



Alvern

Cables (Pty) Ltd



CABLES CATALOGUE

www.alverncables.co.za

CERTIFICATES



INTRODUCTION

This catalogue is intended to give the buyers and users of low and medium voltage electrical cables the everyday information required, so that they may order the correct Alvern Cables product for the application for which it is intended. Users of our products are always advised to consult the SABS 10142 Wiring Code for more technical information.

The Alvern Cables manufacturing plant uses only the best virgin grade materials to manufacture Alvern Products, ensuring optimum product life and the highest quality standard. As a privately owned firm the employees of Alvern Cables work as a team with a common goal - To supply a great product, deliver a good service, and provide a value for money solution.

Whilst every effort has been made to ensure that the information contained in this catalogue is accurate and correct, we can accept no responsibility for errors contained herein or for any loss, howsoever arising, suffered by any person that relies on this catalogue.

We reserve the right to change the information contained in the catalogue without prior notice and you are invited to seek professional advice before acting on anything contained herein.

1. Flexibility class

This indicates the flexibility of a particular product.



2. Colour codes for Products in this Catalogue

BE	Blue	PK	Pink
BEWH	Transparent Blue / White Tracer	RD	Red
BK	Black	RDBK	Red / Black Tracer
BKWH	Black / White Tracer	TR	Transparent
BN	Brown	TRBE	Transparent / Blue Tracer
BNWH	Brown / White Tracer	TRRD	Transparent / Red Tracer
GN	Green	VI	Violet
GNYE	Green / Yellow Tracer	WH	White
GY	Grey	WHBK	White / Black Tracer
GYWH	Grey / White Tracer	YE	Yellow
OR	Orange	YEGN	Yellow / Green Tracer

3. Current Rating

No definite current rating can be given for any specified cable size as operating conditions vary. A nominal rating is given which is to be used as a guide for normal operating conditions.



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DOMESTIC

cables



ALFIX CIRCULAR SURFACE WIRING CABLES (SURFIX)

Construction

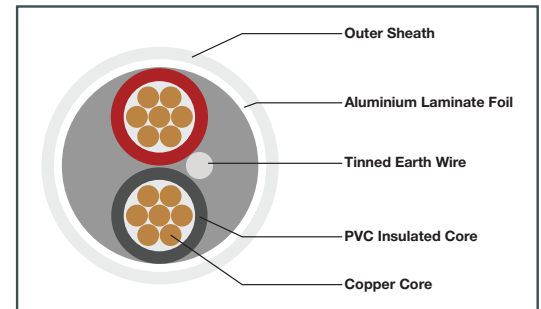
High conductivity solid or stranded plain annealed copper conductors, insulated and colour coded with hard grade PVC, covered in an aluminium/PVC laminate foil in contact with the tinned earth wire and bonded to a sheath of hard grade PVC finished in a circular configuration.

Applications

ALFIX is for direct installation without further protection on walls, in roofs and suspended floors in houses, offices and buildings. It's neat appearance allows for surface installation. As ALFIX is manufactured to SANS1507, it is approved by municipalities and other major utility companies and is widely used by electrical contractors and electricians.

Packaging

Available in 100 metre shrink-wrapped coils.
1000 metre drums available on request.



Specification	SANS 1507-2
Voltage Rating	300/500 Volts
Test Voltage	2250 Volts
Temperature Range	-10° to +80°C
Minimum Bending Radius	15 x Cable Diameter
Protection	Aluminum Foil
Flexibility Class	1 & 2
Conductor Type	High conductivity annealed copper
Insulation Material	Hard grade abrasion resistant PVC
Sheath Material	Hard grade abrasion resistant PVC
Sheath Colours	White and Black
Core Colours	2 core - Red and Black, Tinned earth wire 3 core - Red, Yellow and Blue, Tinned earth wire 4 core - Red, Yellow, Blue and Black, Tinned earth wire

Technical Data

Product Code	Size mm ²	No. of Cores	Earth mm ²	Nominal Amps	Nominal Dia	Mass kg/100m
AF1.5X2+E#	1.5	2 + E	1.0	22	7.1	8.29
AF1.5X3+E#	1.5	3 + E	1.0	19	7.8	10.49
AF1.5X4+E#	1.5	4 + E	1.0	19	8.5	13.00
AF2.5X2+E#	2.5	2 + E	1.5	30	8.5	11.76
AF2.5X3+E#	2.5	3 + E	1.5	25	9.0	15.13
AF2.5X4+E#	2.5	4 + E	1.5	25	9.9	18.91
AF4.0X2+E#	4.0	2 + E	1.5	40	10.2	17.20
AF4.0X3+E#	4.0	3 + E	1.5	34	10.9	22.72
AF4.0X4+E#	4.0	4 + E	1.5	34	11.9	28.61
AF6.0X2+E#	6.0	2 + E	2.5	51	11.3	25.83
AF6.0X3+E#	6.0	3 + E	2.5	43	12.1	31.13
AF6.0X4+E#	6.0	4 + E	2.5	43	13.3	39.24

When ordering, insert colour code here (Refer to Page 1)

ALVEX FLAT SURFACE WIRING CABLES (FLAT TWIN AND EARTH)

Construction

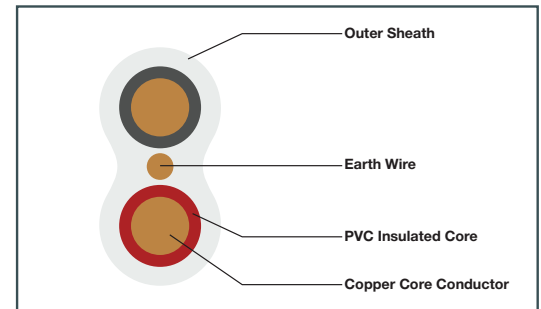
High conductivity solid or stranded plain annealed copper conductors, insulated and colour coded with general purpose grade PVC. These insulated cores plus a bare copper earth wire are then sheathed with a flexible grade PVC in a flat parallel configuration.

Applications

ALVEX is for direct installation without further protection in roofs, floors and under plaster in houses, offices and buildings. It's neat, low profile also allows for surface installation. As ALVEX is manufactured to SANS 1507, it is approved by municipalities and other major utility companies and is also used by electrical contractors and electricians.

Packaging

Available in 100 metre shrink-wrapped coils.
1000 metre drums available on request.



Specification	SANS 1507 - 2
Voltage Rating	300/500 Volts
Test Voltage	2250 Volts
Temperature Range	-10° to +80°C
Flexibility Class	1 & 2
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose grade PVC
Sheath Material	Flexible grade PVC
Sheath Colour	White and Black
Core Colours	Red, Black and Bare copper earth



Technical Data

Product Code	Size mm ²	No. of Cores	Earth mm ²	Nominal Amps	Nominal Breadth & Height	Mass kg/100m
AX01.0X2+E#	1.0	2	1.0	14	7.6 x 4.1	6.35
AX01.5X2+E#	1.5	2	1.0	22	8.5 x 4.6	8.16
AX02.5X2+E#	2.5	2	1.5	30	10.1 x 5.4	11.93
AX04.0X2+E#	4.0	2	1.5	40	11.9 x 6.4	17.50
AX06.0X2+E#	6.0	2	2.5	51	13.4 x 6.9	23.54
AX10.0X2+E#	10.0	2	4.0	60	16.5 x 8.9	38.19

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HOUSE WIRE

GENERAL PURPOSE HOUSE WIRE

Construction

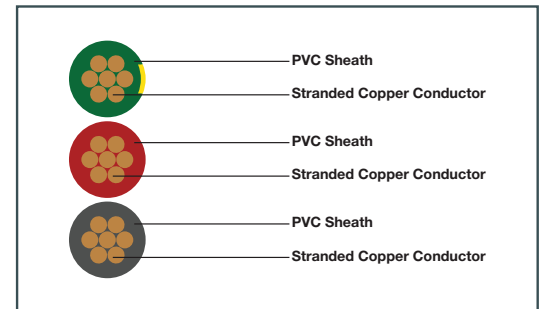
High conductivity annealed stranded copper conductors, insulated with general purpose grade PVC.

Applications

For the wiring of all types of control panels, buildings, factors, relay racks, etc. General purpose HOUSE WIRE is used by electrical contractors, electricians, municipalities and all major switchboard manufacturers.

Packaging

Available in 100 metre shrink-wrapped coils.
500/1000 metre reels available on request.



Specification	SANS 1507 - 2 & SANS 1507 - 3
Voltage Rating	600/1000 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	2
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose grade PVC
Colours Options	Blue, Black, Red, Violet, Green/Yellow, White, Orange, Pink, Grey, Brown and Yellow



Technical Data

	Product Code	Size mm ²	Stranding No x Dia	Nominal Dia	Cubicle Wiring Amp Ratings		Mass kg/100m
					1 ph 220V	3 ph 380V	
SANS 1507-2	HW01.0#	1.0	7 x 0.43	2.916	16	14	1.8
	HW01.5#	1.5	7 x 0.53	3.1	18	16	2.38
	HW02.5#	2.5	7 x 0.67	3.6	24	21	3.43
	HW04.0#	4.0	7 x 0.86	4.6	32	28	5.67
	HW06.0#	6.0	7 x 1.06	5.1	41	36	7.82
	HW10.0#	10.0	7 x 1.37	6.1	57	50	12.24
	HW16.0#	16.0	7 x 1.72	7.1	76	68	18.46
SANS 1507-3	HW25.0#	25.0	19 x 1.38	8.4	101	89	25.60
	HW35.0#	35.0	19 x 1.62	9.5	125	110	34.70
	HW50.0#	50.0	19 x 1.88	11.3	151	134	47.20
	HW70.0#	70.0	19 x 2.28	12.6	192	171	66.10
	HW95.0#	95.0	19 x 2.50	15.8	232	207	97.60

When ordering, insert colour code here (Refer to Page 1)

ILLUMINATION CABLE

2 CORE FLAT CABLE

Construction

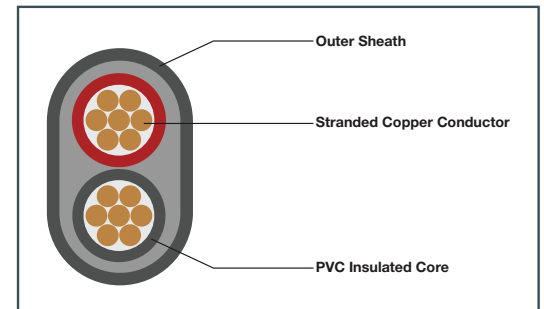
High conductivity stranded plain annealed copper conductors, insulated with a flexible grade PVC, then sheathed with a flexible grade PVC in a flat parallel configuration.

Applications

For festoon lighting at festivals, parties, shows, braais and any application where quick fit lamp holders are used. The correct size profile and soft sheath allows for a watertight seal between the standard lamp holder and the cable.

Packaging

Available in 100 metre shrink-wrapped coils.



Specification	SANS 1507 - 2 as a guide
Voltage Rating	300/500 Volts
Test Voltage	2250 Volts
Current Capacity AC	27 Amps
Temperature Range	-10° to +80°C
Flexibility Class	2
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade PVC
Sheath Material	Flexible grade PVC
Sheath Colour	Black
Core Colours	Black and Red



Technical Data

Product Code	Size mm ²	No. of Cores	Nominal Amps	Nominal Breadth & Height	Mass kg/100m
IC2.5BK	2.5	2	27	10.2 x 5.6	11.55

MOULDED PLUGS

EXTENSION CORDS

Construction

Extension Cord: The cable contains high conductivity bunched copper conductors, insulated and colour coded with general purpose flexible grade PVC. The plug is then moulded onto the cable and is constructed of the same cable grade flexible PVC. This can then be put onto a cable reel or kept in coil form with a socket outlet attached.

Applications

For extension purposes to supply power to all types of electrical appliances and equipment.

Packaging

10 amp (1.0mm²) units are available in 10m, 20m and 30m.

16 amp (1.5mm²) units are available in 10m, 20m and 30m.

20 amp (2.5mm²) units are available in 20m, 30m and 40m.

* Amp Rating based on Cable Capacity.



Specification

CORD SETS AND EXTENSION CORD SETS - SANS 1661

Voltage Rating	Input Voltage 250 Volts
Sheath Colours	Black and White

PLUGS AND SOCKET OUTLET - SANS 164

Voltage Rating	Input Voltage 250 Volts
Sheath Colours	Black and White



Technical Data

Product Code	Size mm ²	Nominal Amps	Nominal Dia
MP10AMPX3#*MJC	1.0	10	7.0
MP16AMPX3#*MJC	1.5	16	8.2
MP20AMPX3#*MJC	2.5	*20	9.9

When ordering, insert colour code here (Refer to Page 1)

* When ordering, insert length here (Refer to packaging)

Construction

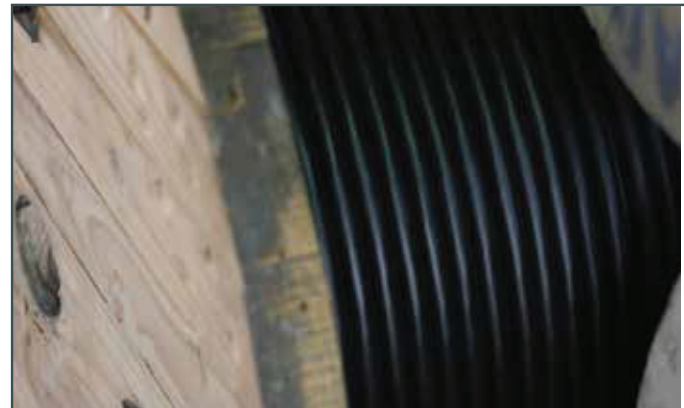
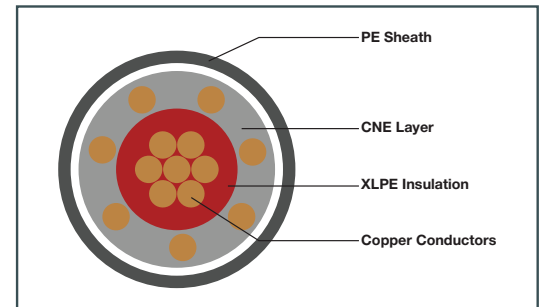
The phase core comprises of a highly conductive hard drawn copper conductor, insulated with a red crosslinked polyethylene which is ultraviolet stabilised. The phase core is surrounded by highly conductive annealed copper earth conductors as well as insulated neutral cores that form a single concentric layer around the phase core. The cable also includes two communication cores. The overall sheath consists of black polyethylene which is ultraviolet stabilised to complete the product.

Applications

Used as a house service cable.

Packaging

Available in 500 metre drums.



Specification	SANS 1507 - 6
Voltage Rating	600 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	2
Conductor Type	High conductivity annealed copper
Insulation Material	UV stabilised Cross-Linked Polyethylene
Sheath Material	Polyethylene
Sheath Colour	Black
Core Colours	CN - Red phase, Bare copper neutral and earth SNE - Red phase with black neutrals and bare copper earth
Communication Cores	Blue and White

Technical Data (CN)

Product Code	Size mm ²	Phase Conductors	Neutral Conductors	Nominal Amps	Nominal Dia	Mass kg/100m
CN4	4.0	7 x 0.82	7 x 0.86	30	8.90	13.01
CN10	10.0	7 x 1.32	7 x 0.86	50	11.05	27.21

Technical Data (SNE)

Product Code	Size mm ²	Phase Conductors	Pilot Cores	Earth Conductors	Neutral Conductors	Nominal Amps	Nominal Dia	Mass kg/100m
SNE10	10.0	7 x 1.32	2 x 0.82	3 x 1.58	7 x 1.32	50	12.8	32.00
SNE16	16.0	7 x 1.72	2 x 2.58	3 x 2.06	7 x 1.72	70	14.5	48.50

EQUIPMENT

cables



PERMOPOWER

ALSO AVAILABLE IN TINNED COPPER

DOUBLE INSULATED
POWER & WELDING CABLE

Construction

High conductivity bunched flexible copper conductors with primary insulation of general purpose grade PVC and a tightly bonded water and oil resistant PVC/rubber nitrile blend sheath.

Applications

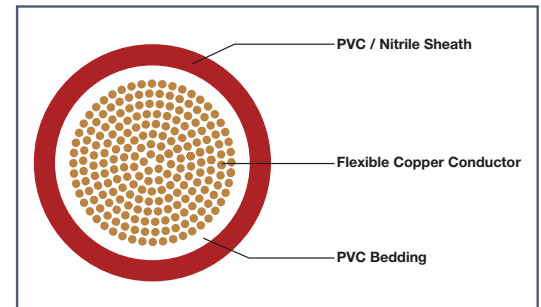
PERMOPOWER is manufactured to SANS 1507 specification, is flexible, and rated at 1000 volts. It can be used on all types of indoor and outdoor panel and power equipment. PERMOPOWER is an excellent replacement for large, rigid type stranded house wires, and is quick to install in ducts, shafts, switchboards, trunking, conduit, transformer connections, large borehole pumps and many types of wiring applications in confined spaces. Excellent product for harsh welding environments.

Packaging

Available in 500 metre drums.

Cut lengths are also available on request.

This product is sequentially marked at one metre intervals for your convenience and security.



Specification	SANS 1507 - 3
Voltage Rating	1000 Volts
Test Voltage	6000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	PVC/Rubber Nitrile blend
Colour Options	Blue, Black, Red, White (Standard welding colours also available)



Technical Data

Product Code	Size mm ²	Stranding No x Dia	Nominal Dia	Cubicle Wiring Amp Ratings		Mass kg/100m
				DC 1 ph 220V	3 ph 380V	
PP016#	16	120 x 0.41	9.4	76	68	21.90
PP025#	25	180 x 0.41	10.4	101	89	30.33
PP035#	35	252 x 0.41	11.8	125	110	41.44
PP050#	50	366 x 0.41	14.4	151	134	59.88
PP070#	70	516 x 0.41	17.1	192	171	83.00
PP095#	95	456 x 0.501	18.6	232	207	107.06
PP120#	120	582 x 0.501	21.3	269	239	136.92
PP150#	150	762 x 0.501	24.7	300	262	179.32
PP185#	185	924 x 0.501	26.8	341	296	220.10

When ordering, insert colour code here (Refer to Page 1)
Consult current ratings for welding cables in Appendix 2 on page 78

PANEL / SINGLE FLEX

SINGLE CORE MULTI STRANDED PANEL WIRE

Construction

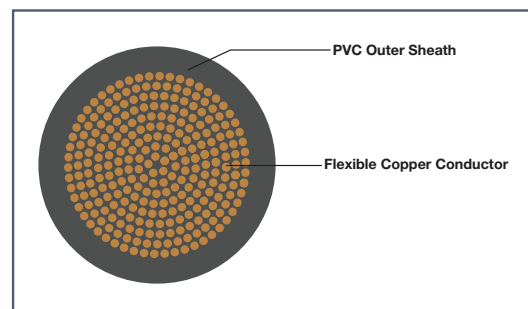
High conductivity bunched plain annealed flexible copper conductors, insulated with general purpose grade PVC in all colours. Insulation is water, oil and abrasion resistant.

Applications

For the wiring of all types of control panels, light fittings, appliances, communication panels, signalling relay racks as well as many other applications. Manufactured to SANS 1574, these products are used by public transport services, municipalities, Telkom, Eskom, major switchgear companies, electrical contractors and electricians.

Packaging

Available in 100 metre shrink-wrapped coils.
500/1000 metre reels available on request.



Specification	SANS 1574 - 3
Voltage Rating	PF type 300/500 Volts SF type 600/1000 Volts
Test Voltage	6000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade PVC
Colour Options	Blue, Black, Brown, Yellow, Green/Yellow, Orange, Pink, Violet, Grey, White, Red and Green



Technical Data

Product Code	Size mm ²	Stranding No x Dia	Nominal Amps	Nominal Dia	Mass kg/100m
PF0.50#	0.5	14 x 0.21	3	2.1	0.89
SF000.75#	0.75	21 x 0.21	6	2.7	1.39
SF001.00#	1.0	28 x 0.21	13	2.9	1.67
SF001.50#	1.5	42 x 0.21	17	3.2	2.21
SF002.50#	2.5	44 x 0.26	24	3.6	3.10
SF004.00#	4.0	48 x 0.31	32	4.5	5.05
SF006.00#	6.0	72 x 0.31	41	5.1	7.02
SF010.00#	10.0	128 x 0.31	57	6.2	11.53
SF016.00#	16.0	200 x 0.31	76	7.3	17.53
SF025.00#	25.0	306 x 0.31	101	9.1	28.12
SF035.00#	35.0	440 x 0.31	125	9.8	36.74
SF050.00#	50.0	632 x 0.31	151	12.4	53.82
SF070.00#	70.0	904 x 0.31	192	14.0	73.87
SF095.00#	95.0	678 x 0.41	232	16.3	99.09
SF120.00#	120.0	864 x 0.41	269	18.4	123.53

When ordering, insert colour code here (Refer to Page 1)

PANEL SOLID

SINGLE CORE SOLID PANEL WIRE

Construction

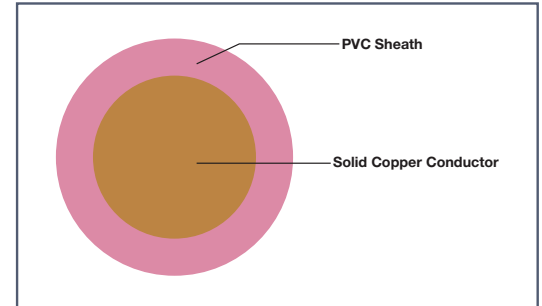
High conductivity solid plain annealed copper conductor, insulated with general purpose grade PVC in plain colours. Insulation is water, oil and abrasion resistant.

Applications

For the wiring of all types of control panels, light fittings, appliances, commercial panels, signalling relay racks, and many other appliances. Manufactured to SANS 1507, it is used by public transport services, municipalities, lighting manufacturers, electrical and electronic appliance manufacturers.

Packaging

Available in 100 metre shrink-wrapped coils.



Specification	SANS 1507 - 2
Voltage Rating	300/500 Volts
Test Voltage	2250 Volts
Current Capacity AC	8 Amps
Temperature Range	-10° to +80°C
Flexibility Class	1
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose grade PVC
Colour Options	Blue, Black, Brown, White, Red, Violet, Green, Grey, Orange, Pink and Yellow

Technical Data

Product Code	Size mm ²	Nominal Amps	Nominal Dia	Mass kg/100m
PS1.0#	1.0	8	2.1	1.1

When ordering, insert colour code here (Refer to Page 1)

FLEXIBLE

cables



CABTYRE FLEXIBLE CABLES OR CORDS

Construction

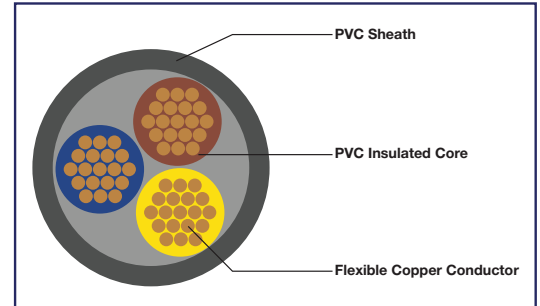
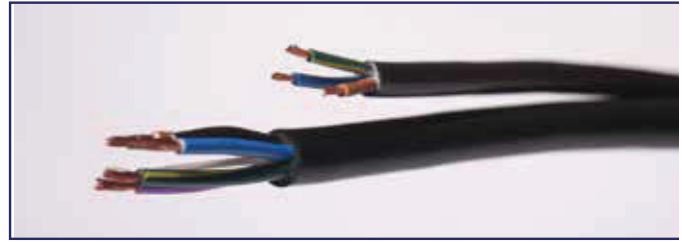
High conductivity bunched copper conductors, insulated and colour coded with a general purpose flexible grade PVC. The cores are then twisted together for maximum flexibility and sheathed with soft flexible grade PVC in a circular configuration.

Applications

For supplying mains power to all types of domestic and industrial appliances and equipment such as refrigerators, washing machines, glass cutters, hand tools, polishers, kitchen appliances, woodworking equipment/machinery, hobby and garden tools, extension leads, etc. The sheath is made of a flame retardant, water and oil resistant flexible grade PVC.

Packaging

Available in 100 metre shrink-wrapped coils.
1000 metre drums available on request.



Specification	IEC 60227 - 3 SANS 1574 - 2&3
Voltage Rating	As per table below
Test Voltage	2000/3000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose flexible grade PVC
Sheath Material	General purpose flexible grade PVC
Sheath Colours	Black and White
Core Colours	2 core - Blue, Brown 3 core - Blue, Brown, Green/Yellow 4 core - Blue, Brown, Black, Green/Yellow 5 core - Blue, Brown, Black, Green/Yellow, Violet 7 core - Blue, Brown, Black, Green/Yellow, Violet, Pink, Orange

Technical Data

Product Code	Size mm ²	Voltage Rating	Nominal Amps		Nominal Dia					Mass kg/100m					
			1ph 220V	3ph 380V	2C	3C	4C	5C	7C	2C	3C	4C	5C	7C	
SANS 1574-2	CT0.50X*#	0.50	300/300	3	3	5.0	5.3	5.8	-	-	3.60	4.30	5.18	-	-
	CT0.75X*#	0.75	300/300	6	6	5.4	5.8	6.3	8.0	8.7	4.41	5.34	6.48	9.67	11.98
	CT1.00X*#	1.00	300/500	13	11	6.6	7.0	7.8	8.5	9.3	6.33	7.61	9.54	11.55	14.30
	CT1.50X*#	1.50	300/500	16	15	7.5	8.2	9.2	10.2	11.1	8.60	10.81	13.59	16.89	21.34
	CT2.50X*#	2.50	300/500	23	20	9.2	10.0	10.9	12.1	13.2	13.45	16.45	20.29	25.58	32.13
SANS 1574-3	CT4.00X*#	4.00	450/750	30	27	-	11.3	12.4	-	-	-	23.09	28.58	-	-
	CT6.00X*#	6.00	450/750	45	42	-	13.6	15.3	-	-	-	35.5	44.7	-	-

* When ordering, insert number of cores here.
When ordering, insert colour code here (Refer to Page 1)

RIPCORD

TWO CORE FLAT FLEXIBLE CABLE

Construction

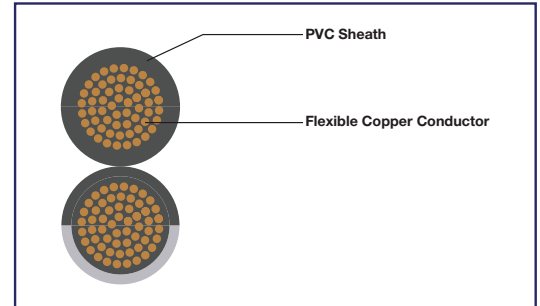
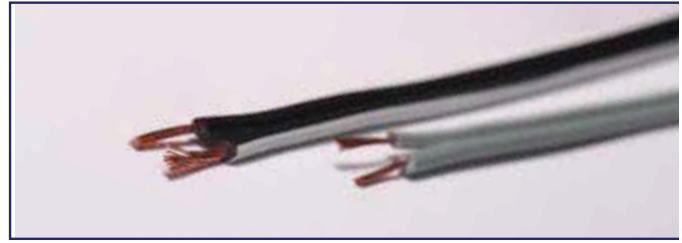
High conductivity bunched plain annealed flexible copper conductors, insulated in a parallel configuration with flexible grade PVC, with a colour stripe on one core for polarity indication. Plain coloured Ripcord has a ridge for polarity indication.

Applications

For hi-fi sets, loudspeakers, car radios, alarm systems, intercoms, toys, etc.

Packaging

Available in 100 metre shrink-wrapped coils.
1000 metre reels available on request.



Specification	In House
Voltage Rating	300 Volts
Test Voltage	2000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade PVC
Colour Options	White/Black, Black/White, White, Black, Brown/White, Grey/White, Transparent/Red. Plain colours have a ridge for polarity indication.



Technical Data

Product Code	Size mm ²	Stranding No x Dia	Nominal Breadth & Height	Mass kg/100m
RC0.5#	0.50	14 x 0.21	5.3 x 2.5	2.14
RC0.75#	0.75	21 x 0.21	5.7 x 2.7	2.72
RC1.00#	1.00	28 x 0.21	5.9 x 2.8	3.15

When ordering, insert colour code here (Refer to Page 1)

* Not to be used for power supply.

SPECIAL RIPCORD

SPECIAL TWO CORE FLAT FLEXIBLE CABLE

Construction

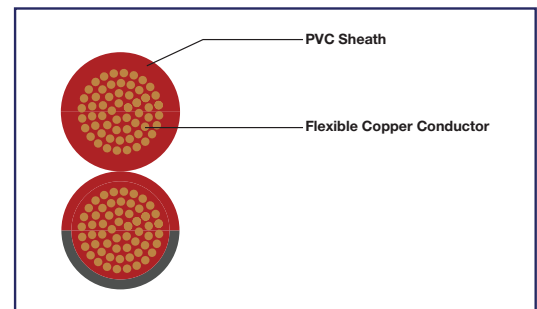
High conductivity bunched plain annealed flexible copper conductors, insulated in a parallel configuration with a flexible grade PVC and a Blue, Black or White tracer for polarity indication.

Applications

For battery chargers, loudspeakers, car radios and many other applications.

Packaging

Available in 100 metre reels.



Specification	In House
Voltage Rating	300 Volts
Test Voltage	2000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose flexible grade PVC
Colour Options	Red/Black Transparent/Blue Transparent Blue/White White/Black White



Technical Data

Product Code	Size mm ²	Stranding No x Dia	Nominal Breadth & Height	Mass kg/100m
SR0.5X2#	0.5	14 x 0.21	2.6 x 5.5	2.26
SR1.0X2#	1.0	28 x 0.21	3.5 x 7.3	3.15
SR1.5X2#	1.5	28 x 0.26	3.3 x 6.8	4.50
SR2.5X2#	2.5	44 x 0.26	3.8 x 7.9	6.64
SR3.0X2#	3.0	87 x 0.21	5.8 x 12.0	11.11
SR4.0X2#	4.0	70 x 0.26	4.5 x 9.4	10.14
SR6.0X2#	6.0	72 x 0.31	5.1 x 10.5	14.54

When ordering, insert colour code here (Refer to Page 1)

* Not to be used for power supply.

POWER & CONTROL

cables



AQUAVERN

3 & 4 CORE SUBMERSIBLE PVC FLEXIBLE PUMP CABLE

Construction

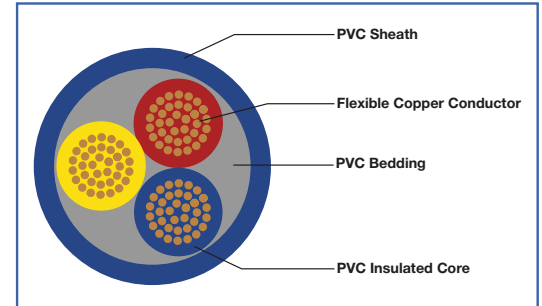
High conductivity bunched flexible copper conductors, insulated and colour coded with a general purpose waterproof flexible PVC. Insulated cores are twisted together and filled with PVC to give the cable a round finish. Final protection is with a tightly bonded waterproof, flexible PVC sheath.

Applications

PVC is superior to rubber in a waterproof submersible cable, therefore AQUAVERN can be used for supplying power to all types of indoor and outdoor, mobile, portable and fixed pumping equipment. AQUAVERN is used as a cost effective alternative to rubber insulated cables for boreholes, drainage, de-watering, cleaning and irrigation pumping equipment. AQUAVERN is used on farms and in mines, dockyards, municipalities, construction operations, railways, roadworks and factories.

Packaging

Available in 500 metre drum lengths. Cut lengths also available on request. This product is sequentially marked at one metre intervals for your convenience and security.



Specification	SANS 1574 - 3
Voltage Rating	600/1000 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade waterproof PVC
Sheath Material	Flexible grade waterproof PVC
Sheath Colours	Blue for 3-core products, Green for 4-core products
Core Colours	3 core - Red, Yellow, Blue 4 core - Red, Yellow, Blue, Black

Technical Data

Product Code	Size mm ²	Stranding No x Dia	mV Drop Amp/mtr		Nominal Dia	Cubicle Wiring Amp Ratings		Mass kg/100m
			1 ph 220V	3 ph 380V		1 ph 220V	3 ph 380V	
AV01.5X3BE	1.5	28 x 0.26	29	25	10.1	16	15	14.96
AV02.5X3BE	2.5	44 x 0.26	18	15	11.1	23	20	19.30
AV04.0X3BE	4.0	49 x 0.31	11	9.5	13.0	30	27	27.65
AV06.0X3BE	6.0	74 x 0.31	7.3	6.4	14.7	38	34	37.82
AV10.0X3BE	10.0	126 x 0.31	4.4	3.8	16.9	52	46	55.77
AV16.0X3BE	16.0	200 x 0.31	2.8	2.4	18.9	69	62	76.38
AV01.5X4GN	1.5	28 x 0.26	29	25	10.9	16	15	17.70
AV02.5X4GN	2.5	44 x 0.26	18	15	12.0	23	20	23.12
AV04.0X4GN	4.0	49 x 0.31	11	9.5	14.2	30	27	34.10
AV06.0X4GN	6.0	72 x 0.31	7.3	6.4	16.0	38	34	46.00
AV10.0X4GN	10.0	126 x 0.31	4.4	3.8	18.5	52	46	68.67
AV16.0X4GN	16.0	200 x 0.31	2.8	2.4	20.7	69	62	94.87

Consult depth and motor power tables in Appendix 1 on Page 77 to determine appropriate size of cable to be utilized for application

AQUAFLAT

3 & 4 CORE FLAT SUBMERSIBLE PVC FLEXIBLE PUMP CABLE

Construction

High conductivity bunched flexible copper conductors, insulated and colour coded with a general purpose waterproof flexible PVC. Insulated cores are finally protected with a tightly bonded waterproof, flexible PVC sheath in a flat configuration.

Applications

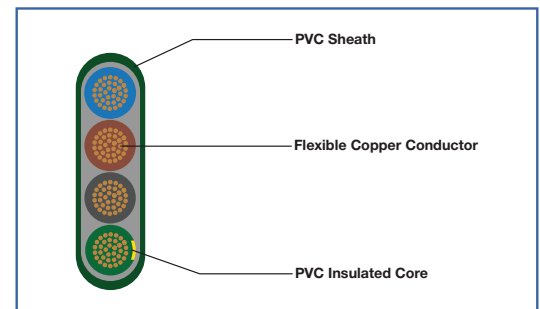
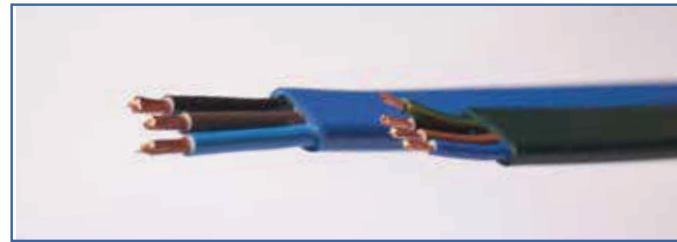
PVC is superior to rubber in a waterproof submersible cable, therefore AQUAFLAT can be used for supplying power to all types of indoor and outdoor, mobile, portable and fixed pumping equipment. AQUAFLAT is used as a cost effective alternative to rubber insulated cables for boreholes, drainage, de-watering, cleaning and irrigation pumping equipment. AQUAFLAT is used on farms and in mines, dockyards, municipalities, construction operations, railways, roadworks and factories.

Packaging

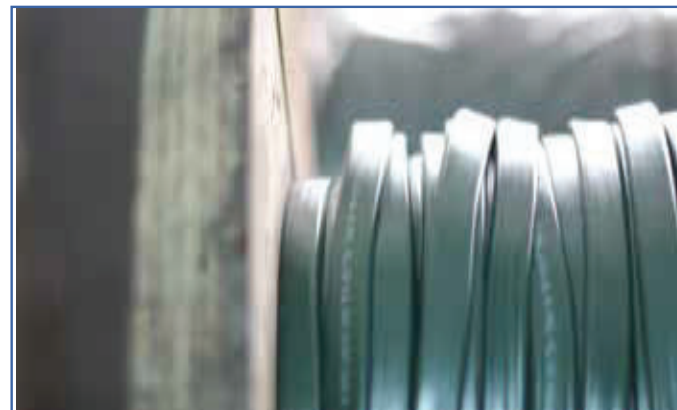
Available in 500 metre drum lengths.

Cut lengths also available on request.

This product is sequentially marked at one metre intervals for your convenience and security.



Specification	SANS 1574 - 3
Voltage Rating	450/750 Volts
Test Voltage	2500 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade waterproof PVC
Sheath Material	Flexible grade waterproof PVC
Sheath Colours	Blue for 3-core products, Green for 4-core products
Core Colours	3 core - Black, Brown, Blue 4 core - Black, Brown, Blue, Green/Yellow



Technical Data

Product Code	Size mm ²	Stranding No x Dia	mV Drop Amp/mtr		Nominal Dia	Cubicle Wiring Amp Ratings		Mass kg/100m
			1 ph 220V	3 ph 380V		1 ph 220V	3 ph 380V	
AQF01.5X3BE	1.5	28 x 0.26	29	25	6.0 x 12	16	15	10.65
AQF02.5X3BE	2.5	44 x 0.26	18	15	7.2 x 14.5	23	20	16.11
AQF04.0X3BE	4.0	49 x 0.31	11	9.5	7.7 x 16	30	27	24.91
AQF06.0X3BE	6.0	74 x 0.31	7.3	6.4	8.3 x 17.7	38	34	32.29
AQF10.0X3BE	10.0	126 x 0.31	4.4	3.8	9.7 x 22	52	46	50.97
AQF16.0X3BE	16.0	200 x 0.31	2.8	2.4	11.4 x 26.1	69	62	76.24
AQF01.5X4GN	1.5	28 x 0.26	29	25	6.2 x 15.2	16	15	13.08
AQF02.5X4GN	2.5	44 x 0.26	18	15	7.2 x 18.2	23	20	19.44
AQF04.0X4GN	4.0	49 x 0.31	11	9.5	7.7 x 20.1	30	27	32.45
AQF06.0X4GN	6.0	72 x 0.31	7.3	6.4	8.3 x 22.4	38	34	42.29
AQF10.0X4GN	10.0	126 x 0.31	4.4	3.8	9.7 x 28.1	52	46	67.22
AQF16.0X4GN	16.0	200 x 0.31	2.8	2.4	11.4 x 33.5	69	62	100.75

Consult depth and motor power tables in Appendix 1 on Page 77 to determine appropriate size of cable to be utilized for application

MASTLITE MULTICORE OUTDOOR MAST LIGHTING CABLE

Construction

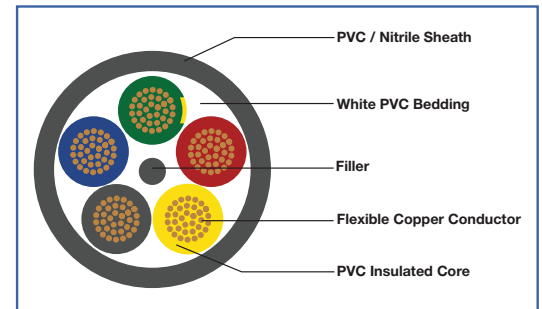
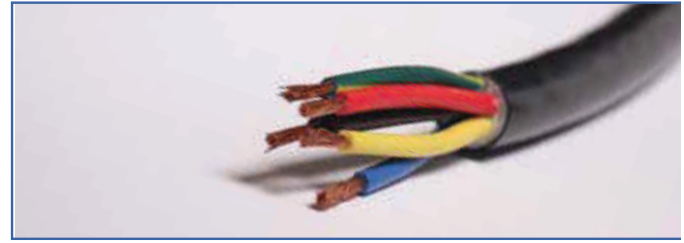
High conductivity bunched flexible copper conductors, insulated and colour coded with a general purpose flexible PVC. Insulated cores are twisted and then filled with PVC bedding to give the cable a round finish. Final protection is with a tightly bonded, ultraviolet, water, oil and abrasion resistant PVC/rubber nitrile blend sheath.

Applications

MASTLITE is used to supply power to all types of indoor and outdoor mast lighting systems, including types requiring ignition pulses of up to 6000 volts. Ideal for use in wet, oily, all weather conditions found in building/construction sites, workshops, toll road lighting, complex security lighting, mines, dockyards, opencast mining operations, railways, roadworks, sports stadiums and factories.

Packaging

Available in 500 metre drum lengths.
Cut lengths also available on request.



Specification	SANS 1574 - 3
Voltage Rating	450/750 V
Ignition Pulse Voltage Rating	6000 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose flexible PVC
Sheath Material	UV resistant PVC/Rubber Nitrile Blend
Sheath Colour	Black
Core Colours	5 core - Red, Black, Blue, Yellow, Green/Yellow 7 core - Red, Black, Blue, Yellow, Green/Yellow, Brown, Brown with White tracer



Technical Data

Product Code	Size mm ²	Stranding No x Dia	No. of Cores	Amps/m		Nominal Amps	Nominal Dia	Mass kg/100m
				1 ph 220V	3 ph 380V			
ML2.5X5BK	2.5	44 x 0.26	5	18	15	20	13.6	28.96
ML2.5X7BK	2.5	44 x 0.26	7	18	15	20	14.6	35.99
ML4.0X5BK	4.0	49 x 0.31	5	11	9.5	27	16.0	42.19
ML4.0X7BK	4.0	49 x 0.31	7	11	9.5	27	17.5	53.35

PERMOTRAIL 4 CORE ORANGE TRAILING CABLE

Construction

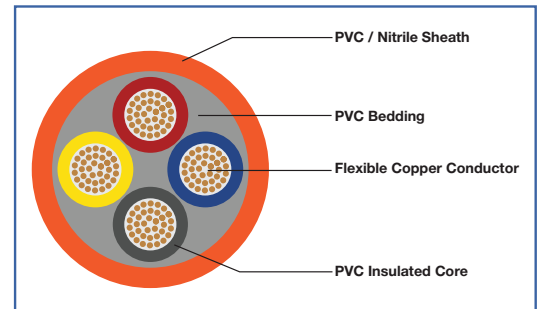
High conductivity bunched flexible copper conductors, insulated and colour coded with a general purpose flexible grade PVC. Insulated cores are twisted and bedded with PVC to give the cable a round finish. Final protection is with a tightly bonded, water, oil and abrasion resistant PVC/rubber blend nitrile sheath.

Applications

The supply of power to all types of indoor and outdoor mobile and portable machinery in wet, oily, all weather conditions. Used on buildings and construction sites, in workshops, mines, dockyards, opencast mining operations, railways, road works and factories.

Packaging

Available in 500 metre drum lengths. Cut lengths also available on request. This product is sequentially marked at one metre intervals for your convenience and security.



Specification	SANS 1507 - 3
Voltage Rating	600/1000 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +80°C
Bending Radius	8 x Diameter of cable
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	Flexible grade PVC
Sheath Material	PVC/Rubber Blend Nitrile
Sheath Colours	Orange
Core Colours	Red, Yellow, Blue, Black



Technical Data

Product Code	Size mm ²	Stranding No x Dia	mV Drop Amps/m		Cubicle Wiring Amp Ratings		Nominal Dia mm	Mass kg/100m
			1 ph 220V	3 ph 380V	1 ph 220V	3 ph 380V		
PT01.5X4OR	1.5	28 x 0.26	29	25	16	15	10.9	17.38
PT02.5X4OR	2.5	44 x 0.26	18	15	23	20	12.0	22.79
PT04.0X4OR	4.0	49 x 0.31	11	9.5	30	27	14.7	34.80
PT06.0X4OR	6.0	74 x 0.31	7.3	6.4	38	34	16.1	45.28
PT10X4OR	10.0	126 x 0.31	4.4	3.8	52	46	19.1	69.80
PT16X4OR	16.0	200 x 0.31	2.8	2.4	69	62	21.3	96.10
PT25X4OR	25.0	180 x 0.41	1.75	1.5	88	80	26.3	147.30
PT35X4OR	35.0	252 x 0.41	1.25	1.1	109	99	31.7	213.10

ALV-K (RV-K)

SINGLE CORE

Construction

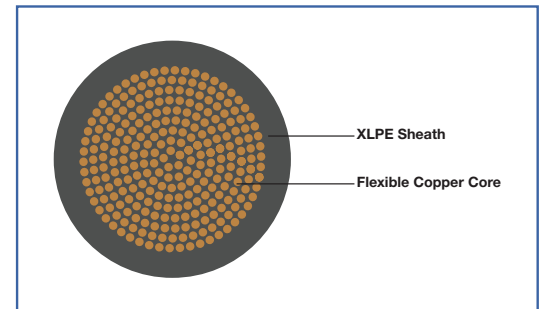
High conductivity bunched flexible copper conductors, insulated with XLPE for extra abrasion resistance and heat tolerance.

Applications

For the wiring of control panels, signalling relay racks, transformer connections, pumps and switchboards. It can be used on all types of indoor and outdoor panel and power equipment. In all weather conditions as well as wet and oily conditions. Used on buildings, construction sites, workshops, mines, dockyards, railways and factories.

Packaging

Available in 500 metre drum lengths.
Cut lengths also available on request.



Specification	SANS 1507-4 *AS A GUIDE / IEC 60502-1
Voltage Rating	600/1000 Volts
Test Voltage	3000 Volts
Temperature Range	-10° to +90°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	XLPE
Sheath Colour	Black



Technical Data

Product Code	Size mm ²	VDrop	Outer Diameter mm	Nominal Amps	Max cond. resist. at 20°C Ohm/km	Mass kg/100m
ALVK16BK	16.0	2.561	9.2	100	1.21	19.7
ALVK25BK	25.0	1.458	11.0	135	0.780	29.3
ALVK35BK	35.0	1.057	12.0	170	0.554	38.6
ALVK50BK	50.0	0.759	13.5	210	0.386	53.5
ALVK70BK	70.0	0.556	15.5	270	0.272	70.3
ALVK95BK	95.0	0.438	17.0	330	0.206	92.5
ALVK120BK	120.0	0.358	19.2	385	0.161	113.8
ALVK150BK	150.0	0.302	21.0	450	0.129	142.8
ALVK185BK	185.0	0.262	23.0	510	0.106	174.2
ALVK240BK	240.0	0.215	26.0	610	0.0801	226.6
ALVK300BK	300.0	0.193	29.0	705	0.0641	283.3

ALV-K (RV-K)

3 & 4 CORE TRAILING CABLE

Construction

High conductivity bunched, flexible copper conductors, insulated and colour coded with XLPE. Insulated, twisted and filled with a PVC bedding to give the cable a round finish. Final protection is with a tightly bonded, water, oil and abrasion resistant PVC.

Applications

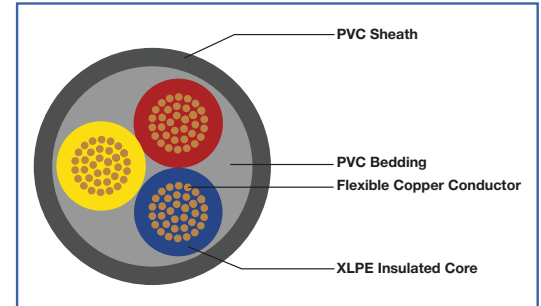
The supply of power to all types of indoor and outdoor mobile and portable machinery in all weather conditions and in wet and oily conditions. Used on buildings, construction sites, in workshops, mines, dockyards, opencast mining, railways, road works and factories.

Packaging

Available in 500 metre drum lengths.

Cut lengths also available on request.

This product is sequentially marked at one metre intervals for your convenience and security.



Specification	SANS 1507 - 4 *AS A GUIDE / IEC 60502-1
Voltage Rating	600/1000 Volts
Test Voltage	3000 Volts
Temperature Range	-15° to +90°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	XLPE
Sheath Material	Flexible grade PVC
Sheath Colour	Black
Core Colours	3 core - Red, Yellow, Blue 4 core - Red, Yellow, Blue, Black



Technical Data

Product Code	Size mm ²	Stranding No & Dia	mV Drop Amps/m		Nominal Amps		Nominal Dia mm	Mass kg/100m
			1 ph 220V	3 ph 380V	1 ph 220V	3 ph 380V		
ALVK1.50X3BK	1.5	27 x 0.26	29	25	26	23	10	13.4
ALVK2.50X3BK	2.5	44 x 0.26	18	15	36	32	11	17.7
ALVK4.00X3BK	4.0	48 x 0.31	11	9.5	49	42	12	23.8
ALVK6.00X3BK	6.0	72 x 0.31	7.3	6.4	63	54	13.5	31.1
ALVK10.0X3BK	10.0	128 x 0.31	4.4	3.8	86	75	15.5	47.7
ALVK16.0X3BK	16.0	200 x 0.31	2.8	2.4	115	100	17.5	67.1
ALVK25.0X3BK	25.0	306 x 0.31	1.7	1.5	149	135	21	101.7
ALVK1.50X4BK	1.5	27 x 0.26	29	25	26	23	10.5	15.7
ALVK2.50X4BK	2.5	44 x 0.26	18	15	36	32	12	21.0
ALVK4.00X4BK	4.0	48 x 0.31	11	9.5	49	42	13	28.7
ALVK6.00X4BK	6.0	72 x 0.31	7.3	6.4	63	54	14.5	37.7
ALVK10.0X4BK	10.0	128 x 0.31	4.4	3.8	86	75	17	58.4
ALVK16.0X4BK	16.0	200 x 0.31	2.8	2.4	115	100	19	83.4
ALVK25.0X4BK	25.0	306 x 0.31	1.7	1.5	149	135	23.5	126.9
ALVK35.0X4BK	35.0	440 x 0.31	1.2	1.055	185	169	25	168.3
ALVK50.0X4BK	50.0	632 x 0.31	0.9	0.958	225	207	30	237.2
ALVK70.0X4BK	70.0	904 x 0.31	0.6	0.556	289	268	35	315.7
ALVK95.0X4BK	95.0	678 x 0.41	0.5	0.438	352	328	38	413.4
ALVK120.0X4BK	120.0	864 x 0.41	0.4	0.358	410	383	44	518.8

STEEL WIRE ARMoured FR

2-12 CORE SWA CABLE

Construction

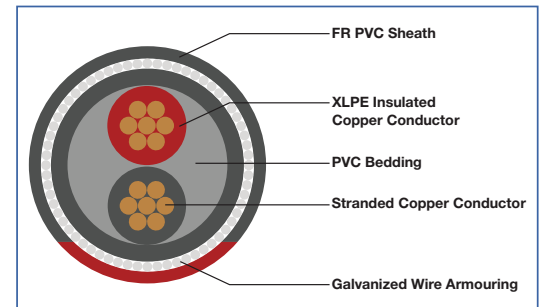
High conductivity bunched, stranded copper conductors, insulated and colour coded with XLPE. Insulated cores are twisted and filled with a PVC bedding to give the cable a round finish. It is armoured with a galvanized steel wire. Final protection is tightly bonded, with a Flame Retardant PVC.

Applications

To supply power to all types of fixed installations. Suitable for use in ducts, racks and ladders as well as burial underground without further protection.

Packaging

Available in 500 metre drums.
Cut lengths also available on request.



Specification	SANS 1507
Voltage Rating	600/1000 Volts
Test Voltage	6000 Volts
Temperature Range	-10° to +80°C
Bending Radius	15 x Cable Diameter
Protection	Steel wire armour
Flexibility Class	2
Conductor Types	High conductivity annealed copper
Insulation Material	XLPE
Sheath Material	Flame Retardant PVC
Sheath Colour	Black with Red Stripe
Core Colours	2 core - Red, Black 3 core - Red, Yellow, Blue 4 core - Red, Yellow, Blue, Black 7 core - Black numbered 12 core - Black numbered

Technical Data

Product Code	Size mm ²	mV Drop Amps / mtr	Nominal Amps	Nominal Dia			Mass kg/100m		
				2C	3C	4C	2C	3C	4C
SWA01.5X*#	1.5	14.4	18	12.5	12.9	13.7	30	33	40
SWA02.5X*#	2.5	8.6	25	13.3	13.8	14.7	35	40	44
SWA04.0X*#	4.0	5.4	33	14.3	14.9	15.9	40	45	54
SWA06.0X*#	6.0	3.6	42	15.4	16.0	17.1	48	55	65
SWA10.0X*#	10.0	2.1	58	17.1	18.1	19.4	61	72	85
SWA16.0X*#	16.0	1.5	91	19.3	20.2	22.8	79	95	120
SWA25.0X*#	25.0	0.93	132	21.7	24.9	27.5	133	161	200
SWA35.0X*#	35.0	0.67	158	23.3	26.1	30.1	150	191	250
SWA50.0X*#	50.0	0.49	186	24.9	28.7	33.0	180	240	300
SWA70.0X*#	70.0	0.34	229	27.0	31.9	38.8	225	310	430
SWA90.0X*#	95.0	0.25	275	-	39.0	44.8	-	438	560
SWA120.0X*#	120.0	0.20	312	-	39.7	49.9	-	510	720
SWA150.0X*#	150.0	0.16	357	-	43.5	56.0	-	610	870
SWA185.0X*#	185.0	0.13	397	-	52.0	60.6	-	800	1050
SWA240.0X*#	240.0	0.10	459	-	57.9	67.9	-	995	1250

* When ordering, insert number of cores here.

When ordering, insert colour code here (Refer to Page 1)

Available in Aluminium, ECC and white stripe options.

STEEL WIRE ARMoured LH

2-12 CORE SWA CABLE

Construction

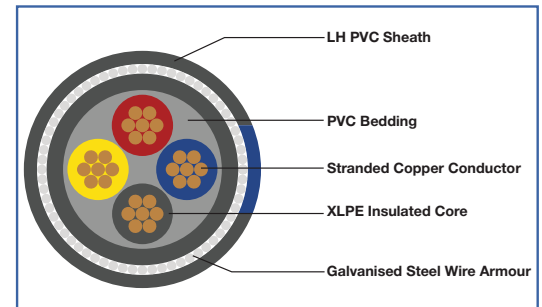
High conductivity bunched, stranded copper conductors, insulated and colour coded with XPLE. Insulated cores are twisted and filled with a PVC bedding to give the cable a round finish. It is armoured with a galvanized steel wire. Final protection is tightly bonded, with a Flame Retardant, Low Halogen PVC.

Applications

To supply power to all types of fixed installations. Suitable for use in ducts, racks and ladders as well as burial underground without further protection.

Packaging

Available in 500 metre drums.
Cut lengths also available on request.



Specification	SANS 1507
Voltage Rating	600/1000 Volts
Test Voltage	6000 Volts
Temperature Range	-10° to +80°C
Bending Radius	15 x Cable Diameter
Protection	Steel wire armour
Flexibility Class	2
Conductor Types	High conductivity annealed copper
Insulation Material	PVC
Sheath Material	Flame Retardant PVC / Low Halogen
Sheath Colours	Black with Blue Stripe
Core Colours	2 core - Red, Black 3 core - Red, Yellow, Blue 4 core - Red, Yellow, Blue, Black 7 core - Black numbered 12 core - Black numbered

Technical Data

Product Code	Size mm ²	mV Drop Amps / mtr	Nominal Amps	Nominal Dia			Mass kg/100m		
				2C	3C	4C	2C	3C	4C
SWA01.5X*#	1.5	14.4	18	12.5	12.9	13.7	30	33	40
SWA02.5X*#	2.5	8.6	25	13.3	13.8	14.7	35	40	44
SWA04.0X*#	4.0	5.4	33	14.3	14.9	15.9	40	45	54
SWA06.0X*#	6.0	3.6	42	15.4	16.0	17.1	48	55	65
SWA10.0X*#	10.0	2.1	58	17.1	18.1	19.4	61	72	85
SWA16.0X*#	16.0	1.5	91	19.3	20.2	22.8	79	95	120
SWA25.0X*#	25.0	0.93	132	21.7	24.9	27.5	133	161	200
SWA35.0X*#	35.0	0.67	158	23.3	26.1	30.1	150	191	250
SWA50.0X*#	50.0	0.49	186	24.9	28.7	33.0	180	240	300
SWA70.0X*#	70.0	0.34	229	27.0	31.9	38.8	225	310	430
SWA95.0X*#	95.0	0.25	275	-	39.0	44.8	-	438	560
SWA120.0X*#	120.0	0.20	312	-	39.7	49.9	-	510	720
SWA150.0X*#	150.0	0.16	357	-	43.5	56.0	-	610	870
SWA185.0X*#	185.0	0.13	397	-	52.0	60.6	-	800	1050
SWA240.0X*#	240.0	0.10	459	-	57.9	67.9	-	995	1250

* When ordering, insert number of cores here.

When ordering, insert colour code here (Refer to Page 1)

Available in Aluminium, ECC and white stripe options.

SPECIALISED

cables



SLIMLINE HIGH VOLTAGE UNDERGATE CABLE

Construction

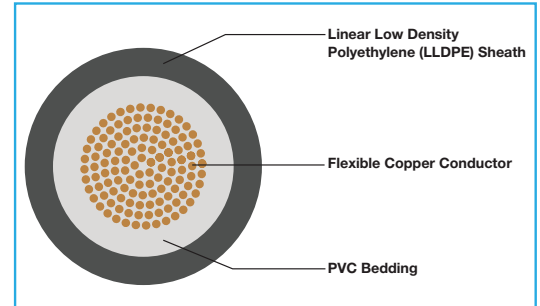
High conductivity annealed flexible copper conductor, insulated with a thin layer of general purpose grade PVC and sheathed with cut & abrasion resistant linear low density polyethylene (LLDPE) which resists a broad spectrum of chemicals and soil acids.

Applications

For the feeding of and interconnection of high voltage pulses in all types of high voltage security fencing systems.

Packaging

Available in 50, 100 and 200 metre shrink-wrapped coils and 1000 metre reels.



Specification	In-house
Voltage Rating	20 000 Volts (Pulsed)
Test Voltage	6000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose grade PVC
Sheath Material	LLDPE (Linear Low Density Polyethylene)
Colour	Black

Technical Data

Product Code	Conductor Dia mm ²	Dielectric Thickness mm	Sheath Thickness mm	Nominal Dia mm	Mass kg/100m
UG1.1X1BK	1.39	0.50	0.90	4.2	2.28

UNDERGATE CABLE

HIGH VOLTAGE UNDERGATE CABLE

Construction

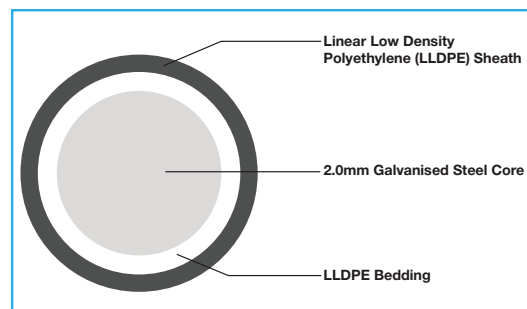
A high tensile galvanised wire extruded with a high dielectric strength virgin grade natural linear low density polyethylene (LLDPE) and oversheathed with a 2.5% carbon loaded high performance weather, cut and abrasion resistant linear low density polyethylene (LLDPE) which resists a broad spectrum of chemicals and soil acids.

Applications

For the feeding and interconnection of high voltage pulses in all types of high voltage security fencing systems where continuity is required under roads and gates.

Packaging

Available in 25, 50, 100 and 200 metre shrink-wrapped coils and 1000 metre drums.



Specification	In-house
Voltage Rating	25 000 Volts (Pulsed)
Test Voltage	6000 Volts
Temperature Range	-10° to +115°C
Flexibility Class	1
Conductor Type	2.0mm diameter galvanised wire
Insulation Material	LLDPE (Linear Low Density Polyethylene)
Sheath Material	2.5% Carbon Loaded High Performance Linear Low Density Polyethylene
Sheath Colour	Black
Ductility	Min 6% before break



Technical Data

Product Code	Conductor Dia mm ²	Dielectric Thickness mm	Sheath Thickness mm	Nominal Dia mm	Mass kg/100m
UG2.0X1BK	2.0	1.0	1.20	6.4	5.43

AQUASPRAY

COMPOSITE MULTICORE IRRIGATION MACHINE CABLE

Construction

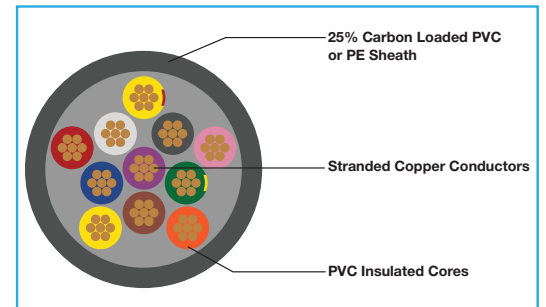
Mixed sizes of high conductivity stranded copper conductors, insulated and colour coded with general purpose grade PVC, laid up and sheathed in a hard 2.5% carbon loaded ultraviolet weather-resistant PVC. V191 has an aluminium tape shield and is then sheathed with a UV, water resistant polyethylene.

Applications

For outdoor use without further protection in rough agricultural conditions on all types of normal and computer controlled irrigation machines for power supply and control of motors and valves.

Packaging

Available in cut lengths or drums as per customer requirements.



Specification	In-house
Voltage Rating	500 Volts
Test Voltage	2000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	2
Conductor Type	High conductivity annealed copper
Insulation Material	Colour coded, general purpose PVC
Sheath Material	2.5% Carbon loaded ultraviolet abrasion and weather-resistant PVC or polyethylene
Sheath Colour	Black
Core Colours	4 core - 4.0mm ² Black, Blue, Red, Yellow 9 core - 4.0mm ² Black, Blue, Red - 1.5mm ² Yellow, White, Orange, Violet, Brown, Pink 11 core - 3.31mm ² Red, Black, Blue, Green/Yellow - 2.1mm ² Yellow, Pink, White, Violet, Orange, Brown, Yellow/Red

Technical Data

Product Code	Stranding No x Dia	Nominal Amps	Mass kg/100m
AS9BK	4.0mm ² x 3 + 1.50mm ² x 6	14.7	42.33
V181	2.10mm ² x 4	13.0	22.33
V191	5.30mm ² x 4 + 2.10mm ² x 7	20.2	68.44
V192	5.30mm ² x 4 + 2.10mm ² x 7	16.8	56.81
V193	2.50mm ² x 4 + 1.50mm ² x 7	15.2	41.75
V11BK3E2086	3.31mm ² x 4 + 2.10mm ² x 7	15.2	45.52

FIRE RETARDANT SINGLE FLEX

HALOGEN-FREE,
FLAME-RETARDANT
CROSS-LINKED POLYOLEFIN

Construction

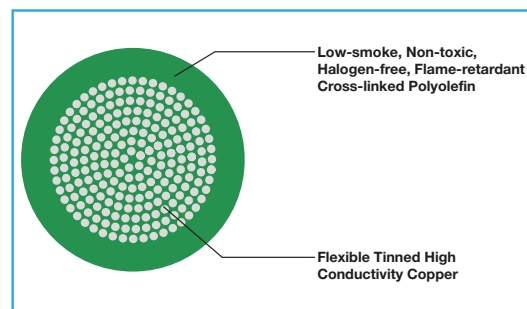
High conductivity bunched, tinned flexible copper conductors, insulated with a low smoke, non-toxic, halogen-free, flame-retardant cross-linked polyolefin. The fire retarding process greatly enhances the tensile strength, abrasion resistance, heat resistance and shrink back qualities of the insulation, while retaining its excellent ultraviolet, oil and water resistance. The principal advantage is that the insulation does not soften and deform at high temperatures, permitting short term overloading and fault currents without the conductor burning through the insulation and damaging any adjacent wiring.

Applications

For the wiring of all types of high temperature and high performance control panels, locomotive and rolling stock control panels, signalling relay racks, elevator control panels, electrical motor winding lead out connections, etc. This product is used where above normal performance is required for fire prevention and where safety and reliability are of major concern. As this product has enhanced qualities and performance, it is used by public transport services.

Packaging

Available in 100 metre shrink-wrapped coils.



Specification	RE/EE/SP/015
Voltage Rating	500 Volts
Test Voltage	2000 Volts
Temperature Range	-20° to +125°C
Flexibility Class	5
Conductor Type	Tinned flexible high conductivity copper
Insulation Material	Low-smoke, non-toxic, halogen-free, flame-retardant cross-linked polyolefin

Technical Data

Product Code	Size mm ²	Stranding No x Dia	Nominal Amps	Nominal Diameter	Mass kg/100m
SF001.5GNFRTCW	1.5	28 x 0.26	19	3.5	2.09
SF002.5GNFRTCW	2.5	42 x 0.26	27	3.9	3.34
SF004.0GNFRTCW	4.0	48 x 0.31	35	4.6	5.01
SF006.0GNFRTCW	6.0	72 x 0.31	43	5.4	6.98
SF010.0GNFRTCW	10.0	126 x 0.31	60	6.8	11.89
SF016.0GNFRTCW	16.0	200 x 0.31	77	8.5	17.60
SF025.0GNFRTCW	25.0	312 x 0.31	100	10.0	27.81

Ho7RN-F HEAVY DUTY RUBBER INSULATED TRAILING CABLE

Construction

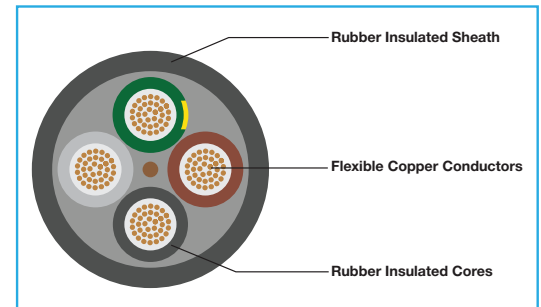
Annealed flexible copper conductors insulated with EPR rubber and sheathed with polychlorophene. The cores are colour coded according to International harmonized codes.

Applications

Used to supply power to mobile or portable machinery. Due to multi stranding and lack of armour the cable is flexible. The insulation and the outersheath are rubber this ensures the cables flexibility and makes it water, oil, petrochemical and abrasion resistant.

Packaging

Available in 500 metre drums.
Cut lengths are also available on request.



Specification

Voltage Rating	450/750 Volts
Test Voltage	1000 Volts
Temperature Range	-25° to +60°C
Bending Radius	4 x Diameter of cable
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	EPR
Sheath Material	Rubber Sheath with Polychlorophene
Sheath Colour	Black
Core Colours	2 core - Brown, Blue 3 core - Brown, Blue, Green/Yellow 4 core - Brown, Black, Grey, Green/Yellow 5 core - Brown, Black, Grey, Blue, Green/Yellow 7 core - Number Coded



Technical Data

Size mm ²		Outer Diameter mm	Max Diameter of Wires mm	Amp Rating	Max cond. resist. at 20°C Ohm/km	Cable Weight kg/km
1 x 1.5	H07-01.5BK	6.0	0.26	16	13.3	50
1 x 2.5	H07-02.5BK	7.0	0.26	25	7.98	70
1 x 4	H07-04.0BK	8.0	0.31	35	4.95	90
1 x 6	H07-06.0BK	9.0	0.31	38	3.30	120
1 x 10	H07-010BK	10.5	0.41	53	1.91	190
1 x 16	H07-016BK	12.5	0.41	71	1.21	250
1 x 25	H07-025BK	13.5	0.41	94	0.780	360
1 x 35	H07-035BK	15.0	0.41	117	0.554	480
1 x 50	H07-050BK	17.5	0.41	148	0.386	660
1 x 70	H07-070BK	19.5	0.51	185	0.272	880
1 x 95	H07-095BK	22.0	0.51	222	0.206	1120
1 x 120	H07-120BK	24.0	0.51	260	0.161	1420
1 x 150	H07-150BK	26.0	0.51	300	0.129	1740
1 x 185	H07-185BK	29.0	0.51	341	0.106	2090
1 x 240	H07-240BK	32.0	0.51	407	0.0801	2670
1 x 300	H07-300BK	36.0	0.51	468	0.0641	3360

AUTOMOTIVE TRAILER

MULTICORE AUTOMOTIVE CABLE

Construction

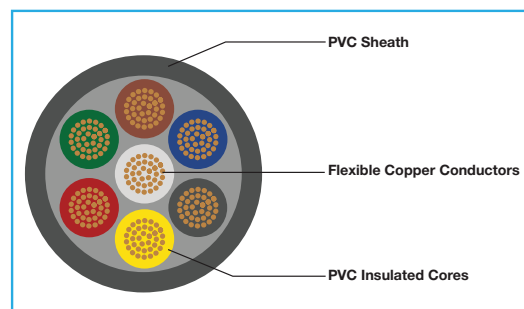
High conductivity bunched plain annealed flexible copper conductors, insulated and colour coded with a general purpose grade PVC. Cores are then twisted and sheathed in general purpose PVC. Insulation and sheath are resistant to water, lubricating oils, dilute acids and abrasion.

Applications

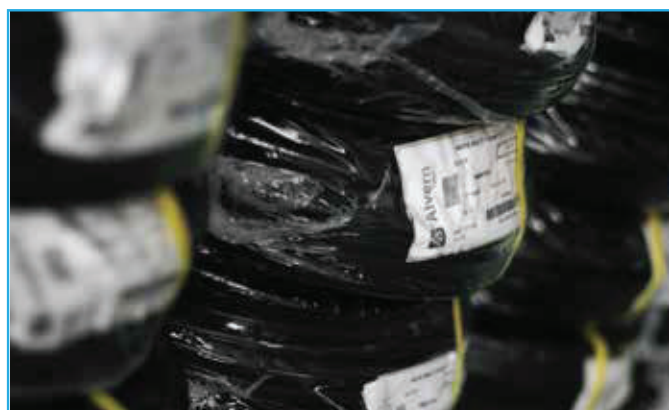
For the wiring of all types of light and heavy duty motor vehicles and trailers in the original equipment and replacement markets use by auto electricians, Transport Services, Municipalities and all major transport and road haulage companies and trailer manufacturers.

Packaging

Available in 30 metre shrink-wrapped coils.
AM 1.6X7BK available in 30 & 100 metre shrink-wrapped coils and 1000 metre drums.



Specification	SANS 1017 as a guide
Voltage Rating	100 Volts
Test Voltage	1000 Volts
Temperature Range	-10° to +80°C
Flexibility Class	5
Conductor Type	High conductivity annealed copper
Insulation Material	General purpose grade PVC
Sheath Material	Ultra violet, oil, dilute acid and abrasion resistant general purpose grade PVC
Sheath Colours	Black, 2 core - Grey
Core Colours	2 core - Black, Red 5 core - Black, Blue, Brown, Yellow, White 7 core - Black, Blue, Brown, Yellow, White, Red, Green/Yellow



Technical Data

Product Code	Size mm ²	Size AWG	Stranding No X Dia	No. of Cores	Nominal Dia	Mass kg/100m
AM1.60X2GY	1.6	15	22 x 0.31	2	6.7	5.85
AM1.60X5BK	1.6	15	22 x 0.31	5	8.6	14.41
AM1.60X7BK	1.6	15	22 x 0.31	6 x 1.6 1 x 2.5	10.6	21.76

Ho7RN-F

HEAVY DUTY RUBBER INSULATED TRAILING CABLE

Technical Data Continued

Size mm ²		Outer Diameter mm	Max Diameter of wires mm	Amp Rating	Max cond. resist. at 20°C Ohm/km	Cable Weight kg/km
2 G 1	TC01.0X2BKH07	8.4	0.21	10	19.5	99
2 G 1.5	TC01.5X2BKH07	9.4	0.26	16	13.3	130
2 G 2.5	TC02.5X2BKH07	13.0	0.26	25	7.98	195
2 G 4	TC04.0X2BKH07	15.1	0.31	35	4.95	280
2 G 6	TC06.0X2BKH07	15.5	0.31	44	3.30	295
2 G 10	TC10.0X2BKH07	16.5	0.41	62	1.91	540
2 G 16	TC16.0X2BKH07	17.5	0.41	82	1.21	725
3G 1	TC01.0X3BKH07	9.1	0.21	10	19.5	125
3G 1.5	TC01.5X3BKH07	10.0	0.26	16	13.3	155
3G 2.5	TC02.5X3BKH07	12.5	0.26	25	7.98	235
3G 4	TC04.0X3BKH07	15.5	0.31	35	4.95	305
3G 6	TC06.0X3BKH07	17.5	0.31	44	3.30	495
3G 10	TC10.0X3BKH07	21.0	0.41	62	1.91	810
3G 16	TC16.0X3BKH07	24.0	0.41	82	1.21	1000
3G 25	TC25.0X3BKH07	30.1	0.41	109	0.780	1250
3G 35	TC35.0X3BKH07	36.2	0.41	135	0.554	1850
3G 50	TC50.0X3BKH07	42.0	0.41	169	0.386	2600
3G 70	TC70.0X3BKH07	48.0	0.51	211	0.272	2990
3G 95	TC95.0X3BKH07	50.0	0.51	250	0.206	4081
3G 120	TC120.0X3BKH07	53.0	0.51	270	0.161	6250
4G 1	TC01.0X4BKH07	11.0	0.21	10	19.5	150
4G 1.5	TC01.5X4BKH07	11.5	0.26	16	13.3	190
4G 2.5	TC02.5X4BKH07	14.0	0.26	25	7.98	328
4G 4	TC04.0X4BKH07	16.0	0.31	35	4.95	380
4G 6	TC06.0X4BKH07	18.0	0.31	44	3.30	510
4G 10	TC10.0X4BKH07	23.0	0.41	62	1.91	940
4G 16	TC16.0X4BKH07	28.0	0.41	82	1.21	1250
4G 25	TC25.0X4BKH07	32.5	0.41	109	0.780	1850
4G 35	TC35.0X4BKH07	37.0	0.41	135	0.554	2310
4G 50	TC50.0X4BKH07	43.0	0.41	169	0.386	3160
4G 70	TC70.0X4BKH07	50.0	0.51	211	0.272	4250
4G 95	TC95.0X4BKH07	55.0	0.51	250	0.206	5590
4G 120	TC120.0X4BKH07	61.2	0.51	270	0.161	6790
4G 150	TC150.0X4BKH07	60.0	0.51	335	0.129	7870
4G 185	TC185.0X4BKH07	66.0	0.51	382	0.106	9510
5G 1.5	TC01.5X5BKH07	12.5	0.26	16	13.3	230
5G 2.5	TC02.5X5BKH07	15.0	0.26	25	7.98	340
5G 4	TC04.0X5BKH07	17.0	0.31	35	4.95	470
5G 6	TC06.0X5BKH07	19.5	0.31	44	3.30	630
5G 10	TC10.0X5BKH07	26.0	0.41	62	1.91	1150
5G 35	TC35.0X5BKH07	36.5	0.41	135	0.554	2640
7G 1.5	TC01.5X7BKH07	16.5	0.26	25	13.3	320
7G 2.5	TC02.5X7BKH07	18.0	0.26	35	7.98	470

* Aluminium option available on request.

SOLAR CABLE H1Z2Z2-K

Construction

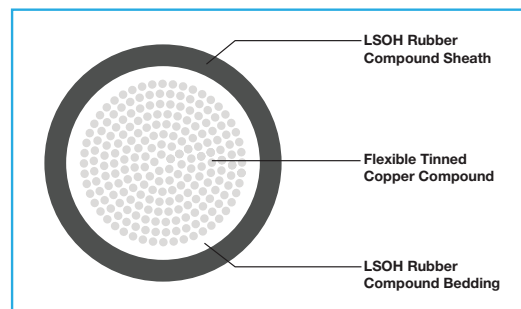
Flexible tin plated copper class 5 CEI EN 60228, LSOH Rubber compound type G21, LSOH Rubber Compound type M21. Single core cables, for photovoltaic and solar system use, elastomeric compound insulated and sheathed. Flame retardant, halogen free, and a low smoke flexible cables for fixed laying, lifetime testing 20.000h/120°C.

Applications

Cable suitable for the interconnection of the various elements of photovoltaic systems. Suitable for fixed installation outside and inside without protection or inside pipes, ducts or similar closed systems. High resistance against ozone, U.V. rays, oils, moisture and weather inclemencies. Suitable for use at an ambient temperature up to 90°C (120° overload). The estimated lifetime of these cables is at least 25 years.

Packaging

Available in 500 metre drums.



Specification	EN 50618	H1Z2Z2-K
Voltage Rating	1800 Volts DC	
Temperature Range	-40° to +90°C	
Bending Radius	4 x Diameter of cable	
Flexibility Class	5	
Conductor Type	Flexible tin plated/Copper class - 5 CEI EN 60228	
Insulation Material	LSOH Rubber Compound	
Sheath Material	LSOH Rubber Compound	
Sheath Colours	Black, Red	



Technical Data

Product Code	Size mm ²	Outer Diameter mm	Nominal Amps	Max cond. resist. at 20°C Ohm/km	Cable Weight kg/km
SOLAR4.0#	4.0	5.5	55	5.09	62
SOLAR6.0#	6.0	6.3	70	3.39	85
SOLAR10.0#	10.0	7.5	98	1.95	135
SOLAR16.0#	16.0	8.5	132	1.24	200

When ordering, insert colour code here (Refer to Page 1)

ALSILCO SINGLE CORE FLEXIBLE SILICONE CABLE - SIAF

Construction

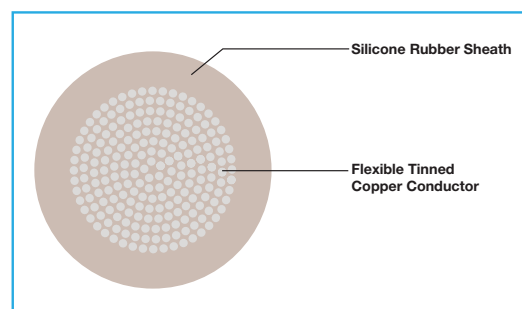
High conductivity bunched flexible tinned copper conductor, insulated and colour coded with a silicone rubber sheath.

Applications

ALSILCO is used for wiring of high temperature and high performance control panels. This product is used where above normal performance is required for heat protection and where safety and reliability are of major concern.

Packaging

Available in 100 metre shrink-wrapped coils.



Specification

Voltage Rating	500 Volts
Test Voltage	2000 Volts
Temperature Range	-60° to +180°C
Flexibility Class	5
Conductor Type	Tinned flexible copper
Sheath Material	Silicone rubber
Colour Options	Blue, Green/Yellow, Red, White, Black, Brown, Yellow and Orange



Current rating evaluation is based on a theoretical calculation according to the International Standard series IEC 60287, in the following conditions:

1. Max conductor operating temperature: 180°C with stationary current flow (100% of load factor)
2. Single cable in free air: distance from walls > 0,3 Times external diameter of the cable (De) and distance between 2 cables > 0,75 times external diameter of the cable (De)
3. Environment temperature evaluated: from -60°C to 180 °C
4. Values calculated for DC, ratings for AC at 50Hz can be equated

Technical Data

Product Code	Size mm ²	Outer Diameter mm	Insulation Thickness mm	*Nominal Amps	Cable Weight kg/km
SW000.50#	0.5	2.1	0.6		9.6
SW000.75#	0.75	2.4	0.6		13.3
SW001.00#	1.0	2.5	0.6	0.5/0.75/1.0	15.9
SW001.50#	1.5	2.8	0.6	17	21.9
SW002.50#	2.5	3.4	0.7	24	34.7
SW004.00#	4.0	4.2	0.8	31	54.4
SW006.00#	6.0	5.2	0.8	40	82.3
SW010.00#	10.0	6.4	1.0	56	131.9
SW016.00#	16.0	8.0	1.2	75	209.1
SW025.00#	25.0	10.0	1.4	99	326.7
SW035.00#	35.0	11.2	1.4	124	438.8
SW050.00#	50.0	13.3	1.6	156	624.0
SW070.00#	70.0	15.4	1.6	196	860.2
SW095.00#	95.0	17.8	1.8	234	1161.0

When ordering, insert colour code here (Refer to Page 1) * 150° temperature ambient ratings

SILICONE CABTYRE

FLEXIBLE CABLES OR CORDS - SIHF

Construction

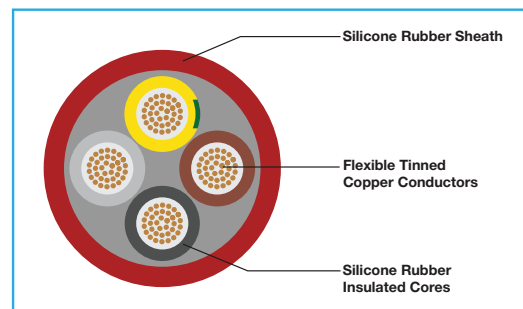
High conductivity bunched flexible tinned copper conductors, insulated and colour coded with a silicone rubber dielectric final sheath in a heat resistant silicone rubber.

Applications

For supplying power to all types of electrical, domestic and industrial appliances and equipment such as stoves, electrical motors, pumps, florescent lights, refrigerators, washing machines, hand tools, polishers, kitchen appliances and woodworking machinery.

Packaging

Available in 100 metre shrink-wrapped coils.



Specification

Voltage Rating	450/750 Volts
Temperature Range	-60° to +180°C
Flexibility Class	5
Conductor Type	Tinned flexible high conductivity copper
Insulation Material	Silicone rubber
Sheath Colour	Red
Core Colours	3 core - Blue, Brown and Green/Yellow 4 core - Brown, Black, Grey and Green/Yellow

Technical Data

Product Code	Size mm ²	Outer Diameter mm	Nominal Amps	Cable Weight kg/km
SC1.00X3RD	1.0	7.4	35	93
SC1.50X3RD	1.5	8.0	45	117
SC2.50X3RD	2.5	9.7	62	179
SC4.00X3RD	4.0	11.5	83	261
SC6.00X3RD	6.0	14.2	107	398
SC1.50X4RD	1.5	8.8	45	145
SC2.50X4RD	2.5	10.6	62	222
SC4.00X4RD	4.0	13.2	83	346
SC6.00X4RD	6.0	15.6	107	497

POLY BRAID

SIAF / MT / POL

Construction

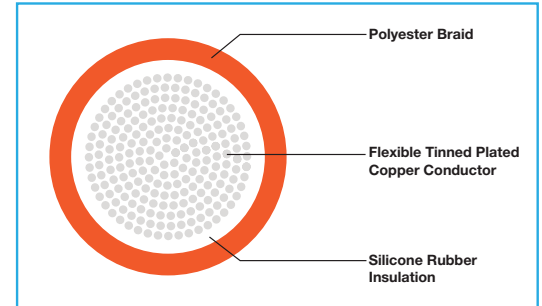
Flexible tinned copper single core silicone rubber insulated electric cables, covered with external polyester braid.

Applications

Used for wiring of high temperature and high performance control panels. This product is used where above normal performance is required for heat protection and where safety and reliability are of major concern.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification	
Conductor Material	Flexible tinned plated copper
Conductor Class	5 CEI EN 60228
Flexibility Class	5
Insulation	Silicone rubber
Braid	Polyester braid
Voltage Rating	1.5kV
Temperature Rating	-60°C + 180°C on the conductor
Max Temperature of Short Circuit	350°C on conductor (max 5 seconds)
Bending Radius	Fixed installation: 4 x Outer Diameter
Sheath Colour	Orange

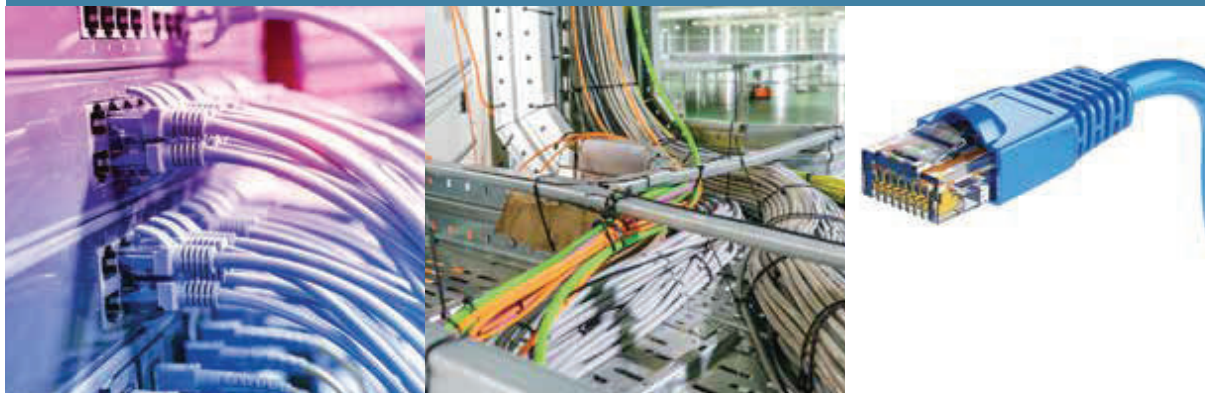


Technical Data

Product Code	Size mm ²	Insulation Thickness mm	Outer Diameter mm	Max cond. resist. at 20°C		Nominal Amp Rating	Cable Weight kg/km
				Red	Tinned		
SIAF/MT/POL1.5MM	1.5	1.0	4.0	13.3	13.7	42	26
SIAF/MT/POL2.5MM	2.5	1.1	4.7	7.98	8.21	55	38
SIAF/MT/POL4.0MM	4.0	1.2	5.4	4.95	5.09	60	53
SIAF/MT/POL6.0MM	6.0	1.2	6.0	3.30	3.39	80	72
SIAF/MT/POL10MM	10	1.2	7.0	1.91	1.95	110	114
SIAF/MT/POL16MM	16	1.4	8.4	1.21	1.24	150	174
SIAF/MT/POL25MM	25	1.6	10.0	0.780	0.795	185	263
SIAF/MT/POL35MM	35	1.6	11.2	0.554	0.565	240	353
SIAF/MT/POL50MM	50	1.8	12.9	0.382	0.393	300	503
SIAF/MT/POL70MM	70	1.8	14.6	0.272	0.277	415	696
SIAF/MT/POL95MM	95	2.0	16.5	0.206	0.210	450	901
SIAF/MT/POL120MM	120	2.0	18.3	0.161	0.164	545	1151
SIAF/MT/POL150MM	150	2.2	20.2	0.206	0.210	610	1414
SIAF/MT/POL185MM	185	2.3	22.1	0.106	0.108	700	1730

INSTRUMENTATION & CONTROL

cables



INSTRUMENTATION

OVERALL SCREENED / UNARMoured DEKARON

Construction

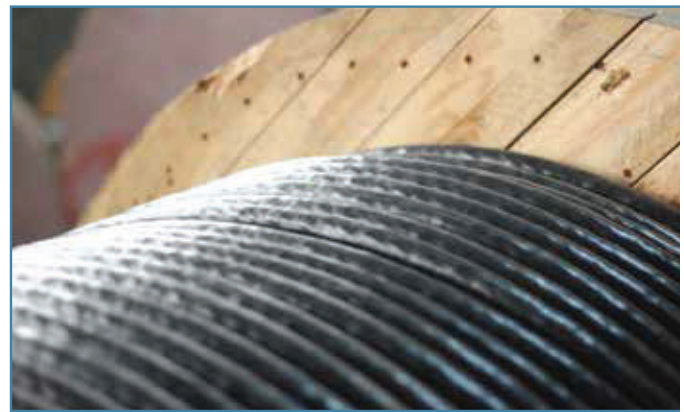
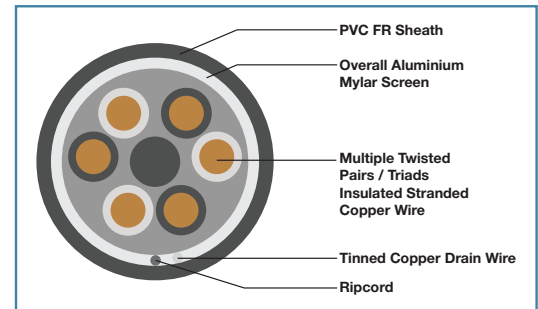
Overall screened with specially selected lay schemes in order to counter static and cross talk noises. A "clean" and accurate signal can therefore be expected to be transferred. A communication wire is standard in all multi-pair / triad cables.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Average Lay Length	63mm
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² bunched tinned copper drainwire.
Outer Sheath	Flame retardant PVC - Temperature rating 90°C

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

OVERALL SCREENED / UNARMoured DEKARON

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
MP005001	0.5	1	5.6	51	00	42	1000	91
MP005002	0.5	2	10.6	81	0	88	1000	153
MP005004	0.5	4	13.3	96	0	128	1000	203
MP005008	0.5	8	15.8	121	1	212	1000	299
MP005012	0.5	12	17.5	143	2	282	500	216
MP005016	0.5	16	20.3	158	2	350	500	250
MP005024	0.5	24	22.9	183	2	491	500	333
MP010001	1.0	1	6.4	58	00	60	1000	109
MP010002	1.0	2	10.8	98	0	131	1000	206
MP010004	1.0	4	12.4	112	1	183	1000	258
MP010008	1.0	8	16.1	146	2	315	1000	477
MP010012	1.0	12	18.7	169	2	428	500	285
MP010016	1.0	16	21.1	190	3	562	500	368
MP010024	1.0	24	24.1	217	3	772	300	394
MP015001	1.5	1	7.2	66	00	73	1000	138
MP015002	1.5	2	12.4	112	1	166	1000	241
MP015004	1.5	4	14.7	132	2	247	1000	334
MP015008	1.5	8	18.6	168	2	407	500	275
MP015012	1.5	12	22.1	199	3	582	500	453
MP015016	1.5	16	24.9	224	3	760	300	390
MP015024	1.5	24	28.4	256	4	1050	300	477
TRIADS								
MT005001	0.5	1	5.9	54	00	51	1000	100
MT005004	0.5	4	11.8	107	1	164	1000	239
MT005008	0.5	8	15.7	141	2	280	1000	367
MT005012	0.5	12	18.8	169	2	383	500	263
MT005016	0.5	16	21.2	191	3	502	500	413
MT005024	0.5	24	26.5	239	3	726	300	380
MT010001	1.0	1	6.8	61	00	72	1000	121
MT010004	1.0	4	14.3	129	1	255	1000	342
MT010008	1.0	8	18.3	167	2	428	500	385
MT010012	1.0	12	22.5	205	3	620	500	472
MT010016	1.0	16	25.4	229	3	809	300	405
MT015001	1.5	1	7.7	69	00	90	1000	155
MT015004	1.5	4	16.4	148	2	325	1000	487
MT015008	1.5	8	21.8	197	3	580	500	452
MT015012	1.5	12	26.8	241	4	841	300	414

* Multiple triads available on request.

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / UNARMoured DEKARON

Construction

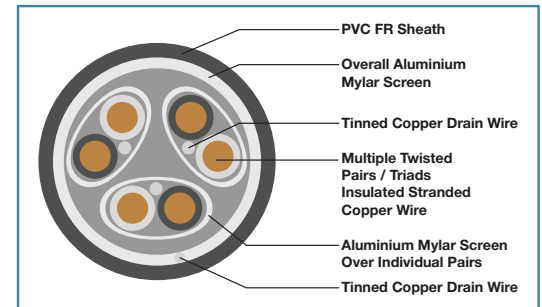
Individual and overall screened with specially selected lay schemes in order to counter static and cross talk noises. A "clean" and accurate signal can therefore be expected to be transferred.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Average Lay Length	63mm
Individual Screening	Aluminium/Polyester tape with a 0.5mm ² tinned copper drainwire. All individual screens are sealed
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² bunched tinned copper drainwire
Outer Sheath	Flame retardant PVC - Temperature rating 90°C

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / UNARMoured DEKARON

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
IP005002	0.5	2	9.7	87	0	109	1000	174
IP005004	0.5	4	11.0	99	0	159	1000	234
IP005008	0.5	8	14.3	130	1	273	1000	348
IP005012	0.5	12	16.9	152	2	347	500	249
IP005016	0.5	16	19.4	175	2	458	500	316
IP005024	0.5	24	22.9	207	3	627	500	478
IP010002	1.0	2	11.1	101	1	148	1000	223
IP010004	1.0	4	12.8	115	1	213	1000	288
IP010008	1.0	8	16.7	151	2	377	1000	539
IP010012	1.0	12	20.2	182	2	544	500	359
IP010016	1.0	16	22.9	206	3	691	500	508
IP010024	1.0	24	27.4	247	4	998	500	743
IP015002	1.5	2	12.7	115	1	183	1000	258
IP015004	1.5	4	15.0	136	2	297	1000	384
IP015008	1.5	8	19.7	178	2	494	500	334
IP015012	1.5	12	23.3	210	3	685	500	505
IP015016	1.5	16	26.8	242	4	903	300	433
IP015024	1.5	24	32.2	290	4	1305	300	554
TRIADS								
IT005004	0.5	4	12.2	110	1	189	1000	264
IT005008	0.5	8	16.2	146	2	330	1000	492
IT005012	0.5	12	19.8	179	2	479	500	327
IT005016	0.5	16	22.0	198	3	599	500	462
IT005024	0.5	24	27.5	248	4	872	300	424
IT010004	1.0	4	14.7	132	2	286	1000	373
IT010008	1.0	8	19.2	175	2	509	500	342
IT010012	1.0	12	23.3	210	3	712	500	518
IT010016	1.0	16	26.1	237	3	931	300	441
IT015004	1.5	4	16.8	152	2	348	1000	510
IT015008	1.5	8	22.3	202	3	645	500	485
IT015012	1.5	12	27.4	247	4	929	300	441

* Multiple triads available on request.

INSTRUMENTATION

OVERALL SCREENED / APL ARMoured DEKABON

Construction

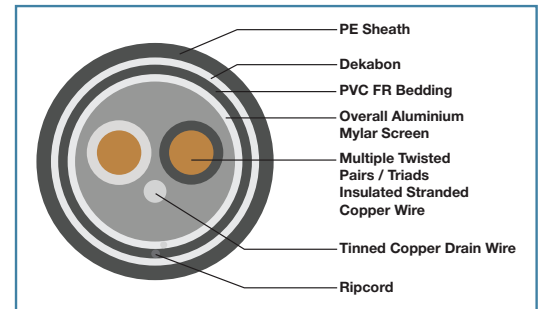
Overall screened with specially selected lay schemes in order to counter static and cross talk noises. A “clean” and accurate signal can therefore be expected to be transferred. APL Armouring is provided for increased mechanical protection. The APL/PE Sheath provides an excellent moisture barrier.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Average Lay Length	63mm
Individual Screening	Aluminium/Polyester tape with a 0.5mm ² tinned copper drainwire. All individual screens are sealed
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² bunched tinned copper drainwire
Bedding Sheath	Flame retardant PVC - Temperature rating 90°C
Armouring	0.3mm Aluminium Polyethylene Laminated (APL) with 0.5mm ² bunched tinned copper drainwire
Outer Sheath	Polyethylene (PE)

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

OVERALL SCREENED / APL ARMoured DEKABON

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
AP005001	0.5	1	9.4	85	0	90	1000	155
AP005002	0.5	2	12.7	115	1	153	1000	228
AP005004	0.5	4	14.4	130	1	203	1000	290
AP005008	0.5	8	17.1	155	2	287	1000	449
AP005012	0.5	12	20.0	181	2	384	500	284
AP005016	0.5	16	21.7	195	3	471	500	398
AP005024	0.5	24	24.5	221	3	629	500	477
AP010001	1.0	1	10.2	92	0	111	1000	186
AP010002	1.0	2	14.6	132	2	205	1000	292
AP010004	1.0	4	16.2	146	2	265	1000	427
AP010008	1.0	8	20.3	183	2	428	1000	590
AP010012	1.0	12	22.9	206	3	557	500	441
AP010016	1.0	16	25.3	228	3	706	500	499
AP010024	1.0	24	28.6	258	4	949	300	447
AP015001	1.5	1	11.0	100	0	128	1000	203
AP015002	1.5	2	16.2	146	2	248	1000	410
AP015004	1.5	4	18.4	166	2	354	1000	500
AP015008	1.5	8	22.8	206	2	535	500	430
AP015012	1.5	12	26.3	237	3	730	500	511
AP015016	1.5	16	29.4	265	4	943	300	445
AP015024	1.5	24	33.0	297	4	1256	300	539
TRIADS								
AT005001	0.5	1	9.7	88	0	100	1000	165
AT005004	0.5	4	15.6	141	2	244	1000	331
AT005008	0.5	8	19.8	179	2	392	1000	538
AT005012	0.5	12	23.0	207	3	512	500	418
AT005016	0.5	16	25.4	229	3	646	500	469
AT005024	0.5	24	31.1	280	4	919	300	438
AT010001	1.0	1	10.5	95	0	126	1000	201
AT010004	1.0	4	18.4	166	2	357	1000	503
AT010008	1.0	8	22.5	204	3	554	500	439
AT010012	1.0	12	26.7	242	4	773	500	533
AT010016	1.0	16	30.0	270	4	990	300	459
AT015001	1.5	1	11.4	103	1	148	1000	223
AT015004	1.5	4	20.6	186	3	442	1000	588
AT015008	1.5	8	26.0	234	3	726	500	509
AT015012	1.5	12	31.4	283	4	1036	300	473

* Multiple triads available on request.

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / APL ARMoured DEKABON

Construction

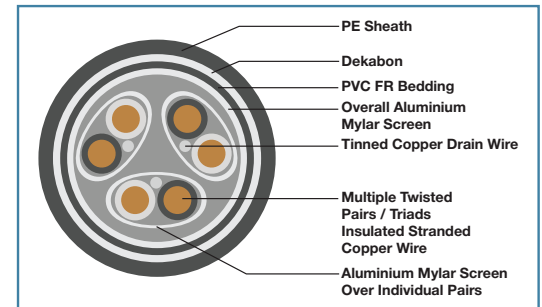
Individual and overall screened with specially selected lay schemes in order to counter static and cross talk noises. A "clean" and accurate signal can therefore be expected to be transferred. APL Armouring is provided for increased mechanical protection. The APL/PE Sheath provides an excellent moisture barrier.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Average Lay Length	63mm
Individual Screening	Aluminium/Polyester tape with a 0.5mm ² tinned copper drainwire. All individual screens are sealed
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² bunched tinned copper drainwire
Bedding Sheath	Flame retardant PVC - Temperature rating 90°C
Armouring	0.3mm Aluminium Polyethylene Laminated (APL) with 0.5mm ² bunched tinned copper drainwire
Outer Sheath	Polyethylene (PE)

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / APL ARMoured DEKABON

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
AIP005002	0.5	2	13.4	121	1	177	1000	264
AIP005004	0.5	4	14.8	133	2	234	1000	321
AIP005008	0.5	8	18.5	167	2	378	1000	524
AIP005012	0.5	12	20.7	187	3	465	500	520
AIP005016	0.5	16	23.6	213	3	591	500	458
AIP005024	0.5	24	27.1	244	4	781	500	537
AIP010002	1.0	2	14.9	135	2	224	1000	311
AIP010004	1.0	4	16.5	149	2	297	1000	459
AIP010008	1.0	8	20.9	186	3	496	1000	642
AIP010012	1.0	12	24.4	220	3	682	500	503
AIP010016	1.0	16	27.0	244	4	845	500	569
AIP010024	1.0	24	32.0	289	4	1196	300	303
AIP015002	1.5	2	16.5	149	2	267	1000	429
AIP015004	1.5	4	19.2	173	2	388	1000	534
AIP015008	1.5	8	23.9	215	3	627	500	476
AIP015012	1.5	12	27.5	248	4	839	500	664
AIP015016	1.5	16	31.4	283	4	1099	300	492
AIP015024	1.5	24	36.8	332	5	1534	300	704
TRIADS								
AIT005004	0.5	4	16.0	144	2	271	1000	358
AIT005008	0.5	8	20.4	184	2	444	1000	590
AIT005012	0.5	12	24.0	217	3	614	500	469
AIT005016	0.5	16	26.1	236	3	747	500	520
AIT005024	0.5	24	32.0	289	4	1070	300	483
AIT010004	1.0	4	18.8	170	2	393	1000	539
AIT010008	1.0	8	23.4	213	3	641	500	483
AIT010012	1.0	12	27.5	248	4	868	500	678
AIT010016	1.0	16	30.7	278	4	1126	300	500
AIT015004	1.5	4	21.0	189	3	472	1000	618
AIT015008	1.5	8	26.5	239	3	787	500	540
AIT015012	1.5	12	32.0	289	4	1126	300	500

* Multiple triads available on request.

INSTRUMENTATION

OVERALL SCREENED / SWA ARMoured

Construction

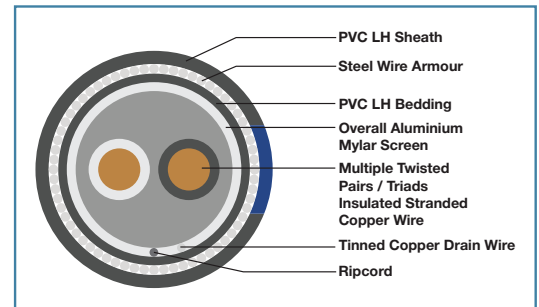
Overall screened with specially selected lay schemes in order to counter static and cross talk noises. A “clean” and accurate signal can therefore be expected to be transferred. Steel Wire Armouring is provided for increased mechanical protection.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² tinned copper drainwire.
Bedding Sheath	Flame retardant PVC - Temperature rating 90°C
Armouring	Galvanized Steel Wire
Outer Sheath	Low Halogen. Black/Blue Stripe

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

OVERALL SCREENED / SWA ARMoured

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
MPS005001LH	0.5	1	10.5	106	0	249	1000	324
MPS005002LH	0.5	2	13.8	139	0	394	1000	481
MPS005004LH	0.5	4	15.5	155	0	486	1000	573
MPS005008LH	0.5	8	18.6	187	1	651	1000	797
MPS005012LH	0.5	12	21.1	212	2	810	500	567
MPS005016LH	0.5	16	22.8	228	2	930	500	627
MPS005024LH	0.5	24	26.3	263	2	1323	500	906
MPS010001LH	1.0	1	11.3	114	0	290	1000	365
MPS010002LH	1.0	2	15.7	158	0	489	1000	576
MPS010004LH	1.0	4	17.3	174	1	589	1000	751
MPS010008LH	1.0	8	21.4	215	2	857	1000	1003
MPS010012LH	1.0	12	24.7	247	2	1199	500	762
MPS010016LH	1.0	16	27.1	271	3	1418	500	953
MPS010024LH	1.0	24	31.3	313	3	1986	300	758
MPS015001LH	1.5	1	12.1	122	0	329	1000	404
MPS015002LH	1.5	2	17.3	173	1	572	1000	734
MPS015004LH	1.5	4	20.0	200	2	738	1000	884
MPS015008LH	1.5	8	24.6	247	2	1177	500	751
MPS015012LH	1.5	12	28.5	285	3	1510	500	999
MPS015016LH	1.5	16	32.1	321	3	2009	300	765
MPS015024LH	1.5	24	35.6	357	4	2448	300	978
TRIADS								
MTS005001LH	0.5	1	10.8	109	0	269	1000	344
MTS005004LH	0.5	4	16.7	168	1	557	1000	719
MTS005008LH	0.5	8	21.0	210	2	808	1000	954
MTS005012LH	0.5	12	24.8	248	2	1150	500	737
MTS005016LH	0.5	16	27.2	272	3	1371	500	930
MTS005024LH	0.5	24	33.7	337	4	2041	300	856
MTS010001LH	1.0	1	11.7	117	0	316	1000	391
MTS010004LH	1.0	4	19.6	196	2	733	1000	820
MTS010008LH	1.0	8	24.3	245	2	1179	500	752
MTS010012LH	1.0	12	28.9	291	3	1565	500	1027
MTS010016LH	1.0	16	32.6	326	3	2086	300	788
MTS015001LH	1.5	1	12.6	126	0	358	1000	433
MTS015004LH	1.5	4	21.7	218	2	868	1000	1014
MTS015008LH	1.5	8	28.2	283	3	1505	500	997
MTS015012LH	1.5	12	34.0	340	4	2166	300	894

* Multiple triads available on request.

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / SWA ARMoured

Construction

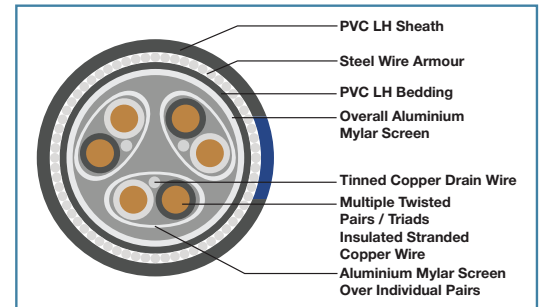
Individual and overall screened with specially selected lay schemes in order to counter static and cross talk noises. A "clean" and accurate signal can therefore be expected to be transferred. Steel Wire Armouring is provided for increased mechanical protection.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 and 1000 metre drums.
Cut lengths available on request.



Specification

Conductors	Plain annealed class 4 bunched copper
Insulation	Crosslink polyethylene - Temperature rating 105°C
Identification	White Cores, Black numbered Pairs - Black and White numbered cores Triads - Black, Red and White numbered cores
Average Lay Length	63mm
Individual Screening	Aluminium/Polyester tape with a 0.5mm ² tinned copper drainwire. All individual screens are sealed
Overall Screening	Aluminium/Polyester tape with a 0.5mm ² bunched tinned copper drainwire
Bedding Sheath	Flame retardant PVC - Temperature rating 90°C
Armouring	Galvanised Steel Wire
Outer Sheath	Low Halogen. Black/Blue Stripe

Electrical Parameters

Rated insulation voltage	300/500V		
	0.5mm ²	1.0mm ²	1.5mm ²
Max. conductor resistance @ 20°C Ω/km:	39.0	19.5	13.3
Nominal mutual capacitance nF/km:	100	120	120
Nominal ground capacitance nF/km:	200	240	240
Nominal inductance mH/km:	0.68	0.64	0.61

Electrical Characteristics

Size mm ²	Capacitance	Capacitance		Maximum Resistance Ω/km		Nominal Inductance mH/km
		Nominal pF/m	Max pF/m	Single Pair/Triad & Multicore	Multi-Pair Triad	
0.5	Core / Core Screened	84	90	39.0	39.6	0.707
0.5	Core / Screen	158	169	39.0	39.6	0.707
0.5	Core / Core No Screen	53	56	39.0	39.6	0.707
0.5	Core / Screen OS only	100	106	39.0	39.6	0.707
1.0	Core / Core Screened	104	112	19.5	19.8	0.629
1.0	Core / Screen	196	210	19.5	19.8	0.629
1.0	Core / Core No Screen	63	66	19.5	19.8	0.629
1.0	Core / Screen OS only	119	124	19.5	19.8	0.629
1.5	Core / Core Screened	101	121	13.3	13.5	0.645
1.5	Core / Screen	190	228	13.3	13.5	0.645
1.5	Core / Core No Screen	61	70	13.3	13.5	0.645
1.5	Core / Screen OS only	115	131	13.3	13.5	0.645

INSTRUMENTATION

INDIVIDUAL & OVERALL SCREENED / SWA ARMoured

Physical Parameters (Standard Sizes)

Product Code	Size mm ²	No. of Pairs/Triads	Nominal OD mm	Min. Bending Radius mm	Gland Size	Nett Mass kg/km	Std Drum Length m	Gross Drum Mass kg
PAIRS								
IPS005002LH	0.5	2	14.6	146	0	439	1000	526
IPS005004LH	0.5	4	15.9	159	0	527	1000	614
IPS005008LH	0.5	8	19.6	197	2	761	1000	907
IPS005012LH	0.5	12	22.2	222	2	902	500	613
IPS005016LH	0.5	16	25.4	255	2	1267	500	878
IPS005024LH	0.5	24	29.3	293	3	1597	500	1043
IPS010002LH	1.0	2	16.0	161	0	517	1000	679
IPS010004LH	1.0	4	18.1	181	1	651	1000	797
IPS010008LH	1.0	8	21.4	215	2	934	1000	1080
IPS010012LH	1.0	12	26.2	262	2	1376	500	932
IPS010016LH	1.0	16	29.3	293	3	1644	500	1066
IPS010024LH	1.0	24	34.6	347	4	2356	300	951
IPS015002LH	1.5	2	18.0	180	1	620	1000	782
IPS015004LH	1.5	4	20.3	204	2	784	1000	930
IPS015008LH	1.5	8	25.7	257	2	1305	500	897
IPS015012LH	1.5	12	30.5	305	3	1863	500	1176
IPS015016LH	1.5	16	33.3	334	4	2228	300	912
IPS015024LH	1.5	24	39.8	339	4	2928	300	1170
TRIADS								
ITS005004LH	0.5	4	17.1	172	1	594	1000	669
ITS005008LH	0.5	8	21.5	215	2	870	1000	1016
ITS005012LH	0.5	12	25.8	259	2	1292	500	890
ITS005016LH	0.5	16	28.4	284	3	1526	500	1025
ITS005024LH	0.5	24	34.7	347	4	2231	300	914
ITS010004LH	1.0	4	20.0	200	2	777	1000	923
ITS010008LH	1.0	8	25.2	254	2	1301	500	894
ITS010012LH	1.0	12	30.5	306	3	1892	500	1190
ITS010016LH	1.0	16	33.5	336	4	2250	300	919
ITS015004LH	1.5	4	22.1	221	2	911	1000	1155
ITS015008LH	1.5	8	28.7	288	3	1586	500	1037
ITS015012LH	1.5	12	34.6	347	4	2288	300	930

* Multiple triads available on request.

FIBRE OPTIC CABLE

HDD / AERIAL CABLE MM

Construction

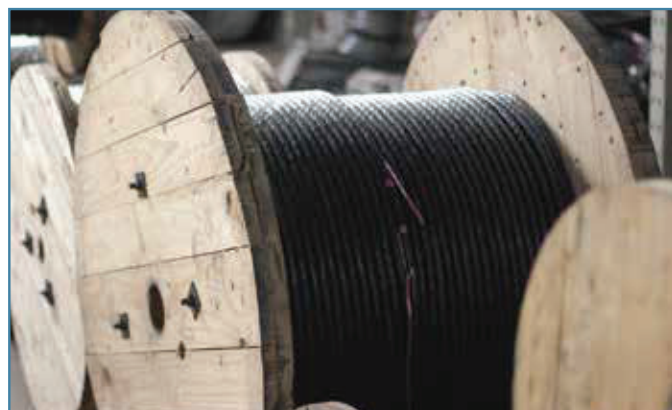
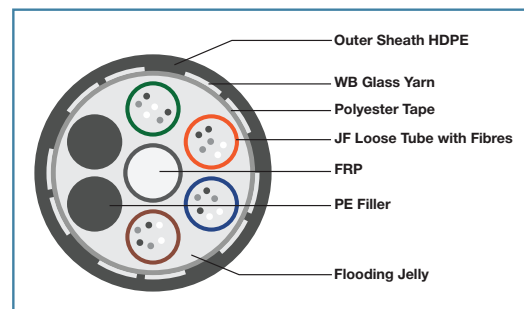
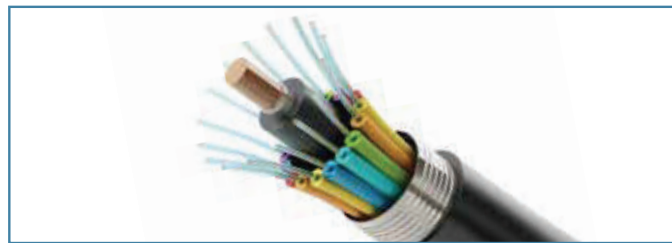
Made with high quality optical fibres suitable for operation at 850nm & 1300nm. The fibres conform to international standard ITU-T G651. The fibres have excellent geometrical properties to yield low splice loss. The fibres have dual acrylate coating and colour of the coating will not change over period of time.

Applications

Communication applications.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Max. Operating Tension (Long Term)	2000 Newton
Crush Resistance	2000 Newton / 100 mm
Minimum Bending Radius	20 x Cable Diameter
Max. Operating / Installation Temp.	-20°C to +70°C
Max. Span Length	70 - 75 Mtr.
Cladding Diameter	125.0 ± 2.0 µm
Core Diameter	50 ± 1.0 µm
Coating Diameter	245 ± 10 µm
Numerical Aperture	0.200 ± 0.015
Cladding Non-Circularity	≤ 1.0%
Core Non-Circularity	≤ 5.0%
Coated Fibre Diameter	235 to 255 µm
Core/Cladding Concentricity Error	≤ 2 µm
Coating/Cladding Concentricity Error	≤ 12 µm
Minimum Proof Strength - Strain	0.70 GPa (100 Kpsi) - 1%
Fiber Macrobend (100 turns around 75mm dia. Mandrel)	≤ 0.05 dB @ 1310 nm & ≤ 0.10 dB @ 1550 nm
Fiber Macrobend (1 turn around 32mm dia. Mandrel)	≤ 0.5 dB @ 850 nm & 1300 nm
Coating Strip Force	1.3 N ≤ F ≤ 8.9 N
Bandwidth	500/500 MHz.Km @ 850/1300 nm
Attenuation	≤ 2.7 dB/Km @ 850 nm & ≤ 0.8 dB/Km @ 1300 nm
Dynamic Tensile Strength	Unaged: > 550 Kpsi (3.8 GPa) a Aged: > 440 Kpsi (3.0 GPa)
Dynamic Fatigue	≥ 20
Static Fatigue	≥ 20

Physical and Dimensions Properties

Specification

Type of Fibre	50/125 MMF
Loose Tube Diameter	2.2mm Nominal
Strength Member	FRP & WB Glass Yarn Reinforcement
Outer Sheath Material	HDPE
Outer Sheath Thickness	1.5mm Nominal
Outer Cable Diameter	10.1 ± 0.6mm
Cable Weight	85 kg/km Nominal
Printing on Cable	As per customer requirement
Standard Length	2/4/6 km ± 10%

No. of Fibres	No. of Tubes / No. of Filler	Sequence of Tube	Colour of Fibre
4F & 6F	1/5	Blue, Filler-1, Filler-2, Filler-3, Filler-4, Filler-5	Blue, Orange, Green, Brown, / Slate & White
8F	2/4	Blue, Orange, Filler-1, Filler-2, Filler-3, Filler-4	Blue, Orange, Green & Brown
12F	2/4	Blue, Orange, Filler-1, Filler-2, Filler-3, Filler-4	Blue, Orange, Green, Brown, Slate, White
24F	4/2	Blue, Orange, Green, Brown, Filler-1, Filler-2	Blue, Orange, Green, Brown, Slate, White

* Fibre optic HDD/CST with Steel Wire Armour available on request.

FIBRE OPTIC CABLE

UNITUBE / CST / PE / MM

Construction

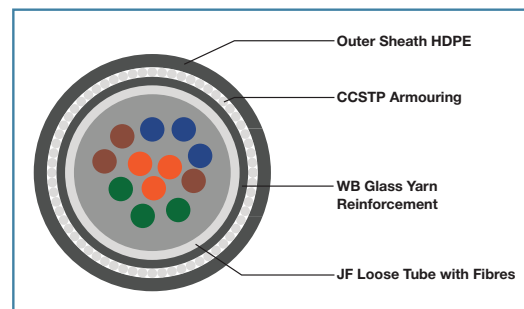
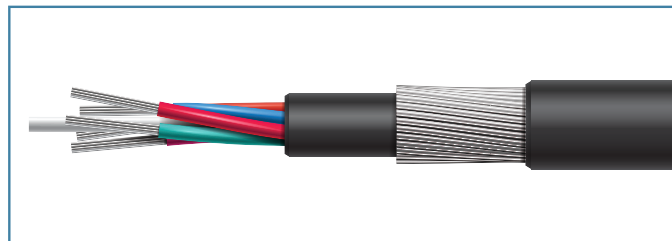
Made with high quality optical fibres suitable for operation at 850nm & 1300nm. The fibres conform to international standard ITU-T G651. The fibres have excellent geometrical properties to yield low splice loss. The fibres have dual acrylate coating and colour of the coating will not change over period of time.

Applications

Communication applications.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Max. Permissible Tensile Force	2000 N - Short Term & 1000 N - Long Term
Crush Resistance	2000 Newton / 10 cm
Minimum Bending Radius	20 x Cable Diameter
Max. Operating / Installation Temp.	-20°C to +70°C
Max. Span Length	70 - 75 Mt.
Cladding Diameter	125.0 ± 2.0 µm
Core Diameter	50 ± 1.0 µm
Coating Diameter	245 ± 10 µm
Numerical Aperture	0.200 ± 0.015
Cladding Non-Circularity	≤ 1.0%
Core Non-Circularity	≤ 5.0%
Coated Fibre Diameter	235 to 255 µm
Core/Cladding Concentricity Error	≤ 2 µm
Coating/Cladding Concentricity Error	≤ 12 µm
Minimum Proof Strength - Strain	0.70 GPa (100 Kpsi) - 1%
Fiber Macrobend (100 turns around 75mm dia. Mandrel)	≤ 0.05 dB @ 1310 nm & ≤ 0.10 dB @ 1550 nm
Fiber Macrobend (1 turn around 32mm dia. Mandrel)	≤ 0.5 dB @ 850 nm & 1300 nm
Coating Strip Force	1.3 N ≤ F ≤ 8.9 N
Bandwidth	500/500 MHz.Km @ 850/1300 nm
Attenuation	≤ 2.7 dB/Km @ 850 nm & ≤ 0.8 dB/Km @ 1300 nm
Dynamic Tensile Strength	Unaged: > 550 Kpsi (3.8 GPa) a Aged: > 440 Kpsi (3.0 GPa)
Dynamic Fatigue	≥ 20
Static Fatigue	≥ 20

Physical and Dimensions Properties

Specification

Type of Fibre	50/125 MMF
Loose Tube Diameter	2.8 ± 0.1mm
Strength Member	Water Blocking Glass Yarn Reinforcement
Outer Sheath Material	HDPE
Outer Sheath Thickness	Min. 1.5mm
Outer Cable Diameter	8.5 mm Nominal
Cable Weight	80 kg/km Nominal
Printing on Cable	As per customer requirement
Standard Length	2,4 ± 10% KMS

No. of Fibres	Colour of Fibre
4F	Blue, Orange, Green & Brown
6F	Blue, Orange, Green, Brown, Slate & White
8F	Blue, Orange, Green, Brown, Slate, White, Red & Black
12F	Blue, Orange, Green, Brown, Slate, White, Red, Black, Yellow, Violet, Rose & Natural

* Fibre optic HDD/CST with Steel Wire Armour available on request.

CONTROL CABLE

FLEXIBLE, NUMBER CODED, PVC

Construction

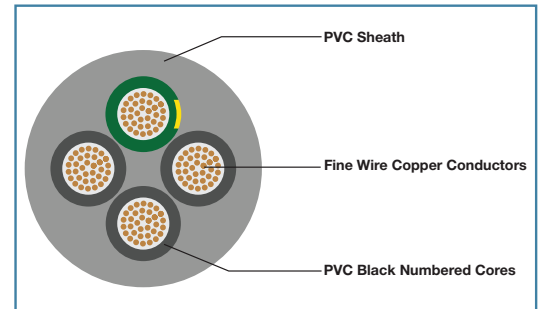
Fine wire copper conductors. Core insulation of special PVC Z 7225. Black cores with continuous white numbering. Green-yellow earth core in the outer layer (3 cores and above). Cores stranded in layers with optimal lay-length. Grey PVC outer sheath. Oil resistant and chemical resistant.

Applications

Power, control and connecting cable in electrical facilities for fixed laying and flexible applications without tensile stress and without defined cable routing. Suitable for use in dry, humid and wet rooms. Outdoor use only with UV-protection, no laying underground.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Nominal Voltage	300 / 500 V
Test Voltage	4000 V
Break Down Voltage	Min. 8000 V
Temperature Range	Flexing: -15°C to +70°C Fixed Installation: -40°C to +80°C
Minimum Bending Radius	Flexing: 7.5 x cable Ø Fixed Installation: 4 x cable Ø
Flexibility Class	5
Insulation Resistance	Min. 20 MOhm x km
Radiation Resistance	Up to 80 x 10 ⁶ cJ/kg (Up to 80 Mrad)
Sheath Colour	Grey



Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.	Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.
Y005002	2 x 0.5	4.9	9.6	40.0	20	Y005032	32 x 0.5	14.3	154.0	323.0	20
Y005003	3 x 0.5	5.2	14.4	46.0	20	Y005034	34 x 0.5	14.9	163.0	362.0	20
Y005004	4 x 0.5	5.6	19.0	56.0	20	Y005040	40 x 0.5	15.6	192.0	434.0	20
Y005005	5 x 0.5	6.3	24.0	65.0	20	Y005042	42 x 0.5	16.1	202.0	449.0	20
Y005006	6 x 0.5	6.9	29.0	75.0	20	Y005050	50 x 0.5	17.9	240.0	513.0	20
Y005007	7 x 0.5	6.9	33.6	80.0	20	Y005052	52 x 0.5	17.9	252.0	534.0	20
Y005008	8 x 0.5	7.4	38.0	97.0	20	Y005061	61 x 0.5	19.0	293.0	625.0	20
Y005010	10 x 0.5	8.3	48.0	116.0	20	Y005065	65 x 0.5	19.7	312.0	682.0	20
Y005012	12 x 0.5	8.8	58.0	135.0	20	Y005080	80 x 0.5	21.8	384.0	780.0	20
Y005015	14 x 0.5	9.7	67.0	150.0	20	Y005100	100 x 0.5	24.3	480.0	980.0	20
Y005016	16 x 0.5	10.2	76.0	175.0	20						
Y005018	18 x 0.5	11.0	86.0	196.0	20	Y007502	2 x 0.75	5.3	14.4	46.0	18
Y005020	20 x 0.5	11.5	96.0	215.0	20	Y007503	3 x 0.75	5.6	21.6	54.0	18
Y005021	21 x 0.5	11.5	101.0	240.0	20	Y007504	4 x 0.75	6.3	29.0	66.0	18
Y005025	25 x 0.5	12.9	120.0	270.0	20	Y007505	5 x 0.75	6.9	36.0	80.0	18
Y005030	30 x 0.5	13.8	144.0	310.0	20	Y007506	6 x 0.75	7.5	43.0	99.0	18

CONTROL CABLE

FLEXIBLE, NUMBER CODED, PVC

Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.	Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.
Y007507	7 x 0.75	7.5	50.0	110.0	18	Y015008	8 x 1.5	9.9	115.0	216.0	16
Y007508	8 x 0.75	8.2	58.0	130.0	18	Y015009	9 x 1.5	10.9	129.0	259.0	16
Y007510	10 x 0.75	9.2	72.0	162.0	18	Y015010	10 x 1.5	10.9	144.0	275.0	16
Y007512	12 x 0.75	9.8	86.0	179.0	18	Y015011	11 x 1.5	12.0	158.0	300.0	16
Y007514	14 x 0.75	10.6	101.0	214.0	18	Y015012	12 x 1.5	12.0	173.0	309.0	16
Y007515	15 x 0.75	11.4	108.0	218.0	18	Y015014	14 x 1.5	13.0	202.0	345.0	16
Y007518	18 x 0.75	12.2	130.0	257.0	18	Y015016	16 x 1.5	13.9	230.0	386.0	16
Y007519	19 x 0.75	12.7	137.0	264.0	18	Y015018	18 x 1.5	14.6	259.0	440.0	16
Y007520	20 x 0.75	12.7	144.0	286.0	18	Y015019	19 x 1.5	15.2	279.0	445.0	16
Y007521	21 x 0.75	12.7	151.0	320.0	18	Y015020	20 x 1.5	15.5	288.0	490.0	16
Y007525	25 x 0.75	14.3	180.0	365.0	18	Y015021	21 x 1.5	15.5	302.0	555.0	16
Y007527	27 x 0.75	15.2	195.0	382.0	18	Y015025	25 x 1.5	17.4	360.0	620.0	16
Y007532	32 x 0.75	15.9	230.0	455.0	18	Y015027	27 x 1.5	19.0	389.0	670.0	16
Y007534	34 x 0.75	16.7	245.0	510.0	18	Y015032	32 x 1.5	19.5	461.0	790.0	16
Y007537	37 x 0.75	17.2	266.0	537.0	18	Y015034	34 x 1.5	20.2	490.0	830.0	16
Y007540	40 x 0.75	17.2	288.0	595.0	18	Y015037	37 x 1.5	20.2	533.0	892.0	16
Y007541	41 x 0.75	18.0	296.0	607.0	18	Y015041	41 x 1.5	21.8	591.0	996.0	16
Y007542	42 x 0.75	18.0	302.0	612.0	18	Y015042	42 x 1.5	21.8	605.0	1007.0	16
Y007550	50 x 0.75	19.8	360.0	735.0	18	Y015050	50 x 1.5	24.2	720.0	1250.0	16
Y007561	61 x 0.75	21.2	439.0	845.0	18	Y015056	56 x 1.5	24.9	806.0	1332.0	16
Y007565	65 x 0.75	21.7	468.0	895.0	18	Y015061	61 x 1.5	25.8	878.0	1440.0	16
Y007580	80 x 0.75	24.3	576.0	1070.0	18	Y015065	65 x 1.5	26.7	936.0	1602.0	16
Y0075100	100 x 0.75	27.0	720.0	1322.0	18	Y015080	80 x 1.5	29.8	1152.0	1871.0	16
						Y015100	100 x 1.5	33.2	1440.0	2353.0	16
Y010002	2 x 1	5.6	19.2	60.0	17	Y025002	2 x 2.5	7.8	48.0	112.0	14
Y010003	3 x 1	5.9	29.0	72.0	17	Y025003	3 x 2.5	8.3	72.0	148.0	14
Y010004	4 x 1	6.6	38.4	86.0	17	Y025004	4 x 2.5	9.2	96.0	178.0	14
Y010005	5 x 1	7.3	48.0	104.0	17	Y025005	5 x 2.5	10.1	120.0	221.0	14
Y010006	6 x 1	8.1	58.0	125.0	17	Y025007	7 x 2.5	11.2	168.0	306.0	14
Y010007	7 x 1	8.1	67.0	141.0	17	Y025008	8 x 2.5	12.3	192.0	363.0	14
Y010008	8 x 1	8.7	77.0	175.0	17	Y025012	12 x 2.5	14.8	288.0	498.0	14
Y010009	9 x 1	9.8	86.0	200.0	17	Y025014	14 x 2.5	16.0	336.0	569.0	14
Y010010	10 x 1	9.8	96.0	217.0	17	Y025018	18 x 2.5	18.2	432.0	764.0	14
Y010012	12 x 1	10.4	115.0	230.0	17	Y025021	21 x 2.5	19.1	504.0	914.0	14
Y010014	14 x 1	11.4	134.0	271.0	17	Y025025	25 x 2.5	21.6	600.0	1044.0	14
Y010016	16 x 1	12.3	154.0	300.0	17	Y025034	34 x 2.5	25.0	816.0	1470.0	14
Y010018	18 x 1	12.9	173.0	343.0	17	Y025042	42 x 2.5	27.2	1008.0	1790.0	14
Y010019	19 x 1	13.0	182.0	355.0	17	Y025050	50 x 2.5	30.0	1200.0	2095.0	14
Y010020	20 x 1	13.7	192.0	375.0	17	Y025061	61 x 2.5	32.0	1464.0	2750.0	14
Y010021	21 x 1	13.7	205.0	420.0	17	Y025100	100 x 2.5	41.4	2400.0	4450.0	14
Y010024	24 x 1	14.7	230.0	440.0	17						
Y010025	25 x 1	15.4	240.0	485.0	17						
Y010026	26 x 1	15.6	252.0	500.0	17	Y040002	2 x 4	9.3	77.0	195.0	12
Y010027	27 x 1	15.8	259.0	534.0	17	Y040003	3 x 4	9.8	115.0	230.0	12
Y010030	30 x 1	16.4	308.0	550.0	17	Y040004	4 x 4	11.0	154.0	295.0	12
Y010034	34 x 1	17.9	326.0	650.0	17	Y040005	5 x 4	12.3	192.0	361.0	12
Y010036	36 x 1	17.9	346.0	668.0	17	Y040007	7 x 4	13.6	269.0	458.0	12
Y010037	37 x 1	18.4	355.0	701.0	17	Y040008	8 x 4	14.6	307.0	590.0	12
Y010040	40 x 1	18.5	384.0	755.0	17	Y040012	12 x 4	17.8	461.0	790.0	12
Y010041	41 x 1	19.4	394.0	770.0	17						
Y010052	42 x 1	19.4	403.0	810.0	17	Y060003	3 x 6	11.9	173.0	355.0	10
Y010050	50 x 1	21.2	480.0	936.0	17	Y060004	4 x 6	13.0	230.0	424.0	10
Y010056	56 x 1	21.9	538.0	920.0	17	Y060005	5 x 6	14.5	288.0	525.0	10
Y010061	61 x 1	22.5	586.0	1100.0	17	Y060007	7 x 6	16.2	403.0	625.0	10
Y010065	65 x 1	23.5	628.0	1180.0	17						
Y010080	80 x 1	26.0	768.0	1294.0	17	Y100003	3 x 10	14.8	288.0	540.0	8
Y010100	100 x 1	29.2	960.0	1644.0	17	Y100004	4 x 10	16.4	384.0	701.0	8
						Y100005	5 x 10	18.3	480.0	858.0	8
Y015002	2 x 1.5	6.4	29.0	70.0	16	Y100007	7 x 10	20.2	672.0	1106.0	8
Y015003	3 x 1.5	6.8	43.0	90.0	16						
Y015004	4 x 1.5	7.4	58.0	109.0	16	Y160003	3 x 16	18.2	461.0	827.0	6
Y015005	5 x 1.5	8.3	72.0	131.0	16	Y160004	4 x 16	20.0	614.0	1035.0	6
Y015006	6 x 1.5	9.2	86.0	157.0	16	Y160005	5 x 16	22.6	768.0	1259.0	6
Y015007	7 x 1.5	9.2	101.0	184.0	16	Y160007	7 x 16	24.8	1075.0	1780.0	6

* Larger sizes available on request.

CONTROL CABLE

FLEXIBLE, PVC TINNED COPPER BRAID PVC

Construction

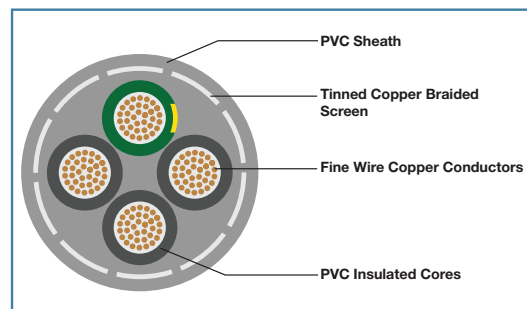
Fine wire copper conductors. Core insulation of special PVC Z 7225. Black cores with continuous white numbering. Green-yellow earth core in the outer layer (3 cores and above). Cores stranded in layers with optimal lay-length. Foil separator. Tinned copper braided screening, approx. 85% area coverage, grey PVC outer sheath.

Applications

Power, control and connecting cable in electrical facilities for fixed laying and flexible applications without tensile stress and without defined cable routing. Suitable for use in dry, humid and wet rooms. Outdoor use only with UV-protection, no laying underground.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Nominal Voltage	300 / 500 V
Test Voltage	Core/Core 4000 V and Core/Screen 2000 V
Break Down Voltage	Min. 8000 V
Temperature Range	Flexing: -5°C to +80°C Fixed Installation: -40°C to +80°C
Minimum Bending Radius	Flexing: 10 x cable Ø Fixed Installation: 5 x cable Ø
Flexibility Class	5
Insulation Resistance	Min. 20 MOhm x km
Mutual Capacitance	According to different cross-sections 0.5mm ² to 2.5mm ² : Core/Core approx. 150 nF/km and Core/Screen approx. 270 nF/km
Coupling Resistance	Max. 250 Ohm/km
Radiation Resistance	Up to 80 x 10 ⁶ cJ/kg (Up to 80 Mrad)
Sheath Colour	Grey

Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.	Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.
CY005002	2 x 0.5	5.7	35.0	45.0	20	CY005025	25 x 0.5	13.6	240.0	314.0	20
CY005003	3 x 0.5	5.9	42.0	55.0	20	CY015007	7 x 1.5	9.8	147.0	208.0	16
CY005004	4 x 0.5	6.4	47.0	61.0	20	CY015012	12 x 1.5	12.8	267.0	338.0	16
CY005005	5 x 0.5	6.9	56.0	74.0	20	CY015018	18 x 1.5	15.4	374.0	479.0	16
CY005006	6 x 0.5	7.6	67.0	89.0	20	CY015025	25 x 1.5	18.4	526.0	705.0	16
CY005007	7 x 0.5	7.6	69.0	98.0	20	CY025002	2 x 2.5	8.3	96.0	130.0	14
CY005012	12 x 0.5	9.7	108.0	157.0	20	CY025003	3 x 2.5	9.0	144.0	167.0	14
CY005018	18 x 0.5	11.5	145.0	217.0	20	CY025004	4 x 2.5	9.8	148.0	195.0	14
CY007502	2 x 0.75	6.1	40.0	59.0	18	CY025005	5 x 2.5	10.9	181.0	223.0	14
CY007503	3 x 0.75	6.3	52.0	66.0	-	CY025007	7 x 2.5	11.9	255.0	344.0	14
CY007504	4 x 0.75	6.8	60.0	77.0	18	CY025012	12 x 2.5	15.8	441.0	570.0	14
CY007505	5 x 0.75	7.4	71.0	93.0	18	CY040004	4 x 4	11.5	230.0	310.0	12
CY007507	7 x 0.75	8.2	91.0	130.0	18	CY060004	4 x 6	13.8	305.0	415.0	10

CONTROL CABLE

FLEXIBLE, PVC TINNED COPPER BRAID

Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.	Part No.	No. Cores x Cross Section mm ²	Outer Ø Approx. mm	Cop. Weight kg/km	Weight Approx. kg/km	AWG-No.
CY007508	8 x 0.75	9.6	110.0	145.0	18	CY100004	4 x 10	17.3	535.0	783.0	8
CY007510	10 x 0.75	10.3	137.0	180.0	18	CY160004	4 x 16	20.4	740.0	880.0	6
CY007512	12 x 0.75	10.5	142.0	202.0	18	CY250004	4 x 25	24.9	1140.0	1570.0	4
CY007525	25 x 0.75	15.0	281.0	415.0	18	CY350004	4 x 35	28.4	1576.0	2070.0	2
CY007534	34 x 0.75	17.2	345.0	502.0	18						
CY007550	50 x 0.75	20.3	461.0	777.0	18						
CY010002	2 x 1	6.4	50.0	65.0	17						
CY010003	3 x 1	6.7	60.0	80.0	17						
CY010004	4 x 1	7.2	71.0	98.0	17						
CY010005	5 x 1	8.0	88.0	127.0	17						
CY010007	7 x 1	8.7	111.0	158.0	17						
CY010012	12 x 1	11.4	184.0	260.0	17						
CY010018	18 x 1	13.5	260.0	380.0	17						
CY010025	25 x 1	16.2	349.0	534.0	17						
CY015002	2 x 1.5	7.0	63.0	88.0	16						
CY015003	3 x 1.5	7.5	80.0	100.0	16						
CY015004	4 x 1.5	8.1	97.0	126.0	16						
CY015005	5 x 1.5	9.0	119.0	160.0	16						

AS-INTERFACE EPDM

ASI-BUS

Construction

Conductor material copper strand, tinned. Conductor Class super fine wire, core insulation EPDM, core identification blue and brown. No polarity mix-up by geometrically coded. Conforms to RoHS. IEC standard.

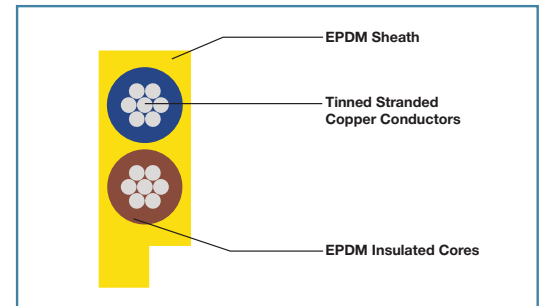
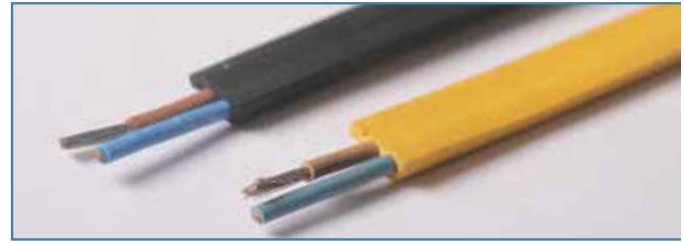
Applications

Unshielded bus cable for cross-linking of binary sensor and actuators on lowest field level.

For fixed installations as well as occasional flexing at free non-continuously recurring movement without tensile load.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Voltage	Rated: Max. 300 V Testing Core/Core: Min. 2000 V
Capacity	At 20°C appr. 80 pF/km at 1 kHz
Operating Temperature	Fixed (min/max): -40°C / +105°C Moved (min/max): -30°C / +105°C
Minimum Bending Radius	Fixed: 10 x d Moved: 15 x d
Conductor Resistance	On +20°C 13.7 Ω/km
Sheath Colour	Yellow / black
Outer Sheath	EPDM
Outer Diameter	Approx. 4.0 x 10.0 mm
Cu Index	30.0 kg/km
Weight	85.0 kg/km
Size	1.5 mm x 2 core



PROFIBUS PVC

FOR FLEXIBLE AND FIXED INSTALLATION

Construction

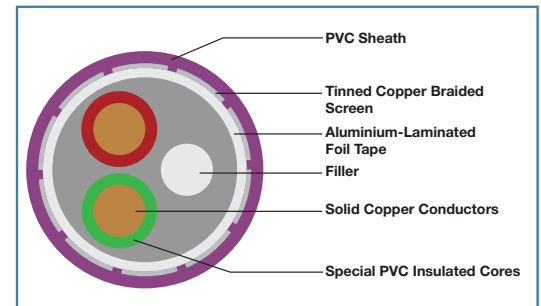
Flame retardant and self-extinguishing. Largely resistant to grease, coolant fluids and lubricants, resistant to oil. Optimal cost-value ratio. Conforms to RoHS.

Applications

PVC - Shielded field bus cable for Profibus Systems. For flexible and fixed installations.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Voltage	Rated: 0.64 - 240 V / 1mm ² - 500 V Testing: Core/Core - 1.200 V / Core/Shield - 750 V
Capacity	0.64 pairs: max. 30 nF/km
Operating Temperature	Fixed: -30°C to +80°C Moved: -5°C to +70°C
Minimum Bending Radius	Fixed: 10 x d Moved: 15 x d
Protection Against Contact	Aluminium-Laminated foil tape, single layer, overlap
Conductor Material	2458: Solid bare copper / 2460: Bare stranded copper
Conductor Class	2458: 0.64mm single wire / 2460: Copper strand 7/19 wired
Core Insulation	0.64: O2Y, foamed PE / 1mm ² : 2Y, PE
Core Identification	2458-PVC: GN, RD 2460-PVC-Hybride: GN, RD, BK, BU, GNYE
Shield	Copper braid, tinned
Resistance	Loop: Max. 115 Ω/km Insulation: on +20°C ≥ 20 MΩ x km
Sheath Colour	Violet
Outer Sheath	PVC
Characteristic Impedance	0.64 pairs: 150 +/- 15 Ω
Transfer Rate	0.64 pairs: 1.500 kBits/s
Transfer Size	0.64 pairs: 200 m
Burning Behaviour	Flame-retardant, self-extinguishing
Standard	DIN VDE 0207, 0250, 0293, 0295, 0472, 0482, IEC

* Steel Wire Armoured option available on request.

MYLAR PAIRS

PAIRS OVERALL ALUMINIUM
MYLAR SCREEN COLOUR CODED
DEF SPEC

Construction

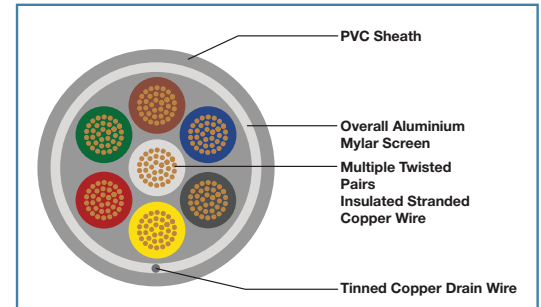
Overall screened cable, against external interference for data / signal transmission. 100% coverage screen. Tinned copper conductors. Twisted pairs. Overall aluminium mylar screen. Tinned copper drain wire. Grey outer PVC sheath.

Applications

For interconnections between instruments, sensors and monitors.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification	
Voltage Rating	0.22 & 0.50 mm ² : 440 V Grade 1.00 & 1.50 mm ² : 500 V Grade
Conductors	0.22 & 0.50 mm ² : Tinned copper 1.00 & 1.50 mm ² : Plain copper
Insulation	PVC
Overall Screening	Aluminium mylar
Shield	Tinned Copper Drain wire with each shield
Outer Sheath	Grey PVC
Pairs	Twisted pairs, Colour coded cores to Def Standard



Part No.	No. of Pairs	Conductor Size mm ²	Outer Ø Approx. mm	Part No.	No. of Pairs	Conductor Size mm ²	Outer Ø Approx. mm
MPG002201	1	0.22	3.2	MPG005020	20	0.50	20.7
MPG002202	2	0.22	5.2	MPG005025	25	0.50	22.0
MPG002203	3	0.22	5.7	MPG005030	30	0.50	24.0
MPG002204	4	0.22	6.3	MPG005036	36	0.50	26.0
MPG002206	6	0.22	7.2	MPG005050	50	0.50	30.0
MPG002208	8	0.22	8.3	MPG010001	1	1.00	6.6
MPG002212	12	0.22	9.9	MPG010002	2	1.00	8.4
MPG002218	18	0.22	12.3	MPG010004	4	1.00	13.2
MPG002220	20	0.22	12.7	MPG010008	8	1.00	17.1
MPG002225	25	0.22	14.3	MPG010012	12	1.00	20.1
MPG002230	30	0.22	15.2	MPG010016	16	1.00	22.2
MPG002236	36	0.22	16.9	MPG010020	20	1.00	23.6
MPG002250	50	0.22	19.1	MPG010024	24	1.00	25.8
MPG005001	1	0.50	5.0	MPG015001	1	1.50	7.1
MPG005002	2	0.50	7.4	MPG015002	2	1.50	13.5
MPG005003	3	0.50	8.2	MPG015004	4	1.50	15.9
MPG005004	4	0.50	8.6	MPG015008	8	1.50	20.6
MPG005006	6	0.50	11.0	MPG015012	12	1.50	23.8
MPG005007	7	0.50	12.0	MPG015016	16	1.50	26.8
MPG005012	12	0.50	15.0	MPG015020	20	1.50	28.5
MPG005018	18	0.50	18.4	MPG015024	24	1.50	31.0

CAT5 UTP & CAT6 UTP

Construction

CAT5: Solid / Stranded copper conductors 1x0.51mm ± 0.01mm, insulated with PE Ø 0.9mm ± 0.02mm. 4 twisted pairs.

Solid / Stranded.

CAT6: Solid / Stranded copper conductors 4x2x0.574mm ± 0.01mm, insulated with high density low molecular weight polyethylene Ø 1.05mm ± 0.05mm.

Solid / Stranded.

Applications

Network cables.

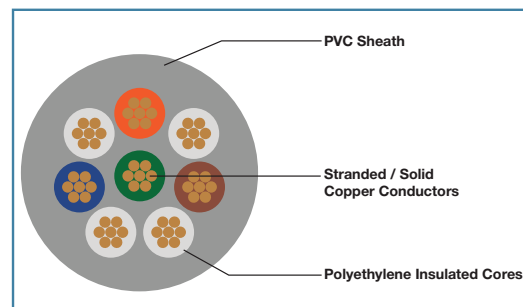
Also available in the following constructions: FTP, STP and SFTP.

Also available in a copper clad aluminium option.

Packaging

Available in 500 metre drums.

Cut lengths available on request.



Specification	CAT5	CAT6
Voltage	250 V	250 V
Test Voltage	1500 V	1500 V
Insulation Resistance	> 20 MΩ/km @ 20°C	> 20 MΩ/km @ 20°C
Electrical Resistance	< 145 Ω/km @ 20°C	< 145 Ω/km @ 20°C
Impedance	67 Ω	67 Ω
Capacitance	Cond: 120 nF/km, Shield: 160 nF/km	Cond: 120 nF/km, Shield: 160 nF/km
Operating Temperature	-20°C to +85°C	-20°C to +85°C
Minimum Bending Radius	5 x Cable Diameter	5 x Cable Diameter
Colour Code	Pair 1 - Blue / White Pair 2 - Orange / White Pair 3 - Green / White Pair 4 - Brown / White	Pair 1 - Blue / White-Blue Pair 2 - Orange / White-Orange Pair 3 - Green / White-Green Pair 4 - Brown / White-Brown
Outer Sheath	Outer Diameter: 5.4±0.2mm RoHS PVC Grey RAL 7001 Nominal Thickness: 0.55mm Perfectly round cable: 1/2 pressure extrusion 83±5 shore A nominal	Outer Diameter: 6.5±0.3mm RoHS PVC Grey RAL 7001 Thickness: 0.56mm±0.05mm Perfectly round cable: 1/2 pressure extrusion Ripcord Nylon Tensile Strength > 13.8Mpa Elongation > 150%

FIRE ALARM

PH30/120, FIRE RATED CABLE, SCREENED

Construction

Bare copper, fine wire stranded conductors. Core wrapping with special mica impregnated glass fibre tape. Core insulation of special PVC LSOH. Colour coding. Screening with alu-laminated polyester tape and stranded tinned copper drain wire. Special UL PVC Jacket. Special Halogen free; no evolution of corrosive and toxic gasses. Self-extinguishing and flame retardant.

Applications

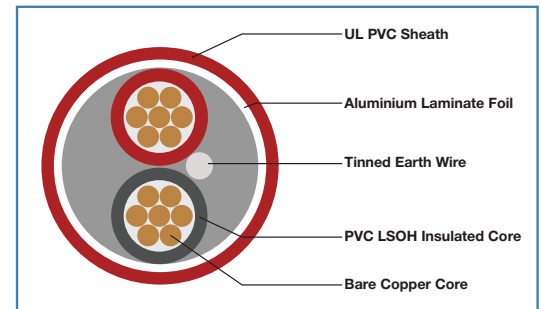
Fire Resistant cables with Halogen free compounds are mainly used for installation of fire alarm and emergency evacuation systems, where long term electrical circuits are required under fire conditions, and to prevent loss of life and property.

PH30: Assures the functional performance of emergency systems up to 30 minutes.

PH120: Assures the functional performance of emergency systems up to 120 minutes.

Packaging

Available in 500 metre drums.
Cut lengths available on request.



Specification

Voltage Rating	500 V
Test Voltage	2500 V 50 Hz
Operating Temperature	-15°C to 70°C
Minimum Bending Radius	10 x cable Ø
Conductors	Bare copper, fine wire stranded
Colour Coding	Pair 1: Red and Blue Pair 2: Grey and Yellow
Insulation	Special PVC LSOH
Insulation Resistance	min. 200 MOhm/km

Product Code	No. Cores x cross-sec mm ²	Fire Rating min. @ 850°C	Outer Ø approx. mm	AWG-No.
AC1.0X2CORES	2 x 1.0	30	6.8	18
AC1.0X2CORESPH120	2 x 1.0	120	8.3	18
AC1.5X2CORES	2 x 1.5	30	7.6	16
AC1.5X2CORESPH120	2 x 1.5	120	9.0	16
AC2.5X2CORES	2 x 2.5	30	-	14
AC2.5X2CORESPH120	2 x 2.5	120	-	14
AC1.0X4CORES	4 x 1.0	30	8.6	18
AC1.0X4CORESPH120	4 x 1.0	120	-	18
AC1.5X4CORES	4 x 1.5	30	9.8	16
AC1.5X4CORESPH120	4 x 1.5	120	-	16
AC2.5X4CORES	4 x 2.5	30	-	14
AC2.5X4CORESPH120	4 x 2.5	120	-	14

APPENDICES



APPENDIX 1

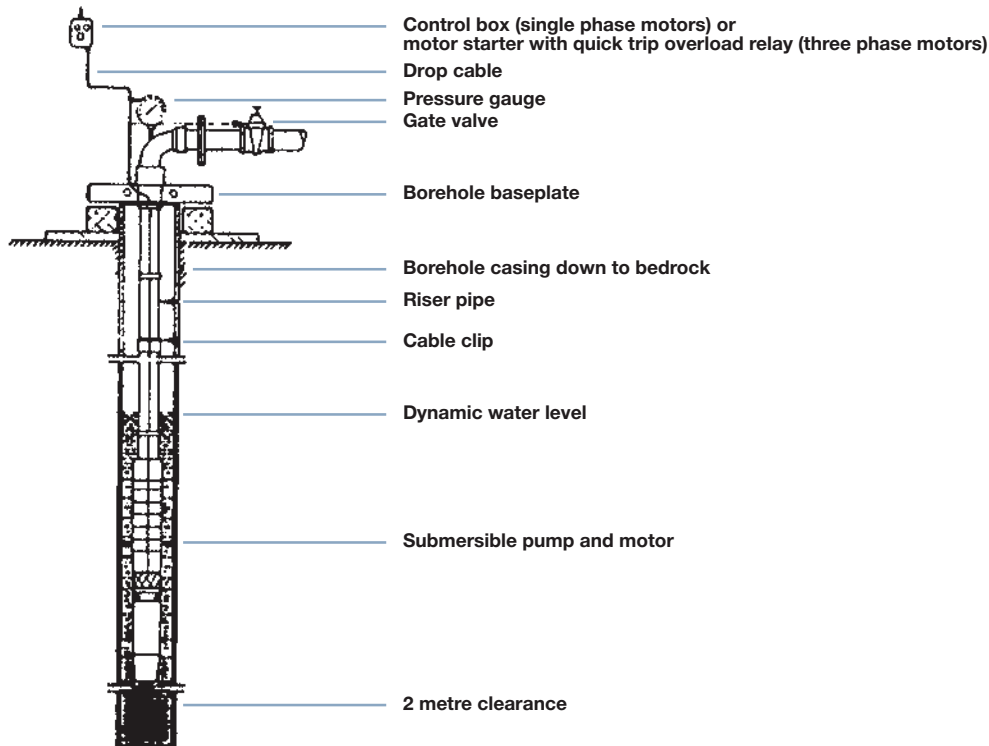
CABLE SELECTION GUIDE FOR AQUAVERN SUBMERSIBLE PUMP CABLE

Motor Rating		Metric Cable Size										Maximum Length in metres
	H.P.	kW	1.5mm ²	2.5mm ²	4mm ²	6mm ²	10mm ²	16mm ²	25mm ²	35mm ²		
220 Volts 50 Hz	0.33	0.25	170	280	450	670	1130	1750	2640	3590		
	0.50	0.37	120	200	320	480	810	1260	1900	2590		
	0.75	0.55	80	130	220	320	550	850	1290	1760		
	1.00	0.75	60	100	170	250	430	670	1010	1380		
	1.50	1.1	40	70	120	180	300	470	710	980		
	2.00	1.5	30	60	90	130	230	360	550	760		
	3.00	2.2	20	40	60	90	150	230	350	490		

Motor Rating		Metric Cable Size										Maximum Length in metres
	H.P.	kW	1.5mm ²	2.5mm ²	4mm ²	6mm ²	10mm ²	16mm ²	25mm ²	35mm ²	50mm ²	
380 Volts 50 Hz	0.50	0.37	810	1350	2160	3240	5500	8530	-	-	-	
	0.75	0.55	550	920	1480	2230	3780	5860	8890	-	-	
	1.00	0.75	410	680	1090	1640	2780	4330	6570	9010	-	
	1.50	1.1	300	500	810	1210	2060	3200	4850	6640	9220	
	2.00	1.5	220	370	590	880	1500	2340	3560	4890	6830	
	3.00	2.2	150	250	400	600	1030	1600	2440	3350	4680	
	5.00	3.7	90	150	240	370	630	980	1490	2050	2870	
	7.50	5.5	60	110	170	260	440	690	1060	1450	2030	
	10.0	7.5	50	80	130	200	340	530	810	1110	1560	
	15.0	11.0	-	50	90	130	230	360	550	750	1060	
	20.0	15.0	-	-	70	100	170	270	410	570	800	
	25.0	18.5	-	-	-	80	140	210	330	450	630	
	30.0	22.0	-	-	-	70	120	180	280	380	540	
	40.0	30.0	-	-	-	-	90	130	210	280	400	
	50.0	37.0	-	-	-	-	-	110	170	230	320	

The above tables indicate the maximum length of cable that can be utilised from the power source to the electrical motor. Exceeding these lengths will void warranty.

A Typical Submersible Pump Installation



APPENDIX 2

CURRENT RATINGS FOR WELDING CABLES

Current ratings for PERMOPower cables are for welding purposes only with a maximum conductor temperature of 70°C.

Ratings generally assigned to different types of welding machines

Automatic	Up to 100%
Semi Automatic	30 to 85%
Manual Welding	30 to 60%
Intermittent or occasional	Up to 30%

Size mm ²	100% (5 min)	85% (4.25 min)	75% (3.75 min)	60% (3 min)	30% (1.5 min)	20% (1 min)
16	120	130	140	155	220	270
25	160	175	185	205	295	360
35	200	220	230	260	365	450
50	255	280	295	330	465	570
70	315	340	365	410	575	705
95	380	415	440	480	695	850
120	440	480	510	570	805	985
150	510	555	590	660	930	1140
185	580	630	670	750	1060	1300

A duty cycle is the percentage welding time of any 5 minutes.

Technical Data

Note: If surrounding temperature is higher than 25°C multiply the above ratings by the following factors:

30°C	35°C	40°C	45°C
0.96	0.91	0.87	0.82

Calculation to find current rating for a duty cycle not in the table:

$$\text{Current rating of duty cycle required} = \text{Current rating for 100\% duty cycle} \times \sqrt{\frac{100}{\% \text{ duty cycle required}}}$$

Example: 50mm² cable has a rating of 255 amps for 100% duty cycle
What is the current rating if only operated on a 40% duty cycle?

$$255 \times \sqrt{\frac{100}{40}} = 403.19 \text{ amps}$$

APPENDIX 3

PVC WIRING CABLES 300/500 V,
450/750 V AND 600/1000 V

Current ratings and volt drop for single and multicore cables to SABS 10142 2008.

Conductor	Single core in/on a wall or Multicore in a wall			
	Single Phase a.c.		3-Phase a.c.	
	Size mm ²	Rating (A)	Volt Drop per A/m (mV)	Rating (A)
1.0	12.5	44	10.5	38
1.5	16	29	13.5	25
2.5	22	18	18.5	15
4	30	11	25	9.5
6	38	7.3	32	6.4
10	53	4.4	45	3.8
16	71	2.8	61	2.4
25	94	1.8	80	1.55
35	117	1.3	100	1.10
50	141	1.0	120	0.85
70	180	0.72	154	0.61
95	218	0.56	186	0.48
120	252	0.47	215	0.41
150	282	0.41	236	0.36
185	320	0.37	267	0.32

Conductor	Multicore in trunking or conduit surface mounted on a wall or floor			
	Single Phase a.c.		3-Phase a.c.	
	Size mm ²	Rating (A)	Volt Drop per A/m (mV)	Rating (A)
1.0	12	44	10	38
1.5	14.5	29	12.5	25
2.5	19	18	17	15
4	26	11	23	9.5
6	31	7.3	29	6.4
10	47	4.4	41	3.8
16	63	2.8	55	2.4
25	84	1.8	69	1.55
35	103	1.3	85	1.10
50	125	1.0	106	0.85
70	157	0.72	134	0.61
95	188	0.56	161	0.48
120	218	0.47	185	0.41
150	242	0.41	203	0.36
185	276	0.37	230	0.32

Conductor	Single and multicore on a wall, floor unperforated tray, under plaster			
	Single Phase a.c.		3-Phase a.c.	
	Size mm ²	Rating (A)	Volt Drop per A/m (mV)	Rating (A)
1.0	14	44	12	38
1.5	18	29	15.5	25
2.5	24	18	21	15
4	32	11	28	9.5
6	43	7.3	37	6.4
10	59	4.4	51	3.8
16	79	2.8	68	2.4
25	105	1.75	86	1.55
35	129	1.25	107	1.10
50	157	0.95	129	0.82
70	200	0.66	166	0.57
95	242	0.50	201	0.43
120	281	0.41	233	0.36
150	323	0.34	265	0.30
185	368	0.25	307	0.25

Conductor	Single and multicore in free air or on perforated racks and ladders			
	Single Phase a.c.		3-Phase a.c.	
	Size mm ²	Rating (A)	Volt Drop per A/m (mV)	Rating (A)
1.0	15.5	NA	13	NA
1.5	20.5	NA	16.5	NA
2.5	28	NA	22	NA
4	37	NA	30	NA
6	47	NA	38	NA
10	65	NA	54	NA
16	88	NA	72	NA
25	111	1.75	91	1.55
35	139	1.25	113	1.10
50	170	0.95	138	0.82
70	218	0.66	176	0.57
95	265	0.50	214	0.43
120	308	0.47	249	0.36
150	356	0.34	287	0.30
185	407	0.29	328	0.26

This information is given in good faith and we accept no responsibility for any errors.

FORMULAE SHEET

To Find	Single Phase	Three Phase
Amperes when Horsepower is known	$I = \frac{HP \times 746}{E \times \text{Eff} \times \text{pf}}$	$I = \frac{HP \times 746}{1.73 \times E \times \text{Eff} \times \text{pf}}$
Amperes when Kilowatts are known	$I = \frac{Kw \times 1000}{E \times \text{pf}}$	$I = \frac{Kw \times 1000}{1.73 \times E \times \text{pf}}$
Amperes when Kva are known	$I = \frac{Kva \times 1000}{E}$	$I = \frac{Kva \times 1000}{1.73 \times E}$
Kilowatts	$Kw = \frac{I \times E \times \text{pf}}{1000}$	$Kw = \frac{1.73 \times I \times E \times \text{pf}}{1000}$
Kva	$Kva = \frac{I \times E}{1000}$	$Kva = \frac{1.73 \times I \times E}{1000}$
Horsepower = (Output)	$Hp = \frac{I \times E \times \text{Eff} \times \text{pf}}{746}$	$Hp = \frac{1.73 \times I \times E \times \text{Eff} \times \text{pf}}{746}$

To Find	
Volt Drop	$V_{\text{drop}} = \frac{\text{mVolts} \times L \times m}{1000}$
Short Circuit Rating	$I_s = \frac{115 \times A}{\sqrt{t}}$
Square Area of Cable	$\frac{\text{Strand Diameter} \times \text{Strand Diameter} \times \text{Pi} (3.14) \times \text{No. of Strands}}{4}$
Diameter of Cable	$\sqrt{(4 \times (\text{The Area} / \text{Pi} (3.142)))}$

BARE COPPER

Size	Weight	Nominal Meters
1.5 mm ²	5 kg	353.71 m
2.5 mm ²	5 kg	217.18 m
4.0 mm ²	5 kg	131.81 m
6.0 mm ²	5 kg	86.77 m
10.0 mm ²	25 kg	259.71 m
16.0 mm ²	25 kg	164.77 m

THE AMERICAN WIRE GAUGE (AWG)

FOR SOLID WIRES

AWG # Size	Inch Dia	MM Dia	Area mm ²
4/0	0.4600	11.684	107.219
3/0	0.4096	10.404	85.014
2/0	0.3648	9.266	67.433
1/0	0.3249	8.251	53.469
1	0.2893	7.348	42.406
2	0.2576	6.554	33.736
3	0.2294	5.827	26.667
4	0.2043	5.189	21.147
5	0.1819	4.621	16.771
6	0.1620	4.115	13.299
7	0.1443	3.665	10.550
8	0.1285	3.264	8.367
9	0.1144	2.906	6.633
10	0.1019	2.588	5.260
11	0.0907	2.305	4.173
12	0.0808	2.053	3.310
13	0.0720	1.828	2.624
14	0.0641	1.628	2.082
15	0.0571	1.450	1.651
16	0.0508	1.291	1.309
17	0.04526	1.150	1.039
18	0.04030	1.024	0.8235
19	0.03589	0.9116	0.6527
20	0.03196	0.8118	0.5176
21	0.02846	0.7229	0.4104
22	0.02535	0.6438	0.3255
23	0.02257	0.5733	0.2581
24	0.02010	0.5106	0.2047
25	0.01790	0.4547	0.1624
26	0.01594	0.4049	0.1287
27	0.01420	0.3606	0.1021
28	0.01264	0.3211	0.0810
29	0.01126	0.2859	0.0642
30	0.01003	0.2546	0.0509
31	0.00893	0.2258	0.0400
32	0.00795	0.2019	0.0320
33	0.00708	0.1800	0.0254
34	0.00630	0.1601	0.0201
35	0.00561	0.1426	0.0160
36	0.00500	0.1270	0.0127
37	0.00445	0.1131	0.0100
38	0.00396	0.1007	0.0080
39	0.00353	0.0897	0.0063
40	0.00315	0.0799	0.0050

DRUM DIMENSIONS

Size	Weight	Height	Length	Width
Code 1	12 kg	60 cm	60 cm	40 cm
Code 2	16 kg	67 cm	67 cm	40 cm
Code 3	18 kg	67 cm	67 cm	55 cm
Code 4	31 kg	75 cm	75 cm	55 cm
Code 5	37 kg	80 cm	80 cm	65 cm
Code 6	44 kg	90 cm	90 cm	65 cm
Code 7	49 kg	100 cm	100 cm	65 cm
Code 8	61 kg	1 m 10 cm	1 m 10 cm	75 cm
Code 9	75 kg	1 m 20 cm	1 m 20 cm	75 cm
Code 10	83 kg	1 m 30 cm	1 m 30 cm	75 cm
Pallet	15 kg	1 m	1 m 20 cm	1 m 20 cm

SALES & DISTRIBUTION CENTRES:

JOHANNESBURG

Tel: +27 (11) 822 - 0900

Physical Address

14 Branch Road
Cnr Rose Innes & Irene Road
Driehoek
Germiston

Postal Address

P.O. BOX 13477
Witfield
Germiston
South Africa
1467

Branch Manager:

Eugene Naidoo

KNIGHTS FACTORY

Tel: +27 (11) 822 - 0900

Physical Address

7 Du Preez Street
Knights
Germiston

Postal Address

P.O. BOX 13477
Witfield
Germiston
South Africa
1467

DURBAN

Tel: +27 (31) 569 - 9800

Physical Address

Unit 1 Rinaldo
50 Moreland Road
Redhill Industrial Estate
Durban

Postal Address

P.O. BOX 401199
Red Hill
4071

Branch Manager:

Shireen Ramsavak

CAPE TOWN

Tel: +27 (21) 551 - 0353

Physical Address

Lilly Industrial Park
5 Stella Road
Montague Gardens
Cape Town

Postal Address

Suite 142
Postnet X7
Chempet
7442

Branch Manager:

Shallun Naidoo

GQEBERHA

Tel: +27 (41) 453 - 0195

Physical Address

322A Kempston Road
Sidwell
Gqeberha

Postal Address

P.O. BOX 2180
North End
Gqeberha
6056

Branch Manager:

Lyll Bignaut

ICS

Tel: +27 (11) 822 - 0900

Physical Address

Unit 9, Hoffman Park
Hamet Avenue, Driehoek
Germiston

Branch Manager:

Juanita Kupersamy

