4830	500
FNM3-21A-A01	150sm	18	1.4	0.5	2.4	45.0	5885	250
FNM3-22A-A01	185sm	30	1.6	0.5	2.6	49.8	7130	250
FNM3-23A-A01	240sm	34	1.7	0.5	2.8	55.3	9070	250
FNM3-26A-A01	300	34	1.8	0.5	2.9	60.5	11080	250
FNM3-27A-A01	400sm	53	2.0	0.5	3.2	77.3	14500	250
FNM3-28A-A01	500sm	53	2.2	0.5	3.4	73.1	17500	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Thickness of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four core								
CNM4-04A-A01	1.5rm	7	0.7	0.2	1.8	15.1	375	1000
CNM4-05A-A01	2.5rm	7	0.7	0.2	1.8	16.0	440	1000
CNM4-06A-A01	4rm	7	0.7	0.2	1.8	17.3	540	1000
CNM4-07A-A01	6rm	7	0.7	0.2	1.8	19.3	665	1000
CNM4-08A-A01	10rm	7	0.7	0.2	1.8	21.5	905	1000
ENM4-09A-A01	16rm	7	0.7	0.2	1.8	23.9	1200	1000
ENM4-10A-A01	25rm	7	0.9	0.2	1.8	27.8	1730	500
FNM4-11A-A01	35sm	6	0.9	0.2	1.8	28.6	1975	500
FNM4-14A-A01	50sm	6	1.0	0.2	1.9	33.0	2600	500
FNM4-16A-A02	70sm	12	1.1	0.5	2.1	38.0	3885	500
FNM4-17A-A01	95sm	15	1.1	0.5	2.3	42.6	5080	500
FNM4-19A-A01	120sm	18	1.2	0.5	2.4	45.8	6145	250
FNM4-21A-A01	150sm	18	1.4	0.5	2.6	50.7	7540	250
FNM4-22A-A01	185sm	30	1.6	0.5	2.7	56.3	9200	250
FNM4-23A-A01	240sm	34	1.7	0.5	3.0	62.8	11800	250
FNM4-26A-A01	300sm	34	1.8	0.5	3.1	68.9	14400	250
FNM4-27A-A01	400sm	53	2.0	0.5	3.2	75.3	18000	250
FNM4-28A-A01	500sm	53	2.2	0.5	3.4	82.7	22700	250

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DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness of steel tape Nominal mm	Thickness Nominal 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											
CNMB-52A-A01	10rm	6rm	7	7	0.7	0.7	0.2	1.8	20.7	765	1000
ENMB-53A-A01	16rm	10rm	7	7	0.7	0.7	0.2	1.8	23.4	1055	1000
ENMB-54A-A01	25rm	16rm	7	7	0.9	0.7	0.2	1.8	26.0	1590	500
FNMB-55A-A01	35sm	16rm	6	7	0.9	0.7	0.2	1.8	28.6	1820	500
FNMB-58A-A01	50sm	25rm	6	7	1.0	0.9	0.2	1.9	32.7	2390	500
FNMB-59A-A01	70sm	35rm	12	7	1.1	0.9	0.2	2.0	36.6	3220	500
FNMB-62A-A01	95sm	50rm	15	19	1.1	1.0	0.5	2.2	42.4	4640	500
FNMB-63A-A01	120sm	70rm	18	19	1.2	1.1	0.5	2.3	45.1	5680	500
FNMB-64A-A01	150sm	70rm	18	19	1.4	1.1	0.5	2.5	51.4	6880	250
FNMB-66A-A01	185sm	95rm	30	19	1.6	1.1	0.5	2.6	55.9	8400	250
FNMB-67A-A01	240sm	120rm	34	37	1.7	1.2	0.5	2.8	62.2	10650	250
FNMB-69A-A01	300sm	150rm	34	37	1.8	1.4	0.5	3.0	68.5	13000	250
FNMB-70A-A01	400sm	185rm	53	37	2.0	1.6	0.5	3.3	77.5	16600	250
FNMB-71A-A01	500sm	240rm	53	61	2.2	1.7	0.5	3.5	81.3	20500	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Dia. of aluminium wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Single Core								
ENW1-11A-A01	35	6	0.9	1.6	1.8	17.3	630	1000
ENW1-14A-A01	50	6	1.0	1.6	1.8	18.9	780	1000
ENW1-16A-A01	70	12	1.1	1.6	1.8	20.7	1010	1000
ENW1-17A-A01	95	15	1.1	1.6	1.8	22.6	1295	1000
ENW1-19A	120	18	1.2	1.6	1.8	24.3	1560	1000
ENW1-21A	150	18	1.4	1.6	1.8	26.2	1865	500
ENW1-22A	185	30	1.6	1.6	1.8	28.3	2260	500
ENW1-24A	240	34	1.7	1.6	1.9	31.6	2890	500
ENW1-26A	300	34	1.8	1.6	1.9	33.5	3455	500
ENW1-27A	400	53	2.0	2.0	2.1	38.2	4485	500
ENW1-28A	500	53	2.2	2.0	2.2	42.4	5655	500
ENW1-30A	630	53	2.4	2.0	2.4	47.0	7155	500

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
CNL2-04A-A01	1.5rm	7	0.7	1.25	1.7	14.7	460	1000
CNL2-05A-A02	2.5rm	7	0.7	1.25	1.8	15.5	520	1000
CNL2-06A-A03	4rm	7	0.7	1.25	1.8	16.1	580	1000
CNL2-07A-A03	6rm	7	0.7	1.25	1.8	17.7	695	1000
ENL2-08A-A01	10rm	6	0.7	1.25	1.8	19.5	875	1000
ENL2-09A-A13	16rm	6	0.7	1.25	1.8	21.3	1085	1000
ENL2-10A	25rm	7	0.9	1.6	1.8	26.6	1645	1000
ENL2-11A	35rm	7	0.9	1.6	1.8	28.8	1960	500
Three core								
CNL3-04A-A01	1.5rm	7	0.7	1.25	1.8	15.2	495	1000
CNL3-05A-A06	2.5rm	7	0.7	1.25	1.8	16.0	560	1000
CNL3-06A-A03	4rm	7	0.7	1.25	1.8	16.7	640	1000
CNL3-07A-A01	6rm	7	0.7	1.25	1.8	18.4	775	1000
ENL3-08A-A01	10rm	6	0.7	1.25	1.8	20.3	990	1000
ENL3-09A-A06	16rm	6	0.7	1.25	1.8	22.3	1260	1000
ENL3-10A	25rm	6	0.9	1.6	1.8	27.9	1890	1000
FNL3-11A	35sm	6	0.9	1.6	1.8	27.5	2110	1000
FNL3-14A	50sm	6	1.0	1.6	1.9	31.1	2630	500
FNL3-16A	70sm	12	1.1	2.0	2.0	35.2	3625	500
FNL3-17A	95sm	15	1.1	2.0	2.2	39.4	4630	500
FNL3-19A	120sm	18	1.2	2.0	2.3	43.4	5535	500
FNL3-21A	150sm	18	1.4	2.5	2.5	48.3	7090	500
FNL3-22A	185sm	30	1.6	2.5	2.6	52.5	8450	250
FNL3-23A	240sm	34	1.7	2.5	2.8	58.1	10490	250
FNL3-26A	300sm	34	1.8	2.5	3.0	63.6	12675	250
FNL3-27A	400sm	53	2.0	2.5	3.2	72.1	15695	250
FNL3-28A	500sm	53	2.2	3.15	3.5	80.1	20380	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

	Conductor		Insulation	Armouring	Outer sheath		Packaging	
Catalogue number	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel wire Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Four Core								
CNL4-04A-A02	1.5rm	7	0.7	1.25	1.8	16.2	550	1000
CNL4-05A-A01	2.5rm	7	0.7	1.25	1.8	16.9	625	1000
CNL4-06A-A01	4rm	7	0.7	1.25	1.8	18.2	740	1000
CNL4-07A-A01	6rm	7	0.7	1.25	1.8	19.6	885	1000
ENL4-08A-A01	10rm	6	0.7	1.25	1.8	21.8	1150	1000
ENL4-09A	16rm	6	0.7	1.6	1.8	25.9	1655	1000
ENL4-10A	25rm	6	0.9	1.6	1.8	30.0	2245	500
FNL4-11A	35sm	6	0.9	1.6	1.9	30.6	2595	500
FNL4-14A	50sm	6	1.0	1.6	2.0	34.7	3260	500
FNL4-16A	70sm	12	1.1	2.0	2.2	39.8	4585	500
FNL4-17A	95sm	15	1.1	2.0	2.3	44.2	5800	500
FNL4-19A	120sm	18	1.2	2.5	2.5	48.4	7475	500
FNL4-21A	150sm	18	1.4	2.5	2.6	53.1	8900	500
FNL4-22A	185sm	30	1.6	2.5	2.8	59.0	10560	250
FNL4-23A	240sm	34	1.7	2.5	3.0	65.4	13425	250
FNL4-26A	300sm	34	1.8	2.5	3.2	71.7	16220	250
FNL4-27A	400sm	53	2.0	3.15	3.5	82.4	21190	250
FNL4-28A	500sm	53	2.2	3.15	3.8	90.8	26150	250

rm - circular stranded conductor sm - sectoral stranded conductor

DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness of steel wire Nominal mm	Thickness Nominal 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											
ENLB-53A	16rm	10rm	6	7	0.7	0.7	0.8	1.8	23.8	1275	1000
ENLB-54A	25rm	16rm	6	6	0.9	0.7	1.6	1.8	29.2	2120	500
FNLB-55A	35sm	16rm	6	6	0.7	0.7	1.6	1.8	30.4	2445	500
FNLB-58A	50sm	25rm	6	6	1.0	0.9	1.6	1.9	34.5	3125	500
FNLB-59A	70sm	35rm	12	6	1.1	0.9	2.0	2.1	39.6	4310	500
FNLB-62A	95sm	50rm	15	6	1.1	1.0	2.0	2.2	44.0	5415	500
FNLB-63A	120sm	70rm	18	12	1.2	1.1	2.0	2.3	46.6	6935	500
FNLB-64A	150sm	70rm	18	12	1.4	1.1	2.5	2.5	52.7	7675	500
FNLB-66A	185sm	95rm	30	15	1.6	1.1	2.5	2.7	58.8	9930	250
FNLB-67A	240sm	120rm	34	18	1.7	1.2	2.5	2.9	65.2	12390	250
FNLB-69A	300sm	150rm	34	18	1.8	1.4	2.5	3.0	71.3	14845	250
FNLB-70A	400sm	185rm	53	30	2.0	1.6	2.5	3.3	80.9	21295	250
FNLB-71A	500sm	240rm	53	34	2.2	1.7	3.15	3.6	90.4	26165	250

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DIMENSIONS AND WEIGHTS

Catalogue number	Conductor		Insulation	Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
PNM2-09A-A01	16rm	7	0.7	0.2	1.8	21.4	645	1000
YNM2-10A-A01	25rm	6	0.9	0.2	1.8	24.0	835	1000
YNM2-11A-A01	35rm	6	0.9	0.2	1.8	26.3	1000	500
Three core								
PNM3-09A-A01	16rm	7	0.7	0.2	1.8	22.4	640	1000
YNM3-10A-A01	25rm	6	0.9	0.2	1.8	25.0	940	1000
RNM3-11A-A01	35sm	6	0.9	0.2	1.8	25.7	900	500
RNM3-14A-A01	50sm	6	1.0	0.2	1.9	29.4	1135	500
RNM3-16A-A01	70sm	12	1.1	0.2	2.0	32.6	1440	500
RNM3-17A-A01	95sm	15	1.1	0.2	2.2	37.8	2180	500
RNM3-18A-A01	120sm	15	1.2	0.5	2.3	41.8	2590	500
RNM3-21A-A01	150sm	15	1.4	0.5	2.4	45.3	3045	250
RNM3-22A-A01	185sm	30	1.6	0.5	2.6	49.8	3665	250
RNM3-23A-A01	240sm	30	1.7	0.5	2.8	55.4	4520	250
RNM3-25A-A01	300sm	30	1.8	0.5	2.9	60.5	5350	250
RNM3-27A-A01	400sm	53	2.0	0.5	3.2	65.5	6550	250
RNM3-28A-A01	500sm	53	2.2	0.5	3.4	73.1	8370	250
Four core								
PNM4-09A-A01	16rm	7	0.7	0.2	1.8	23.8	825	1000
YNM4-10A-A01	25rm	6	0.9	0.2	1.8	27.2	1080	500
RNM4-11A-A01	35sm	6	0.9	0.2	1.8	28.6	1100	500
RNM4-14A-A01	50sm	6	1.0	0.2	1.9	33.0	1410	500
RNM4-16A-A01	70sm	12	1.1	0.2	2.1	36.8	1800	500
RNM4-17A-A01	95sm	15	1.1	0.5	2.3	42.6	2700	500
RNM4-18A-A01	120sm	15	1.2	0.5	2.4	45.3	3160	250
RNM4-21A-A01	150sm	15	1.4	0.5	2.6	50.5	3820	250
RNM4-22A-A01	185sm	30	1.6	0.5	2.7	56.3	4600	250
RNM4-23A-A01	240sm	30	1.7	0.5	3.0	62.8	5720	250
RNM4-25A-A01	300sm	30	1.8	0.5	3.1	68.9	6800	250
RNM4-27A-A01	400sm	53	2.0	0.5	3.2	77.1	8350	250
RNM4-28A-A01	500sm	53	2.2	0.5	3.4	85.7	10290	250

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DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness of steel tape Nominal mm	Thickness Nominal 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											
YNMB-54A-A01	25rm	16rm	6	7	0.9	0.7	0.2	1.8	26.4	1240	500
RNMB-55A-A01	35sm	16rm	6	7	0.9	0.7	0.2	1.8	27.9	1050	500
RNMB-58A-A01	50sm	25rm	6	6	1.0	0.9	0.2	1.9	32.7	1340	500
RNMB-59A-A01	70sm	35rm	12	6	1.1	0.9	0.2	2.0	36.6	1720	500
RNMB-62A-A01	95sm	50rm	15	6	1.1	1.0	0.5	2.2	42.4	2600	500
RNMB-63A-A01	120sm	70rm	15	12	1.2	1.1	0.5	2.3	44.2	3120	500
RNMB-64A-A01	150sm	70rm	15	12	1.4	1.1	0.5	2.5	49.9	3550	250
RNMB-66A-A01	185sm	95rm	30	15	1.6	1.1	0.5	2.6	55.9	4400	250
RNMB-67A-A01	240sm	120rm	30	15	1.7	1.2	0.5	2.8	62.2	5330	250
RNMB-69A-A01	300sm	150rm	30	15	1.8	1.4	0.5	3.0	68.4	6440	250
RNMB-70A-A01	400sm	185rm	53	30	2.0	1.6	0.5	3.3	77.5	7950	250
RNMB-71A-A01	500sm	240rm	53	30	2.2	1.7	0.5	3.5	85.9	9740	250

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DIMENSIONS AND WEIGHTS

Catalogue number	Conductor		Insulation	Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2	Minimum number of wires	Thickness Nominal mm	Diameter of steel tape Nominal mm	Thickness Nominal mm	Overall diameter Approx mm	Net weight Approx kg/km	Standard package m±5%
Two Core								
YNL2-10A	25rm	7	0.9	1.6	1.8	27.2	1360	1000
YNL2-11A	35rm	7	0.9	1.6	1.8	29.2	1580	500
Three core								
YNL3-10A	25rm	7	0.9	1.6	1.8	27.5	1455	1000
RNL3-11A	35sm	6	0.9	1.6	1.8	27.5	1460	1000
RNL3-14A	50sm	6	1.0	1.6	1.9	31.1	1750	1000
RNL3-16A	70sm	12	1.1	2.0	2.0	35.2	2350	500
RNL3-17A	95sm	15	1.1	2.0	2.2	39.4	2860	500
RNL3-18A	120sm	15	1.2	2.0	2.3	43.4	3305	500
RNL3-21A	150sm	15	1.4	2.5	2.5	48.3	4325	500
RNL3-22A	185sm	30	1.6	2.5	2.6	52.5	5005	500
RNL3-23A	240sm	30	1.7	2.5	2.8	58.1	5960	250
RNL3-25A	300sm	30	1.8	2.5	3.0	63.6	6975	250
RNL3-27A	400sm	53	2.0	2.5	3.2	72.1	8420	250
RNL3-28A	500sm	53	2.2	3.15	3.5	80.1	11045	250
Four core								
PNL4-09A	16rm	7	0.7	1.6	1.8	26.2	1295	1000
YNL4-10A	25rm	7	0.9	1.6	1.8	30.6	1665	500
RNL4-11A	35sm	6	0.9	1.6	1.9	30.1	1725	500
RNL4-14A	50sm	6	1.0	1.6	2.0	34.7	2080	500
RNL4-16A	70sm	12	1.1	2.0	2.2	39.8	2885	500
RNL4-17A	95sm	15	1.1	2.0	2.3	44.2	3440	500
RNL4-18A	120sm	15	1.2	2.5	2.5	48.4	4500	500
RNL4-21A	150sm	15	1.4	2.5	2.6	53.1	5220	250
RNL4-22A	185sm	30	1.6	2.5	2.8	59.0	6115	250
RNL4-23A	240sm	30	1.7	2.5	3.0	65.6	7375	250
RNL4-25A	300sm	30	1.8	2.5	3.2	71.7	8625	250
RNL4-27A	400sm	53	2.0	3.15	3.5	82.4	11500	250
RNL4-28A	500sm	53	2.2	3.15	3.8	90.8	13660	250

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DIMENSIONS AND WEIGHTS

Catalogue number	Conductor				Insulation		Armouring	Outer sheath		Packaging	
	Cross sectional area Nominal mm^2		Minimum number of wires		Thickness Nominal mm		Thickness of steel tape Nominal mm	Thickness Nominal 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											
YNLB-54A	25rm	16rm	7	7	0.9	0.7	1.6	1.8	29.4	1770	500
RNLB-55A	35sm	16rm	6	7	0.9	0.7	1.6	1.8	30.4	1705	500
RNLB-58A	50sm	25rm	6	6	1.0	0.9	1.6	1.9	34.5	2095	500
RNLB-59A	70sm	35rm	12	6	1.1	0.9	2.0	2.1	39.6	2830	500
RNLB-62A	95sm	50rm	15	6	1.1	1.0	2.0	2.2	44.0	3365	500
RNLB-63A	120sm	70rm	15	12	1.2	1.1	2.0	2.3	46.6	4300	500
RNLB-64A	150sm	70rm	15	12	1.4	1.1	2.5	2.5	52.7	5055	500
RNLB-66A	185sm	95rm	30	15	1.6	1.1	2.5	2.7	58.8	5920	250
RNLB-67A	240sm	120rm	30	15	1.7	1.2	2.5	2.9	65.2	7150	250
RNLB-69A	300sm	150rm	30	15	1.8	1.4	2.5	3.0	71.3	8285	250
RNLB-70A	400sm	185rm	53	30	1.7	1.6	2.5	3.3	80.9	11170	250
RNLB-71A	500sm	240rm	53	30	2.2	1.7	3.15	3.6	90.4	13195	250

rm - circular stranded conductor sm - sectoral stranded conductor

LOW VOLTAGE CABLES
ELECTRICAL CHARACTERISTICS

General
Current carrying capacities have been calculated in accordance with IEC 287:1982 '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 502. 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 228. The conductors of single core cables 16mm^2 and above are compacted. Multicore cables (three and four cores) mm^2 35mm^2 and above have sectoral conductors.

It is to be observed 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 having thermal 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 have been the basis for our calculation mainly in order to conform with international practice. However, in actual installations the more realistic approach will be inner diameter of duct/pipe approximate 1.5 x ø cable.

CURRENT CARRYING CAPACITY

Conductor	Conductor resistance			Current carrying capacity					
				In ground			In air		
Cross sectional area	DC at 20°C	AC at 70°C in flat formation 	AC at 70°C in trefoil formation 	Direct laid 	Direct laid 	In duct 	Free 	Free 	In pipes 
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps	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	0.870	0.870	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	0.150	0.151	313	296	238	345	296	213
185	0.0991	0.1200	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	0.0470	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		
			Unarmoured		Armoured	Unarmoured		Armoured
Cross sectional area	DC at 20°C	AC at 70°C	Direct laid	Laid in ducts	Direct laid	Free	In pipes	Free
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	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	0.870	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	0.0470	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					
				In ground			In air		
Cross sectional area	DC at 20°C	AC at 85°C in flat formation 	AC at 85°C in trefoil formation 	Direct laid	Direct laid 	In duct 	Free 	Free 	In pipes 
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps
1.5	12.1	15.2	15.2	29	28	21	25	21	18
2.5	7.41	9.3	9.3	38	37	28	33	27	23
4	4.61	5.79	5.79	49	48	36	45	37	31
6	3.08	3.87	3.87	62	59	45	57	46	38
10	1.83	2.30	2.30	82	79	61	78	63	52
16	1.15	1.44	1.44	106	102	78	103	84	68
25	0.727	0.913	0.912	136	130	101	136	110	88
35	0.524	0.658	0.658	163	156	122	167	135	107
50	0.387	0.486	0.486	193	185	145	204	165	129
70	0.268	0.337	0.337	238	227	179	259	209	161
95	0.193	0.243	0.244	286	271	217	321	259	197
120	0.153	0.193	0.194	326	309	247	374	301	226
150	0.124	0.157	0.158	365	346	278	428	345	257
185	0.0991	0.126	0.127	414	390	315	496	399	293
240	0.0754	0.0965	0.0984	481	450	366	591	474	344
300	0.0601	0.0777	0.0801	544	506	413	684	547	391
400	0.0470	0.0619	0.0649	621	572	468	798	633	447
500	0.0366	0.0496	0.0532	706	641	526	929	728	507
630	0.0283	0.0401	0.0446	805	716	588	1090	838	572

CURRENT CARRYING CAPACITY

Conductor	Conductor resistance		In ground			In air		
			Unarmoured		Armoured	Unarmoured		Armoured
Cross sectional area	DC at 20°C	AC at 70°C	Direct laid	Laid in ducts	Direct laid	Free	In pipes	Free
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps
1.5	12.1	15.2	24	20	-	20	17	-
2.5	7.41	9.3	32	27	-	27	22	-
4	4.61	5.79	42	35	42	36	29	36
6	3.08	3.87	52	44	52	45	37	45
10	1.83	2.30	70	58	70	61	50	62
16	1.15	1.44	91	75	90	82	65	82
25	0.727	0.913	117	97	121	107	84	114
35	0.524	0.658	146	118	145	131	101	135
50	0.387	0.486	174	141	172	161	122	165
70	0.268	0.337	213	173	210	202	152	206
95	0.193	0.244	255	208	252	249	185	252
120	0.153	0.194	291	237	286	289	213	291
150	0.124	0.158	327	268	319	332	243	331
185	0.0991	0.127	368	303	358	381	277	377
240	0.0754	0.0982	426	352	409	451	325	439
300	0.0601	0.0798	479	397	455	517	370	497
400	0.0470	0.0644	544	452	504	601	426	565
500	0.0366	0.0526	610	517	553	687	492	630

CURRENT CARRYING CAPACITY

Conductor	Conductor resistance			Current carrying capacity					
				In ground			In air		
Cross sectional area	DC at 20°C	AC at 90°C in flat formation	AC at 90°C in trefoil formation	Direct laid 	Direct laid 	In duct 	Free 	Free 	In pipes 
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps	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	0.160	385	363	290	461	367	269
185	0.0991	0.128	0.129	436	410	330	534	425	308
240	0.0754	0.098	0.100	507	474	382	638	505	361
300	0.0601	0.079	0.0815	573	532	431	740	583	411
400	0.0470	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		
			Unarmoured		Armoured	Unarmoured		Armoured
Cross sectional area	DC at 20°C	AC at 90°C	Direct laid	Laid in ducts	Direct laid	Free	In pipes	Free
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	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	0.160	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	0.0470	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					
				In ground			In air		
Cross sectional area mm²	DC at 20°C Maximum ohm/km	AC at 85°C in flat formation Approx ohm/km	AC at 85°C in trefoil formation 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
16	1.91	2.41	2.41	82	79	61	80	65	52
25	1.20	1.51	1.51	106	101	79	105	86	68
35	0.868	1.096	1.096	127	121	94	130	105	83
50	0.641	0.809	0.809	150	143	113	158	128	100
70	0.443	0.560	0.560	185	176	139	201	162	125
95	0.320	0.404	0.405	222	211	168	249	201	153
120	0.253	0.320	0.320	253	240	192	291	234	176
150	0.206	0.261	0.261	283	269	216	332	268	199
185	0.164	0.208	0.209	322	304	246	386	312	229
240	0.125	0.159	0.160	375	353	287	461	372	270
300	0.100	0.128	0.129	425	399	325	534	431	308
400	0.0778	0.100	0.1019	488	456	373	628	505	357
500	0.0605	0.0787	0.0812	561	519	426	737	590	410
630	0.0469	0.0622	0.6550	647	591	486	879	694	473

CURRENT CARRYING CAPACITY

Conductor	Conductor resistance		In ground			In air		
			Unarmoured		Armoured	Unarmoured		Armoured
Cross sectional area mm^2	DC at 20°C Maximum ohm/km	AC at 90°C 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
16	1.91	2.41	70	58	70	63	50	64
25	1.20	1.51	91	75	90	83	66	84
35	0.868	1.096	113	91	112	102	78	105
50	0.641	0.809	135	109	133	125	95	128
70	0.443	0.560	165	134	163	157	118	160
95	0.320	0.405	198	161	196	193	144	196
120	0.253	0.320	226	185	223	225	166	227
150	0.206	0.261	254	208	249	258	189	259
185	0.164	0.209	287	236	282	297	216	297
240	0.125	0.160	334	275	324	353	255	348
300	0.100	0.129	377	312	364	407	291	397
400	0.0778	0.1017	433	360	411	479	339	460
500	0.0605	0.0808	493	410	460	554	389	523

CURRENT CARRYING CAPACITY

Conductor	Conductor resistance			Current carrying capacity					
				In ground			In air		
Cross sectional area	DC at 20°C	AC at 90°C in flat formation 	AC at 90°C in trefoil formation 	Direct laid 	Direct laid 	In duct 	Free 	Free 	In pipes 
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps
16	1.91	2.45	2.45	87	83	63	85	68	54
25	1.20	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	0.320	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	0.100	0.130	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		
			Unarmoured		Armoured	Unarmoured		Armoured
Cross sectional area	DC at 20°C	AC at 90°C	Direct laid	Laid in ducts	Direct laid	Free	In pipes	Free
mm^2	Maximum ohm/km	Approx ohm/km	Approx ohm/km	Approx amps	Approx amps	Approx amps	Approx amps	Approx amps
16	1.91	2.45	76	62	76	68	53	69
25	1.20	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	0.320	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	0.100	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	Single core	Three core	Four core	
mm^2	ohm/km	ohm/km	ohm/km	µF/km
1.5	0.1870	0.1386	0.1446	0.5640
2.5	0.1737	0.1293	0.1354	0.6670
4	0.1663	0.1297	0.1358	0.6610
6	0.1550	0.1218	0.1281	0.7810
10	0.1428	0.1136	0.1201	0.9590
16	0.1324	0.1081	0.1147	1.1740
25	0.1287	0.1070	0.1131	1.1795
35	0.1226	0.1031	0.1097	1.3620
50	0.1162	0.0997	0.1064	1.3630
70	0.1107	0.0961	0.1029	1.5870
95	0.1083	0.0951	0.1019	1.6690
120	0.1040	0.0920	0.0989	1.8550
150	0.1036	0.0921	0.0990	1.8470
185	0.1033	0.0926	0.0995	1.7980
240	0.1014	0.0914	0.0983	1.8670
300	0.1004	0.0907	0.0976	1.9340
400	0.0997	0.0906	0.0975	1.9550
500	0.0981	0.0896	0.0965	2.0680
630	0.0956	-	-	2.3330

ELECTRICAL CHARACTERISTICS

Conductor	Reactance			Capacitance
Size	Single core	Three core	Four core	
mm^2	ohm/km	ohm/km	ohm/km	µF/km
1.5	0.1847	0.1338	0.1399	0.191
2.5	0.1715	0.1250	0.1312	0.227
4	0.1593	0.1173	0.1237	0.272
6	0.1485	0.1109	0.1174	0.325
10	0.1370	0.1044	0.1111	0.404
16	0.1287	0.1000	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	0.700
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 ampactities 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 85°C) cables	1.1	1.05	1	0.95	0.89	0.84	0.77

Rating factors for variation in depth of burial (to centre 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	1	1
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 85°C)	1.15	1.11	1.05	1	0.94	0.88	0.82

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

CABLES INSTALLED IN AIR

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

Number of circuits	Touching		Spacing		
	Trefoil	Laid flat	0.15m	0.3m	0.45m
2	0.78	0.81	0.83	0.88	0.91
3	0.66	0.70	0.73	0.79	0.84
4	0.61	0.64	0.68	0.73	0.81
5	0.56	0.60	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 conductors 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 centre of duct or trefoil group of ducts.)

Depth of laying (m)	Single core	Multi core
0.50	1.00	1.00
0.60	0.98	0.99
0.80	0.95	0.98
1.00	0.93	0.96
1.25	0.91	0.95
1.50	0.89	0.94
1.75	0.88	0.94
2.00	0.87	0.93
2.50	0.86	0.92
3 or more	0.85	0.81

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

Number of circuits	Touching	Spacing 0.45m	Spacing 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	Spacing 0.45m	Spacing 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

The permissible short-circuit currents as presented in figures 1 to 6 are calculated in accordance with IEC 724:1982.

The calculation method neglects heat loss and is accurate enough for the majority of practical cases. Any error is on 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 724:

Figure 1 : $I_k = \frac{0.115}{\sqrt{t}} . s$

Figure 2 : $I_k = \frac{0.1038}{\sqrt{t}} . s$

Figure 3 : $I_k = \frac{0.075}{\sqrt{t}} . s$

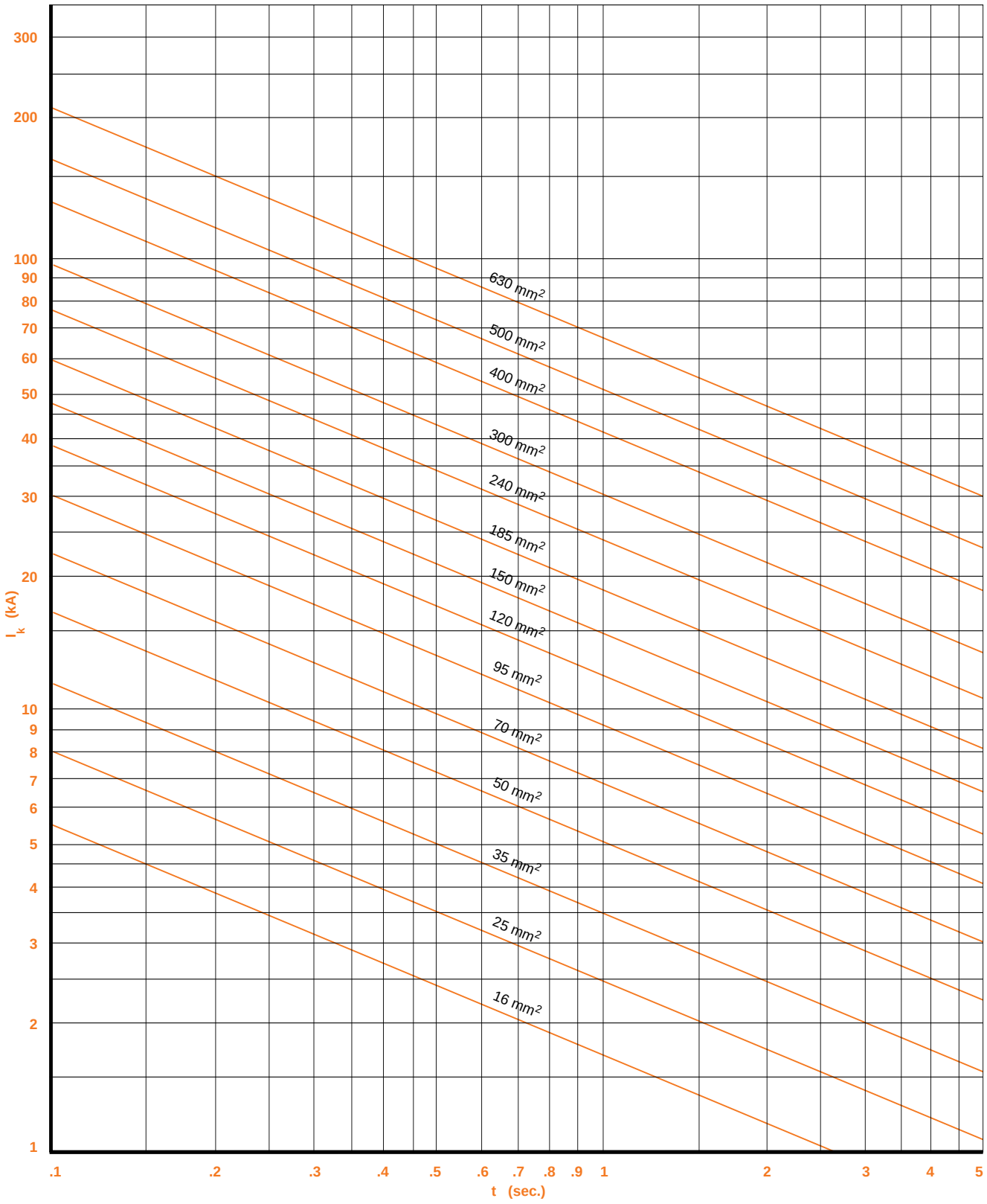
Figure 4 : $I_k = \frac{0.068}{\sqrt{t}} . s$

Figure 5 : $I_k = \frac{0.143}{\sqrt{t}} . s$

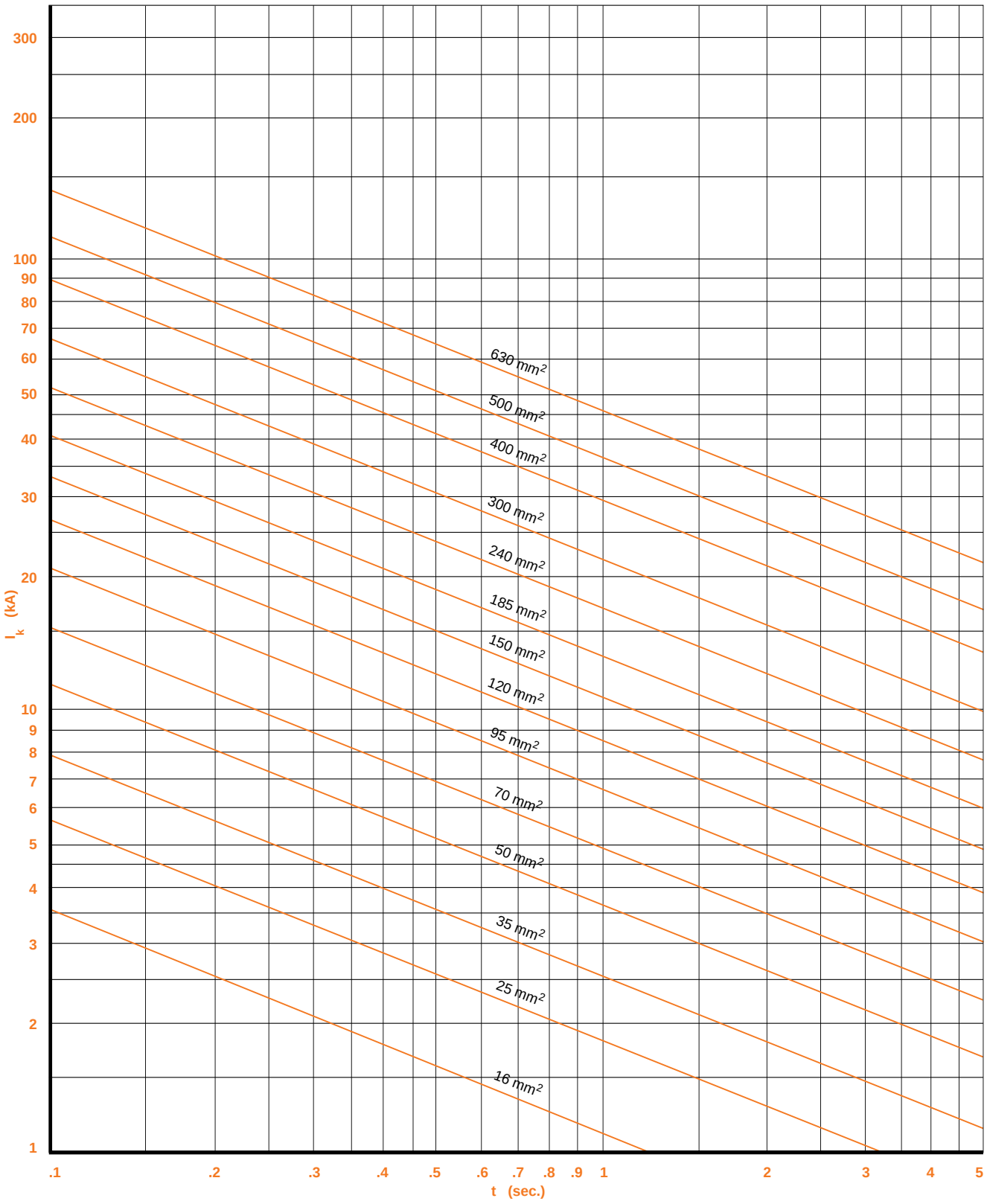
Figure 6 : $I = \frac{0.0937}{\sqrt{t}} . s$

I_k : Short-circuit current (kA)
t : Duration of short-circuit current (sec.)
s : Cross-sectional area of conductor (mm^2)

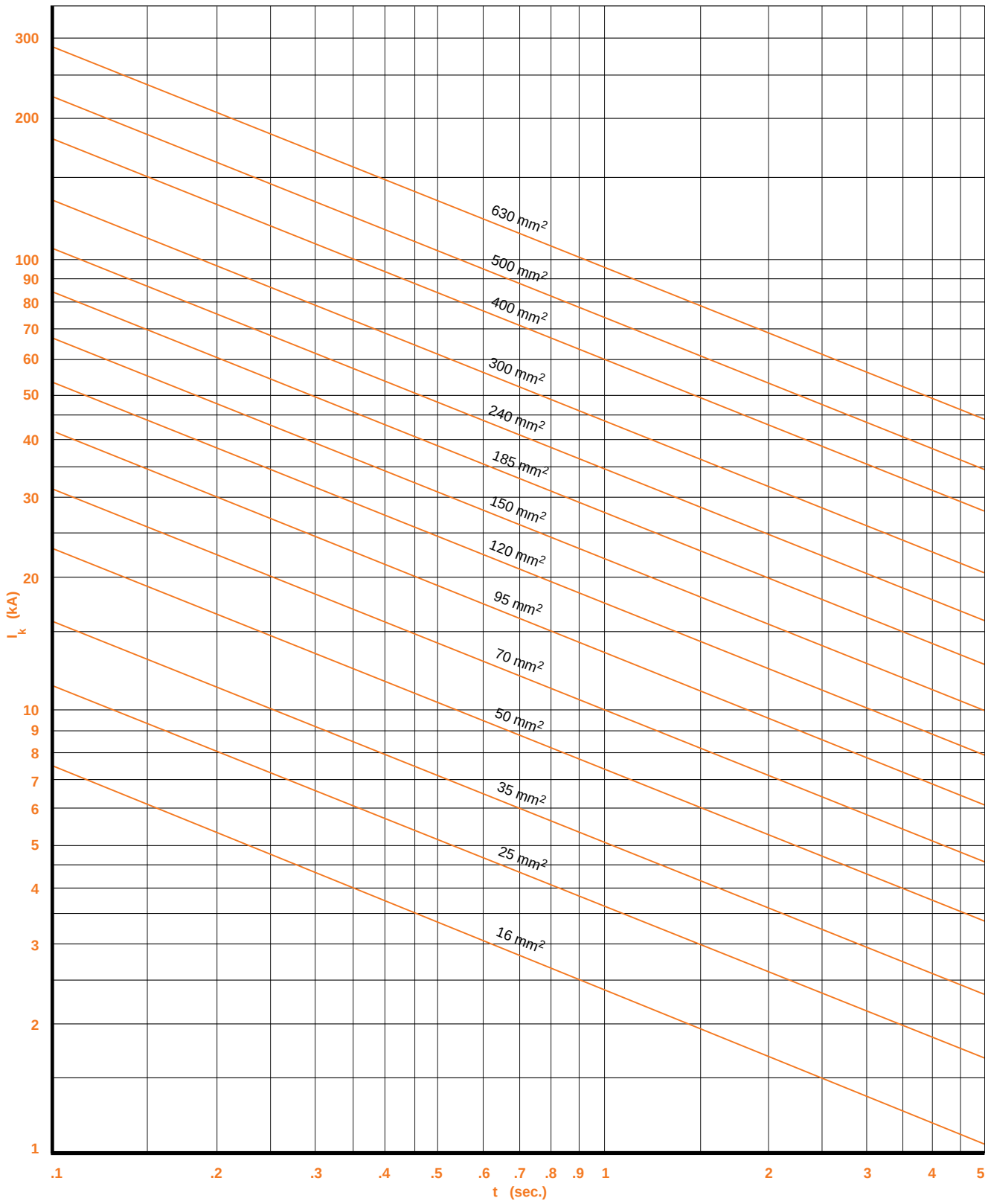
THERMAL SHORT-CIRCUIT CURRENT RATING



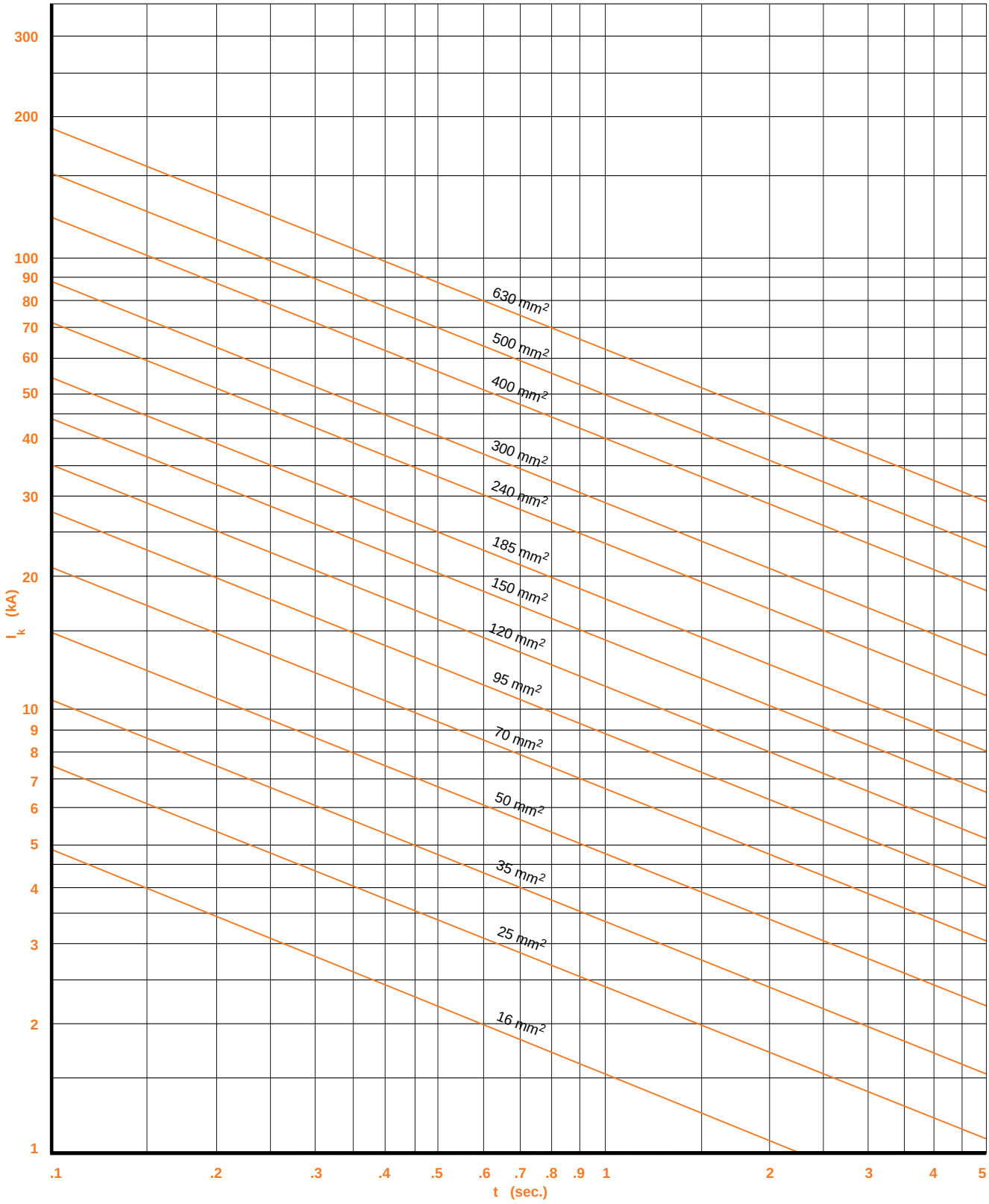
THERMAL SHORT-CIRCUIT CURRENT RATING



THERMAL SHORT-CIRCUIT CURRENT RATING



THERMAL SHORT-CIRCUIT CURRENT RATING



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 85°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 metres
V_{ap} = Approximate voltage drop/ampere/meter
V_p = Maximum permissible voltage drop (say 2.5% of 380 volts)

By subsituting 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 mm^2.
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

$$V = 2 \times (R_{ac} \cdot \text{Cos } \varnothing + X_L . \text{Sin } \varnothing)$$

Three phase system

$$V = \sqrt{3}. (R_{ac} \cdot \text{Cos } \varnothing + X_L . \text{Sin } \varnothing)$$

V = Voltage drop volt/amp/meter
X_L = Inductive reactance of cable Ohm/meter
Cos Ø = Power factor of load
R_{ac} = A.C. resistance of conductor at maximum conductor temperature Ohm/meter

	Copper conductor mV/amp/m		Aluminium conductor mV/amp/m	
Nominal area of conductor mm^2	PVC rated 85°C Flat	PVC rated 85°C Trefoil	PVC rated 85°C Flat	PVC rated 85°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	0.60	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	0.40
240	0.25	0.24	0.34	0.33
300	0.22	0.21	0.29	0.28
400	0.20	0.18	0.25	0.24
500	0.18	0.17	0.22	0.21
630	0.16	0.15	0.19	0.18

Nominal area of conductor mm^2	Copper conductor mV/amp/m PVC rated 85°C	Aluminium conductor mV/amp/m PVC rated 85°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	0.80	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	0.20	0.27
400	0.18	0.23
500	0.15	0.20

Nominal area of conductor	Copper conductor mV/amp/m		Aluminium conductor mV/amp/m	
mm^2	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	0.60	0.95	0.93
95	0.47	0.46	0.71	0.70
120	0.39	0.38	0.58	0.57
150	0.34	0.33	0.50	0.48
185	0.29	0.28	0.42	0.40
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

Nominal area of conductor mm^2	Copper conductor mV/amp/m	Aluminium conductor mV/amp/m
1.5	22.8	-
2.5	14.0	-
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	0.20	0.27
400	0.18	0.23
500	0.15	0.20

LOW VOLTAGE CABLES

CABLE HANDLING AND LAYING PARAMETERS

MINIMUM RECOMMENDED BENDING RADII

Bending of power cables at short radii may permanently damage the insulation, shielding or jacket and ultimately result in a cable failure. It is therefore, very important that no sharp bends or twists are made.

Bending radii

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 SIDE WALL 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 mm^2 for copper and 3 times the cross-sectional area for aluminium.
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 unarmoured cables, the maximum tension in kg is 0.5 times the square of the overall cable diameter (i.e. $0.5D^2$).
2. For armoured 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:

$D_e = k.D$ mm Where:

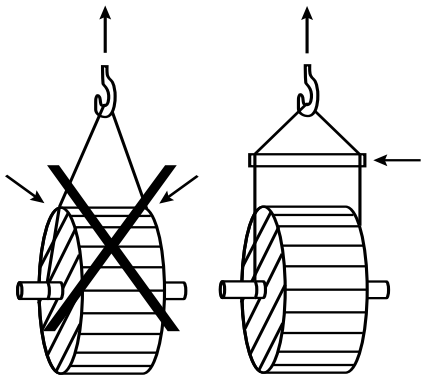
D_e = assembly diameter in mm
k = 2 for 2 cables
k = 2.16 for 3 cables
k = 2.42 for 4 cables
D = overall cable diameter

Maximum side wall pressure is given by the following formula:

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

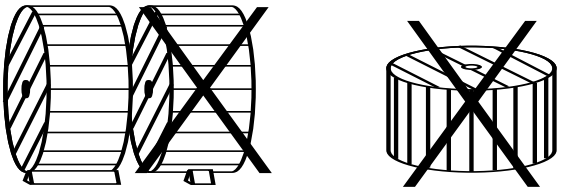
The maximum side wall pressure shall not exceed 500 kg/m, i.e., the tension in the cable in kg as it leaves the bend shall not exceed 500 times the radius of the bend in meters.

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.

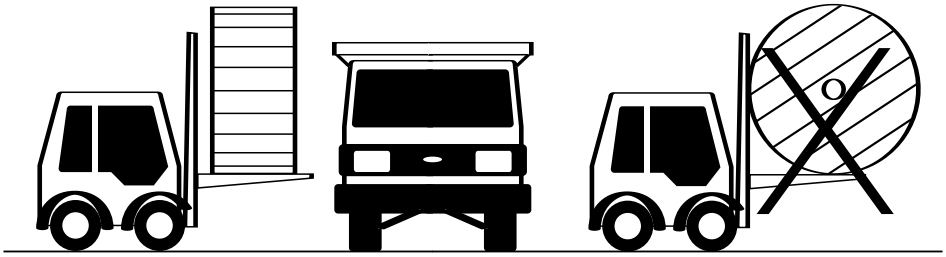


Lifting cable drums using crane.

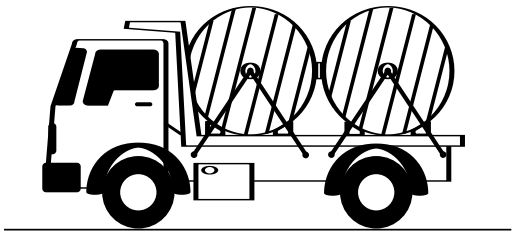
SCC medium voltage cables should be installed by trained personnel in accordance with good engineering practices, recognised codes of practice, statutory local requirements, IEE wiring regulations and where relevant, in accordance with any specific instructions issued by the company. Cables are often 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.



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



Lift drums on fork trucks correctly.



Secure drums adequately before transportation.

Roll in the direction shown by the arrow.