Caledonian

BS 5467
Armoured Power cables
EEMUA 133 Lead cables

www.caledoniancable.com

Addison

Company Profile

Caledonian. established in 1978.offers one of the most complete lines of fiber and copper cabling system solutions with over hundreds of different cabling system products. . Our superior products provide leading edge within every cable series and for every application.

Among the national and international standards with which our cables could comply are: BS - British Standard; LPCB Fire Performance Standard. ISO Standard etc. Caledonian Cables offers a comprehensive stock of cables and cabling products through its nationwide network of resellers and distributors. Caledonian Cables has continually expanded its global presence in Europe and Asia.

Caledonian & Addison. produces a wide range of cables for communication. power and electronics in its primary plants in UK. Italy and Spain. To stay in front. we continually keep expanding our manufacturing capabilities in more low cost region such as Romania. Taiwan. Malaysia etc. This low-cost manufacturing facilities enable us provide a flexible. scalable global system that delivers superior operational performance and optimal results for our customers.

Our extensive global network of manufacturing facilities gives us significant scale and the flexibility to fulfill our customer requirements. This global presence provides design and consultancy solutions that are combined with core cable manufacturing. logistic services. and vertically integrated with our E commerce technologies. to optimize customer operations by lowering costs and reducing time to market.

Caledonian & Addison has been respected for its high standards of quality. excellent service level. competitive pricing and a unique and innovative spirit. With our latest technologies. we are both inspired and well-positioned to meet the changing needs of our customers. We have the resources to diversify and to enhance our product lines and services. We understand the need for change and with our accurate planning. we are ready for the future and the promise of new marketing opportunities. Our tradition of growth through excellence is assured.

Our Design Centers work closely with customers to constantly improve its standard range of products and technologies and to develop customized. country and industry-specific solutions. Caledonian & Addison has established an extensive network of design. manufacturing. and logistics facilities in the world’s major markets to serve the growing outsourcing needs of both multinational and regional customers.

Our Certificate

ISO 9001
REGISTERED FIRM

Registration Certificate

This document certifies that the administration systems of

Caledonian Cables Limited/Addison Technology Limited
Marchants Industrial Centre, Mill Lane, Laughton, Lewes, Sussex, BN8 6AJ, United Kingdom

have been assessed and approved by QAS International to the following management systems, standards and guidelines:

ISO 9001 : 2008
With the permitted exclusion of clauses 7.3 Design and Development

The approved administration systems apply to the following:

The manufacture and supply of electrical cables and ancillary power equipment to customers internationally.

Original Approval	6th September 1997
Current Certificate	7th February 2010
Certificate Expiry	7th February 2011
Certificate Number	A6211

On behalf of QAS International
www.qas-international.com

This certificate remains valid while the holder maintains their quality administration systems in accordance with the standards and guidelines stated above, which will be audited annually by QAS International. The holder is entitled to display the above registration mark for the duration of this certificate. This certificate must be returned to QAS International on reasonable request.
Issuing Office: QAS International, The Gig House, Oxford Street, Malmesbury, Wiltshire, SN16 9AX

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BS 5467 Armoured Power Cables, 600/1000V

Application

These cables are used for power and control circuits, they can offer excellent protection through the use of a heavy galvanized steel wire armour. The GSWA makes them suitable for use inside and outside buildings or for direct burial in the ground.

Construction

Conductor	Solid Aluminum or Copper conductor, round stranded or shaped, Class 2 to BS 6460, IEC 60228.
Insulation	XLPE (Cross-Linked Polyethylene) Type GP 8 or ethylene propylene rubber (GP 6)
Colour Code	1 Core : Brown 2 Cores: Brown or Blue 3 Cores: Brown, Black, Grey 4 Cores: Blue, Brown, Black, Grey 5 Cores: Green/Yellow, Blue, Brown, Black, Grey Above 5 Cores: White Cores with black numbers
Bedding	PVC (Polyvinyl Chloride)
Armour	Single Core: AWA (Aluminum Wire Armour) Multi Core: SWA (Steel Wire Armour)
Outer Sheath	PVC(Polyvinyl Chloride)

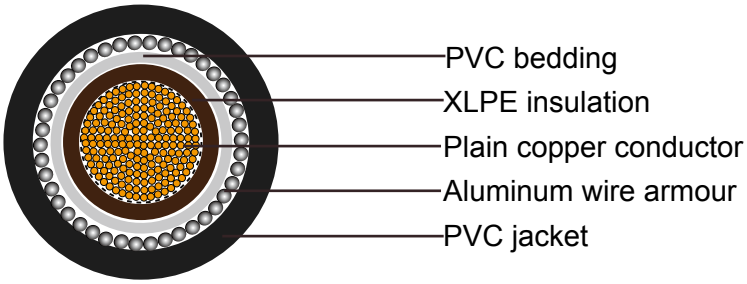
Technical Information

Voltage rating	600/1000V
Temperature rating	0°C to +90°C
Bending radius	1.5mm² to 16mm²: 6 x overall diameter 25mm² and above: 8 x overall diameter
Flame retardant	IEC60332 part 1, BS4066 part 1

BS5467 Armoured Power Cables, 600/1000V

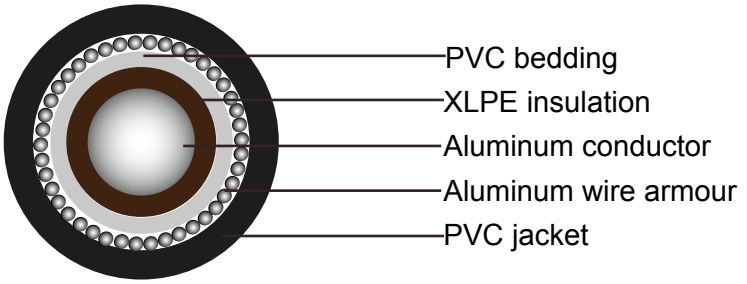
Cable Parameter

Single-core 600/1000 V cables with circular stranded copper conductor



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thickness	Nominal bedding thickness	Nominal Alum Wire dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	kg/km
1x50	19/1.78	1.0	0.8	0.9	1.5	17.5	800
1x70	19/2.14	1.1	0.8	1.25	1.5	20.2	990
1x95	19/2.52	1.1	0.8	1.25	1.6	22.3	1280
1x120	37/2.03	1.2	0.8	1.25	1.6	24.2	1550
1x150	37/2.25	1.4	1	1.6	1.7	27.4	1900
1x185	37/2.52	1.6	1	1.6	1.8	30.0	2320
1x240	61/2.25	1.7	1	1.6	1.8	32.8	2930
1x300	61/2.52	1.8	1	1.6	1.9	35.6	3580
1x400	61/2.85	2.0	1.2	2.0	2.0	40.5	4600
1x500	61/3.20	2.2	1.2	2.0	2.1	44.2	5680
1x630	127/2.52	2.4	1.2	2.0	2.2	48.8	7160
1x800	127/2.85	2.6	1.4	2.5	2.4	55.4	9315
1x1000	127/3.20	2.8	1.4	2.5	2.5	60.6	11490

Single-core 600/1000 V cables with solid aluminum conductor



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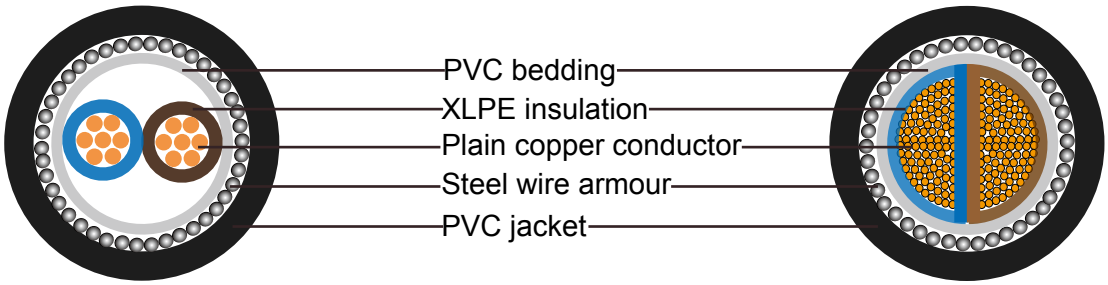
Armoured Power Cables, 600/1000V BS5467

Nominal Cross-sectional Area	Nominal Insulation thick-ness	Nominal bedding thick-ness	Nominal Alum Wire Armor dia.	Armour strip		Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
				thick-ness	width		wire armor	strip armor	
mm²	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
1x50	1.0	0.8	0.9	0.6	2.4	1.5	16.3	15.7	460
1x70	1.1	0.8	1.25	0.6	2.4	1.5	18.7	17.4	560
1x95	1.1	0.8	1.25	0.6	2.4	1.6	20.6	19.3	690
1x120	1.2	0.8	1.25	0.6	2.4	1.6	22.1	20.8	800
1x150	1.4	1	1.6	0.6	2.4	1.7	25.2	23.2	970
1x185	1.6	1	1.6	0.6	2.4	1.8	27.4	25.4	1150
1x240	1.7	1	1.6	1	3.6	1.8	29.9	28.7	1380
1x300	1.8	1	1.6	1	3.6	1.9	32.4	31.2	1640

Two-core 600/1000 V cables with stranded copper conductors



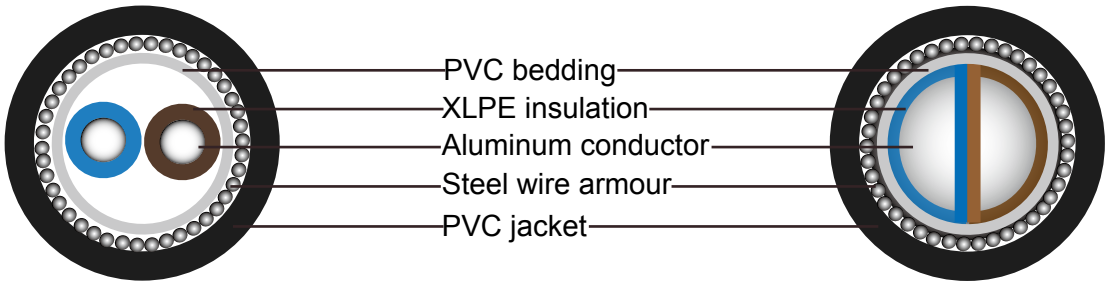
Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal bedding thick-ness	Nominal Steel Wire Armor dia.	Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
						Extruded bedding	Taped bedding	
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
2x1.5	7/0.53	0.6	0.8	0.9	1.4	12.1	-	320
2x2.5	7/0.67	0.7	0.8	0.9	1.4	13.6	-	365
2x4	7/0.85	0.7	0.8	0.9	1.4	14.7	-	440
2x6	7/1.04	0.7	0.8	0.9	1.4	15.9	-	470
2x10	7/1.35	0.7	0.8	0.9	1.5	18.0	-	800
2x16	7/1.70	0.7	0.8	1.25	1.5	20.4	20.4	900
2x25	7/2.14	0.9	0.8	1.25	1.6	24.1	24.1	1240
2x25*	7/2.14	0.9	0.8	1.25	1.6	20.4	20.4	1240
2x35	7/2.52	0.9	1	1.6	1.7	27.7	27.3	1710
2x35*	7/2.52	0.9	1	1.6	1.7	23.3	22.9	1710

BS5467 Armoured Power Cables, 600/1000V

Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal bedding thick-ness	Nominal Steel Wire Armor dia.	Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
						Extruded bedding	Taped bedding	
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
2x50*	19/1.78	1.0	1	1.6	1.8	25.8	25.4	1800
2x70*	19/2.14	1.1	1	1.6	1.9	29.0	28.6	2320
2x95*	19/2.52	1.1	1.2	2.0	2.0	33.1	32.3	3150
2x120*	37/2.03	1.2	1.2	2.0	2.1	36.1	35.3	3880
2x150*	37/2.25	1.4	1.2	2.0	2.2	39.3	38.5	4820
2x185*	37/2.52	1.6	1.4	2.5	2.4	44.7	43.5	5920
2x240*	61/2.25	1.7	1.4	2.5	2.5	49.0	47.8	7300
2x300*	61/2.52	1.8	1.6	2.5	2.6	53.5	51.9	8770
2x400*	61/2.85	2	1.6	2.5	2.8	59.0	57.4	10905

* D-Shaped stranded conductor (class 2)

Two-core 600/1000 V cables with solid aluminum conductors

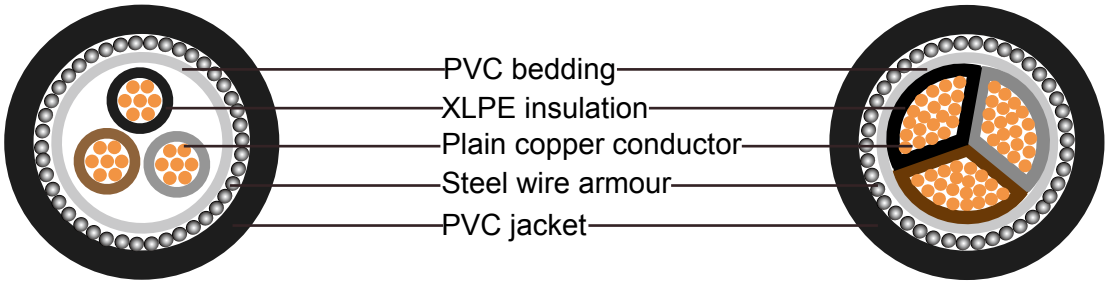


Nominal Cross-sectional Area	Nominal Insula-tion thick-ness	Nominal bedding thick-ness	Nominal Steel Wire Armor dia.	Armour strip		Nominal Sheath thick-ness	Approx. Overall Diameter			Aprrox Weight
				thick-ness	width		wire armor		strip armor	
							Extruded bedding	Taped bedding		
mm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
2x16	0.7	0.8	1.25	0.6	2.4	1.5	19.1	19.1	17.8	650
2x25	0.9	0.8	1.25	0.6	2.4	1.5	22.4	22.4	21.1	915
2x25*	0.9	0.8	1.25	0.6	2.4	1.6	18.7	18.7	17.4	1255
2x35	0.9	1	1.6	0.6	2.4	1.6	25.7	25.3	23.3	1255
2x35*	0.9	1	1.6	0.6	2.4	1.7	21.4	21.0	19	1430
2x50*	1.0	1	1.6	0.6	2.4	1.8	23.5	23.1	21.1	1430
2x70*	1.1	1	1.6	1	3.6	1.9	26.3	25.9	24.7	1780
2x95*	1.1	1.2	2.0	1	3.6	2	30	29.2	27.2	1950

*Solid shaped conductor (class 1)

Armoured Power Cables, 600/1000V BS5467

Three-core 600/1000 V cables with stranded copper conductors

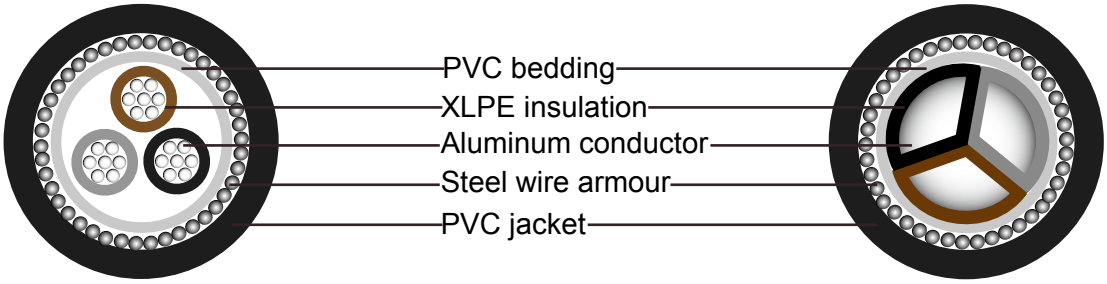


Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Bedding thick-ness	Nominal Steel Wire Armor dia.	Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
						Extruded bedding	Taped bedding	
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
3x1.5	7/0.53	0.6	0.8	0.9	1.3	12.6	-	340
3x2.5	7/0.67	0.7	0.8	0.9	1.4	14.1	-	408
3x4	7/0.85	0.7	0.8	0.9	1.4	15.3	-	498
3x6	7/1.04	0.7	0.8	0.9	1.4	16.6	-	600
3x10	7/1.35	0.7	0.8	1.25	1.5	19.5	-	915
3x16	7/1.70	0.7	0.8	1.25	1.6	21.6	21.6	1130
3x25	7/2.14	0.9	1	1.6	1.7	26.7	26.3	1710
3x25*	7/2.14	0.9	1	1.6	1.7	23.6	23.2	1710
3x35	7/2.52	0.9	1	1.6	1.8	29.4	29.0	2100
3x35*	7/2.52	0.9	1	1.6	1.8	25.7	25.3	2100
3x50*	19/1.78	1.0	1	1.6	1.8	28.5	28.1	2450
3x70*	19/2.14	1.1	1	1.6	1.9	32.2	31.8	3120
3x95*	19/2.52	1.1	1.2	2.0	2.1	37.0	36.2	4310
3x120*	37/2.03	1.2	1.2	2.0	2.2	40.4	39.6	5160
3x150*	37/2.25	1.4	1.4	2.5	2.3	45.5	44.3	7160
3x185*	37/2.52	1.6	1.4	2.5	2.4	49.8	48.6	8600
3x240*	61/2.25	1.7	1.4	2.5	2.6	55.1	53.9	10755
3x300*	61/2.52	1.8	1.6	2.5	2.7	60.2	58.6	13080
3x400*	61/2.85	2	1.6	2.5	2.9	66.6	65.0	15810

*Shaped stranded conductor (class 2)

BS5467 Armoured Power Cables, 600/1000V

Three-core 600/1 000 V cables with solid aluminum conductors



Nominal Cross-sectional Area	Nominal Insulation thickness	Nominal bedding thickness	Nominal Steel Wire Armor dia.	Armour strip		Nominal Sheath thickness	Approx. Overall Diameter			Aprrox Weight
				thickness	width		wire armor		strip armor	
							Extruded bedding	Taped bedding		
mm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
3x16	0.7	0.8	1.25	0.6	2.4	1.6	20.3	20.3	19	760
3x25	0.9	1	1.6	0.6	2.4	1.7	22.5	22.1	20.1	1020
3x25*	0.9	1	1.6	0.6	2.4	1.7	24.9	24.5	22.5	1020
3x35	0.9	1	1.6	0.6	2.4	1.8	24.4	24.9	22	1200
3x35*	0.9	1	1.6	0.6	2.4	1.8	27.3	26.9	24.9	1200
3x50*	1.0	1	1.6	0.6	2.4	1.8	26.8	26.4	24.9	1380
3x70*	1.1	1	1.6	1	3.6	1.9	30.2	29.8	28.6	1750
3x95*	1.1	1.2	2.0	1	3.6	2.1	34.8	34.0	32	2420
3x120*	1.2	1.2	2.0	1.4	4.8	2.2	37.8	37.0	35.8	2820
3x150*	1.4	1.4	2.5	1.4	4.8	2.3	42.7	41.5	39.3	3660
3x185*	1.6	1.4	2.5	1.4	4.8	2.4	46.7	45.5	43.3	4350
3x240*	1.7	1.4	2.5	1.4	4.8	2.6	51.5	50.3	48.1	5220
3x300*	1.8	1.6	2.5	1.8	6.4	2.7	56.2	54.6	53.2	6200

*Solid shaped conductor (class 1)

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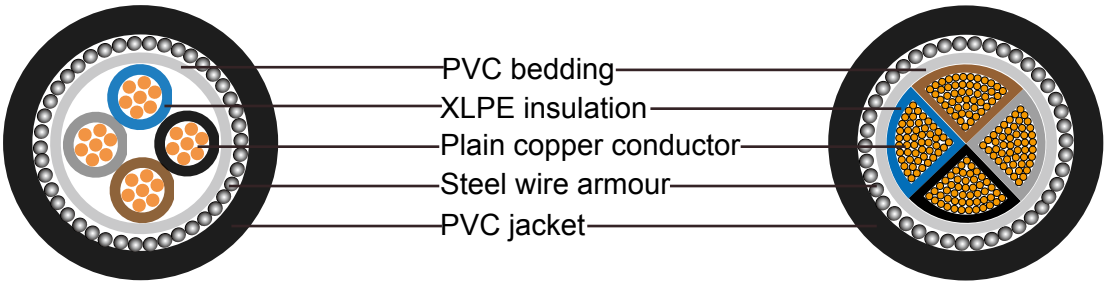
Armoured Power Cables, 600/1000V BS5467

Four-core 600/1000 V cables with stranded copper conductors

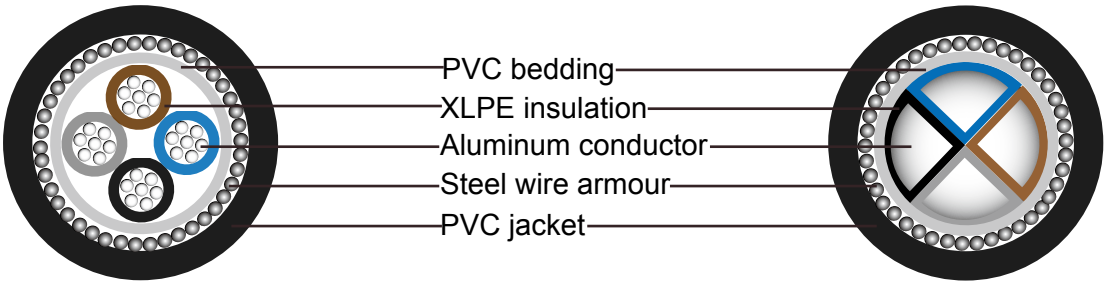


Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal bedding thick-ness	Nominal Steel Wire Armor dia.	Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
						Extruded bedding	Taped bedding	
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
4x1.5	7/0.53	0.7	0.8	0.9	1.4	13.3	-	390
4x2.5	7/0.67	0.7	0.8	0.9	1.4	15.0	-	470
4x4	7/0.85	0.7	0.8	0.9	1.4	16.4	-	580
4x6	7/1.04	0.7	0.8	1.25	1.5	18.7	-	805
4x10	7/1.35	0.7	0.8	1.25	1.5	21.1	-	1090
4x16	7/1.70	0.7	0.8	1.25	1.6	23.4	23.4	1320
4x25	7/2.14	0.9	1	1.6	1.7	28.9	28.5	1840
4x25*	7/2.14	0.9	1	1.6	1.7	26.1	25.7	1840
4x35	7/2.52	0.9	1	1.6	1.8	31.9	31.5	2310
4x35*	7/2.52	0.9	1	1.6	1.8	28.6	28.2	2310
4x50*	19/1.78	1.0	1	1.6	1.9	32.0	31.6	2970
4x70*	19/2.14	1.1	1.2	2.0	2.1	37.7	36.9	4240
4x95*	19/2.52	1.1	1.2	2.0	2.2	41.7	40.9	5400
4x120*	37/2.03	1.2	1.4	2.5	2.3	47.1	45.9	7000
4x150*	37/2.25	1.4	1.4	2.5	2.4	51.4	50.2	8350
4x185*	37/2.52	1.6	1.4	2.5	2.6	56.6	55.4	10130
4x240*	61/2.25	1.7	1.6	2.5	2.7	63.0	61.4	12840
4x300*	61/2.52	1.8	1.6	2.5	2.9	68.8	67.2	15530
4x400*	61/2.85	2	1.8	3.15	3.2	78.1	76.1	19950

* Shaped stranded conductor (class 2)

BS5467 Armoured Power Cables, 600/1000V

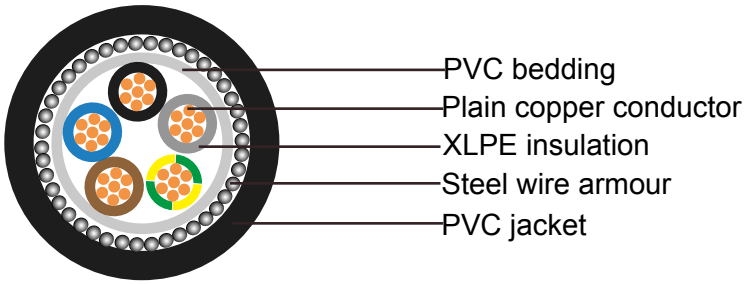
Four-core 600/1000 V cables with solid aluminum conductors



Nominal Cross-sectional Area	Nominal Insulation thickness	Nominal bedding thickness	Nominal Steel Wire Armor dia.	Armour strip		Nominal Sheath thickness	Approx. Overall Diameter			Aprrox Weight
				thickness	width		wire armor		strip armor	
							Extruded bedding	Taped bedding		
mm²	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km
4x16	0.7	0.8	1.25	0.6	2.4	1.6	21.8	21.8	20.5	980
4x25	0.9	1	1.6	0.6	2.4	1.7	26.9	26.5	24.5	1220
4x25*	0.9	1	1.6	0.6	2.4	1.7	24.6	24.2	22.2	1220
4x35	0.9	1	1.6	0.6	2.4	1.8	29.5	29.2	27.1	1420
4x35*	0.9	1	1.6	0.6	2.4	1.8	27	26.6	24.6	1420
4x50*	1.0	1	1.6	1	2.4	1.9	30	29.6	28.4	1770
4x70*	1.1	1.2	2.0	1	3.6	2.1	35.3	34.5	32.5	2500
4x95*	1.1	1.2	2.0	1.4	3.6	2.2	39	38.2	37	2980
4x120*	1.2	1.4	2.5	1.4	4.8	2.3	44	42.8	40.6	3950
4x150*	1.4	1.4	2.5	1.4	4.8	2.4	47.9	46.7	44.5	4600
4x185*	1.6	1.4	2.5	1.4	4.8	2.6	52.7	51.5	49.3	5430
4x240*	1.7	1.6	2.5	1.8	4.8	2.7	58.5	56.9	55.5	6660
4x300*	1.8	1.6	2.5	1.8	6.4	2.9	63.8	62.2	60.8	7770

*Solid shaped conductor (class 1)

Five-core 600/1000 V cables with stranded copper conductors



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Armoured Power Cables, 600/1000V BS5467

Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal bedding thick-ness	Nominal Steel Wire Armor dia.	Nominal Sheath thick-ness	Approx. Overall Diameter		Aprrox Weight
						Extruded bedding	Taped bedding	
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
5x1.5	7/0.53	0.6	0.8	0.9	1.4	14.3	-	430
5x2.5	7/0.67	0.7	0.8	0.9	1.4	16.1	-	545
5x4	7/0.85	0.7	0.8	0.9	1.5	17.8	-	680
5x6	7/1.04	0.7	0.8	1.25	1.5	20	-	840
5x10	7/1.35	0.7	0.8	1.25	1.6	22.9	-	1105
5x16	7/1.70	0.7	1	1.6	1.7	26.6	26.2	1450
5x25	7/2.14	0.9	1	1.6	1.8	31.5	31.1	2245
5x35	7/2.52	0.9	1	1.6	1.9	34.8	34.4	2840
5x50	19/1.78	1.0	1.2	2	2	40.4	39.6	3895
5x70	19/2.14	1.1	1.2	2	2.2	46.3	45.5	5145

Multi-core 600/1000 V cables with stranded copper conductors

Nominal Cross-sectional Area	Strand Type	Nominal Insulation thickness	Nominal bedding thickness	Nominal Steel Wire Armor dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	kg/km
7x1.5	7/0.53	0.6	0.8	0.9	1.4	15.2	500
12x1.5	7/0.53	0.6	0.8	1.25	1.5	19.4	820
19x1.5	7/0.53	0.6	0.8	1.25	1.6	22.2	1080
27x1.5	7/0.53	0.6	1	1.6	1.7	26.7	1550
37x1.5	7/0.53	0.6	1	1.6	1.7	29	1850
48x1.5	7/0.53	0.6	1	1.6	1.8	32.7	2250
7x2.5	7/0.67	0.7	0.8	0.9	1.4	17.1	730
12x2.5	7/0.67	0.7	0.8	1.25	1.6	22.4	1020
19x2.5	7/0.67	0.7	1	1.6	1.7	26.6	1530
27x2.5	7/0.67	0.7	1	1.6	1.8	30.7	1960
37x2.5	7/0.67	0.7	1	1.6	1.8	33.8	2450
48x2.5	7/0.67	0.7	1.2	2	2	39.3	3260
7x4	7/0.85	0.7	0.8	1.25	1.5	19.7	840
12x4	7/0.85	0.7	1	1.6	1.6	25.7	1390
19x4	7/0.85	0.7	1	1.6	1.7	29.3	1850
27x4	7/0.85	0.7	1	1.6	1.9	34.4	2350
37x4	7/0.85	0.7	1.2	2	2	39.2	2800
48x4	7/0.85	0.7	1.2	2	2.1	44.1	3250

EMMU 133 Lead covered armoured Power Cables to BS 5467, 600/1000V

Application

These power and control cables are used for electricity supply in low voltage installation system. They are well adapted to underground use in industrial applications, in moist areas, where hydrocarbon and mechanical protections are needed and are protected against solvent penetration and corrosive attacks. The lead cover brings an enhanced resistance to aromatic hydrocarbons.

Construction

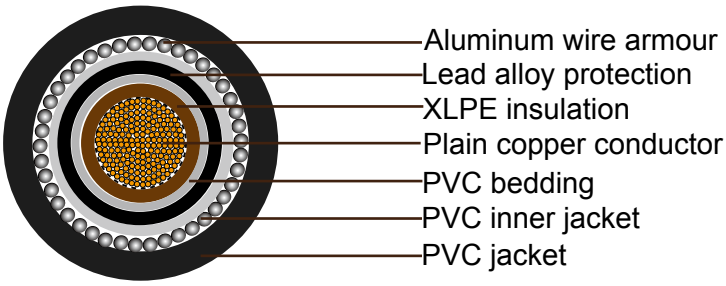
Conductor	Stranded copper conductor, Class 2 to BS 6460, IEC 60228.
Insulation	XLPE (Cross-Linked Polyethylene) Type GP 8 or ethylene propylene rubber (GP 6)
Colour Code	1 Core: Brown
	2 Cores: Brown or Blue
	3 Cores: Brown, Black, Grey
	4 Cores: Blue, Brown, Black, Grey
	5 Cores: Green/Yellow, Blue, Brown, Black, Grey
	Above 5 Cores: White Cores with black numerals
Bedding	PVC (Polyvinyl Chloride)
Protection	LC (Lead alloy 'E') sheathed
Inner Sheath	PVC (Polyvinyl Chloride)
Armour	Single Core: AWA (Aluminum Wire Armour)
	Multi Core: SWA (Steel Wire Armour)
Outer Sheath	PVC(Polyvinyl Chloride)

Technical Information

Voltage rating	600/1000V
Temperature rating	0°C to +90°C
Bending radius	12 x overall diameter
Flame retardant	IEC60332 part 1, BS4066 part 1

Cable Parameter

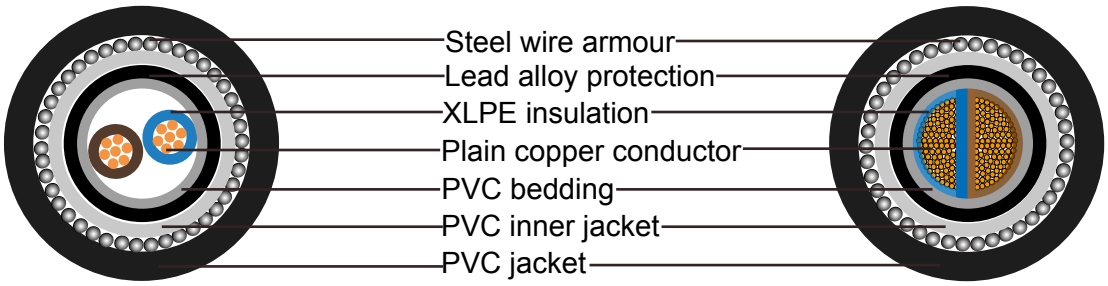
Single-core 600/1000 V cables with lead sheath



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Alum wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
1x50	19/1.78	1	1.2	0.8	1.37	1.5	20	1285
1x70	19/2.14	1.1	1.2	0.8	1.37	1.5	22	1605
1x95	19/2.52	1.1	1.2	0.8	1.37	1.6	24	1965
1x120	37/2.03	1.2	1.3	0.8	1.37	1.6	25.5	2365
1x150	37/2.25	1.4	1.3	1	1.37	1.7	28	2800
1x185	37/2.52	1.6	1.4	1	1.72	1.8	31	3490
1x240	61/2.25	1.7	1.5	1	1.72	1.8	34	4300
1x300	61/2.52	1.8	1.6	1	1.72	1.9	37	5203
1x400	61/2.85	2	1.7	1.2	2.14	2	42	6615

BS5467 Armoured Power Cables, 600/1000V

Two-core 600/1000 V cables with lead sheath



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Steel Wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
2x1.5	7/0.53	0.6	1.2	0.8	0.9	1.3	16.5	780
2x2.5	7/0.67	0.7	1.2	0.8	0.9	1.4	17.2	985
2x4	7/0.85	0.7	1.2	0.8	0.9	1.4	18.4	1100
2x6	7/1.04	0.7	1.2	0.8	0.9	1.4	19.6	1240
2x10	7/1.35	0.7	1.2	0.8	0.9	1.5	20.8	1430
2x16	7/1.70	0.7	1.2	0.8	1.25	1.5	21.8	1700
2x25	7/2.14	0.9	1.2	0.8	1.25	1.6	25.5	2060
2x35*	7/2.52	0.9	1.3	1	1.6	1.7	29.4	2670
2x50*	19/1.78	1.0	1.2	1	1.6	1.8	27.2	2640
2x70*	19/2.14	1.1	1.3	1	1.6	1.9	30.5	3400
2x95*	19/2.52	1.1	1.4	1.2	2.0	2.0	34.5	4530
2x120*	37/2.03	1.2	1.4	1.2	2.0	2.1	37.8	5170
2x150*	37/2.25	1.4	1.5	1.2	2.0	2.2	41.1	6120
2x185*	37/2.52	1.6	1.6	1.4	2.5	2.4	46.3	7710
2x240*	61/2.25	1.7	1.8	1.4	2.5	2.5	51.7	9650
2x300*	61/2.52	1.8	1.9	1.6	2.5	2.6	56.3	11510

* D-shaped stranded conductor

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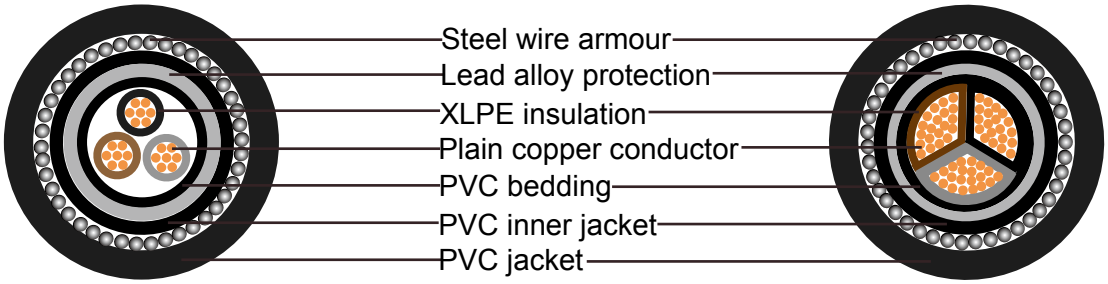
Armoured Power Cables, 600/1000V BS5467

Three-core 600/1000 V cables with lead sheath

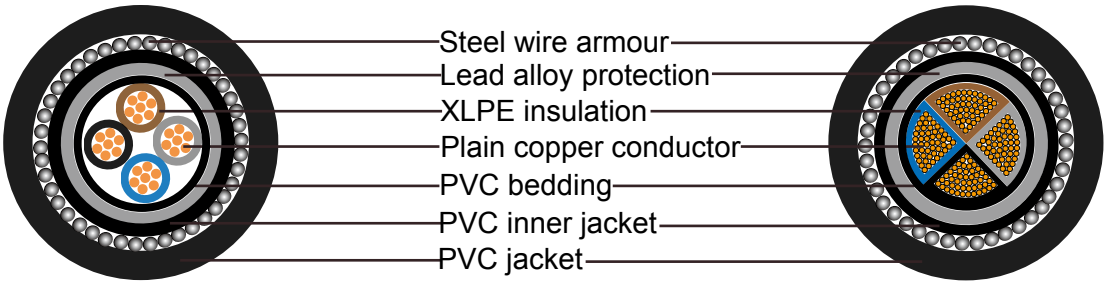


Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Steel Wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
3x1.5	7/0.53	0.7	1.2	0.8	0.9	1.3	17	945
3x2.5	7/0.67	0.7	1.2	0.8	1.25	1.4	19	1160
3x4	7/0.85	0.7	1.2	0.8	1.25	1.4	20.5	1325
3x6	7/1.04	0.7	1.2	0.8	1.25	1.4	21.5	1490
3x10	7/1.35	0.7	1.2	0.8	1.25	1.5	23	1750
3x16	7/1.70	0.7	1.2	0.8	1.6	1.6	26.5	2150
3x25	7/2.14	0.9	1.3	1	1.6	1.7	31	3175
3x35	7/2.52	0.9	1.3	1	1.6	1.8	33	3500
3x50*	19/1.78	1	1.4	1	1.6	1.8	33.5	3905
3x70*	19/2.14	1.1	1.5	1	2	1.9	37.5	5195
3x95*	19/2.52	1.1	1.5	1.2	2	2.1	41.5	6365
3x120*	37/2.03	1.2	1.6	1.2	2.5	2.2	45.5	7935
3x150*	37/2.25	1.4	1.8	1.4	2.5	2.3	50.5	9645
3x185*	37/2.52	1.6	1.9	1.4	3.15	2.4	56.5	12195
3x240*	61/2.25	1.7	2	1.4	3.15	2.6	62	14765
3x300*	61/2.52	1.8	2.2	1.6	3.5	2.7	68.5	18300

* Shaped stranded conductor

BS5467 Armoured Power Cables, 600/1000V

Four-core 600/1000 V cables with lead sheath



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Steel Wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
4x1.5	7/0.53	0.7	1.2	0.8	1.25	1.4	19	1140
4x2.5	7/0.67	0.7	1.2	0.8	1.25	1.4	20	1270
4x4	7/0.85	0.7	1.2	0.8	1.25	1.4	21.5	1455
4x6	7/1.04	0.7	1.2	0.8	1.25	1.5	22.5	1650
4x10	7/1.35	0.7	1.2	0.8	1.6	1.5	25	2130
4x16	7/1.70	0.7	1.2	0.8	1.6	1.6	28	2640
4x25	7/2.14	0.9	1.3	1	1.6	1.7	33	3635
4x35	7/2.52	0.9	1.5	1	2	1.8	36.5	4535
4x50*	19/1.78	1.0	1.4	1	2	1.9	38	5000
4x70*	19/2.14	1.1	1.6	1.2	2	2.1	42	6455
4x95*	19/2.52	1.1	1.7	1.2	2.5	2.2	47.5	8535
4x120*	37/2.03	1.2	1.8	1.4	2.5	2.3	52	10155
4x150*	37/2.25	1.4	1.9	1.4	3.15	2.4	58.5	12735
4x185*	37/2.52	1.6	2.1	1.4	3.15	2.6	63.5	15344
4x240*	61/2.25	1.7	2.2	1.6	3.5	2.7	71.5	19382
4x300*	61/2.52	1.8	2.4	1.6	4	2.9	78	21150

* Shaped stranded conductor

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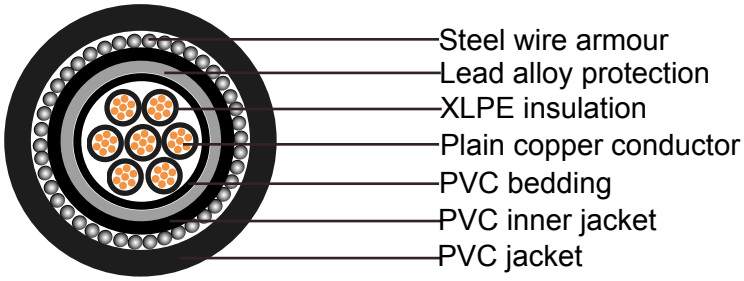
Armoured Power Cables, 600/1000V BS5467

Multi-core 600/1000 V cables with lead sheath



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Steel Wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
7x1.5	7/0.53	0.7	1.2	0.8	1.25	1.4	20.5	1290
12x1.5	7/0.53	0.7	1.2	0.8	1.6	1.5	23.5	1395
19x1.5	7/0.53	0.7	1.2	0.8	1.6	1.6	26.5	1720
27x1.5	7/0.53	0.7	1.3	1	1.6	1.7	30.5	1695
37x1.5	7/0.53	0.7	1.5	1	1.6	1.8	34	1960
7x2.5	7/0.67	0.7	1.2	0.8	1.25	1.4	21	2485
12x2.5	7/0.67	0.7	1.2	0.8	1.6	1.6	25.5	2070
19x2.5	7/0.67	0.7	1.3	1	1.6	1.7	29	2545
27x2.5	7/0.67	0.7	1.4	1	1.6	1.8	33.5	3205
37x2.5	7/0.67	0.7	1.5	1	2	1.8	37.5	2660
7x4	7/0.85	0.7	1.2	0.8	1.25	1.5	23.5	3260
12x4	7/0.85	0.7	1.3	1	1.6	1.6	28.5	4430
19x4	7/0.85	0.7	1.4	1	1.6	1.7	32.5	3310
27x4	7/0.85	0.7	1.5	1	2	1.9	38.5	4215
37x4	7/0.85	0.7	1.6	1.2	2	2	42.5	5440

BS 5467 Armoured Power Cables, 1900/3300V

Application

These cables are used for power and control circuits, they can offer excellent protection through the use of a heavy galvanized steel wire armour. The GSWA makes them suitable for use inside and outside buildings or for direct burial in the ground.

Construction

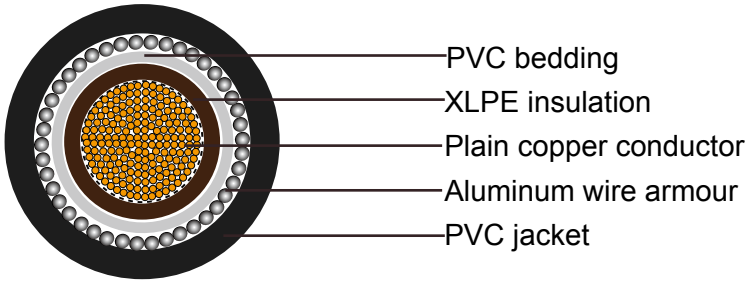
Conductor	Solid Aluminum or Copper conductor, round stranded or shaped, Class 2 to BS 6460, IEC 60228.
Insulation	XLPE (Cross-Linked Polyethylene) Type GP 8 or ethylene propylene rubber (GP 6)
Colour Code	1 Core : Brown 2 Cores : Brown or Blue 3 Cores: Brown, Black, Grey 4 Cores: Blue, Brown, Black, Grey 5 Cores: Green/Yellow, Blue, Brown, Black, Grey Above 5 Cores: White Cores with black numerals
Bedding	PVC (Polyvinyl Chloride)
Armour	Single Core: AWA (Aluminum Wire Armour) Multi Core: SWA (Steel Wire Armour)
Outer Sheath	PVC(Polyvinyl Chloride)

Technical Information

Voltage rating	1900/3300V
Temperature rating	0°C to +90°C
Bending radius	1.5mm² to 16mm²: 6 x overall diameter 25mm² and above: 8 x overall diameter
Flame retardant	IEC60332 part 1, BS4066 part 1

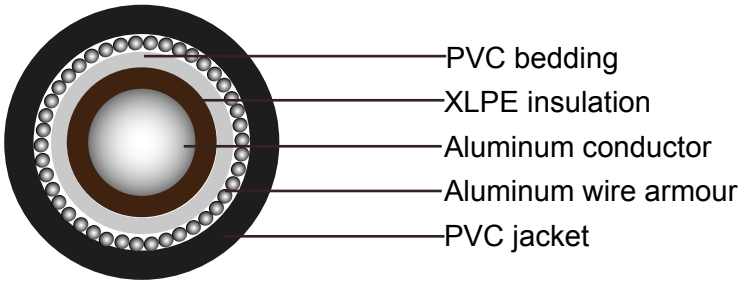
Cable Parameter

Single-core 1900/3300 V cables with circular stranded copper conductor



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thickness	Nominal bedding thickness	Nominal Alum Wire Armor dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	kg/km
1x50	19/1.78	2	0.8	1.25	1.6	20.6	790
1x70	19/2.14	2	0.8	1.25	1.6	22.4	1040
1x95	19/2.52	2	0.8	1.25	1.6	24.3	1330
1x120	37/2.03	2	1	1.6	1.7	27.2	1680
1x150	37/2.25	2	1	1.6	1.7	28.8	1970
1x185	37/2.52	2	1	1.6	1.8	30.8	2370
1x240	61/2.25	2	1	1.6	1.8	33.5	2960
1x300	61/2.52	2	1	1.6	1.9	36.1	3610
1x400	61/2.85	2	1.2	2	2	40.5	4600
1x500	61/3.20	2.2	1.2	2	2.1	44.2	5680
1x630	127/2.52	2.4	1.2	2	2.2	48.8	7160
1x800	127/2.85	2.6	1.4	2.5	2.4	55.4	9150
1x1000	127/3.20	2.8	1.4	2.5	2.5	60.6	11270

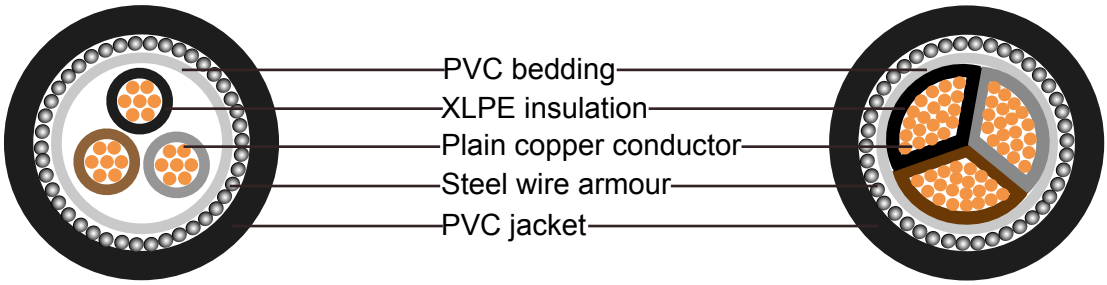
Single-core 1900/3300 V cables with solid aluminum conductor



BS5467 Armoured Power Cables, 1900/3300V

Nominal Cross-sectional Area	Nominal Insulation thickness	Nominal bedding thickness	Nominal Alum Wire Armor dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	mm	mm	mm	mm	mm	kg/km
1x50	2	0.8	1.25	1.6	19.4	600
1x70	2	0.8	1.25	1.6	20.9	710
1x95	2	0.8	1.25	1.6	22.5	810
1x120	2	1	1.6	1.7	25.2	1065
1x150	2	1	1.6	1.7	26.5	1210
1x185	2	1	1.6	1.8	28.3	1390
1x240	2	1	1.6	1.8	30.5	1630
1x300	2	1	1.6	1.9	32.8	1900

Three-core 1900/3300 V cables with stranded copper conductors



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thickness	Nominal bedding thickness	Nominal Steel Wire Armor dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	kg/km
3x16	7/1.70	2	1	1.6	1.8	29.3	1600
3x25	7/2.14	2	1	1.6	1.8	32.2	2060
3x35	7/2.52	2	1	1.6	1.9	34.8	2400
3x35*	7/2.52	2	1	1.6	1.9	31.1	2400
3x50*	19/1.78	2	1.2	2	2	34.7	3200
3x70*	19/2.14	2	1.2	2	2.1	38	3800
3x95*	19/2.52	2	1.2	2	2.2	41.4	4730
3x120*	37/2.03	2	1.4	2.5	2.3	45.7	6070
3x150*	37/2.25	2	1.4	2.5	2.4	48.5	7010
3x185*	37/2.52	2	1.4	2.5	2.5	51.9	8270
3x240*	61/2.25	2	1.6	2.5	2.6	56.9	10310
3x300*	61/2.52	2	1.6	2.5	2.7	61.2	12300
3x400*	61/2.85	2	1.6	2.5	2.9	66.6	14500

* Shaped stranded conductor (class 2)

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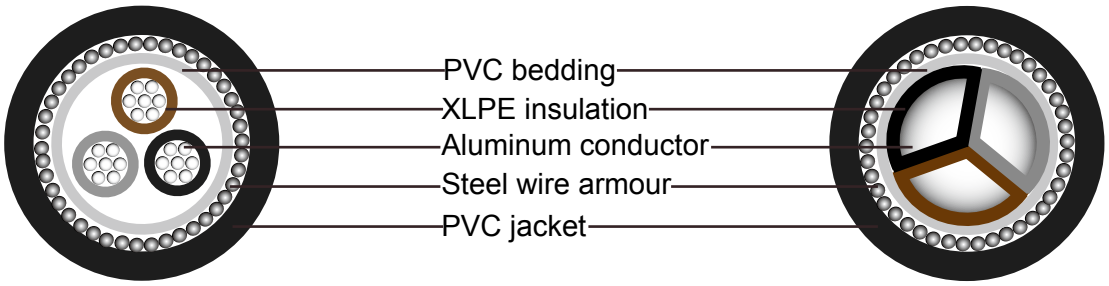
Armoured Power Cables, 1900/3300V BS5467

Three-core 1900/3300 V cables with solid aluminum conductors



Nominal Cross-sectional Area	Nominal Insulation thickness	Nominal bedding thickness	Nominal Steel Wire Armor dia.	Nominal Sheath thickness	Approx. Overall Diameter	Aprrox Weight
mm²	mm	mm	mm	mm	mm	kg/km
3x16	2	1	1.6	1.8	27.9	1540
3x25	2	1	1.6	1.8	30.4	1780
3x35	2	1	1.6	1.9	32.7	2040
3x35*	2	1	1.6	1.9	29.7	2040
3x50*	2	1.2	2	2	33	2760
3x70*	2	1.2	2	2.1	36	3210
3x95*	2	1.2	2	2.2	39.1	3625
3x120*	2	1.4	2.5	2.3	43.1	4820
3x150*	2	1.4	2.5	2.4	45.6	5410
3x185*	2	1.4	2.5	2.5	48.7	6070
3x240*	2	1.6	2.5	2.6	53.2	7150
3x300*	2	1.6	2.5	2.7	57.2	8120

* Solid shaped conductor (class 1)

EMMU 133 Lead covered armoured Power Cables to BS 5467, 1900/3300V

Application

These power and control cables are well adapted to underground use in industrial applications, in moist areas, where hydrocarbon and mechanical protections are needed and are protected against solvent penetration and corrosive attacks. The lead cover brings an enhanced resistance to aromatic hydrocarbons.

Construction

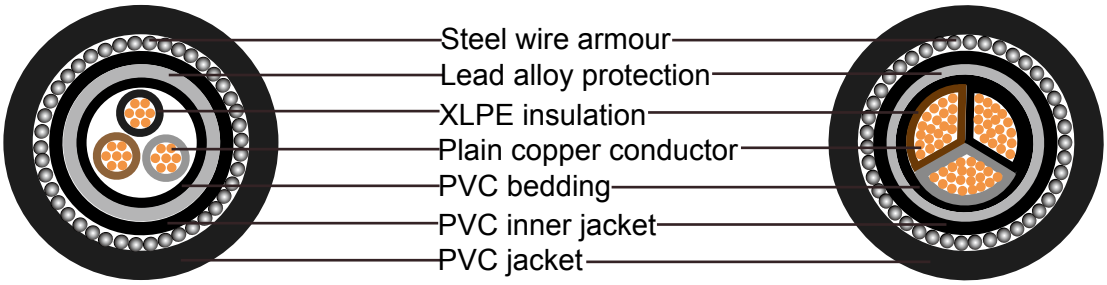
Conductor	Stranded copper conductor, Class 2 to BS 6460, IEC 60228.
Insulation	XLPE (Cross-Linked Polyethylene) Type GP 8 or ethylene propylene rubber (GP 6)
Colour Code	1 Core: Brown 2 Cores: Brown or Blue 3 Cores: Brown, Black, Grey 4 Cores: Blue, Brown, Black, Grey 5 Cores: Green/Yellow, Blue, Brown, Black, Grey Above 5 Cores: White Cores with black numerals
Bedding	PVC (Polyvinyl Chloride)
Protection	LC (Lead alloy 'E') sheathed
Inner Sheath	PVC (Polyvinyl Chloride)
Armour	Multi Core: SWA (Steel Wire Armour)
Outer Sheath	PVC(Polyvinyl Chloride)

Technical Information

Voltage rating	1900/3300V
Temperature rating	0°C to +90°C
Bending radius	12 x overall diameter
Flame retardant	IEC60332 part 1, BS4066 part 1

Cable Parameter

Three-core 1900/3300 V cables with lead sheath



Nominal Cross-sectional Area	Strand Type	Nominal Insulation thick-ness	Nominal Lead sheath thick-ness	Nominal Inner Sheath thick-ness	Nominal Steel Wire Armor dia.	Nominal Outer Sheath thick-ness	Approx. Overall Diameter	Aprrox Weight
mm²	No./mm	mm	mm	mm	mm	mm	mm	kg/km
3x16	7/1.70	2	1.3	1	1.6	1.8	31.8	2750
3x25	7/2.14	2	1.4	1	1.6	1.8	34.9	3412
3x35	7/2.52	2	1.5	1	1.6	1.9	37.6	4045
3x50*	19/1.78	2	1.5	1.2	2	2	40.2	4822
3x70*	19/2.14	2	1.5	1.2	2	2.1	41.7	5560
3x95*	19/2.52	2	1.6	1.2	2	2.2	43.5	6582
3x120*	37/2.03	2	1.7	1.4	2.5	2.3	50.4	8440
3x150*	37/2.25	2	1.8	1.4	2.5	2.4	52.7	9540
3x185*	37/2.52	2	1.9	1.4	2.5	2.5	56.6	11272
3x240*	61/2.25	2	2	1.6	2.5	2.6	62.3	13819
3x300*	61/2.52	2	2.2	1.6	2.5	2.7	66.9	16456
3x400*	61/2.85	2	2.3	1.6	2.5	2.9	71.4	20900

* Shaped stranded conductor

Technical Reference

Maximum resistance of conductor and armour for single-core cable having aluminum wire armour

Nominal cross sectional area of conductor	Maximum resistance per km of cable at 20 °C					
	Copper conductor	Aluminum conductor	Aluminum wire armour			
			Cables with stranded copper conductor		Cables with solid aluminum conductor	
			600/1000 V	1900/3300 V	600/1000 V	1900/3300 V
mm²	Ω	Ω	Ω	Ω	Ω	Ω
50	0.387	0.641	1.3	0.75	1.4	0.79
70	0.268	0.443	0.75	0.67	0.84	0.73
95	0.193	0.32	0.67	0.61	0.75	0.67
120	0.153	0.253	0.61	0.42	0.69	0.47
150	0.124	0.206	0.42	0.39	0.47	0.43
185	0.0991	0.164	0.38	0.37	0.42	0.4
240	0.0754	0.125	0.34	0.34	0.38	0.37
300	0.0601	0.1	0.31	0.31	0.35	0.34
400	0.047	—	0.22	0.22	—	—
500	0.0366	—	0.2	0.2	—	—
630	0.0283	—	0.18	0.18	—	—
800	0.0221	—	0.13	0.13	—	—
1 000	0.0176	—	0.12	0.12	—	—

Maximum resistance of conductor and armour for two-, three-, four- and five-core cables having wire armour

1) With stranded copper conductor

Nominal cross sectional area of conductor	Maximum resistance per km of cable at 20 °C						
	Copper conductor	Aluminum conductor	Steel wire armour				
			Cables with stranded copper conductors				
			Two-core	Three-core		Four-core	Five-core
			600/1000 V	600/1000 V	1900/3300 V	600/1000 V	600/1000 V
mm²	Ω	Ω	Ω	Ω	Ω	Ω	Ω
1.5	12.1	—	10.2	9.5	—	8.8	8.2
2.5	7.41	—	8.8	8.2	—	7.7	6.8
4	4.61	—	7.9	7.5	—	6.8	6.2
6	3.08	—	7	6.7	—	4.3	3.9
10	1.83	—	6	4	—	3.7	3.4
16	1.15	1.91	3.7	3.5	1.9	3.1	2.2

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Nominal cross sectional area of conductor	Maximum resistance per km of cable at 20 °C						
	Copper conductor	Aluminum conductor	Steel wire armour				
			Cables with stranded copper conductors				
			Two-core	Three-core		Four-core	Five-core
			600/ 1000 V	600/ 1000 V	1900/ 3300 V	600/ 1000 V	600/ 1000 V
mm²	Ω	Ω	Ω	Ω	Ω	Ω	Ω
25	0.727	1.2	3.7	2.5	1.7	2.0 2.3	1.8
35	0.524	0.868	2.6	2.3	1.8	—	1.6
50	0.387	0.641	2.3	2	1.3	1.8	1.1
70	0.268	0.443	2	1.8	1.2	1.2	0.94
95	0.193	0.32	1.4	1.3	1.1	1.1	—
120	0.153	0.253	1.3	1.2	0.76	0.76	—
150	0.124	0.206	1.2	0.78	0.71	0.68	—
185	0.099 1	0.164	0.82	0.71	0.65	0.61	—
240	0.075 4	0.125	0.73	0.63	0.59	0.54	—
300	0.060 1	0.1	0.67	0.58	0.55	0.49	—
400	0.047 0	—	0.59	0.52	0.5	0.35	—

2) With solid aluminum conductor

Nominal cross-sectional area of conductor	Maximum resistance per km of cable at 20 °C					
	Copper conductor	Aluminum conductor	Steel wire armour			
			Cables with solid aluminum conductors			
			Two-core	Three-core		Four-core
			600/1000 V	600/1000 V	1900/3300 V	600/ 1000 V
mm²	Ω	Ω	Ω	Ω	Ω	Ω
1.5	12.1	—	—	—	—	—
2.5	7.41	—	—	—	—	—
4	4.61	—	—	—	—	—
6	3.08	—	—	—	—	—
10	1.83	—	—	—	—	—
16	1.15	1.91	4	3.8	2	3.4
25	0.727	1.2	4.1	2.7	1.9	2.4
35	0.524	0.868	2.9	2.5	1.9	2.2
50	0.387	0.641	2.6	2.2	1.4	1.9
70	0.268	0.443	2.3	1.9	1.3	1.3
95	0.193	0.32	1.6	1.4	1.2	1.2
120	0.153	0.253	—	1.2	0.82	0.82
150	0.124	0.206	—	0.86	0.76	0.74
185	0.099 1	0.164	—	0.76	0.71	0.67
240	0.075 4	0.125	—	0.68	0.64	0.59
300	0.060 1	0.1	—	0.63	0.59	0.54
400	0.047 0	—	—	—	—	—

3) With Lead Sheath

Nominal area of conductor	600/1000 V								1900/3300 V	
	Single core		Two core		Three core		Four core		Three core	
mm²	Lead	Armour	Lead	Armour	Lead	Armour	Lead	Armour	Lead	Armour
1.5	-	-	8.98	6.21	8.54	5.96	7.72	5.59	-	-
2.5	-	-	7.56	5.51	7.09	5.26	6.29	4.84	-	-
4	-	-	6.37	4.88	6.27	4.81	5.41	4.31	-	-
6	-	-	5.85	4.59	5.40	4.31	4.91	3.02	-	-
10	-	-	4.91	4.01	4.71	2.93	4.10	2.63	-	-
16	8.14	0.62	4.29	3.10	4.11	2.64	3.31	2.36	2.42	1.37
25	6.63	0.54	3.21	2.64	2.96	1.58	2.93	1.57	1.97	1.22
35	6.01	0.50	2.60	1.69	2.41	1.42	2.38	1.41	1.68	1.13
50	5.24	0.47	3.19	1.88	2.37	1.40	1.96	1.27	1.61	0.84
70	4.56	0.42	2.52	1.64	1.95	1.27	1.59	0.87	1.54	0.81
95	4.07	0.39	2.10	1.14	1.60	0.87	1.30	0.77	1.37	0.77
120	3.30	0.35	1.89	1.04	1.32	0.78	1.11	0.57	1.10	0.54
150	3.03	0.32	1.58	0.95	1.13	0.58	0.88	0.51	1.00	0.52
185	2.48	0.29	1.33	0.69	0.89	0.52	0.75	0.47	0.86	0.48
240	2.03	0.26	1.02	0.61	0.76	0.47	0.61	0.42	0.73	0.43
300	1.86	0.24	0.87	0.55	0.62	0.42	0.53	0.38	0.61	0.40
400	1.41	0.17	-	-	0.53	0.39	0.43	0.26	0.53	0.37
500	1.16	0.15	-	-	-	-	-	-	-	-
630	0.98	0.13	-	-	-	-	-	-	-	-
800	0.76	0.09	-	-	-	-	-	-	-	-
1000	0.65	0.08			-	-	-	-	-	-

Electrical Properties(600/1000 V)

1) Single core with copper conductor

Nominal area of conductor	Single Core Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
50	235	235	222	0.87	0.93	0.87
70	290	280	285	0.62	0.70	0.62
95	345	330	346	0.47	0.56	0.47
120	390	370	402	0.39	0.48	0.39
150	435	405	463	0.33	0.43	0.33
185	490	440	529	0.28	0.39	0.28
240	560	500	625	0.24	0.35	0.24

Nominal area of conductor	Single Core Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
300	630	550	720	0.21	0.32	0.21
400	700	580	815	0.20	0.30	0.20
500	770	620	918	0.18	0.28	0.18
630	840	670	1027	0.17	0.26	0.17
800	888	692	1119	0.17	0.25	0.17
1000	942	735	1214	0.16	0.24	0.16

1) Single core with aluminum conductor

Nominal area of conductor	Single Core Aluminum Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
50	175	180	162	1.40	1.60	1.40
70	220	220	207	0.98	1.00	0.98
95	260	260	252	0.72	0.79	0.74
120	295	295	292	0.58	0.66	0.60
150	330	330	337	0.48	0.57	0.49
185	375	365	391	0.39	0.49	0.41
240	435	410	465	0.31	0.42	0.34
300	490	455	540	0.27	0.38	0.29
400	540	480	625	0.35	0.38	0.25
500	580	510	714	0.31	0.35	0.22
630	630	540	801	0.28	0.32	0.20

2) Two cores with copper conductor

Nominal area of conductor	Two Cores Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
16*	140	115	115	2.9	2.9	2.9
25*	180	145	152	1.9	1.9	1.9
35*	215	175	188	1.3	1.3	1.3
50	255	210	228	1.0	1.0	1.0
70	315	260	291	0.7	0.7	0.7

Nominal area of conductor	Two Cores Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
95	381	313	354	0.5	0.5	0.5
120	410	344	430	0.4	0.4	0.4
150	472	384	480	0.4	0.4	0.4
185	539	432	540	0.3	0.3	0.3
240	636	504	630	0.2	0.2	0.2
300	732	560	700	0.2	0.2	0.2

2) Two cores with aluminum conductor

Nominal area of conductor	Two Cores Aluminum Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
25*	135	110	112	3.1	3.1	3.1
35*	165	130	138	2.2	2.2	2.2
50	195	155	166	1.7	1.7	1.7
70	240	195	211	1.1	1.1	1.1
95	288	237	254	0.8	0.8	0.8

3) Three cores with copper conductor

Nominal area of conductor	Three Cores Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
16	115	94	99	2.5	2.5	2.5
25	150	125	131	1.7	1.7	1.7
35	180	150	162	1.2	1.2	1.2
50	215	175	197	0.9	0.9	0.9
70	265	215	251	0.6	0.6	0.6
95	315	260	304	0.5	0.5	0.5
120	360	300	353	0.4	0.4	0.4
150	405	335	406	0.3	0.3	0.3
185	460	380	463	0.3	0.3	0.3
240	530	440	546	0.2	0.2	0.2
300	590	495	628	0.2	0.2	0.2
400	667	570	728	0.2	0.2	0.2

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3) Three cores with aluminum conductor

Nominal area of conductor	Three Cores Aluminum Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
16	89	72	74	4.2	4.2	4.2
25	115	94	98	2.7	2.7	2.7
35	135	110	120	1.9	1.9	1.9
50	165	135	145	1.4	1.4	1.4
70	200	165	185	1.0	1.0	1.0
95	240	200	224	0.7	0.7	0.7
120	275	230	264	0.6	0.6	0.6
150	310	255	305	0.5	0.5	0.5
185	350	295	350	0.4	0.4	0.4
240	410	340	418	0.3	0.3	0.3
300	460	385	488	0.3	0.3	0.3
400	520	443	562	0.2	0.2	0.2

4) Four cores with copper conductor

Nominal area of conductor	Four Cores Stranded Copper Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
16	115	94	99	2.5	2.5	2.5
25	150	125	131	1.7	1.7	1.7
35	180	150	162	1.2	1.2	1.2
50	215	175	197	0.9	0.9	0.9
70	265	215	251	0.6	0.6	0.6
95	315	260	304	0.5	0.5	0.5
120	360	300	353	0.4	0.4	0.4
150	405	335	406	0.3	0.3	0.3
185	460	380	463	0.3	0.3	0.3
240	530	440	546	0.2	0.2	0.2
300	590	495	628	0.2	0.2	0.2
400	667	570	728	0.2	0.2	0.2
500	720	605	800	0.2	0.2	0.2

4) Four cores with aluminum conductor

Nominal area of conductor	Four Cores Aluminum Conductors					
	Current Ratings			Approximate voltage drop per ampere per metre		
	Direct in ground	In single way ducts	Installed in air	Ground	Duct	Air
mm²	amps	amps	amps	mV	mV	mV
16	89	72	74	4.2	4.2	4.2
25	115	94	98	2.7	2.7	2.7
35	135	110	120	1.9	1.9	1.9
50	165	135	145	1.4	1.4	1.4
70	200	165	185	1.0	1.0	1.0
95	240	200	224	0.7	0.7	0.7
120	275	230	264	0.6	0.6	0.6
150	310	255	305	0.5	0.5	0.5
185	350	295	350	0.4	0.4	0.4
240	410	340	418	0.3	0.3	0.3
300	460	385	488	0.3	0.3	0.3
400	520	443	562	0.2	0.2	0.2
500	561	470	618	0.2	0.2	0.2

Electrical Properties(1900/3300 V)

Nominal area of conductor	Single Core Stranded Copper Conductors			Nominal area of conductor	Three Core Stranded Copper Conductors		
	Current Ratings				Current Ratings		
	Direct in ground	In single way ducts	Installed in air		Direct in ground	In single way ducts	Installed in air
mm²	amps	amps	amps	mm²	amps	amps	amps
50	222	219	228	16	114	96	106
70	271	264	285	25	147	124	142
95	324	310	350	35	175	147	168
120	366	342	407	50	207	174	202
150	409	376	463	70	254	214	255
185	460	414	528	95	304	257	312
240	528	464	623	120	345	293	361
300	589	506	710	150	387	328	410
400	651	535	808	185	436	371	471
500	720	579	915	240	502	428	554
630	789	624	1030	300	563	480	634
800	831	650	1119	-	-	-	-
1000	880	689	1214	-	-	-	-

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