General Wires

ABERDARE CABLES

Driven by Powertech

What are the benefits of this product solution compared to standard housewire?

The following benefits are relevant:

- The pulling force required to pull the product through conduit, is significantly reduced, as the cable-to-conduit and cable to cable friction is lower than on the standard product.
- The product is neatly and accurately coiled on automatic coilers, which reduces the risk of entanglement.
- The **SLIPDAC®** coils are sized for placement in a standard **SLIPDAC®** bucket where they may be stored securely after use. Refer PHOTO 3.
- The heat-shrunk plastic used in the packaging, keeps the coil in a sturdy, compact form until such time as it is used, thus there is a reduced risk of entanglement due to poor handling.
- The perforated packaging allows for easy access to the wire end on the inside of the coil, without having to disturb the packaging or the body of the coil during use. Refer PHOTO 1.
- The packaging is perforated on both the top and bottom, thus allowing coils to be stacked for simultaneous extraction of all required colours. A useful tool for this purpose is a bucket, which will hold the stacked coils in place while the wire is being withdrawn. Refer PHOTO 2.

ABERDARE CABLES has established a procedure for testing of the pulling force required to pull a sample of cable through a preformed length of standard 20mm SABS conduit. The initial force required to move the cable was measured and recorded for a number of samples of different sizes in the house wire range of colours, for both standard products as well as for **SLIPDAC®**

See attached photograph of the **SLIPDAC®** rig used during testing. (The conduit was exchanged for an unused piece from the same batch, at regular intervals).

Photo 1:
The SLIPDAC® coil - Note the perforation marks in the centre part of the coil.

Photo 3:
The bucket lid is replaced with partially used coils remaining in the bucket for future use.

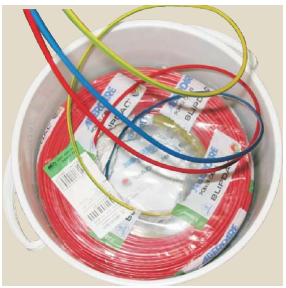


Photo 2:
Extraction of 3 or 4 wires simultaneously from coils held

Single Core PVC 1kV Cable

General Purpose Wire (Housewire)

ABERDARE CABLES

Driven by Powertech

Cable Description

High conductivity annealed stranded or solid copper conductors to SANS 1411 Part 1. Insulated with general purpose grade PVC in plain colours to SANS 1411 Part 2.

Installation Information

For the wiring of :

- Industrial Buildings
- Control Panels

Properties

Specification	:	SANS 1507-3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	600 / 1000 V
Core Identification	:	Blue, Black, Yellow/Green, White, Red
Packaging	:	100m shrink-wrapped coils up to 70mm²
	:	Over 70mm² on 300m drums

Technical Data

Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)	(kg)
25	19/1,38**	8,4	104	0,73	1,7	25,6
35	19/1,62**	9,5	125	0,52	1,3	34,7
50	19/1,88**	11,3	149	0,39	0,93	47,2
70	19/2,28**	12,6	190	0,27	0,65	66,1
95	19/2,50	15,8	238	0,19	0,48	97,6
120	37/2,03	17,5	272	0,15	0,38	120,0
150	37/2,28	19,7	308	0,12	0,32	147,0
185	37/2,50	22,0	350	0,10	0,26	182,2
240	61/2,28	25,0	408	0,08	0,21	235,0
300	61/2,50	27,5	463	0,06	0,18	298,0
400	61/2,80	31,0	531	0,05	0,16	379,0
500	61/3,15	34,5	610	0,04	0,14	483,1
630	91/2,93	38,0	696	0,03	0,13	622,5

*** Note:**
- Rating calculated for 1kV cable.
- Rating based on two touching cables installed in a duct.
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

**** Note:**
- Compacted Conductors

Single Core PVC 3,3kV Cable

General Purpose Wire (Housewire)

ABERDARE CABLES

Driven by Powertech

Cable Description

High conductivity annealed stranded or solid copper conductors to SANS 1411 Part 1. Insulated with general purpose grade PVC in plain colours to SANS 1411 Part 2.

Installation Information

For the wiring of :

- Industrial Buildings
- Control Panels

Properties

Specification	:	SANS 1507-3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	1,9/3,3 kV
Core Identification	:	Blue, Black, Yellow/Green, White, Red
Packaging	:	100m shrink-wrapped coils up to 70mm²
	:	Over 70mm² on 300m drums

Technical Data

Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)	(kg)
25	19/1,38**	10,4	104	0,73	1,7	25,6
35	19/1,62**	11,5	125	0,52	1,3	34,7
50	19/1,88**	12,9	149	0,39	0,93	47,2
70	19/2,28**	14,2	190	0,27	0,65	66,1
95	19/2,50	17,0	238	0,19	0,48	97,6
120	37/2,03	18,7	272	0,15	0,38	120,0
150	37/2,28	20,5	308	0,12	0,32	147,0
185	37/2,50	22,4	350	0,10	0,26	182,2
240	61/2,28	25,0	408	0,08	0,21	235,0
300	61/2,50	27,5	463	0,06	0,18	298,0
400	61/2,80	31,0	531	0,05	0,16	379,0
500	61/3,15	34,9	610	0,04	0,14	483,1
630	91/2,93	38,0	696	0,03	0,13	622,5

*** Note:**
- Rating calculated for 3,3kV cable.
- Rating based on two touching cables installed in a duct.
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

**** Note:**
- Compacted Conductors

Single Core PVC PVC Cable
General Purpose Wire

ABERDARE CABLES
Driven by Powertech

D1 = Diameter over conductor D2 = Diameter over the PVC sheath

Cable Description
High conductivity annealed stranded or solid copper conductors to SANS 1411 Part 1. Insulated with general purpose grade PVC in plain colours to SANS 1411 Part 2.

Installation Information
For the wiring of :
- Industrial Buildings
- Control Panels

Properties

Specification	:	SANS 1507-3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	600 / 1000 V
Core Identification	:	Black
Packaging	:	300/500m Drums

Electrical and physical properties of single core PVC Insulated cables with stranded copper conductors, unarmoured, PVC sheathed 600 / 1000 V manufactured to SANS 1507-3.

Technical Data

Rated Area	Nominal Diameters		Nominal Mass	Impe-dance	Cables A.C. or D.C.			Cables in Trefoil Formation			
					Current Rating *		Voltage Drop per Amp per metre	Current Rating			Voltage Drop per Amp per metre
(mm²)	D1	D2	(kg/km)	(Ω/km)	Ground	Air	(mV)	Ground	Duct	Air	(mV)
25	5,95	11,91	366	0,8767	118	133	1,7	127	91	109	1,50
35	7,00	12,96	469	0,6356	156	165	1,3	153	109	136	1,10
50	8,15	15,15	632	0,4745	186	203	0,9	180	130	171	0,80
70	9,79	16,57	880	0,3356	232	251	0,7	221	166	214	0,60
95	11,54	19,04	1160	0,2500	281	313	0,5	265	208	271	0,40
120	12,96	20,24	1413	0,2054	324	362	0,4	301	237	316	0,30
150	14,39	22,07	1734	0,1734	370	414	0,3	338	267	366	0,30
185	16,10	24,80	2145	0,1499	424	482	0,3	381	305	433	0,20
240	18,71	27,81	2725	0,1268	498	578	0,2	442	357	525	0,20
300	21,45	30,75	3375	0,1131	566	660	0,2	499	404	604	0,20
400	24,30	34,10	4395	0,1028	651	704	0,2	565	442	639	0,20
500	26,51	37,13	5299	0,0963	740	821	0,2	634	506	752	0,20
630	33,15	43,62	6965	0,0890	836	960	0,2	718	580	886	0,10

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature	Ground Thermal Resistivity	Depth of Laying to top of Cable
70°C	25°C	30°C	1,2 K.m/W	500mm

*** Note:**
- Rating based on two touching cables installed in a duct.
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

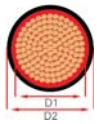
Single Core XLPE PVC Cable

General Purpose Wire (600/1000V)

ABERDARE CABLES

Driven by Powertech

D1 = Diameter over conductor D2 = Diameter over the PVC sheath



Cable Description

High conductivity annealed stranded or solid copper conductors to SANS 1411 Part 1. Insulated with XLPE plain colours to SANS 1411 Part 4.

Installation Information

For the wiring of :

- Industrial Buildings
- Control Panels

Properties

Specification	:	SANS 1507-4
Temperature Range	:	-10°C to 90°C
Voltage Rating	:	600/1000V
Core Identification	:	Black
Packaging	:	300/500m Drums

Technical Data

Rated Area	Nominal Diameters		Nominal Mass	Impe-dance	Cables A.C. or D.C.			Cables in Trefoil Formation			
					Current Rating *		Voltage Drop per Amp per metre	Current Rating			Voltage Drop per Amp per metre
(mm²)	D1	D2	(kg/km)	(Ω/km)	Ground	Air	(mV)	Ground	Duct	Air	(mV)
25	5,95	11,81	328	0,8767	169	162	2,0	151	103	143	1,7
35	7,00	12,86	426	0,6356	205	202	1,4	181	125	179	1,2
50	8,15	14,38	567	0,4745	245	255	1,0	213	154	229	0,9
70	9,79	16,22	824	0,3356	302	313	0,7	260	192	284	0,6
95	11,54	17,97	1071	0,2500	366	380	0,5	312	233	346	0,5
120	12,96	19,82	1304	0,2054	422	441	0,4	355	268	402	0,4
150	14,39	21,42	1628	0,1734	480	508	0,4	397	305	465	0,3
185	16,10	23,63	1995	0,1499	554	585	0,3	449	345	537	0,3
240	18,71	26,69	2461	0,1268	656	704	0,2	522	406	648	0,2
300	21,45	30,05	3182	0,1131	766	804	0,2	589	459	741	0,2
400	24,30	33,30	4117	0,1028	902	874	0,2	668	511	805	0,2
500	26,51	36,33	5032	0,0963	1040	1013	0,2	750	583	935	0,2
630	33,15	42,79	6641	0,0890	1229	1205	0,2	848	680	1115	0,2

PVC Current Ratings are Based on the following Environmental Parameters

Maximum Sustained Conductor Temperature	Ground Temperature	Ambient Air Temperature	Ground Thermal Resistivity	Depth of Laying to top of Cable
90°C	25°C	30°C	1,2 K.m/W	500mm

*** Note:**

- Rating for two touching cables installed in air.
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 90°C.

Surfix Cable

ABERDARE CABLES
Driven by Powertech

Cable Description
Copper conductors to SANS 1411 Part 1, PVC insulated to SANS 1411 Part 2 , laid up with a bare tinned copper earth wire in contact with a longitudinal aluminium/polyethylene laminate, UV stable PVC sheathed to SANS 1411 Part 2.

Installation Information
Complies with SANS 10142 "Code of Practice for wiring of Premises" Section 6:

- Surface wiring
- Under-plastering wiring
- Wiring in hollow walls
- Wiring in roof spaces

Note: The cable shall not be buried direct in concrete or in screed. Joints in the wiring shall be in boxes only.

Properties

Specification	:	SANS 1507-2
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	300 / 500 V
Sheath Identification	:	White & Black
Core Identification	:	**2 Core** - Red & Black, **3 Core** - Red, Yellow, Blue, **4 Core** - Red, Yellow, Blue, Black
Packaging	:	100m shrink-wrapped coils
	:	Available on 500 & 1000 metre wooden drums on request (depending on size)

Technical Data

Cable Size *		Electrical Properties					Physical Properties	
		Conductor Resistance (dc @ 20°C)		Current Rating **	Volt Drop ***	1 Sec Short Circuit Rating	Approx. Overall Diameter	Approx. Cable Mass
Phase	Earth	Phase	Earth					
(mm²)		(Ω/km)		(A)	(mV/A/m)	(kA)	(mm)	(kg/100m)
2 Core								
1,5	1	12,1	18,2	17	29	0,14	7,8	10,6
2,5	1,5	7,41	12,2	23	18	0,24	8,8	14,4
4	1,5	4,61	12,2	30	11	0,38	10,1	20,8
6	2,5	3,08	7,56	38	7,3	0,58	11,3	25,7
3 Core								
1,5	1	12,1	18,2	15	25	0,14	8,0	10,9
2,5	1,5	7,41	12,2	20	15	0,24	9,3	15,7
4	1,5	4,61	12,2	27	9,5	0,38	10,8	21,0
6	2,5	3,08	7,56	34	6,4	0,58	12,0	28,7
4 Core								
1,5	1	12,1	18,2	15	25	0,14	8,7	13,3
2,5	1,5	7,41	12,2	20	15	0,24	10,2	19,3
4	1,5	4,61	12,2	27	9,5	0,38	11,8	26,5
6	2,5	3,08	7,56	34	6,4	0,58	12,8	33,5

Note:
* Conductors larger than 2,5mm² are usually stranded.
** Maximum conductor temperature 70° C, and installed as per installation Method 3 of SANS 10142-1.
*** 2 Core - Volt drop is phase to Neutral (ie. Single-phase).
3 and 4 Core - Volt drop is phase-to-phase. (ie. Three phase AC).

Flat Twin and Earth Cable

ABERDARE CABLES
Driven by Powertech

Cable Description
Copper conductors to SANS 1411 Part 1, PVC insulated to SANS 1411 Part 2, laid up with a bare copper earth-continuity-conductor between them, UV stable PVC sheathed to SANS 1411 Part 2.

Installation Information
Complies with SANS 10142/2001 "Code of Practice for the wiring of Premises" Section 6, Clause 6.3.6:
- Surface wiring
- Under-plaster wiring
- Roof access wiring
- Wiring in hollow walls

Note: The cable shall not be buried direct in concrete or in screed. Joints in the wiring shall be in boxes only.

Properties

Specification	:	SANS 1507-2
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	300 / 500 V
Sheath Identification	:	White & Black
Core Identification	:	**2 Core** - Red & Black, **3 Core** - Red, Yellow, Blue
Packaging	:	100m shrink-wrapped coils

Technical Data

Cable Size *		Electrical Properties					Physical Properties	
		Conductor Resistance (dc @ 20°C)		Current Rating **	Volt Drop ***	1 Sec Short Circuit Rating	Approx. Overall Diameter	Approx. Cable Mass
Phase	Earth	Phase	Earth					
(mm²)		(Ω/km)		(A)	(mV/A/m)	(kA)	(mm)	(kg/100m)
2 Core								
1,5	1	12,1	18,1	17	29	0,14	8,7 x 4,7	8,7
2,5	1,5	7,4	12,1	23	18	0,24	10,3 x 5,5	12,8
4	1,5	4,61	12,1	30	11	0,38	11,9 x 6,4	17,5
6	2,5	3,08	7,41	38	7,3	0,58	13,4 x 7,0	23,3
10	4	1,83	4,61	52	4,4	0,96	16,5 x 8,3	36,1
3 Core (Trip)								
1	1	18,2	18,2	12	38	0,11	4,4 x 10,4	8,9
1,5	1	12,1	18,2	15	25	0,14	4,8 x 10,5	9,9
2,5	1,5	7,4	12,2	20	15	0,24	5,5 x 12,3	14,1

Note:
- * Conductors larger than 2,5mm² are usually stranded.
- ** Maximum conductor temperature 70° C, and installed as per installation Method 3 of SANS 10142-1.
- *** 2 Core - Volt drop is phase to Neutral (ie. Single-phase).
  3 and 4 Core - Volt drop is phase-to-phase. (ie. Three phase AC).

Cabtyre Cable
Flexible Wiring

ABERDARE CABLES
Driven by Powertech

Cable Description
High conductivity bunched plain flexible copper conductors to SANS 1411 Part 1. Insulated and colour coded with general purpose flexible grade PVC to SANS 1411 Part 2. Cores are twisted together and sheathed with a flexible grade PVC.

Installation Information
For supplying power to all types of electrical, domestic and industrial appliances and equipment such as:

- Power Tools
- Electric Lawnmowers
- Kitchen Appliances
- Extension Leads
- Multi Plug Extensions
- Small Industrial Machinery

Properties

Specification	:	SANS 1574
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	Light Duty (LD) 300 / 300V and Normal Duty (ND) 300 / 500V
Core Identification	:	**2 Core** - Blue & Brown, **3 Core** - Blue, Brown & Yellow/Green, **4 Core** - Blue, Brown, Black & Yellow/Green, **5 Core** - Blue, Black, Brown, Yellow/Green, Violet, **7 Core** - Blue, Brown, Black, Yellow/Green, Violet, Pink, Orange
Sheath Colours	:	White, Black, Grey
Packaging	:	100m shrink-wrapped coils / 500m & 1000m lengths available on request

Technical Data

Cable Size	Number of Cores	Nominal Stranding No. x diameter	Approx. Overall Diameter	Conductor Resistance @ 20°C Maximum	Current Rating *		Volt Drop		Approx. Cable Mass per 100m Coil
					1ϕ	3ϕ	1ϕ	3ϕ	
(mm²)			(mm)	(Ω/km)	(A)		(mV/A/m)		(kg)
Light Duty 300 / 300V									
0,5	2	15/0,2	5,2	39	3	3	93	80	3,9
	3		5,5		3	3	93	80	4,7
	4		6,0		3	3	93	80	5,5
	5		6,6		3	3	93	80	6,7
0,75	3	23/0,2	6,1	26	6	6	62	54	5,5
Normal Duty 300 / 500V									
0,75	2	23/0,2	6,2	26	6	6	62	54	5,2
	3		7,0		6	6	62	54	6,7
	4		7,2		6	6	62	54	7,8
	5		8,2		6	6	62	54	9,9
	7		8,7		6	6	62	54	12,6
1	2	30/0,2	6,6	19,5	10	10	46	40	6,3
	3		7,0		10	10	46	40	7,6
	4		8,0		10	10	46	40	9,8
	5		8,6		10	10	46	40	11,6
	7		9,3		10	10	46	40	14,8
1,5	2	44/0,2	7,8	13,3	16	16	32	27	8,4
	3		8,3		16	16	32	27	10,8
	4		9,3		16	16	32	27	13,5
	5		10,0		16	16	32	27	16,2
	7		10,9		16	16	32	27	20,7
2,5	2	72/0,2	9,6	7,98	25	20	19	16	13,5
	3		10,3		25	20	19	16	16,8
	4		11,9		25	20	19	16	21,8
	5		12,2		25	20	19	16	24,2
	7		13,2		25	20	19	16	31,3
4	2	112/0,2	11,0	4,96	32	25	12	10	19,0
	3		11,4		32	25	12	10	25,0
	4		13,5		32	25	12	10	32,0
	5		14,1		32	25	12	10	33,9

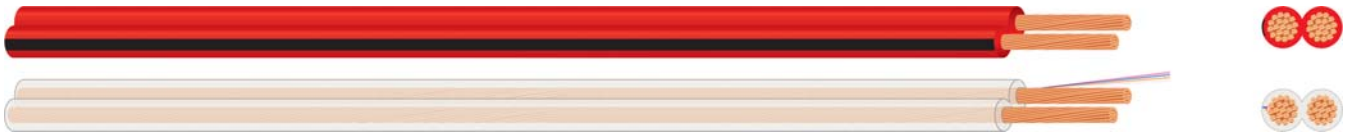
* **Note:** Current Rating based on - Ambient temperature is 30°C Maximum Conductor temperature is 70°C

Audio Cord Cable (Ripcord)

Flexible Wiring

ABERDARE CABLES

Driven by Powertech



Cable Description

High conductivity bunched plain flexible copper conductors to SANS 1411 Part 1. 2 Core insulated with general purpose flexible grade PVC to SANS 1411 Part 2.

Installation Information

For the wiring of all types of:

- Intercoms
- Alarm Systems
- Solar Industry
- Audio and Visual Equipment

Properties

Specification	:	ABERDARE Specification
Temperature Range	:	-10°C to 70°C
Core Identification	:	Standard Colours - White, Brown, Grey, Black, Transparent and Red with Black Stripe
	:	Other Colours available on request
Packaging	:	100m shrink-wrapped coils / 500m lengths available on request

Technical Data

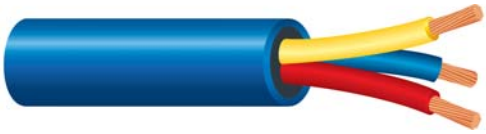
Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)	(kg)
0,2	7/0,2	1,6 x 3,2	1	92	248	0,95
0,4	11/0,2	2,1 x 4,2	2	48,8	98	1,6
0,5	15/0,2	2,5 x 5,0	3	39	93	2,2
0,75	23/0,2	2,7 x 5,4	6	26	62	2,8
1,00	30/0,2	2,9 x 5,8	10	19,5	46	3,6
1,5	44/0,2	3,2 x 6,4	16	13,3	32	4,3
2,5	72/0,2	3,9 x 7,9	25	7,98	19	6,9
4	112/0,2	4,7 x 9,4	32	4,96	12	10,9

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

Submersible Pump Cable
3 and 4 Core

ABERDARE CABLES
Driven by Powertech

4 Core
Green



3 Core
Blue

Cable Description
High conductivity bunch plain flexible copper conductors to SANS 1411 Part 1.. Cores insulated and bedded with Flexible PVC Grade. Final protection is given by a flexible PVC outer sheath.

Installation Information
Power supply of mobile and portable submersible pumps as used in:
- Quarries
- Farms
- Cleaning and Sewerage extraction plants
- De-watering
- Boreholes

Properties

Specification	:	SANS 1574
Temperature Range	:	-10°C to 70°C
Insulation & Sheath	:	Flexible grade waterproof PVC
Voltage Rating	:	600 / 1000 V
Sheath Identification	:	**3 Core** - Blue, **4 Core** - Green
Core Identification	:	**3 Core** - Red, Yellow, Blue, **4 Core** - Red, Yellow, Blue, Black
Packaging	:	Available on 500 metre wooden drums

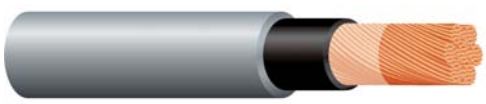
Technical Data

Cable Size	Minimum Bending Radius	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	Volt Drop		Approx. Cable Mass per 100m Coil
					1ϕ 220V	3ϕ 380V	
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)		(kg)
3 Core (Blue)							
1,5 x 3	82	0,15	15	13,3	29	25	10,2
2,5 x 3	94	0,2	20	7,98	17	15	11,7
4 x 3	108	0,3	30	4,96	12	9,5	13,5
6 x 3	121	0,5	35	3,30	7,3	6,4	15,1
10 x 3	141	0,6	50	1,91	4,3	3,8	17,6
16 x 3	161	0,8	65	1,21	2,8	2,4	20,1
4 Core (Green)							
1,5 x 4	89	0,2	15	13,3	29	25	11,2
2,5 x 4	102	0,25	20	7,98	17	15	12,8
4 x 4	116	0,35	30	4,96	12	9,5	14,6
6 x 4	132	0,5	35	3,30	7,3	6,4	16,5
10 x 4	153	0,7	50	1,91	4,3	3,8	19,2
16 x 4	176	1	65	1,21	2,8	2,4	22,0

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

General Welding Cable
EPM/CM or EPM/CR

ABERDARE CABLES
Driven by Powertech



Cable Description
Single core flexible copper conductors to SANS 1411 Part 1, EPM (Ethylene-propylene monomer) insulated, CM (Chloronated Polyethylene) or CR (Polychloropene) sheathed, heavy duty welding cables.

Installation Information
Heavy duty welding for:
- Indoor and outdoor electric welding equipment.

Properties

Specification	:	SANS 1576
Voltage Rating	:	100 V ac or dc to earth for welding applications
Core Identification	:	EPM/CM - Outer CM sheath is coloured
	:	EPM/CR - EPM insulation is coloured and CR sheath is black
Packaging	:	100m shrink-wrapped coils

Technical Data

Physical Properties

Colour Code	Conductor				Dimensions		Approx. Cable Mass
	Conductor Size	Maximum Diameter of Wires	Approx. Diameter	Maximum Resistance of Untinned Conductor at 20°C	Nominal Thickness of Insulation	Approx. Overall Diameter	
	(mm²)	(mm)	(mm)	(Ω/km)	(mm)	(mm)	(kg/m)
Green	16	0,31	5,2	1,210	2,0	9,2	0,25
Blue	25	0,31	7,1	0,780	2,0	11,1	0,35
Grey	35	0,31	8,5	0,554	2,0	12,5	0,45
Red	50	0,31	10,4	0,386	2,2	14,8	0,60
Brown	70	0,31	11,6	0,272	2,4	16,4	0,75
Yellow	95	0,31	14,1	0,206	2,6	19,3	1,10
Black	120	0,51	15,6	0,161	2,8	21,2	1,40

Electrical Properties

Conductor Size	Class of Welding					D.C. Voltage Drop
	Automatic		Manual		Very Intermittent	
	Semi-automatic					
	Maximum Current Rating (A) for Duty Cycles of:					
(mm²)	100%	85%	60%	30%	20%	mV/A/m
16	131	134	142	172	199	1,6
25	177	182	197	246	289	1,0
35	220	229	252	322	380	0,8
50	280	293	327	426	507	0,6
70	346	364	411	546	654	0,5
95	422	446	508	681	819	0,4
120	493	523	599	809	976	0,3

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 85°C.
- Assumed duty cycle period 5 minutes.
- Derating of maximum current for other ambient temperatures - use rating factor X as given below:

Ambient temperature, °C	:	25	30	35	40	45
Rating factor, X	:	1,04	1,00	0,95	0,91	0,85

PVC Nitrile Cable
Panelling/Welding

ABERDARE CABLES
Driven by Powertech

Cable Description
Single core flexible copper conductors to SANS 1411 Part 1, insulated with general purpose flexible grade PVC and sheathed with a flexible grade waterproof PVC/Nitrile.

Installation Information
A flexible power cable where flexibility is needed in equipment such as:
- LV Transformer Connections
- General Wiring Applications
- Motor Control Centres
- Distribution Boards

Properties

Specification	:	SANS 1574 Part 3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	600 / 1000 V
Core Identification	:	Red, Black, Blue, Yellow (Other colours on request)
Packaging	:	Shrink-wrapped coils from 16mm² to 70mm² or 500m drums
	:	The product is sequentially marked at one metre intervals

Technical Data

Conductor Size	Approx. Conductor Diameter	Approx. Cable Diameter	Impedance at 70°C	Approximate Volt Drop		Continuous Current Rating *		Approx. Cable Mass
				(mV/A/m)		(A)		
(mm²)	(mm)	(mm)	(Ω/km)	1φ	3φ	1φ	3φ	(kg/100m)
16	5,2	10,8	1,460	2,8	2,4	76	64	23,00
25	7,1	13,5	0,933	1,7	1,5	104	88	31,50
35	8,5	15,3	0,663	1,3	1,1	125	106	42,50
50	10,4	18,4	0,462	0,9	0,8	148	126	57,50
70	11,6	21,2	0,326	0,7	0,6	187	159	76,00
95	14,1	24,1	0,247	0,5	0,4	232	198	101,00
120	15,6	25,6	0,193	0,4	0,4	265	226	129,00
150	17,30	27,7	0,16	0,3	0,3	299	255	159,00
185	20,00	30,8	0,14	0,3	0,3	343	292	189,00

*** Note:**
- Current ratings are based on cable installed in a cubicle, and may vary depending on other applications.
- Assumed ambient air temperature is 30°C.
- Maximum conductor temperature is 70°C.
- Derating of maximum current for other ambient temperatures - use rating factor X as given below:

Ambient temperature, °C	:	25	30	35	40	45
Rating factor, X	:	1,04	1,00	0,95	0,91	0,85
Fault rating	:	115A/mm² (1 Second)				

Nitrile Trailing Cable
Flexible PVC - 4 Core

ABERDARE CABLES
Driven by Powertech

Cable Description
High conductivity bunch plain flexible copper conductors to SANS 1411 Part 1. Cores insulated and bedded with Flexible PVC. Flexible Grade PVC / Nitrile outer sheath.

Installation Information
- Power supply of mobile and stationary industrial machinery
- Applications that require medium duty abrasion and where oil and water resistance is required.

Properties
Good chemical resistance. Flame retardant, self extinguishing. Oil and water resistant.

Specification	:	SANS 1574
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	600 / 1000 V
Sheath Identification	:	PVC / Nitrile - Orange
Core Identification	:	Red, Yellow, Blue, Black
Packaging	:	Available on 500 metre wooden drums

Technical Data

Cable Size	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass
(mm²)	(mm)	(A)	(Ω/km)	(mV/A/m)	(kg/m)
1,5 x 4	11	15	13,3	25	0,2
2,5 x 4	13	20	7,98	15	0,3
4 x 4	15	30	4,96	9,5	0,4
6 x 4	17	35	3,30	6,4	0,5
10 x 4	20	50	1,91	3,8	0,7
16 x 4	23	65	1,21	2,4	1
25 x 4	26,2	95	0,78	0,87	1,4

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

Monster Cable
Flexible Wiring

ABERDARE CABLES
Driven by Powertech

Cable Description
High conductivity bunched plain flexible copper conductors to SANS 1411 Part 1. 2 Core insulated with general purpose flexible grade PVC to SANS 1411 Part 2.

Installation Information
For the wiring of:
- Audio (Loud Speaker Leads)Equipment
- Solar Power Industry

Properties

Specification	:	ABERDARE Specification
Temperature Range	:	-10°C to 70°C
Core Identification	:	Transparent with Blue Stripe
Packaging	:	100m shrink-wrapped coils or 100m reels

Technical Data

Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)	(kg)
1,00	30/0,2	2,9 x 5,8	10	19,5	46	3,6
1,6	51/0,2	4,1 x 8,2	16	11	33	6,3
3,0	90/0,2	5,5 x 11	29	6,5	16	10,2

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.

HRQ Insulated Cable

High Temperature Insulated Wire 105°C

ABERDARE CABLES

Driven by Powertech

Cable Description

High conductivity solid copper conductor to SANS 1411 Part 1. Insulated with D5 High temperature PVC 105°C to SANS 1411 Part 2.

Installation Information

For the wiring of:

- Capacitor Tails
- Ballasts for Fluorescent Lights

Properties

Specification	:	SANS 1507-2
Temperature Range	:	-10°C to 105°C
Voltage Rating	:	300 / 500 V
Core Identification	:	White, Yellow, Black, Brown, Red, Orange, Tan, Light Blue and White with a choice of either Yellow, Orange, Red, Black, Blue or Brown Stripes
Packaging	:	7000m lengths down coiled into cardboard barrels

Technical Data

Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1ϕ Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(Ω/km)	(mV/A/m)	(kg)
0,5	1 x 0,8	2,6	15	36	96,1	1,1

*** Note:**
- Rating based on two touching cables installed in a duct.
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 105°C.

Panel Flex Cable
Single Core Flexible Wiring

ABERDARE CABLES
Driven by Powertech

Cable Description
High conductivity bunched plain flexible copper conductors to SANS 1411 Part 1. Insulated with general purpose flexible grade PVC in all colours to SANS 1411 Part 2.

Installation Information
For the wiring of all types of:
- Control panels
- Light fittings
- Communication panels
- Appliances

Properties

Specification	:	SANS 1574-3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	300 / 500 V and 600 / 1000V
Core Identification	:	Blue, Black, Brown, Yellow/Green, Orange, Pink, Violet, Grey, White, Red
Packaging	:	100m shrink-wrapped coils
	:	500m lengths available on request
	:	2500m, 4000m and 7000m lengths down coiled into cardboard barrels available on request. (depending on size)

Technical Data

Cable Size	Nominal Stranding No. x diameter	Approx. Overall Diameter	Current Rating *	Conductor Resistance @ 20°C Maximum	1f Volt Drop	Approx. Cable Mass per 100m Coil
(mm²)		(mm)	(A)	(W/km)	(mV/A/m)	(kg)
			600 / 1000V			
0,5	15/0,2	2,6	11	39	93,3	1,1
0,75	23/0,2	2,8	14	26	62,2	1,3
1	30/0,2	3,0	16	19,5	46,7	1,6
1,5	44/0,2	3,3	20	13,3	31,8	2,2
2,5	72/0,2	3,7	26	7,98	19,1	3,1
4	112/0,2	4,8	35	4,95	11,8	4,9
6	175/0,2	5,3	43	3,30	7,9	7,3
10	294/0,2	9,1	58	1,91	4,6	11,1
16	462/0,2	10,0	75	1,21	2,9	16,7
25	721/0,21	12,7	100	0,780	1,9	27,1
35	1026/0,21	14,5	122	0,55	1,3	35,8

*** Note:**
- Assumed ambient air temperature is 30°C.
- Assumed maximum conductor temperature is 70°C.
- Rating for 2 wires only

Power Panel Flex Cable

ABERDARE CABLES
Driven by Powertech

Cable Description
Single core flexible copper conductors to SANS 1411 Part 1, insulated with general purpose flexible grade PVC and sheathed with a flexible grade waterproof PVC/Nitrile

Installation Information
A flexible power cable where flexibility is needed in equipment such as:
- LV transformer connections
- Motor control centres
- General wiring applications
- Distribution boards

Properties

Specification	:	SANS 1574 Part 3
Temperature Range	:	-10°C to 70°C
Voltage Rating	:	600 / 1000 V
Core Identification	:	Red, Black, Blue, Yellow (Other colours on request)
Packaging	:	Shrink-wrapped coils from 16mm² to 70mm² or 500m drums
	:	The product is sequentially marked at one metre intervals.

Technical Data

Conductor Size	Approx. Conductor Diameter	Approx. Cable Diameter	Impedance at 70°C	Approx. Volt Drop		Continuous Current Rating *		Approx. Cable Mass
				(mV/A/m)		(A)		
(mm²)	(mm)	(mm)	(W/km)	1f	3f	1f	3f	(kg/100m)
16	5,2	10,8	1,460	2,8	2,4	76	64	23,00
25	7,1	13,5	0,933	1,7	1,5	104	88	31,50
35	8,5	15,3	0,663	1,3	1,1	125	106	42,50
50	10,4	18,4	0,462	0,9	0,8	148	126	57,50
70	11,6	21,2	0,326	0,7	0,6	187	159	76,00
95	14,1	24,1	0,247	0,5	0,4	232	198	101,00
120	15,6	25,6	0,193	0,4	0,4	265	226	129,00
150	17,30	27,7	0,16	0,3	0,3	299	255	159,00
185	20,00	30,8	0,14	0,3	0,3	343	292	189,00

*** Note:**
- Current ratings are based on cable installed in a cubicle, and may vary depending on other applications.
- Assumed ambient air temperature is 30°C.
- Maximum conductor temperature is 70°C.
- Derating of maximum current for other ambient temperatures - use rating factor X as given below:

Ambient temperature, °C	:	25	30	35	40	45
Rating factor, X	:	1,04	1,00	0,95	0,91	0,85
Fault rating	:	115A/mm² (1 Second)				