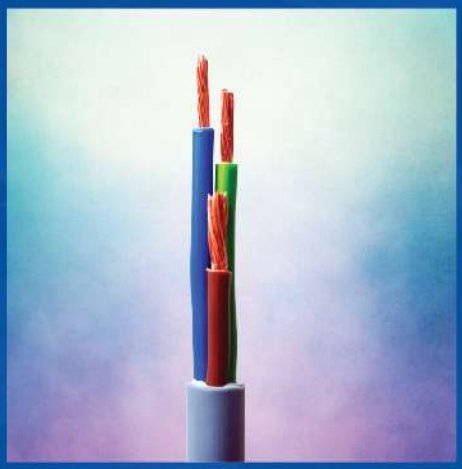


發佳電纜有限公司

FAJAR CABLES SDN. BHD.

RELIABLE / SAFE / ECO-FRIENDLY

Fajar Cables Sdn Bhd is one of Malaysia's leading electrical cable manufacturers based in the state of Selangor. Our core products include flexible cables, automotive cables, speaker cables, welding cables, alarm cables and a range of customized cables tailored for individual customers and applications. With over 30 years of experience behind us, Fajar Cables is at the forefront of the Malaysian cable manufacturing industry. Our reputation is built on a solid foundation of quality, reliability and safety. Our broad customer base, continued success and persistent progress are testaments to that.


FAJAR CABLES

COMPANY HISTORY

ESTABLISHED SINCE 1988

Fajar Cables Sdn Bhd began its operations in 1988, initially comprising a single factory lot. A testing facility was set up in 1989, and in 1993 we acquired a neighbouring factory lot. With the additional floor space, we purchased additional machines and equipment in order to increase both our production capacity and product range. The new machines also enabled us to significantly reduce our production lead time. In 2000, we obtained the MS ISO 9002:1994 Quality Management System (QMS) certification. As of 2018, our QMS system is compliant with the ISO 9001:2015 certification.

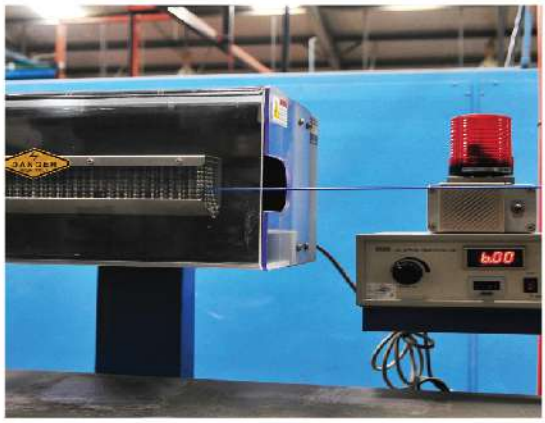

NIEHOFF
GRUPPE
S 631

TECHNOLOGY

STATE-OF-THE-ART MACHINERY TECHNOLOGY

Wherever and whenever you use our products, you can be certain that our cables will work and function reliably and dependably. As an ISO 9001:2015 certified company, our high product quality is assured of its consistency across our entire product range. Our cables are manufactured using stringent and meticulous production processes, after which they are put through rigorous pre- and post-production tests and quality checks to ensure that the finished goods conform to the highest standards. Some of these measures include detailed inspection of raw materials, electronic monitoring of wire sizes along the extrusion line, flexing tests to simulate the constant coiling and uncoiling of cables as well as flame resistance.


TENSILE & ELONGATION TESTER



QUALITY

WE ONLY USE 100% PURE COPPER WIRES

The care that we put into our products begin with the procurement of quality raw materials. As a proud supporter of the local manufacturing industry, all of our raw materials are sourced from reputable Malaysian companies. Our cable insulation is produced from unrecycled material and we only use 100% pure copper wires. All our raw materials are also RoHS (Restriction of Hazardous Substances) compliant. This is a stark contrast from counterfeit and substandard cables where cost-cutting measures frequently mean widespread usage of recycled insulation material and adulterated copper alloys.

CERTIFICATE


CERTIFICATE

ISO 9001 : 2015


CERTIFICATE

QUALITY MANAGEMENT SYSTEM

ISO 9001 : 2015


VDE Prüf- und Zertifizierungsinstitut

ZEICHENGENEHMIGUNG
MARKS APPROVAL


Suruhanjaya Tenaga
Energy Commission

PERAKUAN KELULUSAN


LESEN PENSIJILAN BARANGAN
Product Certification Licence


LESEN PENSIJILAN BARANGAN
Product Certification Licence


LESEN PENSIJILAN BARANGAN
Product Certification Licence


LESEN PENSIJILAN BARANGAN
Product Certification Licence


MCMA

Certificate of Membership

FAJAR CABLES SDN BHD

MALAYSIAN CABLE MANUFACTURERS ASSOCIATION

President

Vice President

002/19

1st Jan'2019

31st Dec'2019

SAFETY

ABSOLUTE PEACE OF MIND

Despite being basic and simple products, electrical cables play an important role in providing power and energy to our homes and workplaces. Which is why product safety is a top priority at Fajar Cables. We do not compromise on the safety of our products and we go to great lengths to ensure that our customers have absolute peace of mind when they use our cables. Our products are approved by the Energy Commission of Malaysia (Suruhanjaya Tenaga) and conform to the latest specifications set by the Standards and Industrial Research Institute of Malaysia (SIRIM). We are also proud members of the Malaysian Cable Manufacturers Association (MCMA) and the Electrical and Electronics Association of Malaysia (TEEAM).

Suruhanjaya Tenaga

SIRIM

DVE

CE

RoHS 2002/95/EC

MCMA

TEEAM


HOTLINE SPAD
1-800-88-SPAD (7723)
70 80
AWAS
AWAS


KENDERAAN
PANJANG & LEBA
TOYOTA
TOYOTA
SAS

CONTENT

PVC INSULATED CABLE WITH SOLID CONDUCTOR

MS2112-3

300 / 500V
70°C, 90°C, 105°C

CONSTRUCTION

Conductor	Solid annealed copper conductor according to IEC 60228, class 1
Insulation	PVC compound
Insulation colour	Red, yellow, blue, black and green unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C, 90°C, 105°C
Nominal voltage	300/500V
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Nominal cross-sectional area of conductors	Thickness of insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
0.5	0.6	1.9	2.3
0.75	0.6	2.1	2.5
1	0.6	2.2	2.7
1.5	0.7	2.6	3.2
2.5	0.8	3.2	3.9

PVC INSULATED CABLE WITH FLEXIBLE CONDUCTOR

MS2112-3

300 / 500V
70°C, 90°C, 105°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	Green/yellow, blue, brown, black, grey, red, yellow, green, white

TECHNICAL DATA

Temperature range	-5°C up to 70°C, 90°C, 105°C
Nominal voltage	300/500V
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Nominal cross-sectional area of conductors	Thickness of insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
0.5	0.6	2.1	2.5
0.75	0.6	2.2	2.7
1	0.6	2.4	2.8
1.5	0.7	2.8	3.4
2.5	0.8	3.4	4.1

PVC INSULATED CABLE WITH RIGID CONDUCTOR

MS2112-3

450 / 750V
70°C

CONSTRUCTION

Conductor	Rigid stranded annealed copper conductor according to IEC 60228, class 2
Insulation	PVC compound
Insulation colour	Red, yellow, blue, black and green unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	450/750V
Test voltage	2.5kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED CABLE WITH RIGID CONDUCTOR

MS2112-3

450 / 750V
70°C

Nominal cross-sectional area of conductors	Thickness of insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
1.5	0.7	2.7	3.3
2.5	0.8	3.3	4.0
4	0.8	3.8	4.6
6	0.8	4.3	5.2
10	1.0	5.6	6.7
16	1.0	6.4	7.8
25	1.2	8.1	9.7
35	1.2	9.0	10.9
50	1.4	10.6	12.8
70	1.4	12.1	14.6
95	1.6	14.1	17.1
120	1.6	15.6	18.8
150	1.8	17.3	20.9
185	2.0	19.3	23.3
240	2.2	22.0	26.6
300	2.4	24.5	29.6
400	2.6	27.5	33.2
500	2.8	30.5	36.9
630	2.8	34.0	41.1

PVC INSULATED CABLE WITH FLEXIBLE CONDUCTOR

MS2112-3

450 / 500V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	Green/yellow, blue, brown, black, grey, red, yellow, green, white

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	450/750V
Test voltage	2.5kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED CABLE WITH FLEXIBLE CONDUCTOR

MS2112-3

450 / 750V
70°C

Nominal cross-sectional area of conductors	Thickness of insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
1.5	0.7	2.8	3.4
2.5	0.8	3.4	4.1
4	0.8	3.9	4.8
6	0.8	4.4	5.3
10	1.0	5.7	6.8
16	1.0	6.7	8.1
25	1.2	8.4	10.2
35	1.2	9.7	11.7
50	1.4	11.5	13.9
70	1.4	13.2	16.0
95	1.6	15.1	18.2
120	1.6	16.7	20.2
150	1.8	18.6	22.5
185	2.0	20.6	24.9
240	2.2	23.5	28.4

PVC INSULATED CABLE WITH FLEXIBLE CONDUCTOR

BS 6231

600 / 1000V
70°C, 90°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	Green/yellow, blue, brown, black, grey, red, yellow, green, white

TECHNICAL DATA

Temperature range	-5°C up to 70°C, 90°C
Nominal voltage	600/1000V
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED CABLE WITH FLEXIBLE CONDUCTOR

BS 6231

600 / 1000V
70°C, 90°C

Nominal cross-sectional area of conductors	Thickness of insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
0.5	0.8	2.4	3.0
0.75	0.8	2.6	3.1
1.0	0.8	2.7	3.3
1.5	0.8	3.0	3.6
2.5	0.8	3.4	4.1
4	0.8	3.9	4.8
6	0.8	4.4	5.3
10	1.0	5.7	7.2
16	1.0	6.7	9.0
25	1.2	8.4	11.5
35	1.2	9.7	12.5
50	1.4	11.5	15.4
70	1.4	13.2	17.5
95	1.6	15.1	19.2
120	1.6	16.7	21.2
150	1.8	18.6	23.9
185	2.0	20.6	25.9
240	2.2	23.5	28.9

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 300V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless otherwise specified

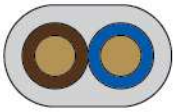
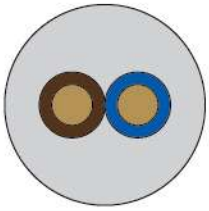
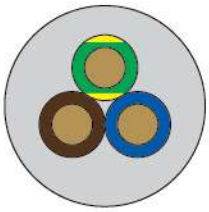
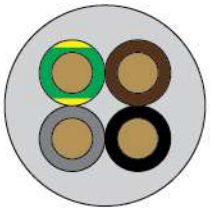
TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	300 / 300V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC-INSULATED PVC-SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 300V
70°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 X 0.5	0.5	0.6	4.6 or 3.0 X 4.9	5.9 or 3.7 X 5.9
	2 X 0.75	0.5	0.6	4.9 or 3.2 X 5.2	6.3 or 3.8 X 6.3
	3 X 0.5	0.5	0.6	4.9	6.3
	3 X 0.75	0.5	0.6	5.2	6.7
	4 X 0.5	0.5	0.6	5.4	6.9
	4 X 0.75	0.5	0.6	5.7	7.3

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BBS EN 50525-2-11

300 / 500V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR
5	GN/YE BU BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

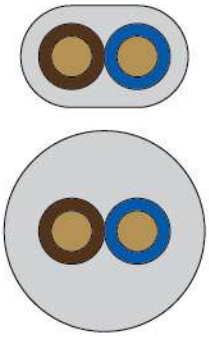
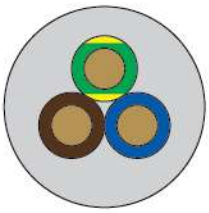
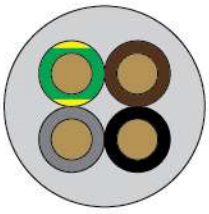
TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	300 / 500V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 500V
70°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 x 0.75	0.6	0.8	5.7 or	7.2 or
				3.7 x 6.0	4.5 x 7.2
	2 x 1	0.6	0.8	5.9 or	7.5 or
				3.9 x 6.2	4.7 x 7.5
	2 x 1.5	0.7	0.8	6.8 or	8.6 or
				4.2 x 7.0	5.2 x 8.6
	2 x 1.25*	0.7	0.8	6.3	8.0
	2 x 2.5	0.8	1.0	8.4	10.6
	2 x 4	0.8	1.1	9.7	12.1
	3 x 0.75	0.6	0.8	6.0	7.6
	3 x 1	0.6	0.8	6.3	8.0
	3 x 1.5	0.7	0.9	7.4	9.4
	3 x 1.25*	0.7	0.9	6.9	8.7
	3 x 2.5	0.8	1.1	9.2	11.4
	3 x 4	0.8	1.2	10.5	13.1
	4 x 0.75	0.6	0.8	6.6	8.3
	4 x 1	0.6	0.9	7.1	9.0
	4 x 1.5	0.7	1.0	8.4	10.5
	4 x 2.5	0.8	1.1	10.1	12.5
	4 x 4	0.8	1.2	11.5	14.3
	5 x 0.75	0.6	0.9	7.4	9.3
	5 x 1	0.6	0.9	7.8	9.8
	5 x 1.5	0.7	1.1	9.3	11.6
	5 x 2.5	0.8	1.2	11.2	13.9
	5 x 4	0.8	1.4	13.0	16.1

* This conductor size is intended for use on appliances fitted with 13A plugs complying with MS 589 or equivalent standard

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 300V
90°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

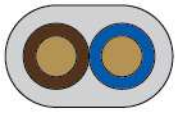
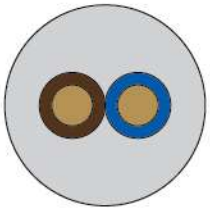
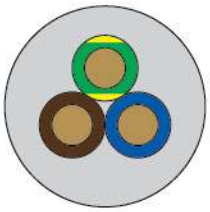
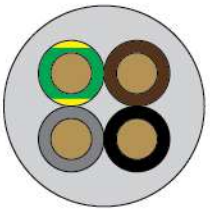
TECHNICAL DATA

Temperature range	-5°C up to 90°C
Nominal voltage	300 / 300V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 300V
90°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 X 0.5	0.5	0.6	4.6 or 3.0 X 4.9	5.9 or 3.7 X 5.9
	2 X 0.75	0.5	0.6	4.9 or 3.2 X 5.2	6.3 or 3.8 X 6.3
	3 X 0.5	0.5	0.6	4.9	6.3
	3 X 0.75	0.5	0.6	5.2	6.7
	4 X 0.5	0.5	0.6	5.4	6.9
	4 X 0.75	0.5	0.6	5.7	7.3

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BBS EN 50525-2-11

300 / 500V
90°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR
5	GN/YE BU BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

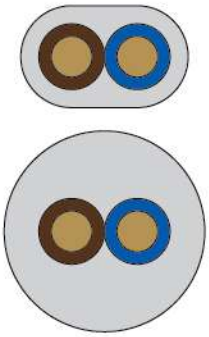
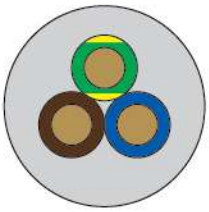
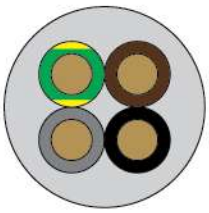
TECHNICAL DATA

Temperature range	-5°C up to 90°C
Nominal voltage	300 / 500V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5 IEC 60227-5 BS EN 50525-2-11

300 / 500V
90°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 x 0.75	0.6	0.8	5.7 or	7.2 or
				3.7 x 6.0	4.5 x 7.2
	2 x 1	0.6	0.8	5.9 or	7.5 or
				3.9 x 6.2	4.7 x 7.5
	2 x 1.5	0.7	0.8	6.8 or	8.6 or
				4.2 x 7.0	5.2 x 8.6
	2 x 2.5	0.8	1.0	8.4	10.6
	2 x 4	0.8	1.1	9.7	12.1
	3 x 0.75	0.6	0.8	6.0	7.6
	3 x 1	0.6	0.8	6.3	8.0
	3 x 1.5	0.7	0.9	7.4	9.4
	3 x 2.5	0.8	1.1	9.2	11.4
	3 x 4	0.8	1.2	10.5	13.1
	4 x 0.75	0.6	0.8	6.6	8.3
	4 x 1	0.6	0.9	7.1	9.0
	4 x 1.5	0.7	1.0	8.4	10.5
	4 x 2.5	0.8	1.1	10.1	12.5
	4 x 4	0.8	1.2	11.5	14.3
	5 x 0.75	0.6	0.9	7.4	9.3
	5 x 1	0.6	0.9	7.8	9.8
	5 x 1.5	0.7	1.1	9.3	11.6
	5 x 2.5	0.8	1.2	11.2	13.9
	5 x 4	0.8	1.4	13.0	16.1

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5

300 / 300V
105°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

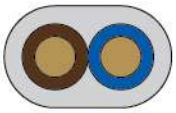
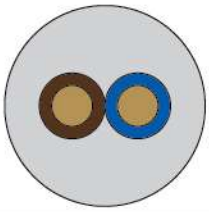
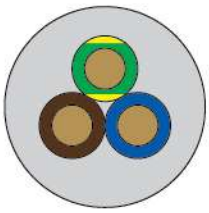
TECHNICAL DATA

Temperature range	-5°C up to 105°C
Nominal voltage	300 / 300V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5

300 / 300V
105°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 X 0.5	0.5	0.6	4.6 or 3.0 X 4.9	5.9 or 3.7 X 5.9
	2 X 0.75	0.5	0.6	4.9 or 3.2 X 5.2	6.3 or 3.8 X 6.3
	3 X 0.5	0.5	0.6	4.9	6.3
	3 X 0.75	0.5	0.6	5.2	6.7

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5

300 / 500V
105°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR
5	GN/YE BU BR BL GR

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

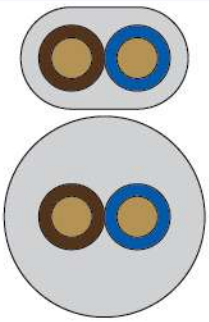
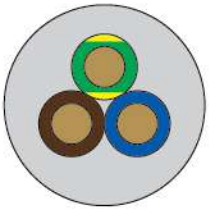
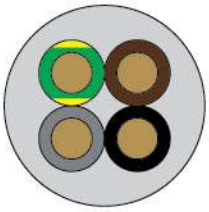
TECHNICAL DATA

Temperature range	-5°C up to 105°C
Nominal voltage	300 / 500V
Test voltage	2kV / 15min
Flexing Test	30,000 times backward and forward movements of the carrier with load
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

MS 2112-5

300 / 500V
105°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Thickness of Sheath Specified value	
				Lower limit	Upper limit
	no./mm²	mm	mm	mm	mm
	2 x 0.75	0.6	0.8	5.7 or	7.2 or
				3.7 x 6.0	4.5 x 7.2
	2 x 1	0.6	0.8	5.9 or	7.5 or
				3.9 x 6.2	4.7 x 7.5
	2 x 1.5	0.7	0.8	6.8 or	8.6 or
				4.2 x 7.0	5.2 x 8.6
	2 x 2.5	0.8	1.0	8.4	10.6
	3 x 0.75	0.6	0.8	6.0	7.6
	3 x 1	0.6	0.8	6.3	8.0
	3 x 1.5	0.7	0.9	7.4	9.4
	3 x 2.5	0.8	1.1	9.2	11.4
	4 x 0.75	0.6	0.8	6.6	8.3
	4 x 1	0.6	0.9	7.1	9.0
	4 x 1.5	0.7	1.0	8.4	10.5
	4 x 2.5	0.8	1.1	10.1	12.5
	5 x 0.75	0.6	0.9	7.4	9.3
	5 x 1	0.6	0.9	7.8	9.8
	5 x 1.5	0.7	1.1	9.3	11.6
	5 x 2.5	0.8	1.2	11.2	13.9

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

BS 2004

250 / 440V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to BS 2004
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BU BL

Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

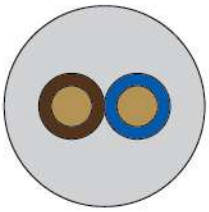
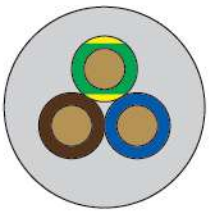
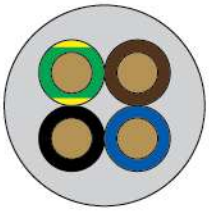
TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	250 / 440V
Test voltage	2kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

BS 2004

250 / 440V
70°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Number and diameter of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
	no./mm²	no. / Inch	mm	mm	mm
	2 x 0.40	14/0.0076	0.64	1.02	6.55
	2 x 0.67	23/0.0076	0.64	1.02	7.16
	2 x 1.17	40/0.0076	0.64	1.02	7.72
	2 x 2.04	70/0.0076	0.64	1.27	9.20
	2 x 3.22	110/0.0076	0.64	1.27	10.01
	2 x 4.74	162/0.0076	0.76	1.27	11.53
	3 x 0.40	14/0.0076	0.64	1.02	6.88
	3 x 0.67	23/0.0076	0.64	1.02	7.54
	3 x 1.17	40/0.0076	0.64	1.02	8.15
	3 x 2.04	70/0.0076	0.64	1.27	9.70
	3 x 3.22	110/0.0076	0.64	1.27	10.57
	3 x 4.74	162/0.0076	0.76	1.27	12.22
	4 x 0.40	14/0.0076	0.64	1.02	7.44
	4 x 0.67	23/0.0076	0.64	1.02	8.18
	4 x 1.17	40/0.0076	0.64	1.27	9.37
	4 x 2.04	70/0.0076	0.64	1.27	10.54
	4 x 3.22	110/0.0076	0.64	1.27	11.51
	4 x 4.74	162/0.0076	0.76	1.27	13.46

*ST Remark - Not sold in Malaysian market. Refer to Letter to customer

SYNTHETIC RUBBER FLEXIBLE CORD

300 / 500V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	

Number of cores	Colour of cores
2	BU BR
3	GN/YE BU BR
4	GN/YE BR BL GR
5	GN/YE BU BR BL GR

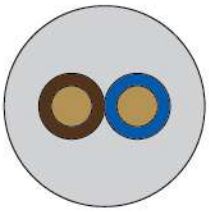
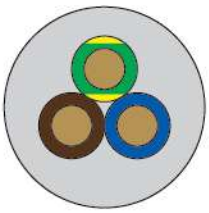
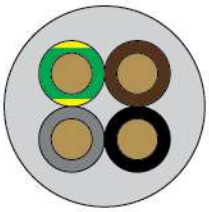
Sheath	Synthetic Rubber
Sheath colour	Black

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	300 / 500V
Test voltage	2kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

SYNTHETIC RUBBER FLEXIBLE CORD

300 / 500V
70°C

Cross-sectional view	Number and nominal cross-sectional area of conductors	Thickness of insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
	no./mm²	mm	mm	mm
	2 x 0.75	0.80	1.30	8.10
	2 x 1	0.80	1.30	8.40
	2 x 1.5	0.80	1.50	9.40
	2 x 2.5	0.90	1.70	11.10
	2 x 4	1.00	1.80	12.80
	2 x 6	1.10	2.15	14.90
	3 x 0.75	0.80	1.40	8.70
	3 x 1	0.80	1.40	9.10
	3 x 1.5	0.80	1.60	10.10
	3 x 2.5	0.90	1.80	11.90
	3 x 4	1.00	1.90	13.70
	3 x 6	1.10	2.30	16.00
	4 x 0.75	0.80	1.50	9.60
	4 x 1	0.80	1.50	10.00
	4 x 1.5	0.80	1.70	11.10
	4 x 2.5	0.90	1.90	13.10
	4 x 4	1.00	2.00	15.10
	4 x 6	1.10	2.40	17.60
	5 x 0.75	0.80	1.60	10.60
	5 x 1	0.80	1.60	11.10
	5 x 1.5	0.80	1.80	12.20
	5 x 2.5	0.90	2.00	14.40
	5 x 4	1.00	2.10	16.60
	5 x 6	1.10	2.50	19.30

PVC INSULATED PVC SHEATHED CONTROL CABLE

YSLY-JZ/OZ

300 / 500V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	JZ – Yellow / Green & Black with White numerals OZ – Black with White numerals
Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	300 / 500V
Test voltage	2kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC INSULATED PVC SHEATHED CONTROL CABLE

YSLY-JZ/OZ

300 / 500V
70°C

Number and nominal cross-sectional area a of conductors	Thickness of insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
no. / mm^2	mm	mm	mm
2 x 0.50	0.60	0.70	5.20
3 x 0.50	0.60	0.70	5.50
4 x 0.50	0.60	0.70	6.00
5 x 0.50	0.60	0.80	6.70
6 x 0.50	0.60	0.80	7.30
7 x 0.50	0.60	0.80	7.30
8 x 0.50	0.60	0.80	7.90
10 x 0.50	0.60	0.90	9.40
12 x 0.50	0.60	0.90	9.70
16 x 0.50	0.60	1.00	10.90
18 x 0.50	0.60	1.10	11.70
19 x 0.50	0.60	1.10	11.70
21 x 0.50	0.60	1.10	12.60
25 x 0.50	0.60	1.20	13.80
27 x 0.50	0.60	1.20	14.10
30 x 0.50	0.60	1.30	14.80
33 x 0.50	0.60	1.30	15.30
37 x 0.50	0.60	1.30	15.90
2 x 0.75	0.60	0.70	6.00
3 x 0.75	0.60	0.70	6.40
4 x 0.75	0.60	0.80	7.20
5 x 0.75	0.60	0.80	7.80
6 x 0.75	0.60	0.80	8.50
7 x 0.75	0.60	0.80	8.50
8 x 0.75	0.60	0.90	9.40
10 x 0.75	0.60	0.90	11.00
12 x 0.75	0.60	1.00	11.60
16 x 0.75	0.60	1.00	12.80
18 x 0.75	0.60	1.20	13.90
19 x 0.75	0.60	1.20	13.90
21 x 0.75	0.60	1.20	15.00
25 x 0.75	0.60	1.30	16.40
27 x 0.75	0.60	1.30	16.80
30 x 0.75	0.60	1.40	17.60
33 x 0.75	0.60	1.40	18.20
37 x 0.75	0.60	1.40	18.90

*Remark: Other custom cable core combinations available upon request

PVC INSULATED PVC SHEATHED CONTROL CABLE

YSLY-JZ/OZ

300 / 500V
70°C

Number and nominal cross-sectional area a of conductors	Thickness of insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
no. / mm^2	mm	mm	mm
2 x 1.00	0.60	0.70	6.40
3 x 1.00	0.60	0.70	6.80
4 x 1.00	0.60	0.80	7.60
5 x 1.00	0.60	0.80	8.40
6 x 1.00	0.60	0.90	9.30
7 x 1.00	0.60	0.90	9.30
8 x 1.00	0.60	1.00	10.30
10 x 1.00	0.60	1.00	12.00
12 x 1.00	0.60	1.10	12.60
16 x 1.00	0.60	1.10	14.00
18 x 1.00	0.60	1.20	14.90
19 x 1.00	0.60	1.20	14.90
21 x 1.00	0.60	1.30	16.30
25 x 1.00	0.60	1.30	17.60
27 x 1.00	0.60	1.40	18.20
30 x 1.00	0.60	1.40	18.80
33 x 1.00	0.60	1.50	19.80
37 x 1.00	0.60	1.60	20.70
2 x 1.50	0.70	0.80	7.60
3 x 1.50	0.70	0.80	8.10
4 x 1.50	0.70	0.90	9.00
5 x 1.50	0.70	0.90	9.90
6 x 1.50	0.70	1.00	11.00
7 x 1.50	0.70	1.00	11.00
8 x 1.50	0.70	1.10	12.10
10 x 1.50	0.70	1.10	14.20
12 x 1.50	0.70	1.20	14.90
16 x 1.50	0.70	1.30	16.70
18 x 1.50	0.70	1.30	17.60
19 x 1.50	0.70	1.30	17.60
21 x 1.50	0.70	1.40	19.30
25 x 1.50	0.70	1.50	21.00

*Remark: Other custom cable core combinations available upon request

PVC INSULATED PVC SHEATHED CONTROL CABLE

YSLY-JZ/OZ

300 / 500V
70°C

Number and nominal cross-sectional area a of conductors	Thickness of insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
no. / mm²	mm	mm	mm
2 x 2.50	0.70	0.90	8.80
3 x 2.50	0.70	0.90	9.30
4 x 2.50	0.70	1.00	10.40
5 x 2.50	0.70	1.00	11.50
6 x 2.50	0.70	1.10	12.70
7 x 2.50	0.70	1.10	12.70
8 x 2.50	0.70	1.20	14.00
10 x 2.50	0.70	1.30	16.60
12 x 2.50	0.70	1.40	17.30
16 x 2.50	0.70	1.50	19.50
18 x 2.50	0.70	1.60	20.70
19 x 2.50	0.70	1.60	20.70
21 x 2.50	0.70	1.70	22.60
25 x 2.50	0.70	1.80	24.60
2 x 4.00	0.80	1.00	10.40
3 x 4.00	0.80	1.00	11.10
4 x 4.00	0.80	1.10	12.40
5 x 4.00	0.80	1.20	13.70
6 x 4.00	0.80	1.30	15.20
7 x 4.00	0.80	1.30	15.20
8 x 4.00	0.80	1.40	16.70
10 x 4.00	0.80	1.50	19.80
12 x 4.00	0.80	1.60	20.70

*Remark: Other custom cable core combinations available upon request

PVC INSULATED PVC SHEATHED CONTROL CABLE

YSLY-JZ/OZ

300 / 500V
70°C

Number and nominal cross-sectional area a of conductors	Thickness of insulation Specified value	Thickness of Sheath Specified value	Approx. Overall diameter
no. / mm	mm	mm	mm
2 x 6.00	0.90	1.20	12.40
3 x 6.00	0.90	1.20	13.20
4 x 6.00	0.90	1.30	14.70
5 x 6.00	0.90	1.30	16.10
6 x 6.00	0.90	1.50	18.00
7 x 6.00	0.90	1.50	18.00
2 x 10.00	1.00	1.40	15.00
3 x 10.00	1.00	1.40	15.90
4 x 10.00	1.00	1.50	17.70
5 x 10.00	1.00	1.60	19.70
2 x 16.00	1.10	1.50	17.80
3 x 16.00	1.10	1.60	16.30
4 x 16.00	1.10	1.70	21.30
5 x 16.00	1.10	1.80	23.60

*Remark: Other custom cable core combinations available upon request

PVC INSULATED PVC SHEATHED ALARM CABLE

BS 4737-3.30

50 Vac / Vdc
70°C

CONSTRUCTION

Conductor	Stranded plain or tinned annealed copper conductor according to BS 4737-3.30
Insulation	PVC compound
Insulation colour	GN RD WH BL
Sheath	PVC compound
Sheath colour	White unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	50 Vac / Vdc
Test voltage	0.5kV / 1min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Number and nominal cross-sectional area of conductors	Number and diameter of conductors	Thickness of Insulation Specified value	Thickness of sheath Specified Value	Approx. Overall diameter	Maximum conductor resistance at 20°C
no./mm^2	no./mm	mm	mm	mm	Ω/km
4 x 0.22	7 / 0.20	0.20	0.65	4.25	82.40

SYNTHETIC RUBBER WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	Synthetic Rubber
Insulation colour	Black

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	100 / 100V
Test voltage	1kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

SYNTHETIC RUBBER WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

Nominal cross-sectional area of conductors	Maximum diameter of wires in conductor	Thickness of covering Specified value	Mean overall dimensions	
			Lower limit	Upper limit
mm^2	mm	mm	mm	mm
10	0.21	2.00	7.70	9.70
16	0.21	2.00	8.80	11.00
25	0.21	2.00	10.10	12.70
35	0.21	2.00	11.40	14.20
50	0.21	2.20	13.20	16.50
70	0.21	2.40	15.30	19.20
95	0.21	2.60	17.10	21.40
120	0.51	2.80	19.20	24.00
150	0.51	3.00	21.10	26.40
185	0.51	3.20	23.10	28.90

PVC WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	Black unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	100 / 100V
Test voltage	1kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Mean overall dimensions	
		Lower limit	Upper limit
mm^2	mm	mm	mm
10	2.0	7.7	9.7
16	2.0	8.8	11.0
25	2.0	10.1	12.7
35	2.0	11.4	14.2
50	2.2	13.2	16.5
75	2.4	15.3	19.2
95	2.6	17.1	21.4
120	2.8	19.2	24.0

PVC/PVC WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to IEC 60228, class 5
Insulation	PVC compound
Insulation colour	White unless specified otherwise
Sheath	PVC compound
Sheath colour	Orange unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	100 / 100V
Test voltage	1kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

PVC/PVC WELDING CABLE

BS EN 50525-2-81

100 / 100V
70°C

Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of Sheath Specified value	Mean overall dimensions	
			Lower limit	Upper limit
mm^2	mm	mm	mm	mm
10	1.0	1.4	7.7	9.7
16	1.0	1.4	8.8	11.0
25	1.2	1.4	10.1	12.7
35	1.2	1.4	11.4	14.2
50	1.4	1.6	13.2	16.5
70	1.4	1.8	15.3	19.2
95	1.6	2.0	17.1	21.4
120	1.6	2.0	19.2	24.0
150	1.8	2.2	21.2	26.4
185	2.0	2.6	23.1	28.9
240	2.4	2.8	25.8	32.1

PVC AUTOMOTIVE CABLE

JASO D611:2009

25Vac / 60Vdc
80°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to JASO D611
Insulation	PVC compound
Insulation colour	Red, yellow, blue, black and green unless specified otherwise

Construction of general cables (AV)

Nominal size	Conductor			Conductor resistance (20°C)	Insulation thickness		Finished outside dia.	
	Number of strands/dia. Of strand	Calculated cross sectional area	Approximate outside dia.		Standard	Min	Standard	Max
	Pcs/mm or Pcs/Pcs/mm	mm^2	mm	mΩ/m	mm	mm	mm	mm
2f	37 / 0.26	1.964	1.80	9.50	0.60	0.48	3.00	3.40
3f	58 / 0.26	3.079	2.30	6.06	0.70	0.56	3.70	4.00
3f	61 / 0.26	3.239	2.40	5.76	0.70	0.56	3.80	4.10
5f	7 / 9 / 0.32	5.067	3.10	3.71	0.80	0.64	4.70	5.00
5f	7 / 30 / 0.18	5.344	3.40	3.56	0.80	0.64	5.00	5.30
8f	7 / 22 / 0.26	8.176	4.20	2.32	0.90	0.72	6.00	6.30
9f	7 / 16 / 0.32	9.008	4.20	2.09	1.00	0.80	6.20	6.50
10f	19 / 6 / 0.32	9.168	4.20	2.05	1.00	0.80	6.20	6.50
10	62 / 0.45	9.861	4.10	1.87	0.90	0.72	5.90	6.20
10	63 / 0.45	10.02	4.50	1.84	1.00	0.80	6.50	6.90
10	7 / 9 / 0.45	10.02	4.50	1.84	1.00	0.80	6.50	6.90
15f	19 / 9 /0.32	13.75	5.30	1.37	1.10	0.88	7.50	8.00
20f	19 / 13 / 0.32	19.86	6.50	0.946	1.10	0.88	8.70	9.30
30f	19 / 19 / 0.32	29.03	7.80	0.647	1.40	1.12	10.60	11.30
40f	19 / 26 / 0.32	39.73	9.10	0.473	1.40	1.12	11.90	12.60
50f	19 / 32 / 0.32	48.90	10.10	0.384	1.60	1.28	13.30	14.10
60f	19 / 39 / 0.32	59.59	11.10	0.315	1.60	1.28	14.30	15.10
85f	19 / 56 / 0.32	85.57	13.10	0.220	2.00	1.60	17.10	18.10
100f	19 / 71 / 0.32	108.50	14.90	0.173	2.00	1.60	18.90	19.90

Note 1 : The symbol "f" in the "Nominal size" column means flexible conductor

PVC AUTOMOTIVE CABLE

JASO D611:2009

25Vac / 60Vdc
80°C

Construction of thin wall cables (AVS)

Nominal size	Conductor			Conductor resistance (20°C)	Insulation thickness		Finished outside dia.	
	Number of strands/dia. Of strand	Calculated cross sectional area	Approximate outside dia.		Standard	Min	Standard	Max
	Pcs/mm or Pcs/Pcs/mm	mm^2	mm	mΩ/m	mm	mm	mm	mm
0.3	7 / 0.26	0.3716	0.80	50.20	0.50	0.32	1.80	1.90
0.3f	15 / 0.18	0.3817	0.80	48.90	0.50	0.32	1.80	1.90
0.5f	20 / 0.18	0.5087	1.00	36.70	0.50	0.32	2.00	2.10
0.5	7 / 0.32	0.5629	1.00	32.70	0.50	0.32	2.00	2.10
0.75f	30 / 0.18	0.7630	1.20	24.40	0.50	0.32	2.20	2.30
0.85	16 / 0.26	0.8494	1.20	22.00	0.50	0.32	2.20	2.30
0.85	11 / 0.32	0.8846	1.20	20.80	0.50	0.32	2.20	2.30
1.25f	50 / 0.18	1.273	1.50	14.70	0.50	0.32	2.50	2.60
1.25	16 / 0.32	1.287	1.50	14.30	0.50	0.32	2.50	2.60
2f	37 / 0.26	1.964	1.90	9.50	0.50	0.32	2.90	3.10
2	26 / 0.32	2.091	1.90	8.81	0.50	0.32	2.90	3.10
3f	58 / 0.26	3.079	2.30	6.06	0.60	0.40	3.50	3.70
3f	61 / 0.26	3.239	2.30	5.76	0.60	0.40	3.50	3.80
3	41 / 0.32	3.297	2.40	5.59	0.60	0.40	3.60	3.80
5	65 / 0.32	5.228	3.00	3.52	0.70	0.48	4.40	4.60
5f	7 / 30 / 0.18	5.344	3.40	3.56	0.70	0.48	4.80	5.10
8	50 / 0.45	7.952	3.70	2.32	0.80	0.64	5.30	5.60
8f	7 / 22 / 0.26	7.952	3.70	2.32	0.80	0.64	5.30	5.60

Construction of thin wall cables (AVSS)

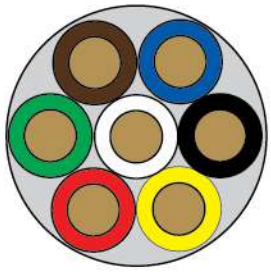
Nominal size	Conductor			Conductor resistance (20°C)	Insulation thickness		Finished outside dia.	
	Number of strands/dia. Of strand	Calculated cross sectional area	Approximate outside dia.		Standard	Min	Standard	Max
	Pcs/mm or Pcs/Pcs/mm	mm^2	mm	mΩ/m	mm	mm	mm	mm
0.22	7 / 0.20	0.2990	0.60	84.80	0.30	0.24	1.20	1.30
0.3	7 / 0.26	0.3716	0.80	50.20	0.30	0.24	1.40	1.50
0.3f	19 / 0.16	0.3821	0.80	48.80	0.30	0.24	1.40	1.50
0.5f	19 / 0.19	0.5387	1.00	34.60	0.30	0.24	1.60	1.70
0.5	7 / 0.32	0.5629	1.00	32.70	0.30	0.24	1.60	1.70
0.75f	19 / 0.23	0.7895	1.20	23.60	0.30	0.24	1.80	1.90
0.85	19 / 0.24	0.8596	1.20	21.70	0.30	0.24	1.80	1.90
0.85	7 / 0.40	0.8796	1.10	20.80	0.30	0.24	1.80	1.90
1.25	19 / 0.29	1.255	1.50	14.90	0.30	0.24	2.10	2.20
1.25f	37 / 0.21	1.282	1.50	14.60	0.30	0.24	2.10	2.20
2f	37 / 0.26	1.964	1.80	9.50	0.40	0.32	2.60	2.70
2	19 / 0.37	2.043	1.90	9.00	0.40	0.32	2.70	2.80

Note 1 : The symbol "f" in the "Nominal size" column means flexible conductor

PVC INSULATED PVC SHEATHED TRAILER CABLE

BS 6862-1

100V
70°C



CONSTRUCTION

Conductor	Finely stranded annealed copper conductor according to BS 6862-1
Insulation	PVC compound
Insulation colour	

mm²	Colour
1	BR BU BL YE RD GN
2	WH

Sheath	PVC compound
Sheath colour	Black unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	100V
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Number of core	Conductor			Radial thickness of insulation	Radial thickness of sheat	Overall diameter	
	Nominal area	No. and nominal diameter of wires	Approximate diameter			Lower limit	Upper limit
	mm²	no./mm²	mm	mΩ/m	mm	mm	mm
6	1.00	14/0.30	1.30	0.60	0.80	9.70	10.20
1	2.00	28/0.30	1.90	0.60			

HR 105°C HEAVY DUTY AUTOMOBILE CABLE

105°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor
Insulation	PVC compound
Insulation colour	Black

TECHNICAL DATA

Temperature range	-5°C up to 105°C
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Nominal cross-sectional area of conductors	Number and diameter of conductors	Thickness of insulation Specified value	Approx. Overall Diameter	Maximum conductor resistance at 20°C
mm^2	no./mm	mm	mm	Ω/km
25	336 / 0.30	1.50	9.70	0.82
40	560 / 0.30	1.60	12.00	0.49
60	840 / 0.30	2.00	14.50	0.33

PVC AUTO CABLE

70°C

CONSTRUCTION

Conductor	Finely stranded annealed copper conductor
Insulation	PVC compound
Insulation colour	Red, yellow, blue, black and green unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Model	Thickness of insulation Specified value	Approx. overall Diameter	Maximum conductor resistance at 20°C
	mm	mm	Ω/km
14 / 026	0.75	2.65	26.30
28 / 026	0.75	3.10	13.20
35 / 026	0.80	3.30	10.50
44 / 026	0.85	3.60	8.40
65 / 026	0.85	4.00	5.70
100 / 026	1.05	5.00	3.70

PVC/PVC TWIN FLAT POWER CABLE

BS 6004

300 / 500V
70°C

CONSTRUCTION

Conductor	Rigid stranded annealed copper conductor according to IEC 60228, class 2
Insulation	PVC compound
Insulation colour	Brown & Blue
Sheath	PVC compound
Sheath colour	Grey unless specified otherwise

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Nominal voltage	300 / 500V
Test voltage	2kV/15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Number and nominal cross-sectional area of conductors	Thickness of Insulation Specified value	Thickness of sheath Specified Value	Mean overall dimensions	
			Lower limit	Upper limit
no./mm²	mm	mm	mm	mm
2 x 1.5	0.7	0.9	4.5 X 7.2	5.4 X 8.7
2 x 2.5	0.8	1.0	5.2 X 8.5	6.3 X 10.3

PVC SPEAKER CABLE

70°C


(Type A)


(Type B)


(Type C)


(Type D)

SINGLE PVC SPEAKER CABLE

Type	Model	Thickness of insulation Specified value	Approx. Overall diameter
		mm	mm
A	14 / 014	0.70	2.05 x 4.05
A	23 / 014	0.75	2.27 x 4.55
B	42 / 015	1.20	3.60 x 7.20
C	30 / 018	0.90	2.95 x 5.90
D	14 / 014	0.69	2.00 x 2 core
D	23 / 014	0.76	2.30 x 2 core


(Type E)


(Type F)

DOUBLE PVC SPEAKER CABLE

Type	Model	Thickness of insulation Specified value	Thickness of sheath Specified Value	Approx. Overall diameter
		mm	mm	mm
E	23 / 015	0.60	0.65	3.30 x 5.40
F	46 / 020	0.70	0.80	7.60

BLASTING WIRE

70°C

CONSTRUCTION

Conductor	Solid annealed copper conductor
Insulation	PVC compound
Insulation colour	White with red line

TECHNICAL DATA

Temperature range	-5°C up to 70°C
Test voltage	2kV / 15min
Behaviour in fire	Flame retardant (self-extinguishing) according to IEC 60332-1-2
Absense of harmful subtances	RoHS compliant

Number and Diameter of conductors	Thickness of insulation Specified value	Approx. Overall diameter	Maximum conductor resistance at 20°C
No./mm	mm	mm	Ω/km
2 x 0.63	0.55	1.70 x 3.50	58

NOTE

TECHNICAL DATA

CONDUCTOR RESISTANCE

Conductor resistance for Class 1 solid conductor & Class 2 stranded conductor

NOMINAL CROSS SECTIONAL AREA	Minimum number of wires in the conductor	Maximum resistance of conductor at 20°C, (Class 1 & Class 2)	
		Plain wires	Metal-coated wires
mm^2	(Class 2 conductor)	Ω/km	Ω/km
0.5	7	36.0	36.7
0.75	7	24.5	24.8
1.0	7	18.1	18.2
1.5	7	12.1	12.2
2.5	7	7.41	7.56
4	7	4.61	4.70
6	7	3.08	3.11
10	7	1.83	1.84
16	7	1.15	1.16
25	7	0.727	0.734
35	7	0.524	0.529
50	19	0.387	0.391
70	19	0.268	0.270
95	19	0.193	0.195
120	37	0.153	0.154
150	37	0.124	0.126
185	37	0.0991	0.100
240	37	0.0754	0.0762
300	61	0.0601	0.0607
400	61	0.0470	0.0475
500	61	0.0366	0.0369
630	91	0.0283	0.0286

The above table is based on BS EN 60228

Conductor resistance for Class 5 & Class 6 flexible conductor

NOMINAL CROSS SECTIONAL AREA	Maximum diameter of wires in conductor		Maximum resistance of conductor at 20°C, (Class 5 & Class 6)	
	Class 5	Class 6	Plain wires	Metal-coated wires
mm^2	mm	mm	Ω/km	Ω/km
0.5	0.21	0.16	39.0	40.1
0.75	0.21	0.16	26.0	26.7
1.0	0.21	0.16	19.5	20.0
1.25	0.21	-	15.6	16.1
1.5	0.26	0.16	13.3	13.7
2.5	0.26	0.16	7.98	8.21
4	0.31	0.16	4.95	5.09
6	0.31	0.21	3.30	3.39
10	0.41	0.21	1.91	1.95
16	0.41	0.21	1.21	1.24
25	0.41	0.21	0.780	0.795
35	0.41	0.21	0.554	0.565
50	0.41	0.31	0.386	0.393
70	0.51	0.31	0.272	0.277
95	0.51	0.31	0.206	0.210
120	0.51	0.31	0.161	0.164
150	0.51	0.31	0.129	0.132
185	0.51	0.41	0.106	0.108
240	0.51	0.41	0.0801	0.0817
300	0.51	0.41	0.0641	0.0654
400	0.51	-	0.0486	0.0495
500	0.61	-	0.0384	0.0391
630	0.61	-	0.0287	0.0292

The above table is based on BS EN 60228

Conductor resistance for copper under BS 2004

SIZE,	Maximum resistance of conductor at 20°C,
No. / Inch	Ω/1,000yard
23/0.0076	25.08
40/0.0076	14.42
70/0.0076	8.242
110/0.0076	5.247
162/0.0076	3.561

The above table is based on BS 3360

ELECTRICAL CHARACTERISTICS

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity and Mass Supportable

NOMINAL CROSS SECTIONAL AREA	CURRENT CARRYING CAPACITY, Amps		MAXIMUM MASS SUPPORTABLE BY TWIN FLEXIBLE CORD (See Regulations 522.7.2 and 559.6.1.5 of the 17Th Edition of IEE Wiring Regulations)
	Single-Phase AC	Three-Phase AC	
mm^2			kg
0.5	3	3	2
0.75	6	6	3
1	10	10	3
1.25	13	-	3
1.5	16	16	5
2.5	25	20	5
4	32	25	5
6	40	32	-

The above table is based on Table 4F3A of the 17th Edition of IEE Wiring Regulations

VOLTAGE DROP

NOMINAL CROSS SECTIONAL AREA	DC OR SINGLE-PHASE AC	THREE-PHASE AC
mm^2	mV/A/m	mV/A/m
0.5	93	80
0.75	62	54
1	45	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10
6	8	7

Conductor operating temperature: 60°C
The above table is based on Table 4F3B of the 17th Edition of IEE Wiring Regulations.

DE-RATING FACTORS

De-Rating Factor for Ambient Temperature 60°C Thermoplastic or Thermosetting Insulated Cords

AIR TEMPERATURE	35°C	40°C	45°C	50°C	55°C
DE-RATING FACTOR	0.91	0.82	0.71	0.58	0.41

The above table is based on Table 4F3A of the 17th Edition of IEE Wiring Regulations

PVC INSULATED PVC SHEATHED FLEXIBLE CORD

Current Carrying Capacity and Mass Supportable

SIZE	CURRENT CARRYING CAPACITY Amps		Voltage Drop per 100 feet		MAXIMUM MASS SUPPORTABLE BY TWIN FLEXIBLE CORD
	Single-Phase AC	Three-Phase AC	Single-Phase AC	Three-Phase AC	
No. / Inch					lb
23/0.0076	6	6	11	9.4	5.5
40/0.0076	13	13	14	12	10
70/0.0076	18	18	12	10	10
110/0.0076	24	24	9.6	8.3	10
162/0.0076	31	31	9.4	7.3	10

The above table is based on BS 2004

DE-RATING FACTORS

De-Rating Factor for Ambient Temperature 60°C Thermoplastic or Thermosetting Insulated Cords

AIR TEMPERATURE	25°C	35°C	40°C	55°C	50°C	55°C	60°C	65°C
DE-RATING FACTOR	1.06	0.94	0.87	0.79	0.71	0.61	0.50	0.35

The above table is based on Table 4F3A of the 17th Edition of IEE Wiring Regulations

PVC INSULATED CABLE

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA	REFERENCE METHOD A (ENCLOSED IN CONDUIT IN THERMALLY INSULATING WALL ETC)		REFERENCE METHOD B (ENCLOSED IN CONDUIT ON A WALL OR IN A TRUNKING ETC)		REFERENCE METHOD C (CLIPPED DIRECT)		REFERENCE METHOD F (IN FREE AIR OR ON A PERFORATED CABLE TRAY ETC HORIZONTAL OR VERTICAL ETC)				
	Amps		Amps		Amps		Amps				
							Touching			Spaced by one diameter	
										2 Cables Single-Phase AC or DC or 3 Cables Three-Phase AC flat	
	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC	3 or 4 Cables Three-Phase AC	2 Cables Single-Phase AC or DC flat or touching	3 or 4 Cables Three-Phase AC flat and touching or trefoil	2 Cables Single-Phase AC or DC flat	3 Cables Three-Phase AC flat	3 Cables Three-Phase AC trefoil	Horizontal	Vertical
mm^2											
1.5	14.5	13.5	17.5	15.5	20	18					
2.5	20	18	24	21	27	25					
4	26	24	32	28	37	33					
6	34	31	41	36	47	43					
10	46	42	57	50	65	59					
16	61	56	76	68	87	79					
25	80	73	101	89	114	104	131	114	110	146	130
35	99	89	125	110	141	129	162	143	137	181	162
50	119	108	151	134	182	167	196	174	167	219	197
70	151	136	192	171	234	214	251	225	216	281	254
95	182	164	232	207	284	261	304	275	264	341	311
120	210	188	269	239	330	303	352	321	308	396	362
150	240	216	300	262	381	349	406	372	356	456	419
185	273	245	341	296	436	400	463	427	409	521	480
240	321	286	400	346	515	472	546	507	485	615	569
300	367	328	458	394	594	545	529	587	561	709	659
400			546	467	694	634	754	689	656	852	795
500			626	533	792	723	868	789	749	982	930
630			720	611	904	826	1005	905	855	1138	1070

Ambient temperature: 30°C
Conductor operating temperature: 70°C

The above table is based on Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop

NOMINAL CROSS SECTIONAL AREA	2 CABLES DC	2 CABLES SINGLE-PHASE AC									Reference Methods C, F (clipped direct, on tray or in free air)									
		mV/A/m																		
		Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C, F (clipped direct, on tray or in free air)						Reference Methods A and B (enclosed in conduit or trunking)			Reference Methods C, F (clipped direct, on tray or in free air)						
					Cable Touching			Cable Spaced						Cable Touching Trefoil			Cable Touching Flat			Cable Spaced* Flat		
mm²	mV/A/m																					
1.5	28	29			29			29			25			25			25			25		
2.5	18	18			18			18			15			15			15			15		
4	11	11			11			11			9.5			9.5			9.5			9.5		
6	7.3	7.3			7.3			7.3			6.4			6.4			6.4			6.4		
10	4.4	4.4			4.4			4.4			3.8			3.8			3.8			3.8		
16	2.8	2.8			2.8			2.8			2.4			2.4			2.4			2.4		
		r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z	r	x	z
25	1.75	1.80	0.33	1.80	1.75	0.20	1.75	1.75	0.29	1.80	1.50	0.29	1.55	1.50	0.18	1.50	1.50	0.25	1.55	1.50	0.32	1.55
35	1.25	1.30	0.31	1.30	1.25	0.20	1.25	1.25	0.28	1.30	1.10	0.27	1.10	1.10	0.17	1.10	1.10	0.24	1.10	1.10	0.32	1.15
50	0.93	0.95	0.30	1.00	0.93	0.19	0.95	0.93	0.28	0.97	0.81	0.26	0.85	0.80	0.17	0.82	0.80	0.24	0.84	0.80	0.32	0.86
70	0.63	0.65	0.29	0.72	0.63	0.19	0.66	0.63	0.27	0.69	0.56	0.25	0.61	0.55	0.16	0.57	0.55	0.24	0.60	0.55	0.31	0.63
95	0.46	0.49	0.28	0.56	0.47	0.18	0.50	0.47	0.27	0.54	0.42	0.24	0.48	0.41	0.16	0.43	0.41	0.23	0.47	0.40	0.31	0.51
120	0.36	0.39	0.27	0.47	0.37	0.18	0.41	0.37	0.26	0.45	0.33	0.23	0.41	0.32	0.15	0.36	0.32	0.23	0.40	0.32	0.30	0.44
150	0.29	0.31	0.27	0.41	0.30	0.18	0.34	0.29	0.26	0.39	0.27	0.23	0.36	0.26	0.15	0.30	0.26	0.23	0.34	0.26	0.30	0.40
185	0.23	0.25	0.27	0.37	0.24	0.17	0.29	0.24	0.26	0.35	0.22	0.23	0.32	0.21	0.15	0.26	0.21	0.22	0.31	0.21	0.30	0.36
240	0.18	0.20	0.26	0.33	0.19	0.17	0.25	0.19	0.25	0.31	0.17	0.23	0.29	0.16	0.15	0.22	0.16	0.22	0.27	0.16	0.29	0.34
300	0.15	0.16	0.26	0.31	0.15	0.17	0.22	0.15	0.25	0.29	0.14	0.23	0.27	0.13	0.14	0.19	0.13	0.22	0.25	0.13	0.29	0.32
400	0.11	0.13	0.26	0.29	0.12	0.16	0.20	0.12	0.25	0.27	0.12	0.22	0.25	0.11	0.14	0.18	0.11	0.21	0.24	0.10	0.29	0.31
500	0.086	0.11	0.26	0.28	0.098	0.155	0.185	0.093	0.24	0.26	0.10	0.22	0.25	0.086	0.135	0.16	0.086	0.21	0.23	0.081	0.29	0.30
630	0.068	0.094	0.25	0.27	0.081	0.155	0.175	0.076	0.24	0.25	0.08	0.22	0.24	0.072	0.135	0.15	0.072	0.21	0.22	0.066	0.28	0.29

Conductor operating temperature: 70°C
r = Resistive Component
x = Reactive Component
z = Impedance Value
*Spacings larger than one cable diameter will result in a larger voltage drop.

The above table is based on Table 4D1B of the 17th Edition of IEE Wiring Regulations.

For cables having conductors of 16mm2 or less cross sectional area their inductances can be ignored and (mV/A/m)r values only are tabulated. For cables having conductors greater than 16mm2, cross sectional area the impedance values are given as (mV/A/m)z, together with the resistive component (mV/A/m)r and the reactive component (mV/A/m)x.

The above paragraph is based on Appendix 4 of the 17th Edition of IEE Wiring Regulations.

DE-RATING FACTORS

For Ambient Air Temperatures other than 30°C

AMBIENT TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C
DE-RATING FACTOR	1.06	1.00	0.94	0.87	0.79	0.71	0.61

WELDING CABLE

ELECTRICAL CHARACTERISTICS

Current Carrying Capacity

NOMINAL CROSS SECTIONAL AREA	CURRENT RATING FOR SINGLE CYCLE OPERATION OVER A MAXIMUM PERIOD OF 5 MINUTES			
	Amps			
mm^2	100%	85%	60%	35%
10	100	103	108	122
16	135	145	175	230
25	180	195	230	300
35	225	245	290	375
50	285	305	365	480
70	355	385	460	600
95	430	470	560	730
120	500	540	650	850
150	580	630	750	980
185	665	720	860	1120
240	780	850	975	1250

Ambient air temperature: 25°C
Maximum conductor temperature: 85°C

The above table is based on HD 516 S2:1997

Duty Cycle and Current Carrying Capacity:
The current carrying capacity of a welding cable depends on the length of the duty cycle. The duty cycle is the length of time during which a loaded current passes through the cable over an operation period of 5 minutes, expressed as a percentage of that period. For example, if the current is flowing for the whole 5 minutes the duty cycle is 100%, and if the current is flowing for 1 minute the duty cycle is 20%. As conductor temperature varies according to the time in use as well as current, ratings shown are given as a guide.

The permissible loading of the cable for duty cycles other than those shown in the table can be calculated using the following formula: $I = I100 \times \sqrt{100/F}$

Where:
I : is the maximum permissible loading current for the required duty cycle.
I100 : is the maximum permissible loading current for a duty cycle of 100%.
F : is the required duty cycle calculated as a percentage of the 5 minute operation period.

DE-RATING FACTORS

De-Rating Factor for Ambient Temperature 60°C Thermoplastic or Thermosetting Insulated Cords

AIR TEMPERATURE	25°C	30°C	35°C	40°C	45°C	50°C	55°C
DE-RATING FACTOR	1.0	0.96	0.91	0.87	0.82	0.76	0.71

NOTE

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