Since 1997

MIRACLECABLES®

Smart cable solutions

Vision

We aspire to be among the Top 5 specialty cable & harness manufacturers in India with a significant presence globally.

Mission

To manufacture high-quality wires and cables and wiring harnesses through eco-friendly processes, to meet Indian and international standards, and to exceed the expectations of our customers.

Objective

Quality and on-time delivery is our main objective which enables our organization to gain status as a leading specialty wires & cables and harness manufacturer.

Core Values

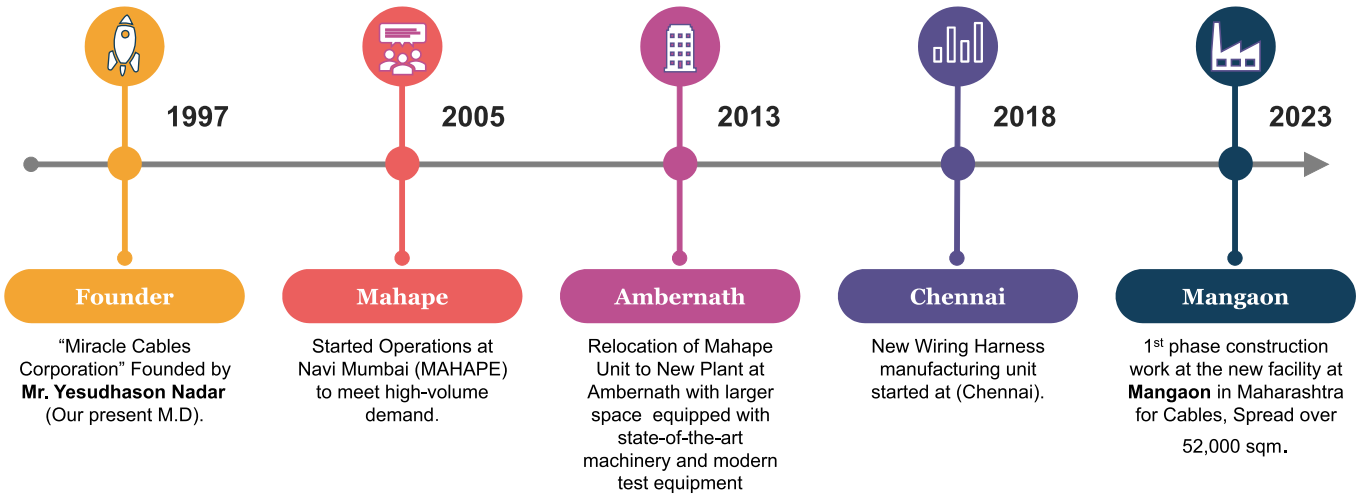
Miracle Cables (I) Pvt. Ltd. is always bound with a set of core values which are not limited to being company's success factors, but goes beyond to be a continuing source, including but not limited to:

- Exert the utmost effort to satisfy customers.
- Performing with absolute integrity and in conformity with the highest ethical standards.
- Engage at full capacity to produce the best and most appropriate products, while ensuring safety and reducing the proportion of fires.
- Excellence in customer service.
- Generate and provide greater value to our customers, by offering them a range of value-added services, and guiding them to the quality of electric wires and cables that are suitable for their basic need.
- Provide environmentally friendly cables.
- Community service and contributing towards a better tomorrow.

About Us

Miracle Cables (I) Pvt. Ltd. was founded in the year 1997 with aspirations to grow as a significant player in the cables industry. The company has an array of professionals dedicated to give exceptional products and services to its customers. Miracle Cables currently caters to several world class organizations in India as well as abroad.

Milestone Of Miracle



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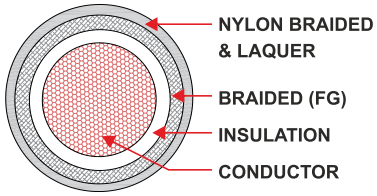
Uninyvin Cable

Single Core Uninyvin Cable



Application

These Uninyvin cables are used in electric panel wiring, high current testing leads, appliance wiring, power wiring system, air craft wiring and similar application.
These cables are economical and efficient to use as UPS battery cable. UPS wiring, battery bank interconnections and inter-connection wires apart from various other suitable applications. These cables are suitable for use in continuous service.

Construction

- Conductor : Annealed Tin plated copper, Flexible class-5. (IEC : 60228 / IS : 8130-84)
- Insulation : Heat resistance PVC insulated 105°C
- Protective Layer : Fibre glass & Nylon yarn braided
- Lacquering : Nylon lacquered (Natural white)

Properties

- Good moisture resistance
- Good abrasion resistance
- Good resistance to oil, fuel, alkali, chemicals, etc.
- Fire resistance, low smoke

Technical Parameter

- Operating temperature : -30°C to +105°C
- Rated voltage : 600V
- Standard compliance : BS G-177, IS: 10241, KSD-07-073
- Compliance : CE mark, RoHS

Dimension

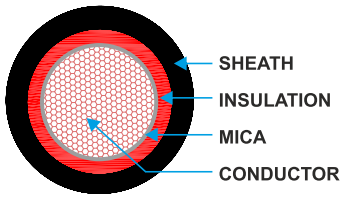
MCIPL	Uninyvin Cable	Size area	Conductor Diameter Max	Overall Diameter Max	Conductor Resistance @ 20°C"Max	Max Current Rating BS-G-177
Part Code	AWG	Sq.mm.	mm	mm	Ω/900m	Amps
0101T2201	22	0.347	0.838	2.00	49.66	11
0101T2001	20	0.566	1.04	2.30	30.95	14
0101T1801	18	0.966	1.32	2.50	17.82	18
0101T1601	16	1.17	1.55	2.80	14.70	21
0101T1401	14	2.05	1.95	3.40	8.41	31
0101T1201	12	3.22	2.43	3.80	5.35	43
0101T1001	10	5.33	3.15	5.00	3.23	61
0101T801	8	8.76	4.24	6.30	1.97	87
0101T601	6	13.3	5.54	7.50	1.30	115
0101T401	4	21.5	6.90	9.30	0.802	160
0101T201	2	33.3	8.76	11.00	0.517	200
0101T101	1	40.7	9.75	12.20	0.423	220
0101T001	0	53.0	11.0	13.70	0.325	240
0101T0001	00	68.3	12.4	15.40	0.252	270
0101T00001	000	84.2	13.9	16.90	0.204	300
0101T000001	0000	109	15.6	18.70	0.158	350

Note: These current rating are based on a temperature rise of 40°C and allow for an ambient temperature of 65°C. The maximum permissible conductor temperature is 105°C. If the ambient temperature 't' is continuously in excess of 65°C; the current should be multiplied by the factor 'k" where,

$$k = \sqrt{\frac{105 - t}{40}}$$

Fire Survival Cables

Single core Unarmoured



Application

Fire Survival or Circuit Integrity Cables (CIC) are essential for critical electrical circuits that must function in emergencies, such as safety circuits and life support circuits. These cables are typically used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings. They play a crucial role in ensuring that these infrastructures operate safely and reliably when needed the most.

Construction

- Conductor : Annealed copper conductor (IEC : 60228) class-5 / class-2
- Insulation : Halogen free XLPE primary insulation material (Type EI 5 to EN 50363-5)
- Cover / Tape : MICA tape fire resisting barrier
- Sheath : Flame retardant LSZH type LTS 1

Properties

- Resistance to fire alone : Cat.-C 950˚C / 3Hrs.
- Resistance to fire with water : Cat.-W
- Resistance to fire with mechanical shock : Cat.-Z / 950˚C
- Long-term circuit integrity in a fire (IEC 60331-21; BS 6387)
- Low smoke ASTM D-2843, and toxic gas emissions, zero halogen gases (IEC 61034-2, IEC 60754-1; EN 50267-2-1)
- UV resistance, hydrocarbon resistance, oil resistance, anti-rodent

Technical Parameter

- Operating temperature : –25°C to +90°C
- Rated voltage : 300 / 500 for 0.50 to 1.00mm², 600 / 1100V above 1.00mm²
- Standard compliance : IEC 60331; BS 6387: BS 8491: BS 8434/2, IEC 60332 - 1 & 3.
- Compliance : RoHS

RoHS

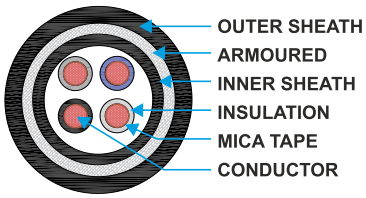
Single Core, Solid, Stranded, Flexible, Unarmoured Cable.

Part Code	Conductor No. of Cores × Cross-sectional Area	Conductor Class	Dimensional and Weight			
			Nominal Insulation Thickness	Min. Overall Diameter	Max. Overall Diameter	Approx. Weight
	No.×mm²		mm	mm	mm	kg/km
0201T010005S	1×0.5	1	0.6	2.9	3.3	13.5
0201T010007S	1×0.75	1	0.6	3.1	3.5	16.5
0201T010010S	1×1.0	1	0.6	3.2	3.7	19.7
0201T010005R	1×0.5	2	0.6	3.0	3.4	14.4
0201T010007R	1×0.75	2	0.6	3.2	3.6	17.3
0201T010010R	1×1.0	2	0.6	3.3	3.8	21.3
0201T010005F	1×0.5	5	0.6	3.1	3.5	14.2
0201T010007F	1×0.75	5	0.6	3.2	3.7	17.7
0201T010010F	1×1.0	5	0.6	3.4	3.8	20.7

Note: Conductor class-2, class-5 Available on customer request

Fire Survival Cables

Multi core Armoured



Application

These cables, also known as Circuit Integrity Cables, are designed to withstand high temperatures for a certain minimum period under direct fire. These cables are useful to maintain circuit integrity during the defined period of fire, and their construction differs from that of ordinary cables. The conductor is manufactured with specially designed heat barriers and fire-resistant insulation, preventing fire from reaching the conductor surface. These cables operate at high temperatures of up to 650°C, 750°C, and 950°C, depending on various operational conditions and applications. They are commonly used in power stations, mass transit underground passenger systems, airports, petrochemical plants, hotels, hospitals, and high-rise buildings.

Construction

- Conductor : Annealed copper conductor (IEC : 60228) class-2 / class-5
- Insulation : Halogen free XLPE primary insulation material (Type EI 5 to EN 50363-5)
- Tape : MICA tape fire resisting barrier
- Inner sheath : LSZH
- Armouring : G.I. round wire
- Outher sheath : Flame retardant LSZH type LTS 1

Properties

- Resistance to fire alone : Cat.-C 950˚C / 3Hrs.
- Resistance to fire with water : Cat.-W
- Resistance to fire with mechanical shock : Cat.-Z / 950˚C
- Long-term circuit integrity in a fire (IEC 60331-21; BS 6387 CWZ)
- Low smoke ASTM D-2843, and toxic gas emissions, zero halogen gases (IEC 61034-2, IEC 60754-1; EN 50267-2-1)
- UV resistance, hydrocarbon resistance, oil resistance, anti-rodent

Technical Parameter

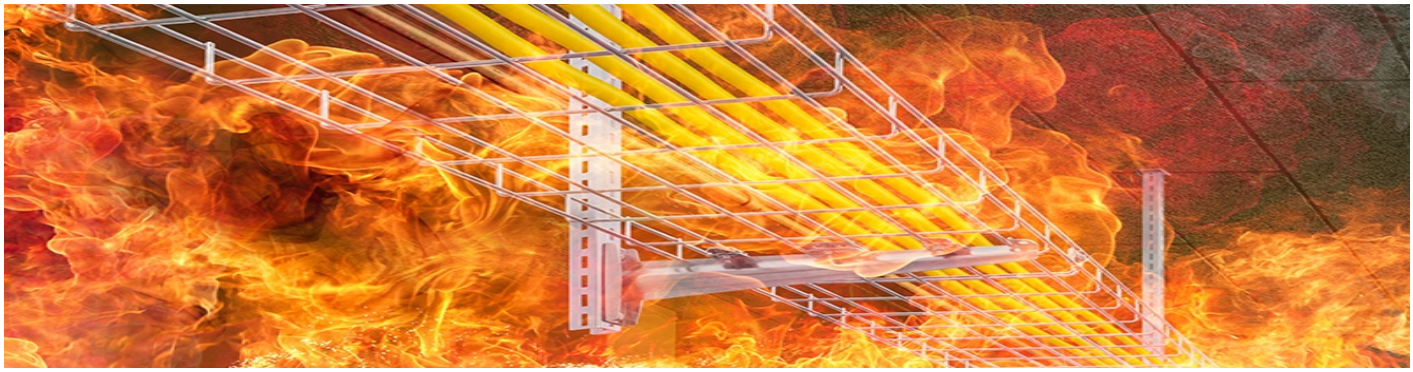
- Operating temperature : -25°C to +90°C
- Rated voltage : 600 / 1000V
- Standard compliance : BS : 7846, IEC 60331, BS 6387, BS 8491: BS : 8434 / 2, BS : 7655, BS : 50363-5, IEC 60332 - 1 & 3 cat A,B,C.
- Compliance : RoHS

RoHS

Multi Core, Flexible, Armoured Cable

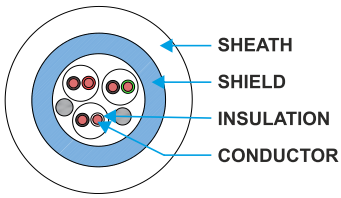
Part Code	Nom. C.S. Area.	No. of Core	Insulation Thick	Nom. Armour Wire Dia	Diameter Under Armoured	Overall Diameter Approx.	Max. DC Conductor Resistance	Max. AC Conductor Resistance	Approx. Cable Wt.
	mm²		mm	mm	mm	mm	(Ω/km @ 20°C)	(Ω/km @ 90°C)	kg/km
0202T020015	1.50	2	0.60	0.90	8.50	13.0	12.10	15.42	415
0202T020025	2.50	2	0.70	0.90	10.0	14.5	7.41	9.44	495
0202T020040	4.0	2	0.70	0.90	11.0	15.5	4.61	5.87	575
0202T020060	6.0	2	0.70	0.90	12.5	17.0	3.08	3.92	655
0202T020100	10	2	0.70	0.90	14.0	19.0	1.83	2.33	820
0202T020160	16	2	0.70	1.25	16.0	21.5	1.15	1.46	1005
0202T030015	1.50	3	0.60	0.90	9.0	13.50	12.1	15.42	423
0202T030025	2.50	3	0.70	0.90	10.5	15.0	7.41	9.44	544
0202T030040	4.0	3	0.70	0.90	11.5	16.5	4.61	5.87	644
0202T030060	6.0	3	0.70	0.90	13.0	17.5	3.08	3.92	738
0202T030100	10	3	0.70	1.25	15.0	20.5	1.83	2.33	1085
0202T030160	16	3	0.70	1.25	17.0	22.5	1.15	1.46	1313
0202T040015	1.50	4	0.60	0.90	10.0	14.8	12.1	15.42	522
0202T040025	2.50	4	0.70	0.90	11.5	16.0	7.41	9.44	618
0202T040040	4.0	4	0.70	0.90	13.0	17.8	4.61	5.87	725
0202T040060	6.0	4	0.70	1.25	14.50	20.0	3.08	3.92	985
0202T040100	10	4	0.70	1.25	16.5	22.0	1.83	2.33	1255

Note: Conductor Class-2 available on customer request.



Instrumentation Cable

Multi Pair Overall - Shield Unarmoured Cables



Application

Instrumentation cables are used in diverse applications for control, monitoring, communication, data and voice transmission signals and process control circuits in industrial applications such as oil, gas, petrochemical industry, fertilizers, cement, steel plants, etc.

Construction

- Conductor : Plain or tin plated copper, class-1 solid, class-2 stranded, class-5 flexible as per IS : 8130, BS : 6360, IEC : 60228)
- Insulation : PVC-70°C / HR-85°C / 105°C, BS 5308 or polyethylene to BS 6234
- Pair / Triad identification : Identifications can be done by numbered polyester tape applied over each Pair / Triad or by number printing on a core of each Pair / Triad
- Overall screen : Multiple Pair / Triad laid up together and shielded with aluminium-mylar tape along with tinned copper drain wire. Longitudinal shielding of copper tape can also be provided
- Outer sheath : Extruded PVC / FR / FRLS / LSZH sheathed

Properties

- Halogen free
- Excellent fire resistance
- No smoke and fume generation
- Low gas emission
- Good mechanical tensile strength & elongation

Technical Parameter

Parameter	Unit	Conductor Size				
		0.5mm² 1/0.8 mm	0.5mm² 16/0.2 mm	0.75mm² 24/0.2 mm	1.0mm² 1/1.13 mm	1.5mm² 7/0.53 mm
Insulation Thickness	mm	0.50	0.50	0.50	0.50	0.60
Conductor (Bare) resistance	Ω/Km (max.)	36	39	26	18.1	12.1
Insulation resistance	MΩ x Km	> 36.7	> 36.7	> 36.7	> 36.7	> 36.7
Mutual capacitance (c to c)	pF/m (max.)	250	250	250	250	250
Mutual capacitance (c to s)	pF/m (max.)	450	450	450	450	450
Inductance/ resistance ratio (L/R)	µH/Ω (max.)	25	25	25	25	40

NABL RoHS

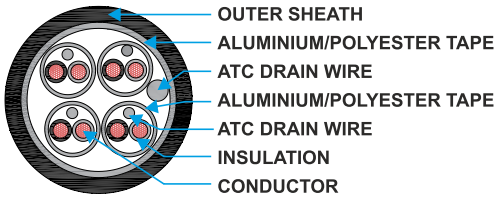
Multipair Instrumentation Cables (unarmoured) - BS 5308 Part 1 Type 1-Collectively Screened

Part code	Conductor	Number of Pairs	Nominal Overall Diameter (mm)	Approx. Weight (kg/km)
0301T010005	16/0.2mm (0.5mm²)	1	6.4	60
0301T020005		2	7.3	80
0301T050005		5	12.5	200
0301T100005		10	16.6	340
0301T200005		20	21.7	570
0301T300005		30	26.3	790
0301T010007	24/0.2mm (0.75mm²)	1	6.7	75
0301T020007		2	7.7	100
0301T050007		5	13.7	250
0301T100007		10	18.1	450
0301T200007		20	23.9	800
0301T300007		30	28.9	1130
0301T010010S	1/1.13mm (1.0mm²)	1	6.8	85
0301T020010S		2	7.8	115
0301T050010S		5	13.7	290
0301T100010S		10	17.8	500
0301T200010S		20	23.8	950
0301T300010S		30	28.4	1330
0301T010015	7/0.53mm (1.5mm²)	1	7.7	100
0301T020015		2	9.1	150
0301T050015		5	15.8	360
0301T100015		10	21.0	670
0301T200015		20	27.9	1230
0301T300015		30	33.7	1720

Solid conductor on request

Instrumentation Cable

Multi Pair Individual & Overall Shielded Unarmoured



Application

Instrumentation cables are used in diverse applications for control, monitoring, communication, data and voice transmissions signals, and process control circuit in industrial applications such as oil, gas, petrochemical industry, fertilizers, cement, steel plant etc.

Characteristics

- Signal protection between pairs.
- Good electromagnetic protection from external influences.
- Excellent electrical, thermal & physical properties.
- Flame / Fire retardant- highly recommended in areas with high explosion & fire risks.
- Excellent mechanical protection during laying, installation & service.
- Optional class-5 conductor provides extra flexibility

Properties

- Halogen free
- Excellent fire resistance
- No smoke and fume generation
- Low gas emission
- Good mechanical tensile strength & elongation

Construction

- Conductor : Plain or tin plated copper, class-1 solid, class-2 stranded, class-5 flexible as per IS : 8130, BS : 6360, IEC : 60228).
- Insulation : PVC-70°C/HR-85°C /105°C., BS 5308 or polyethylene to BS 6234.
- Individual screen : Twisted pair or triad are individually shielded with aluminium-mylar tape along with tin copper drain wire. longitudinal. shielding of copper tape can also be provided as per customer specific requirements.
- Pair/Triad identification: Identifications can be done by numbered polyester tape applied over each Pair / Triad or by number printing on core of each Pair/triad.
- Overall screen : Multi Pair / Triad are laid up together and are shielded with aluminium-mylar tape along with tin copper drain wire longitudinal. Shielding of copper tape can also be provided.
- Outer sheath : Extruded PVC / FR / FRLS / LSZH sheathed

Technical Parameter

Parameter	Unit	Conductor Size				
		0.5mm² 1/0.8 mm	0.5mm² 16/0.2 mm	0.75mm² 24/0.2 mm	1.0mm² 1/1.13 mm	1.5mm² 7/0.53 mm
Insulation Thickness	mm	0.50	0.50	0.50	0.50	0.60
Conductor (Bare) resistance	Ω/Km (max.)	36	39	26	18.1	12.1
Insulation resistance	MΩ x Km	> 36.7	> 36.7	> 36.7	> 36.7	> 36.7
Mutual capacitance (c to c)	pF/m (max.)	250	250	250	250	250
Mutual capacitance (c to s)	pF/m (max.)	450	450	450	450	450
Inductance/ resistance ratio (L/R)	µH/Ω (max.)	25	25	25	25	40

NABL RoHS

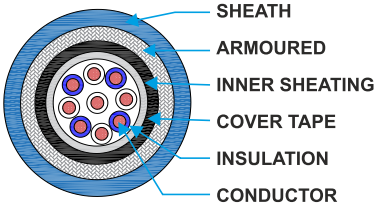
Multipair Instrumentation Cables (unarmoured)
To BS 5308 Part 1 Type 1-Individual Pair And Collectively Screened

Part code	Conductor	Number of Pairs	Nominal Overall Diameter (mm)	Approx. Weight (kg/km)
0302T020005S	1/0.8mm (0.5mm²)	2	9.7	100
0302T050005S		5	12.9	190
0302T100005S		10	17.7	320
0302T200005S		20	22.9	570
0302T300005S		30	27.3	820
0302T020005	16/0.2mm (0.5mm²)	2	11.4	160
0302T050005		5	14.6	250
0302T100005		10	20.5	480
0302T200005		20	26.7	780
0302T300005		30	31.7	1100
0302T020007	24/0.2mm (0.75mm²)	2	12.2	190
0302T050007		5	15.7	270
0302T100007		10	21.8	550
0302T200007		20	28.5	960
0302T300007		30	33.7	1320
0302T020010S	1/1.13mm (1.0mm²)	2	12.2	190
0302T050010S		5	15.6	270
0302T100010S		10	22.0	480
0302T200010S		20	29.2	910
0302T300010S		30	34.8	1320
0302T020015	7/0.53mm (1.5mm²)	2	13.7	250
0302T050015		5	17.8	400
0302T100015		10	25.2	800
0302T200015		20	33.8	1400
0302T300015		30	40.0	2040

Note: S=Solid

Instrumentation Cable

Multi Pair Overall-Shield Armoured



Application

Instrumentation cables are used in diverse applications for control, monitoring, communication, data and voice transmissions signals, and process control circuit in industrial applications such as oil, gas, petrochemical industry, fertilizers, cement, steel plant etc.

Characteristics

- Signal protection between pairs.
- Good electromagnetic protection from external influences.
- Excellent electrical, thermal & physical properties.
- Flame / Fire retardant- highly recommended in areas with high explosion & fire risks.
- Excellent mechanical protection during laying, installation & service.
- Optional class-5 conductor provides extra flexibility

Properties

- Halogen free
- Excellent fire resistance
- No smoke and fume generation
- Low gas emission
- Good mechanical tensile strength & elongation

Construction

- Conductor : Plain or tin plated copper, class-1 solid, class-2 stranded, class-5 flexible as per IS : 8130, BS 6360, IEC : 60228).
- Insulation : PVC-70°C/HR-85°C /105°C., BS 5308 or polyethylene to BS 6234.
- Pair / Triad identification: Identifications can be done by numbered polyester tape applied over each Pair/Triad or by number printing on core of each Pair / Triad.
- Overall screen : Multi Pair / Triad are laid up together and are shielded with aluminium-mylar tape along with tin copper drain wire longitudinal. Shielding of copper tape can also be provided.
- Inner sheath : Extruded PVC / LSZH inner sheath applied.
- Armour : Galvanized steel wire or strip are applied spirally over inner sheath as a mechanical protection.
- Outer sheath : Extruded PVC / FR / FRLS / LSZH sheathed (IEC 60502-1)

RoHS CE

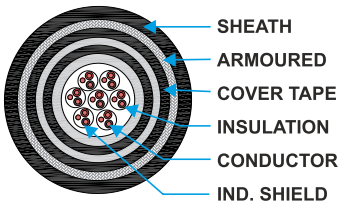
Multipair Instrumentation Cables (Armoured)
To BS 5308 Part 1 Type 2-Collectively Screened

Part code	Conductor	Number of Pairs	Nominal Dia Under Armour (mm)	Nominal Overall Dia (mm)	Armour Wire Dia (mm)	Approx Weight (kg/km)
0303T010005S	1/0.8mm (0.5mm2)	1	5.3	10.1	0.9	225
0303T020005S		2	6.1	10.9	0.9	250
0303T050005S		5	10.6	15.6	0.9	430
0303T100005S		10	14.0	20.1	1.25	730
0303T200005S		20	18.4	25.4	1.6	1200
0303T300005S		30	22.0	29.2	1.6	1500
0303T010005	16/0.2mm (0.5mm2)	1	4.5	10.8	0.9	250
0303T020005		2	6.9	11.7	0.9	300
0303T050005		5	9.9	17.3	0.9	560
0303T100005		10	16.2	22.3	1.25	970
0303T200005		20	22.3	28.5	1.6	1640
0303T300005		30	32.9	33.3	1.6	2110
0303T010007	24/0.2mm (0.75mm2)	1	6.3	11.1	0.9	280
0303T020007		2	7.3	12.3	0.9	330
0303T050007		5	13.3	19.2	1.25	750
0303T100007		10	17.7	24.7	1.6	1260
0303T200007		20	23.5	30.7	1.6	1890
0303T300007		30	28.5	36.9	1.6	2440
0303T010010S	1/1.13mm (1.0mm2)	1	6.4	11.2	0.9	290
0303T020010S		2	7.4	12.4	0.9	345
0303T050010S		5	13.2	19.1	1.25	790
0303T100010S		10	17.4	23.7	1.25	1310
0303T200010S		20	23.3	30.6	1.6	2040
0303T300010S		30	28.0	35.6	1.6	2640
0303T010015	7/0.53mm (1.5mm2)	1	7.3	12.3	0.9	330
0303T020015		2	13.3	13.7	0.9	420
0303T050015		5	21.1	21.5	1.25	940
0303T100015		10	27.4	27.8	1.6	1050
0303T200015		20	27.5	35.1	1.6	2400
0303T300015		30	27.8	41.9	1.6	3120

Note: S=Solid

Instrumentation Cable

Multi Pair Individual & Overall-Shielded Armoured.



Application

Instrumentation cables are used for diverse applications within industrial process manufacturing plants for control, monitoring, communication, data and voice transmission signals and process control circuits in industrial applications such as oil, gas, petrochemical industry, fertilizers, cement, steel plants, etc.

Properties

- Halogen free
- Excellent fire resistance
- No smoke and fume generation
- Low gas emission
- Good mechanical tensile strength & elongation

Technical Parameter

Parameter	Unit	Conductor Size				
		0.5mm² 1/0.8 mm	0.5mm² 16/0.2 mm	0.75mm² 24/0.2 mm	1.0mm2 1/1.13 mm	1.5mm² 7/0.53 mm
Insulation Thickness	mm	0.50	0.50	0.50	0.50	0.60
Conductor (Bare) resistance	Ω/Km (max.)	36	39	26	18.1	12.1
Insulation resistance	MΩ x Km	> 36.7	> 36.7	> 36.7	> 36.7	> 36.7
Mutual capacitance (c to c)	pF/m (max.)	250	250	250	250	250
Mutual capacitance (c to s)	pF/m (max.)	450	450	450	450	450
Inductance/ resistance ratio (L/R)	µH/Ω (max.)	25	25	25	25	40

Construction

- Conductor : Plain or tin plated copper, class-1 solid, class-2 stranded, class-5 flexible as per IS : 8130, BS 6360, IEC : 60228)
- Insulation : PVC-70°C/HR-85°C /105°C., BS 5308 or polyethylene to BS 6234
- Individual screen : Twisted Pair or Triad are individually shielded with aluminium-mylar tape along with tin copper drain wire. longitudinal. shielding of copper tape can also be provided as per customer specific requirements
- Pair / Triad identification: Identifications can be done by numbered polyester tape applied over each Pair / Triad or by number printing on core of each Pair / triad
- Overall screen : Multi Pair / Triad are laid up together and are shielded with aluminium-mylar tape along with tin copper drain wire longitudinal. Shielding of copper tape can also be provided
- Inner sheath : Extruded PVC / LSZH inner sheath applied
- Armour : Galvanized steel wire or strip are applied spirally over inner sheath as a mechanical protection.
- Outer sheath : Extruded PVC / FR / FRLS / LSZH Sheathed

Characteristics

- Signal protection between pairs.
- Good electromagnetic protection from external influences.
- Excellent electrical, thermal & physical properties.
- Flame / Fire retardant- highly recommended in areas with high explosion & fire risks.
- Excellent mechanical protection during laying, installation & service.
- Optional class-5 conductor provides extra flexibility

RoHS

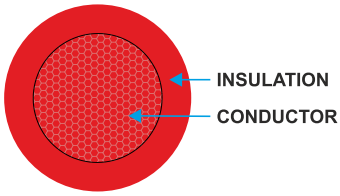
Multipair Instrumentation Cables (Armoured)
To BS 5308 Part 1 type 2-Individual Pair And Collectively Screened

Part code	Conductor	Number of Pairs	Nominal Dia Under Armour (mm)	Nominal Overall Dia (mm)	Armour Wire Dia (mm)	Approx Weight (kg/km)
0304T020005S	1/0.8mm (0.5mm²)	2	10.1	14.3	0.9	411
0304T050005S		5	13.5	18.4	1.25	686
0304T100005S		10	18.3	23.6	1.25	1037
0304T200005S		20	23.5	29.7	1.6	1664
0304T300005S		30	27.9	34.3	1.6	2136
0304T020005	16/0.2mm (0.5mm²)	2	12.0	15.8	0.9	460
0304T050005		5	15.2	20.1	1.25	760
0304T100005		10	21.1	27.0	1.6	1300
0304T200005		20	27.3	33.3	1.6	1870
0304T300005		30	32.3	39.6	2.0	2620
0304T020007	24/0.2mm (0.75mm²)	2	12.8	16.8	0.9	500
0304T050007		5	16.2	21.1	1.25	920
0304T100007		10	22.6	28.6	1.6	1610
0304T200007		20	29.8	37.0	2.0	2420
0304T020010S	1/1.13mm (1.0mm²)	2	12.8	17.0	0.9	515
0304T050010S		5	16.2	21.3	1.25	950
0304T100010S		10	22.6	28.8	1.6	1670
0304T200010S		20	29.8	37.2	2.0	2540
0304T020015	7/0.53mm (1.5mm²)	2	14.7	19.5	1.25	730
0304T050015		5	18.4	24.5	1.6	1180
0304T100015		10	26.5	32.3	1.6	1820
0304T200015		20	28.0	41.3	2.0	3030

Note: 1 S=solid
Note: 2 Bare Copper On request

Single Core / Hook Up Wires

Flame Retardant Low Smoke Cables



Application

These cables are used for wiring domestic and commercial buildings, control panels, machinery, electronic items and industrial applications, etc.

Construction

- Conductor : Plain or tin-plated copper, class-2 / class-5 flexible as per IS: 8130
- Insulation : Conforming: IS 5831, Type A - FRLS especially flame-retardant low smoke PVC insulation is used
- Standard : IS-694

Properties

- Limited oxygen index > 29%
- Limited temp. index >250 °C
- Low smoke density < 60%
- HCL acid gas generates < 20%
- Excellent electrical & mechanical properties
- High flame retardant & fire-resistant properties
- Lead (Pb) free non-toxic alternatives
- Higher flexibility ensure easy handling & longer life
- Steam and boiling water resistant & anti-rodent

Technical Parameter

- Voltage rating : 650V / 1100V
- Temp rating : -25°C to +70°C, short circuit : 160°C
- Bending radius : 4 to 6 x diameter of cable

IS : 694 RoHS CE

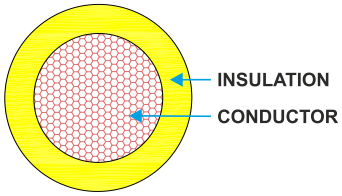
Table-A : Single Core, Flexible Cable

Part Code	Cross Section Area	Construction	Insulation Thickness (Nom.)	Overall Diameter (approx.)	Conductor Resistance @ 20°C maximum	Cable Weight Approx.
	mm^2	No. / mm	mm	mm	Ohm/km	Kg/Km
0401B010005xx	0.50	16/0.20	0.6	2.20	39.0	9
0401B010007xx	0.75	24/0.20	0.6	2.40	26.0	12
0401B010010xx	1.0	14/0.30	0.7	3.00	18.1	14
0401B010015xx	1.5	22/0.30	0.7	3.20	12.1	20
0401B010025xx	2.5	36/0.30	0.8	3.80	7.41	32
0401B010040xx	4	56/0.30	0.8	4.50	4.95	49
0401B010060xx	6	84/0.30	0.8	5.50	3.3	70
0401B010100xx	10	140/0.30	1.00	6.70	1.91	118
0401B010160xx	16	126/0.40	1.00	8.20	1.21	180
0401B010250xx	25	196/0.40	1.20	10.0	0.78	280
0401B010350xx	35	276/0.40	1.20	11.3	0.554	375
0401B010500xx	50	396/0.40	1.40	13.5	0.386	535
0401B010700xx	70	360/0.50	1.40	15.5	0.272	730
0401B010950xx	95	475/0.50	1.60	18.5	0.206	995
0401B011200xx	120	608/0.50	2.0	20.9	0.161	1269
0401B011500xx	150	750/0.50	2.0	22.5	0.129	1540

Note-1 : Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required:01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.
Note-2 : Solid, stranded conductor available on request.

Single Core / Hook Up Wires

Heat-resistant Flame Retardant (HRFR) Cables



Application

- Suitable for use in conduit system and fixed installation
- Control panel boards, electrical devices
- Construction, petrochemical & allied industries

Construction

- Conductor : Plain or tin-plated copper, class-2 stranded, class-5 flexible as per IS : 8130
- Insulation : Conforming : IS 5831, Type C
  Specially formulated heat resistant & flame retardant PVC insulation is used
- Standard : IS-694

Properties

- Limited oxygen index > 29%
- Limited temp. index > 250 °C
- Heat resistance
- Flame retardant
- Anti-rodent, anti-termite
- 100% electrolytic copper

Technical Parameter

- Voltage rating : 650V/1100V
- Temp rating : - 25°C to +85°C /105°C
- Short circuit : 160°C
- Bending radius : 4 to 6 x diameter of cable

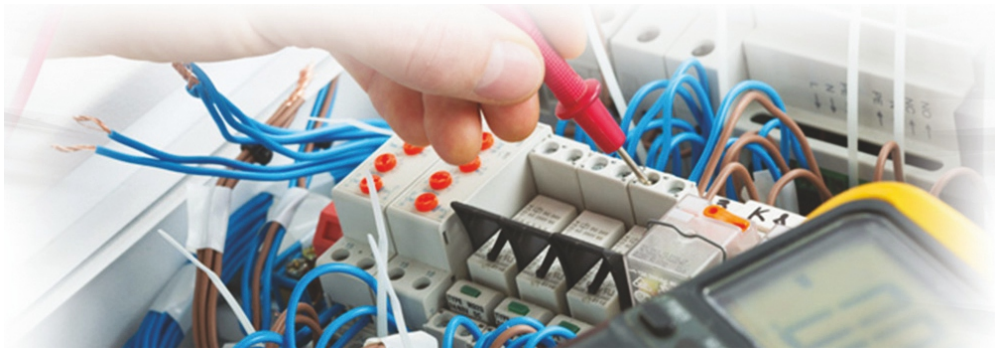
IS : 694 RoHS CE

Table-A : Single Core, Flexible, Unsheathed Cable

Part Code	Area in	Conductor construction	Conductor Dia.	Max. DC Resistance	Insulation Thickness in	Cable Dia (Approx.)	Cable Weight Approx.
	Sq. mm	No. Wire/ mm	mm	Ω/Km @ 20°C	mm Nominal	mm	Kg/Km
0402B010005xx	0.50	16/0.20	0.94	39.0	0.60	2.20	9
0402B010007xx	0.75	24/0.20	1.20	26.0	0.60	2.50	12
0402B010010xx	1.00	32/0.20	1.34	19.5	0.60	2.60	14
0402B010015xx	1.50	*30/0.20	1.64	13.3	0.60	2.90	20
0402B010025xx	2.50	**50/0.25	2.08	7.98	0.70	3.50	32
0402B010040xx	4.00	56/0.30	2.61	4.95	0.80	4.30	49
0402B010060xx	6.00	84/0.30	3.50	3.30	0.80	5.30	70
0402B010100xx	10.0	140/0.30	4.60	1.910	1.00	6.70	118
0402B010160xx	16.0	101/0.45	6.00	1.210	1.00	8.20	180
0402B010250xx	25.0	158/0.45	7.60	0.780	1.20	10.0	280
0402B010350xx	35.0	220/0.45	8.70	0.554	1.20	11.3	375
0402B010500xx	50.0	315/0.45	10.6	0.386	1.40	13.5	535
0402B010700xx	70.0	440/0.45	12.3	0.272	1.40	15.5	730
0402B010950xx	95.0	485/0.50	14.7	0.206	1.60	18.5	995
0402B011200xx	120	608/0.50	16.7	0.161	2.00	20.9	1269
0402B011500xx	150	750/0.50	18.3	0.129	2.00	22.5	1540
0402B011850xx	185	925/0.50	20.0	0.106	2.20	24.6	1890
0402B012400xx	240	1221/0.50	23.0	0.0801	2.20	27.6	2450

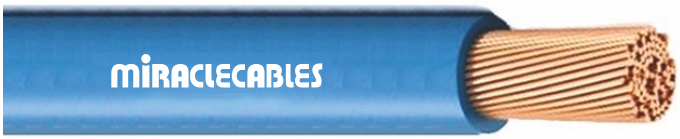
* This size can be supplied in 48/0.2 construction.
**This size can be supplied in 80/0.2 construction.

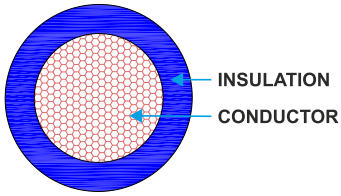
Note-1 : Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.
Note-2 : Solid, standard available on request.



Harmonized Cable

H05V-K / H05V2-K





Application

This cable is used in power current installations, switch cabinets, motors and transformers which are subject to direct contact with high temperatures (e.g., varnishing machines and drying towers etc.).
These are also suitable for inside wiring of electrical equipment such as lighting and heating apparatus.
The product is conformed with the EC low-voltage directive 2006/95/EG

Construction

- Plain copper conductors to DIN VDE 0295, Class-5 flexible, DIN EN 60228.
- Special heat-resistant core insulation up to +70 °C. Heat-resistant TI1 to DIN VDE 0281 part 1

Properties

- Heat-resistant special PVC compound
- PVC self-extinguishing and flame retardant according to DIN EN - 60332-1-2
- Free from substances harmful to the wetting properties of lacquers
- Lead-Free (RoHS)

Technical Parameter

- Temp range : Flexing + 5 °C to + 70 °C, Fixed installation - 30 °C to + 80°C, Short circuit temp + 160 °C.
- Nominal voltage : H05V-K / H05V2-K: 300/500 V
- Test voltage : 2.5 kV
- Insulation resistance : min. 10 MOhm x km
- Mini. bending radius : Approx. 4-8x core ø

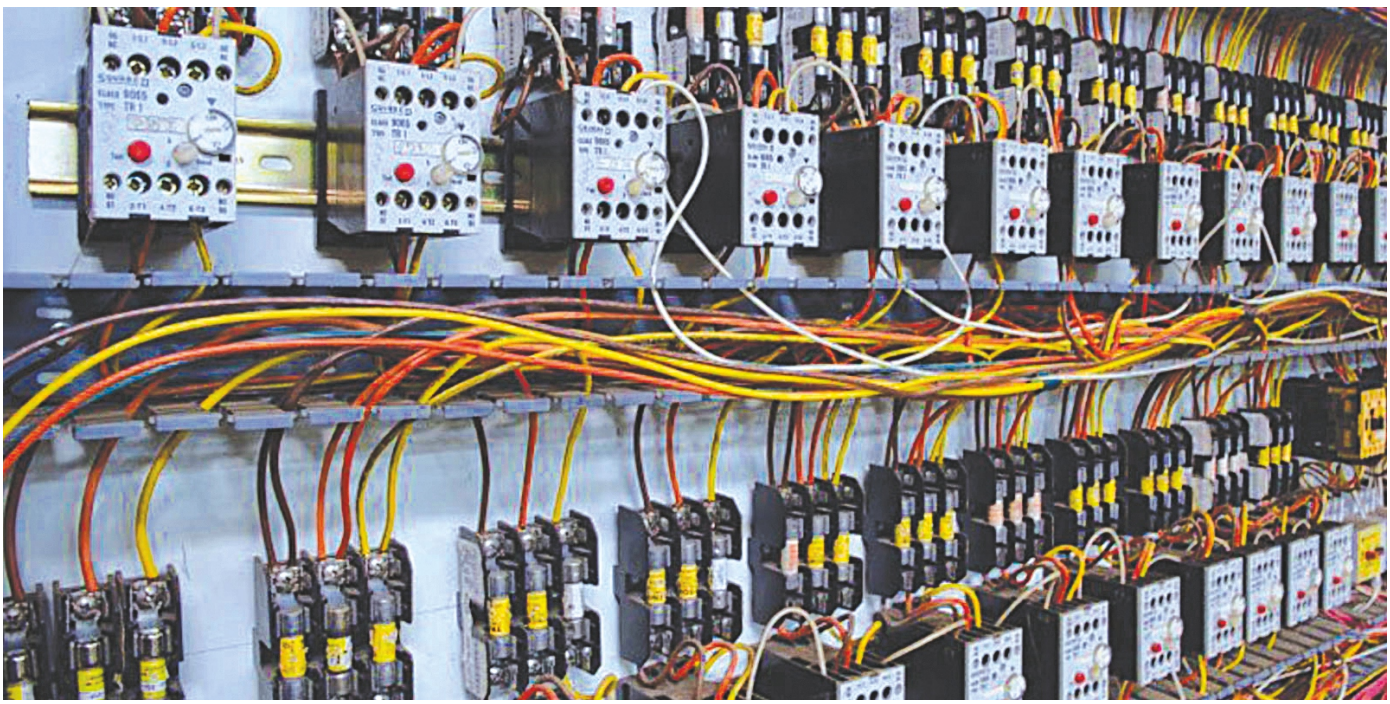
RoHS CE

PVC Cable H05V-K / H05V2-K

Part Code	Size	Insulation Thickness	Overall Diameter	Weight of Cable Approx.
	Sq.mm.	mm	mm	Kg/km
0501B010005XXY	0.50	0.60	2.20	9
0501B010007XXY	0.75	0.60	2.40	12
0501B010010XXY	1.00	0.60	2.60	14

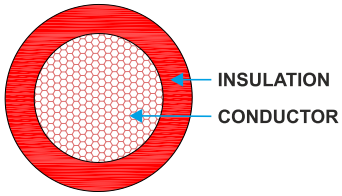
Note1: Part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Note2: (in place of 'Y') 1=H05V-K 70°C, 2=H05V2-K 90°C



Harmonized Cable

H07V-K/ H07V2-K



Application

This cable used in power current installations, switch cabinets, motors and transformers which are subject to direct contact with high temperatures (e.g., varnishing machines and drying towers etc.).
These are also suitable for inside wiring of electrical equipment such as lighting and heating apparatus.
The product is conformed with the EC low-voltage directive 2006/95/EG

Construction

- Plain copper conductors to DIN VDE 0295, class-5 flexible, DIN EN 60228.
- Special heat-resistant core insulation up to +90 °C. Heat-resistant TI3 to DIN VDE 0281 part 1 (HD 21.1)

Properties

- Heat-resistant special PVC compound
- PVC self-extinguishing and flame retardant according to DIN EN - 60332-1-2
- Free from substances harmful to the wetting properties of lacquers.
- Lead free (RoHS)

Technical Parameter

- Temp range : Flexing + 5 °C to + 90 °C, Fixed installation - 40 °C to + 90°C, Short circuit temp + 160 °C.
- Nominal voltage : H07V-K/ H07V2-K: 450/750 V
- Test voltage : 2.5 kV
- Insulation resistance : min. 20 MOhm x km
- Mini. bending radius : Approx. 10-15x core ø

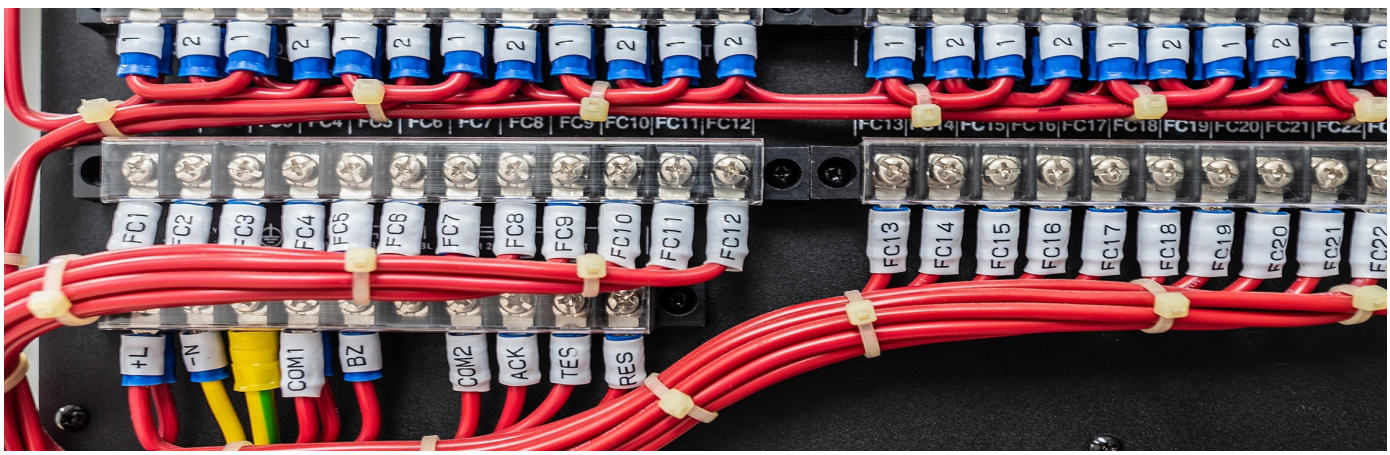
RoHS CE

PVC Cable H07V-K / H07V2-K

Part Code	Size	Insulation Thickness	Overall Diameter	Weight of Cable Approx.
	Sq.mm.	mm	mm	Kg/km
0502B010015XXY	1.50	0.70	3.4	20
0502B010025XXY	2.5	0.80	4.10	32
0502B010040XXY	4.00	0.80	4.80	49
0502B010060XXY	6.00	0.80	5.30	70
0502B010100XXY	10	1.00	6.80	118
0502B010160XXY	16	1.00	8.10	180
0502B010250XXY	25	1.20	10.2	280
0502B010350XXY	35	1.20	11.7	377
0502B010500XXY	50	1.40	13.9	539
0502B010700XXY	70	1.40	16.00	730
0502B010950XXY	95	1.60	18.20	990
0502B011200XXY	120	1.60	20.20	1250
0502B011500XXY	150	1.80	22.50	1500
05022B011850XXY	185	2.00	24.90	1850
0502B012400XXY	240	2.20	28.40	2450

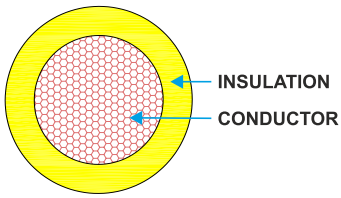
Note1: Part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Note2: (in place of 'y') 1=H07V-K 70°C, 2=H07V2-K 90°C



Halogen Free Flame Retardant

H05Z-K / H07Z-K



Application

Halogen-free single-core wires are used for installation in dry environments for wiring up lighting fixtures and units where valuable assets are to be protected from further damage resulting from fire.

These cables may be used in closed installation ducts. The direct operating voltages is permitted up to 900 V against ground when they are used in rail-coaches. For the inner wiring of switch boards and distributors these are to be used with an alternating nominal voltage up to 1000V or a direct voltage up to 750V against ground.

Construction

- Conductor class 5 flexible plain/metal coated stranded according to EN 60228.
- Insulation polyoletin cross linked EI5 to EN 50363-5.

Properties

PVC self-extinguishing and flame retardant according to EN 60332-1-2.
Minimum bending radius :
Cable diameter ≤ 8 mm : 4 x outer diameter
Approx. diameter > 8 to 12 mm : 5 x outer diameter
Approx. diameter > 12 mm : 6 x outer diameter

Technical Parameter

- Nominal voltage : H05Z-K, 300 / 500V, H07Z-K, 450 / 750V
- Test voltage : 2500V
- Temperature range : -15°C to +90°C
- Harmonised design. : 0.50mm² to 1.00mm² - H05Z-K, 1.5 mm² to 240 mm² - H07Z-K

RoHS CE

H05Z-K

Part Code	Nom. Cross Sect. Area mm²	Nom. Thickness of Insulation mm	Mean Overall Diameter		Approx.
			Lower Limit mm	Upper Limit mm	Cable Weight kg/km
0601B010005xx	0.5	0.6	2.1	2.5	9
0601B010007xx	0.75	0.6	2.2	2.7	12
0601B010010xx	1.0	0.6	2.4	2.8	15

H07Z-K

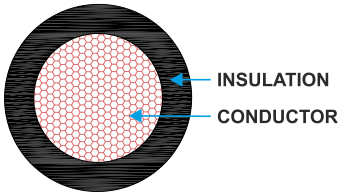
Part Code	Nom. Cross Sect. Area mm²	Nom. Thickness of Insulation mm	Mean Overall Diameter		Approx.
			Lower Limit mm	Upper Limit mm	Cable Weight kg/km
0601B010015xx	1.5	0.7	2.8	3.4	21
0601B010025xx	2.5	0.8	3.4	4.1	33
0601B010040xx	4	0.8	3.9	4.8	47
0601B010060xx	6	0.8	4.4	5.3	66
0601B010100xx	10	1.0	5.7	6.8	112
0601B010160xx	16	1.0	6.7	8.1	170
0601B010250xx	25	1.2	8.4	10.2	261
0601B010350xx	35	1.2	9.7	11.7	358
0601B010500xx	50	1.4	11.5	13.9	510
0601B010700xx	70	1.4	13.2	16.0	927
0601B010950xx	95	1.6	15.1	18.2	510
0601B011200xx	120	1.6	16.7	20.2	1170
0601B011500xx	150	1.8	18.6	22.5	1459
0601B011850xx	185	2.0	20.6	24.9	1776
0601B012400xx	240	2.2	23.5	28.4	2333

Note-1: Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Note-2: Tinned copper on request

Halogen Free Flame Retardant

Halogen Free Cables



Application

These cables are used in applications requiring high safety as in
- Public buildings, Theaters, Airports, Railways, Marine
- Educational institutions, residential & commercial complexes
- Green buildings, Hospitals, Hostels, Hotels

Construction

- Conductor : Plain or Tin-plated copper, class-2 / class-5 flexible as per IS: 8130 / IEC 60228
- Insulation : LSZH Compound
- Compliances Standard : IEC 60502-1, EN 50268 / IEC 61034,EN 50267-2-2, IEC 60754-2
- Standard : IS-17048

Properties

- Limited Oxygen Index > 29%
- Limited Temp. Index >250°C
- Low smoke Density < 20%
- HCL acid gas generates < 0.50%
- Excellent flame-retardancy
- Halogen Free, Low smoke generation
- Low toxic gas emission

Technical Parameter

- Voltage rating : 650V / 1100V
- Temp rating : - 25°C to +70°C
- Short circuit : 160°C
- Bending radius : 6 to 8 x diameter of cable

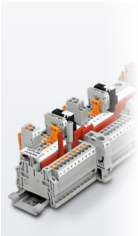
RoHS CE

Cable Technical Parameters

Part Code	Cross section Area	Construction	Insulation Thickness Nomonal	Overall Diameter (approx.)	Conductor Resistance @ 20°C maximum	Cable Wt. approx..
	mm^2	No. of strands / mm	mm	mm	Ohm/km	Kg/km
0602B001001xx	1	14/0.30	0.7	3.00	18.1	14
0602B001501xx	1.5	22/0.30	0.7	3.20	12.1	20
0602B002501xx	2.5	36/0.30	0.8	3.80	7.41	32
0602B004001xx	4	56/0.30	0.8	4.50	4.95	49
0602B006001xx	6	84/0.30	0.8	5.50	3.3	70
0602B010001xx	10	140/0.30	1.00	6.70	1.91	118
0602B016001xx	16	126/0.40	1.00	8.20	1.21	180
0602B025001xx	25	196/0.40	1.20	10.0	0.78	280
0602B035001xx	35	276/0.40	1.20	11.3	0.554	375
0602B050001xx	50	396/0.40	1.40	13.5	0.386	535
0602B070001xx	70	360/0.50	1.40	15.5	0.272	730
0602B095001xx	95	475/0.50	1.60	18.5	0.206	995
0602B120001xx	120	608/0.50	2.0	20.9	0.161	1269
0602B150001xx	150	750/0.50	2.0	22.5	0.129	1540

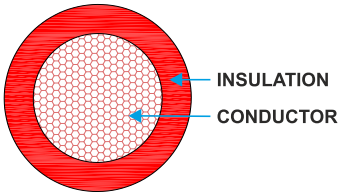
Note-1: Tinned copper on request

Note-2: Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.



UL Approved

UL Cables UL Style - 1007



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, machinery, industrial applications.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

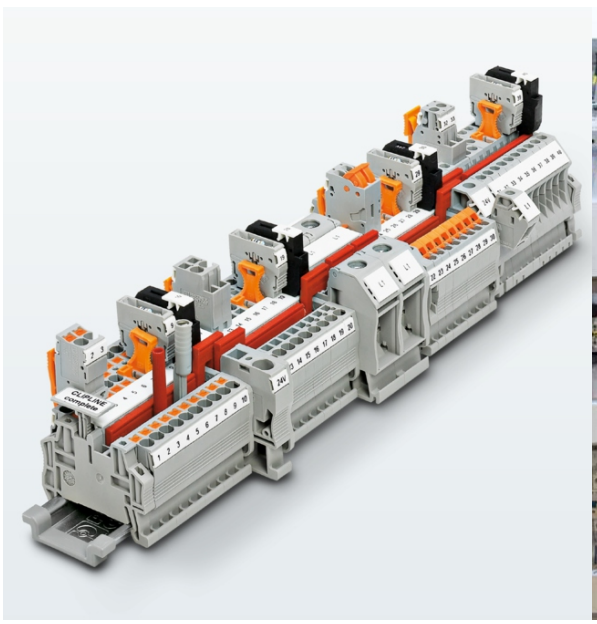
Conditionally resistant to oils, solvents, acids and dyes.
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

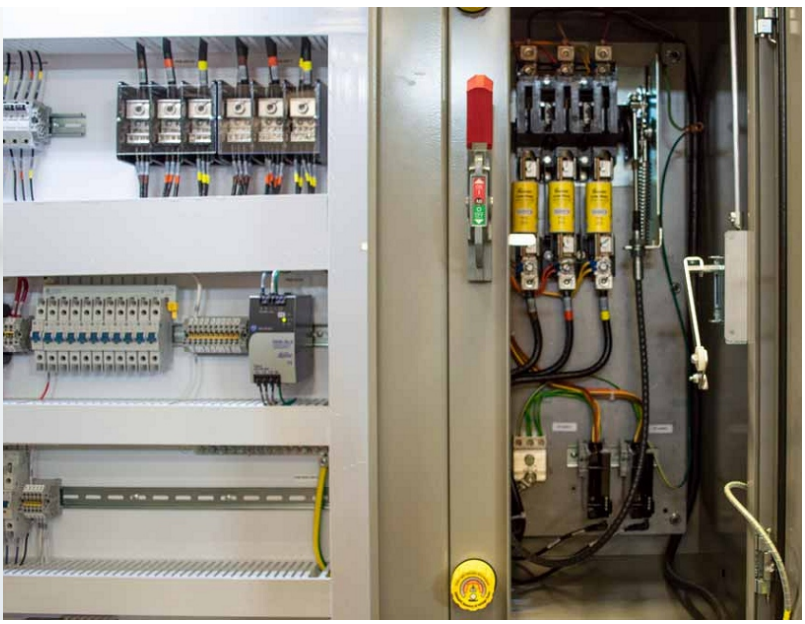
Technical Parameter

- Standard : UL - Std. 758, CSA C 22.2 No. 210
- Nominal voltage : 300V
- Test voltage : 2000V
- Test voltage (Spark test)
  AWG 26-20 : 4kV, AWG 10 -18 : 5kV
- Temperature range : Flexible -5°C to +80°C.
  Fixed installation -20°C to + 80°C CSA - AWM I A/B
- Bending radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

Cable Technical Parameters

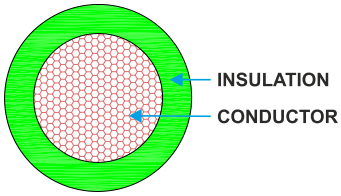
Part No.	AWG No.	No. of Cores & Nominal Cross Sectional Area	Approx. Cable Diameter	Approx Cable Weight
		Sq. mm	mm	kg/km
0701T2601	26	1 x 0.14	1.3	3.0
0701T2401	24	1 x 0.21	1.5	4.3
0701T2201	22	1 x 0.33	1.6	5.8
0701T2001	20	1 x 0.52	1.9	8.0
0701T1801	18	1 x 0.82	2.2	12
0701T1601	16	1 x 1.32	2.5	18.4





UL Approved

UL Cables UL Style - 1015



Application

These cables are used for internal wiring of panels and electrical equipment. These are used as connection wire in machines laid in protective tubes and flexible pipes and also for motors and transformers.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

Conditionally resistant to oils, solvents, acids and dyes.
PVC self - extinguishing and flame retardant, test method to UL VW-1 and CSA FT 1 / FT 2

Technical Parameter

- Standard : UL - Std. 758, CSA C 22.2 No. 210
- Nominal voltage : 600Vac or 750Vdc
  UL - type AWM 105°C 600V
  CSA - type AWM 105°C 600V
- Test voltage (Spark Test)
  AWG 24 : 4kV
  AWG 22 and 20 : 5kV
  AWG 18 to 16 : 6kV
  ≥ AWG 8 : 7.5kV
- Temperature range : Flexing -5°C to +105°C.
  Fixed installation - 20°C to +105°C
- Temperature at conductor : Max. UL and CSA : +105°C
- Bending radius :Flexing 10 x cable ø'. Fixed installation 5 x cable ø

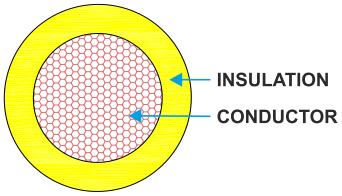
Cable Design Parameters

Part No.	AWG No.	No. of Cores & Nominal Cross Sectional Area	Approx. Cable Diameter	Approx Cable Weight
		Sq. mm	mm	kg/km
0702T2401	24	1 x 0.21	2.2	7
0702T2201	22	1 x 0.33	2.4	9
0702T2001	20	1 x 0.52	2.5	11
0702T1801	18	1 x 0.82	2.8	16
0702T1601	16	1 x 1.32	3.1	22
0702T1401	14	1 x 2.08	3.5	31
0702T1201	12	1 x 3.31	4.0	45
0702T1001	10	1 x 5.26	4.6	68
0702T801	8	1 x 8.35	6.2	113
0702T601	6	1 x 13.3	8.0	184
0702T401	4	1 x 21.14	9.4	275
0702T301	3	1 x 26.65	10.2	339
0702T201	2	1 x 33.61	11.0	416
0702T101	1	1 x 42.38	13.0	543
0702T001	1/0	1 x 53.47	13.8	659
0702T0001	2/0	1 x 67.4	15.2	820
0702T00001	3/0	1 x 85.0	16.5	1013
0702T000001	4/0	1 x 107.2	18.0	1257
0702T25001	250 kcmil	1 x 127	20.0	1507
0702T30001	300 kcmil	1 x 152	21.4	1780
0702T35001	350 kcmil	1 x 178	22.6	2048
0702T40001	400 kcmil	1 x 203	24.0	2338
0702T50001	500 kcmil	1 x 254	26.0	2868

Note: Bare Copper on request

UL Approved

UL Cables UL Style -1569



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, machinery, industrial applications.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

- Conditionally resistant to oils, solvents, acids and dyes.
- PVC self - extinguishing and flame retardant, test method to UL VW- 1 and CSA FT 1 / FT 2

Technical Parameter

- Standard : UL - Std. 758, CSA C 22.2 No.210
- Nominal voltage : 300Vac
- Test voltage : 2000V
- Test voltage (spark test)
  AWG 26 - 20 : 4kV, AWG 10 -18: 5kV
- Temperature range : Flexible -5°C to + 105°C,
  fixed installation -20°C to +105°C CSA - AWM I A/B
- Bending radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

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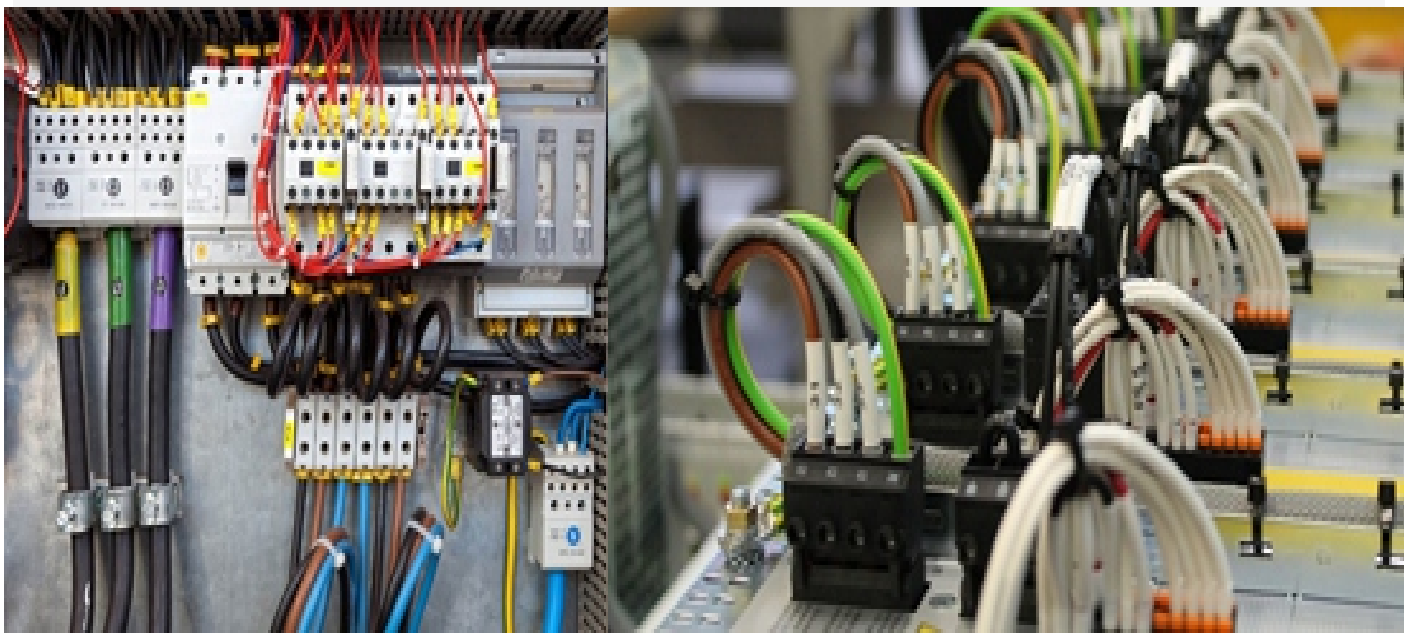
Cable Design Parameters

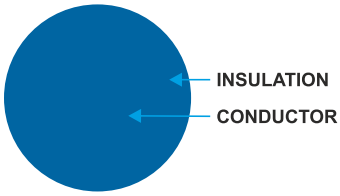
Part No.	AWG No.	No. of Cores & Nominal Cross Sectional Area	Approx. Cable Diameter	Approx Copper Weight	Approx Cable Weight
		Sq. mm	mm	kg/km	kg/km
0703T2601	26	1 x 0.14	1.3	1.4	3.0
0703T2401	24	1 x 0.21	1.5	2.1	4.3
0703T2201	22	1 x 0.33	1.6	3.5	5.8
0703T2001	20	1 x 0.52	1.8	5.2	8.0
0703T1801	18	1 x 0.82	2.1	8.3	12
0703T1601	16	1 x 1.32	2.5	13.5	18.4
0703T1401	14	1 x 2.08	3.0	20.4	27.3
0703T1201	12	1 x 3.31	3.5	32.5	41.3
0703T1001	10	1 x 5.26	4.1	51.7	62.8

Note: Bare Copper on request



UL Approved

UL Cables UL Style -10070



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, machinery, industrial applications.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

- Conditionally resistant to oils, solvents, acids and dyes
- PVC self - extinguishing and flame retardant, test method to UL VW- 1 and CSA FT 1 / FT 2

Technical Parameter

- Standard : UL - Std. 758 , CSA C 22.2 No.210
- Nominal voltage : 600Vac
- Test voltage : 2000V
- Test voltage (spark test)
  AWG 26–20 : 4kV, AWG 10 -18: 5kV
- Temperature range : Flexible -5°C to + 105°C,
  fixed installation -20°C to +105°C CSA - AWM I A/B
- Bending radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

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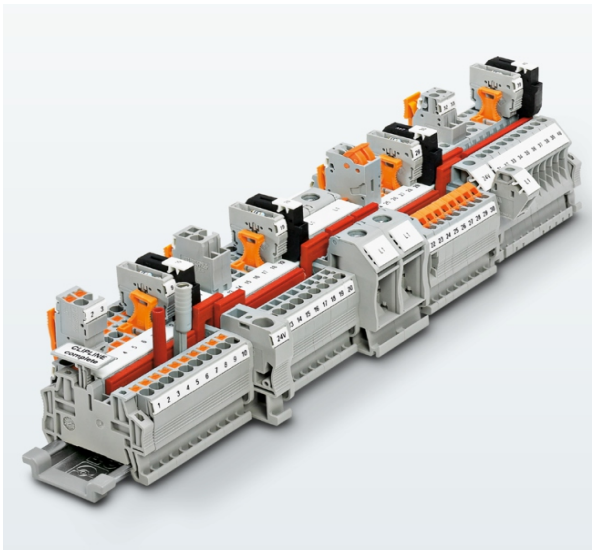
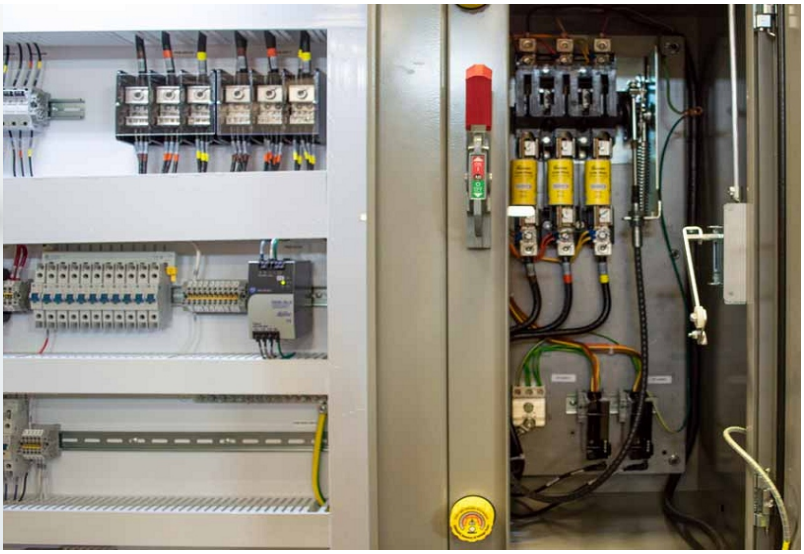
Cable Design Parameters

Part No.	AWG No.	Cond Area	Insulation Thickness	Overall Diameter Nominal	Maxi. Conductor Resistance @ 20°C	Approx Cable Weight
		Sq. mm	mm	mm	Ohm/Km	kg/km
0704T1801	18	0.8	0.765	2.99	22.1	14
0704T1601	16	1.31	0.765	3.37	14	20
0704T1401	14	2.1	0.765	3.81	8.78	30
0704T1201	12	3.31	0.765	4.31	5.53	45
0704T1001	10	5.26	0.765	4.9	3.47	68
0704T801	8	8.36	1.143	6.75	2.16	113
0704T601	6	13.3	1.52	8.6	1.36	184
0704T401	4	21.5	1.52	10.54	0.8559	275
0704T201	2	33.6	1.52	12.4	0.5384	410
0704T101	1	42.41	2.1	14.63	0.4268	540
0704T001	1/0	53.4	2.1	15.9	0.3367	650
0704T0001	2/0	67.43	2.1	17.27	0.267	815
0704T00001	3/0	85	2.1	18.36	0.2119	1005
0704T000001	4/0	107.2	2.1	20	0.168	1250





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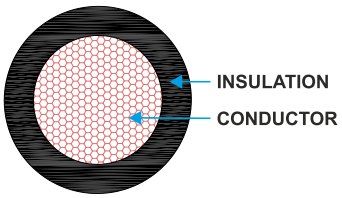
UL Cables UL Style -10269



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, machinery, industrial applications.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

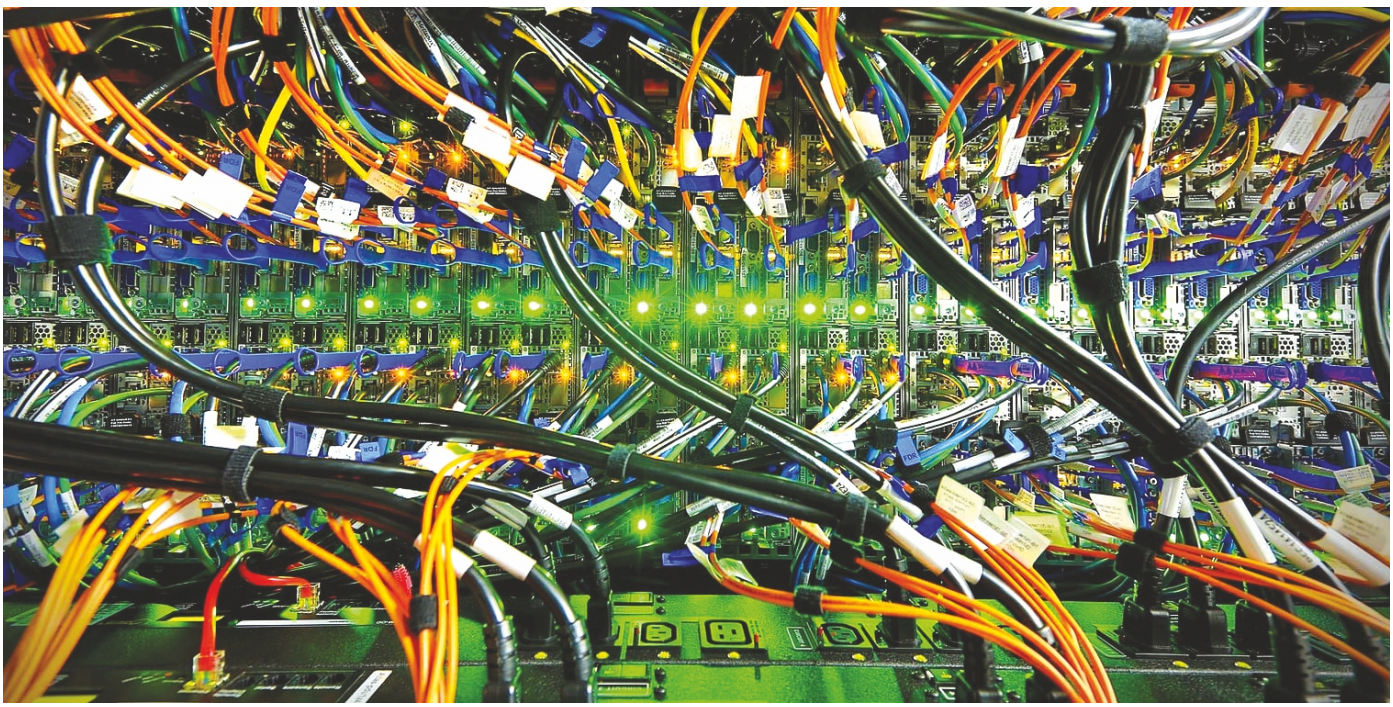
- Conditionally resistant to oils, solvents, acids and dyes
- PVC self - extinguishing and flame retardant, test method to UL VW- 1 and CSA FT 1 / FT 2

Technical Parameter

- Standard : UL - Std. 758, CSA C 22.2 No.210
- Nominal voltage : 1000Vac or 1250Vdc
- Test voltage : 2000V
- Test voltage (spark test)
  AWG 26–20 : 4kV, AWG 10 -18: 5kV
- Temperature range : Flexible -5°C to + 105°C,
  fixed installation - 20°C to + 105°C CSA - AWM I A/B
- Bending radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

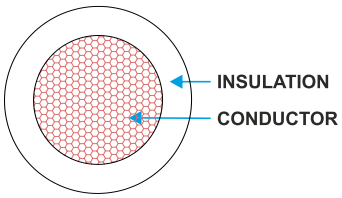
Cable Design Parameters

Part No.	AWG No.	Insulation Wall Thickness	Overall Diameter Nominal	Weight Approx	Max. Conductor Resistance at 20°C
		mm	mm	kg/km	Ohm/km
0705T1801	18	0.8	2.59	15	21.4
0705T1601	16	0.8	2.84	20	13.5
0705T801	8	1.14	6.1	107	2.16
0705T601	6	1.52	8.03	173	1.36
0705T401	4	1.52	9.2	254	0.865
0705T201	2	1.52	10.68	378	0.549
0705T101	1	2.03	12.52	493	0.434
0705T001	1/0	2.03	13.56	614	0.345
0705T0001	2/0	2.03	14.61	735	0.276
0705T00001	3/0	2.03	15.85	904	0.219
0705T000001	4/0	2.03	17.28	1118	0.171



UL Approved

UL Cables UL Style -1284



Application

These cables are used for internal wiring of switchboards, electronic and electrical equipment, machinery, industrial applications.

Construction

- Annealed plain or tinned stranded copper conductor.
- PVC - core insulation according to UL - standard 1581

Properties

- Conditionally resistant to oils, solvents, acids and dyes.
- PVC self - extinguishing and flame retardant, test method to UL VW- 1 and CSA FT 1 / FT 2

Technical Parameter

- Standard : UL - Std. 758, CSA C 22.2 No.210
- Nominal voltage : 600Vac
- Test voltage : 2000V
- Temperature range : Flexible -5°C to + 105°C, fixed installation - 20°C to + 105°C CSA - AWM I A/B
- Bending radius : Flexing 10 x cable ø. Fixed installation 5 x cable ø

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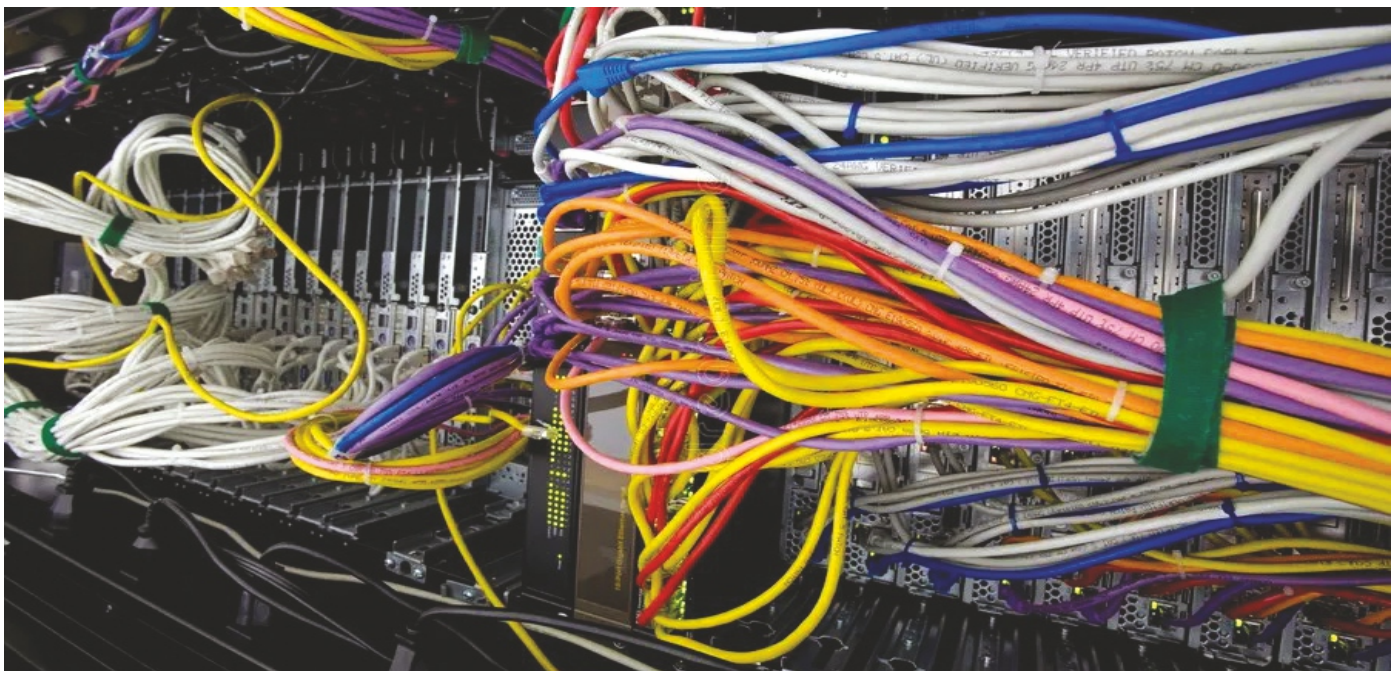
Cable Design Parameters

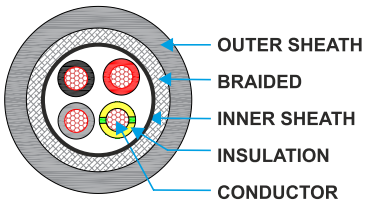
Part No.	AWG No.	Max. Cond Resistance	Insulation Thickness	Cable OD. Nom.	Approx Cable Weight
		mm	mm	mm	kg/km
0706T801xx	8	2.163	2.05	8.00	113
0706T601xx	6	1.361	2.05	9.00	184
0706T401xx	4	0.8559	2.05	10.50	275
0706T201xx	2	0.5384	2.05	12.00	416
0706T101xx	1	0.4268	2.05	13.60	540
0706T001xx	1/0	0.3367	2.05	14.25	650
0706T0001xx	2/0	0.2670	2.05	15.90	820
0706T00001xx	3/0	0.2119	2.05	16.95	1010
0706T000001xx	4/0	0.1680	2.05	18.70	1250
0706T25001xx	250 KC mil.	0.1416	2.41	21.20	1500

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.
Note-2: Bare copperon request.



Control Cables - JB-500 CY

PVC Copper Screen Braided with Colour Coding



Application

For use as a data and control cable in machinery. computer systems etc. as well as a signal cable for electronics. The high level of screening ensures a high degree of interference protection. The screening density assures disturbance-free transmission of all signals and impulses. These cables are suitable for flexible use for medium mechanical stresses with free movements. To optimize the EMC features, we recommend a large round contact of the copper braiding on both ends.
The product conforms to the EC Low-Voltage Directive 2006/95/EC.

Construction

- Bare copper fine wire conductors. Bunch stranded to DIN VDE 0295 cl.5. BS 6360 cl.5 and IEC 60228 cl.5
- Core insulation of special PVC compound type Z 7255
- Core identification to JB/OB colour code as per chart
- Cores stranded in layers with optimal lay-length
- Inner sheath of PVC
- Tinned copper braided screen. approx. 85% coverage
- Outer sheath of special PVC
- Sheath colour : Grey (RAL 7001)

Properties

- Extensively oil resistant.
- Oil-/chemical resistance
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers
- Flame retardant acc. to DIN BD 0482-332-1-2 / IEC 60332-1-2

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Technical Parameter

- Special-PVC control cable adapted to DIN VDE 0285-525-2-51/ DIN EN 50525-2-51
- Temperature range : Flexing -15°C to +80°C fixed installation -40°C to +80°C
- Nominal voltage : Up to 1.5 mm² U0/U 300/500 V from 2.5 mm² U0/U 450/750 V
- Test voltage : 4000 V
- Breakdown voltage : Min. 8000 V
- Insulation resistance : Min. 20 MOhm x km
- Mutual capacitance : Core/core approx. 150 nF/km core/screen approx. 270 nF/km
- Minimum bending radius : Flexing 10x cable Ø fixed installation 5x cable Ø
- Radiation resistance : Up to 80x106 cJ/kg.

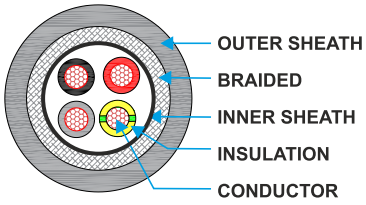
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0801B020005	2 X 0.5	7.0	67.0
0801B030005X	3 G 0 .5	7.3	83.0
0801B040005X	4 G 0 .5	7.9	94.0
0801B050005X	5 G 0 .5	8.4	108.0
0801B020007	2 X0.75	7.7	87.0
0801B030007X	3 G 0 .75	8.0	98.0
0801B040007X	4 G 0 .75	8.5	113.0
0801B050007X	5 G 0 .75	9.3	130.0
0801B020010	2 X 1	8.0	97.0
0801B030010X	3 G 1	8.3	103.0
0801B040010X	4 G 1	9.0	146.0
0801B050010X	5 G 1	9.7	169.0
0801B020015	2 X1.5	8.6	130.0
0801B030015X	3 G 1.5	9.2	152.0
0801B040015X	4 G 1.5	9.8	168.0
0801B050015X	5 G 1. 5	10.8	202.0
0801B020025	2 X 2.5	11.1	180.0
0801B030025X	3 G 2. 5	11.6	216.0
0801B040025X	4 G 2.5	12.7	267.0
0801B050025X	5 G 2.5	14.1	347.0
0801B020040	2 X 4	13.3	302.0
0801B030040X	3 G 4	14.0	340.0
0801B040040X	4 G 4	15.3	410.0
0801B050040X	5 G 4	16.7	502.0
0801B020060	2 X 6	14.7	350.0
0801B030060X	3 G 6	15.6	450.0
0801B040060X	4 G 6	17.0	559.0
0801B050060X	5 G 6	18.6	702.0
0801B020100	2 X 10	18.0	500.0
0801B030100X	3 G 10	19.0	750.0
0801B040100X	4 G 10	21.1	1020.0
0801B050100X	5 G 10	23.1	1115.0

X=Green/Yellow

Control Cables - JB-500 SY

PVC Steel Screen Braided with Colour Coding



Application

- SY-JB cables are used as measuring and control cables in tool machinery, plant installation, power stations and in data equipment.
- The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.
- The product conforms to the EC low-voltage Directive 2006/95/EC.

Construction

- Bare copper-conductor
- DIN VDE 0295 cl.5, fine-wire,BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of special PVC compound type Z 7225
- Core identification to JB/OB colour code as per colour chart
- Cores stranded in layers with Test voltage 4000 V optimal lay-length
- Inner sheath of special PVC
- Galvanized steel wire screening
- Outer sheath of special PVC compound type TM2 to DIN VDE 0207-363-4-1/DIN EN 50363-4-1
- Sheath colour Grey (RAL 7001)

Properties

- Extensively oil resistant,
- Oil-/chemical resistance
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

ERTL RoHS CE

Technical Parameter

- Special-PVC control cable adapted to DIN VDE 0285-525-2-51/ DIN EN 50525-2-51
- Temperature range : Flexing -15°C to +80°C fixed installation -40°C to +80°C
- Nominal voltage : Up to 2,5 mm² U0/U 300/500 V from 4.00 mm² U0/U 450/750 V
- Test voltage : 4000 V
- Breakdown voltage : Min. 8000 V
- Insulation resistance : Min. 20 MOhm x km
- Mutual capacitance: core/core approx. 150 nF/km core/screen approx. 270 nF/km
- Minimum bending radius : Flexing 10x cable Ø fixed installation 5x cable Ø
- Radiation resistance : Up to 80x106 cJ/kg.

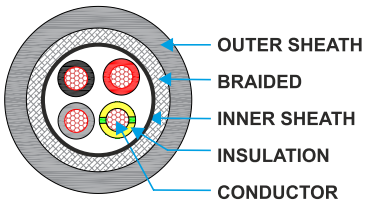
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0802B020005	2 x0.5	7.2	9.6
0802B030005X	3 G 0.5	7.5	14.4
0802B040005X	4G0.5	8. 1	19.2
0802B050005X	5 G 0.5	8.6	24
0802B070005X	7 G 0.5	9.3	33.6
0802B100005X	10 G 0.5	10.7	48
0802B120005X	12 G 0.5	11. 7	58
0802B020007	2 x0.75	7.9	14.4
0802B030007X	3 G 0.75	8.2	21.6
0802B040007X	4 G 0.75	8.7	28.8
0802B050007X	5 G 0.75	9.5	36
0802B060007X	6 G 0.75	10.1	43.2
0802B070007X	7 G 0.75	10.1	50
0802B090007X	9 G 0.75	11 .8	65.0
0802B100007X	10 G 0.75	12.0	72.0
0802B120007X	12 G 0.75	12.8	86
0802B020010	2 x 1	8.2	19.2
0802B030010X	3G1	8.5	28.8
0802B040010X	4G1	9.2	38.4
0802B050010X	5 G 1	9.9	48
0802B060010X	6 G 1	10.5	58.0
0802B070010X	7G1	10.5	67.0
0802B080010X	8G1	11.4	77
0802B090010X	9 G 1	12.8	86
0802B120010X	12 G 1	13.4	11 5.0
0802B020015	2 x 1 .5	8.8	29
0802B030015X	3 G 1.5	9.4	43
0802B040015X	4 G 1.5	10.0	58
0802B050015X	5 G 1.5	10.9	72.0
0802B060015X	6 G 1.5	11 .8	87.0
0802B070015X	7 G 1.5	11.8	101.0
0802B080015X	8G 1.5	12.7	115.0
0802B090015X	9 G 1 .5	1 3.9	130
0802B100015X	10 G 1.5	14.3	144
0802B110015X	11 G 1.5	14.8	158,0
0802B120015X	12 G 1.5	15.0	173.0

X=Green/Yellow

Control Cables - JZ-500 SY

PVC Steel Wire Braided with Number Coding



Application

- SY-JZ cables are used as measuring and control cables in tool machinery, plant installation, power stations and in data equipment.
- The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.
- The product conforms to the EC Low-Voltage Directive 2006/95/EC.

Construction

- Bare copper-conductor, to DIN VDE 0295 cl.5, fine-wire,BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of special PVC compound type Z 7225
- Core identification to DIN VDE 0293black cores with continuous white numbering, GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay-length
- Inner sheath of special PVC
- Galvanized steel wire braid
- Outer sheath of special PVC
- Sheath colour Grey (RAL 7001) with meter marking

Properties

- Extensively oil resistant,
- Oil & chemical resistance
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

ERTL RoHS CE

Technical Parameter

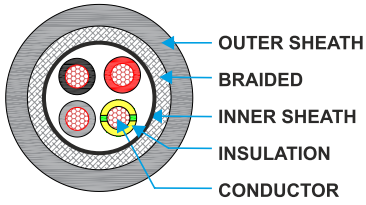
- Special-PVC control cable adapted to DIN VDE 0285-525-2-51/DIN EN 50525-2-51
- Temperature range : Flexing -15°C to +80°C, fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V, Test voltage 4000 V
- Breakdown voltage : min. 8000 V
- Insulation resistance : min. 20 MOhm x km
- Minimum bending radius : Flexing 20 x cable Ø, fixed installation 6 x cable Ø
- Radiation resistance : up to 80x106 cJ/kg

Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0803B020005	2 X 0.5	7.2	80.0
0803B030005X	3 X 0.5	7.5	92.0
0803B040005X	4X 0.5	8. 1	102.0
0803B050005X	5 X 0.5	8.6	119.0
0803B070005X	7 X 0.5	9.3	157.0
0803B100005X	10 X 0.5	10.7	205.0
0803B120005X	12 X 0.5	11. 7	218.0
0803B140005X	14 X 0.5	12.3	242.0
0803B180005X	18X0.5	13.4	340.0
0803B210005X	21 X 0.5	14.2	370.0
0803B250005X	25 X 0.5	15.7	406.0
0803B300005X	30 X 0.5	16.2	439.0
0803B350005X	35 X 0.5	17.5	500.0
0803B400005X	40 X 0.5	18.2	565.0
0803B420005X	42 X 0.5	19.0	593.0
0803B500005X	50 X 0.5	20.7	690.0
0803B610005X	61 X 0.5	22.0	843.0
0803B800005X	80X 0.5	25.0	1050.0
0803B1000005X	100X0.5	27.4	1240.0
0803B020007	2 X 0. 75	7.9	98.0
0803B030007X	3 XO. 75	8.2	103
0803B040007X	4 X 0.75	8.7	122.0
0803B050007X	5 XO. 75	9.5	142.0
0803B060007X	6 X 0.75	10. 1	180.0
0803B070007X	7 X 0.75	10. 1	185.0
0803B080007X	8X 0.75	10.8	201.0
0803B090007X	9X0.75	11.8	249.0
0803B100007X	10X0.75	12.0	252.0
0803B120007X	12 X 0.75	12.8	292.0
0803B150007X	15 X 0.75	14.2	335.0
0803B180007X	18 X 0.75	15	388
0803B210007X	21X0.75	15.5	474
0803B250007X	25 X 0.75	17.5	503
0803B320007X	32 X 0.75	18.9	644

Control Cables - JZ-500 SY

PVC Steel Wire Braided with Number Coding

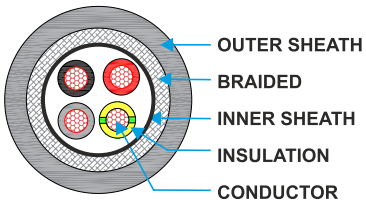


Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0803B340007X	34 X 0.75	19.9	663
0803B410007X	41X0.75	21.2	741
0803B500007X	50X 0.75	23.2	925
0803B610007X	61 X0.75	25.2	1082
0803B020010	2 X1	8.2	112
0803B030010X	3X1	8.5	132
0803B040010X	4X1	9.2	143
0803B050010X	5X1	9.9	166
0803B060010X	6X1	10.5	22
0803B070010X	7X1	10.5	227
0803B080010X	8X1	11.4	277
0803B090010X	9X1	12.8	295
0803B120010X	12 X 1	13.4	340
0803B140010X	14 X 1	14.2	420
0803B180010X	18 X 1	15.7	500
0803B200010X	20X 1	16.4	532
0803B250010X	25 X 1	18.4	664
0803B340010X	34X 1	20.8	845
0803B360010X	36X 1	20.9	857
0803B410010X	41 X 1	22.2	993
0803B500010X	50X 1	24.4	1112
0803B560010X	56X 1	25.5	1225
0803B610010X	61 X 1	26. 1	1306
0803B650010X	65 X 1	26.9	1504
0803B800010X	80X 1	30	1750
0803B1000010X	100X 1	33.1	1950

Control Cables - JZ-500 CY

PVC Copper Screen Braided with Number Coding



Application

JZ 500 CY control cable is significant due to its resistance against microbes. This cable is specially installed in rubbish, sewage-treatment plants, composting works, animal stalls and greenhouses. The inner sheaths of those cables raise the mechanical stress.
Suitable for installation for flexible use for medium mechanical, stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms as well as outside. The high flexibility of this cable type makes it quick and easy to install. Resistant to UV-radiation, oxygen, ozone, microbes, hydro fluoric acid, hydrochloric acid and diluted sulfuric acid. This screened cable is ideal for use in data signal transmission free from interferences for measurement and control engineering technology.
Note : To optimise the EMC features we recommend a large round contact of the copper braiding on both ends.

Construction

- Tinned copper, fine wire conductors, stranded to DIN VDE 0295 cl. 5,BS 6360 cl. 5 and IEC 60228 cl. 5
- Special thermoplastic polymer core insulation Black cores with continuous white numbering according to DIN VDE 0293Green-yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with optimally - length
- Inner-sheath to special thermoplastic polymer
- Screen of tinned cu braid, cover age approx. 85%
- Outer sheath, special thermoplastic polymer
- Colour black (RAL 9005)

Properties

- Screened, microbes resistant, halogen free
- Insulation resistance min. 20 MOhmx km
- Minimum bending radius flexing 7,5 x cable dia
- Coupling resistance max. 250 Ohm/km
- Radiation resistance up to 100x106 cJ/kg

Technical Parameter

- Temperature range : Flexing –30°C to + 90°C fixed installation -40°C to +100°C
- Nominal voltage : U0/U 300/500 V, Test voltage 3000V
- Special control cable in adapted to DIN VDE 0281 part 13 and E DIN VDE 0245

ERTL RoHS CE

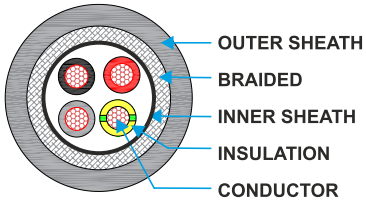
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0805B020005	2*0.5	6.9	68
0805B030005X	3G*0.5	7.2	84
0805B040005X	4G*0.5	7.8	95
0805B050005X	5G*0.5	7.3	107
0805B070005X	7G*0.5	9.5	135
0805B120005X	12G*0.5	11.3	195
0805B180005X	18G*0.5	13.1	278
0805B200005X	20G*0.5	13.8	310
0805B250005X	25G*0.5	15.7	406
0805B300005X	30G*0.5	16	520
0805B340005X	34G*0.5	17.4	571
0805B420005X	42G*0.5	18.9	651
0805B500005X	50G*0.5	20.9	760
0805B610005X	61G*0.5	22.9	911
0805B020007	2*0.75	7.6	88
0805B030007X	3G*0.75	7.8	98
0805B040007X	4G*0.75	8.3	112
0805B050007X	5G*0.75	9.1	130
0805B070007X	7G*0.75	10.4	185
0805B120007X	12G*0.75	12.5	294
0805B180007X	18G*0.75	14.3	357
0805B200007X	20G*0.75	15.2	404
0805B250007X	25G*0.75	17.6	510
0805B300007X	30G*0.75	18.1	561
0805B340007X	34G*0.75	19.5	670
0805B420007X	42G*0.75	20.9	960
0805B500007X	50G*0.75	23.2	1104
0805B610007X	61G*0.75	25	1270
0805B020010	2*1	7.9	98
0805B030010X	3G*1	8.2	102
0805B040010X	4G*1	8.9	145
0805B050010X	5G*1	9.5	171
0805B070010X	7G*1	11	210
0805B120010X	12G*1	13.1	330
0805B180010X	18G*1	15.4	488

X=Green/Yellow

Control Cables - JZ-500 CY

PVC Copper Screen Braided with Number Coding



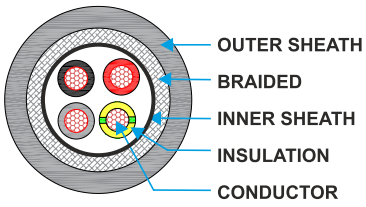
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0805B200010X	20G*1	16	545
0805B250010X	25G*1	18.3	690
0805B300010X	30G*1	18.8	770
0805B340010X	34G*1	20.3	811
0805B420010X	42G*1	21.8	996
0805B500010X	50G*1	24	1320
0805B610010X	61G*1	26	1480
0805B020015	2*1.5	8.4	130
0805B030015X	3G*1.5	9	154
0805B040015X	4G*1.5	9.6	165
0805B050015X	5G*1.5	10.5	197
0805B070015X	7G*1.5	12.1	305
0805B120015X	12G*1.5	14.9	435
0805B180015X	18G*1.5	17.1	642

X=Green/Yellow

Control Cables - JZ-500 SY

PVC Steel Wire Braided with Number Coding



Application

- SY-JZ cables are used as measuring and control cables in tool machinery, plant installation, power stations and in data equipment.
- The braided screen offers best possible protection against mechanical damage. The galvanized coating on the steel wire braiding not only helps protect against corrosion, but also notably improves the soldering performance.
- The clear transparent outer sheath gives the cable in addition an optical revaluation.
- The product conforms to the EC Low-Voltage Directive 2006/95/EC.

Construction

- Bare copper-conductor, to DIN VDE 0295 cl.5, fine-wire,BS 6360 cl.5, IEC 60228 cl.5
- Core insulation of special PVC compound type Z 7225
- Core identification to DIN VDE 0293black cores with continuous white Numbering, GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay-length
- Inner sheath of special PVC
- Galvanized steel wire braid
- Outer sheath of special PVC
- Sheath colour transparent with meter marking

Properties

- Extensively oil resistant
- Oil-/chemical resistance
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Technical Parameter

- Special-PVC control cable adapted to DIN VDE 0285-525-2-51/DIN EN 50525-2-51
- Temperature range : Flexing -15°C to +80°C, fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V, Test voltage 4000 V
- Breakdown voltage : min. 8000 V
- Insulation resistance : min. 20 MOhm x km
- Minimum bending radius : Flexing 20 x cable Ø, fixed installation 6x cable Ø
- Radiation resistance : up to 80 x 106 cJ/kg

RoHS CE

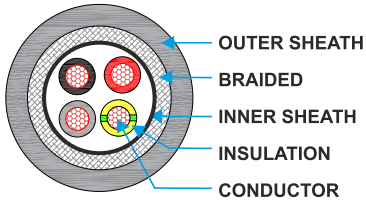
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0806B020005	2 x 0.5	7.2	80.0
0806B030005X	3 G 0.5	7.5	92.0
0806B040005X	4 G 0.5	8.1	102.0
0806B050005X	5 G 0.5	9.0	119.0
0806B070005X	7 G 0.5	9.3	157.0
0806B100005X	10 G 0.5	10.7	205.0
0806B120005X	12 G 0.5	11.7	218.0
0806B140005X	14 G 0.5	12.3	242.0
0806B180005X	18 G 0.5	13.4	340.0
0806B210005X	21 G 0.5	14.2	370.0
0806B250005X	25 G 0.5	15.7	406.0
0806B300005X	30 G 0.5	16.2	439.0
0806B350005X	35 G 0.5	17.5	500.0
0806B400005X	40 G 0.5	18.2	565.0
0806B420005X	42 G 0.5	19.0	593.0
0806B500005X	50 G 0.5	20.7	690.0
0806B610005X	61 G 0.5	22.0	843.0
0806B800005X	80 G 0.5	25.0	1050.0
0806B1000005X	100 G 0.5	27.4	1240.0
0806B020007	2 x 0.75	7.9	98.0
0806B030007X	3 G 0.75	8.2	103.0
0806B040007X	4 G 0.75	8.7	122.0
0806B050007X	5 G 0.75	9.5	142.0
0806B060007X	6 G 0.75	10.1	180.0
0806B070007X	7 G 0.75	10.1	185.0
0806B080007X	8 G 0.75	10.8	201.0
0806B090007X	9 G 0.75	11.8	249.0
0806B100007X	10 G 0.75	12.0	252.0
0806B120007X	12 G 0.75	12.8	292.0
0806B150007X	15 G 0.75	14.2	335.0
0806B180007X	18 G 0.75	15.0	388.0
0806B210007X	21 G 0.75	15.5	474.0

X=Green/Yellow

Control Cables - JZ-500 SY

PVC Steel Wire Braided with Number Coding

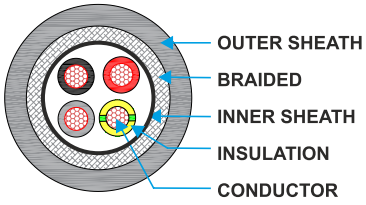


Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0806B250007X	25 G 0.75	17.5	503.0
0806B320007X	32 G 0.75	18.9	644.0
0806B340007X	34 G 0.75	19.9	663.0
0806B410007X	41 G 0.75	21.2	741.0
0806B500007X	50 G 0.75	23.2	925.0
0806B610007X	61 G 0.75	25.2	1082.0
0806B020010	2 x 1	8.2	112.0
0806B030010X	3 G 1	8.5	132.0
0806B040010X	4 G 1	9.2	143.0
0806B050010X	5 G 1	9.9	166.0
0806B060010X	6 G 1	10.5	220.0
0806B070010X	7 G 1	10.5	227.0
0806B080010X	8 G 1	11.4	277.0
0806B090010X	9 G 1	12.8	295.0
0806B120010X	12 G 1	13.4	340.0
0806B140010X	14 G 1	14.2	420.0
0806B180010X	18 G 1	15.7	500.0
0806B200010X	20 G 1	16.4	532.0
0806B250010X	25 G 1	18.4	664.0
0806B340010X	34 G 1	20.8	845.0
0806B360010X	36 G 1	20.9	857.0
0806B410010X	41 G 1	22.2	993.0
0806B500010X	50 G 1	24.4	1112.0
0806B560010X	56 G 1	25.5	1225.0
0806B610010X	61 G 1	26.1	1306.0
0806B650010X	65 G 1	26.9	1504.0
0806B800010X	80 G 1	30.0	1750.0
0806B990010X	100 G 1	33.1	1950.0

Control Cables - JZ-500 CY

PUR Copper Screen Braided with Number Coding



Application

Extremely robust cable noted for its good abrasion resistance and notch resistance. Due to its resistance to coolant emulsions, this cable is well suited for use in mechanical engineering, tool making, and systems engineering, and in steel mills and rolling mills in particularly critical areas. Good flexibility means that installation is quick and easy. Suitable for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms, and in open air (fixed installation). The dense screening assures interference-free transmission of all signals and impulses. An ideal interference-free control cable for the above applications. To optimize the EMC features we recommend a large round contact of the copper braiding on both ends. The product conforms to the EC Low-Voltage Directive 2006/95/EC.

Construction

- Core insulation of special PVC compound type TI2 to DIN VDE 0207-363-3 / DIN EN 50363-3 Bare copper-conductor, to DIN VDE 0295 cl.5, fine-wire, BS 6360 cl.5, IEC 60228 cl.5.
- Core identification to DIN VDE 0293 black cores with continuous white numbering. GN-YE conductor, 3 cores and above in the outer layer.
- cores stranded in layers with optimal lay-length, Separating foil.
- Tinned copper braided screen, approx. 85% coverage.
- Core wrapping of fleece guarantees easy cable stripping.
- Outer sheath from special full polyurethane compound type TMPU to DIN EN 50363-10-2.
- Sheath colour grey (RAL 7001) also available in other colours on request.

Properties

- Resistant to UV-radiation, oxygen, ozone, hydrolyse, temperature range and microbes
- Low adhesion, matt surface
- The materials used in manufacture are cadmium-free and contain no silicone and free from substances harmful to the wetting properties of lacquers

Technical Parameter

- Special-PUR control cable adapted to DIN VDE 0285-525-1 / DIN EN 50525-1
- Temperature range : Flexing -10°C to +80°C fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V
- Test voltage 3000 V
- Breakdown voltage min. 6000 V
- Coupling resistance max. 250 Ohm/km
- Minimum bending radius : flexing 10 x cable Ø, fixed installation 5 x cable Ø
- Radiation resistance : up to 100 x 106 cJ/kg

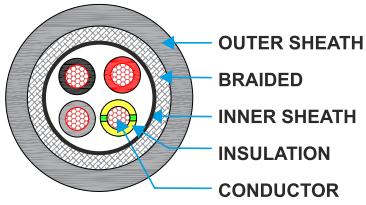
RoHS CE

Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0807B020005	2 x 0,5	5,7	47,0
0807B030005X	3 G 0,5	5,9	57,0
0807B030005	3 x 0,5	5,9	57,0
0807B040005X	4 G 0,5	6,4	60,0
0807B040005	4 x 0,5	6,4	60,0
0807B050005X	5 G 0,5	6,9	75,0
0807B050005	5 x 0,5	6,9	75,0
0807B070005X	7 G 0,5	7,6	97,0
0807B070005	7 x 0,5	7,6	97,0
0807B100005X	10 G 0,5	9,6	133,0
0807B120005X	12 G 0,5	9,7	158,0
0807B180005X	18 G 0,5	11,5	218,0
0807B250005X	25 G 0,5	13,7	315,0
0807B340005X	34 G 0,5	15,5	420,0
0807B420005X	42 G 0,5	16,9	487,0
0807B020007	2 x 0,75	6,1	60,0
0807B030007X	3 G 0,75	6,3	67,0
0807B030007	3 x 0,75	6,3	67,0
0807B040007X	4 G 0,75	6,8	76,0
0807B040007	4 x 0,75	6,8	76,0
0807B050007	5 x 0,75	7,4	92,0
0807B050007X	5 G 0,75	7,4	92,0
0807B070007	7 x 0,75	8,2	131,0
0807B070007	7 G 0,75	8,2	131,0
0807B100007X	10 G 0,75	10,3	180,0
0807B120007X	12 G 0,75	10,5	204,0
0807B180007X	18 G 0,75	12,7	290,0
0807B250007X	25 G 0,75	15,0	413,0
0807B340007X	34 G 0,75	17,2	492,0
0807B420007X	42 G 0,75	18,8	624,0

Control Cables - JZ-500 CY

PUR Copper Screen Braided with Number Coding



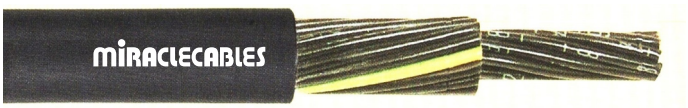
Cable Design Parameters

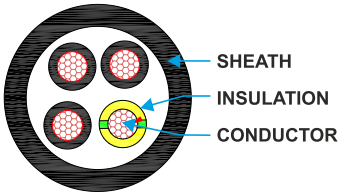
Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0807B020010	2 x 1	6,4	66,0
0807B030010X	3 G 1	6,7	82,0
0807B030010	3 x 1	6,7	82,0
0807B040010X	4 G 1	7,2	100,0
0807B040010	4 x 1	7,2	100,0
0807B050010X	5 G 1	8,0	128,0
0807B050010	5 x 1	8,0	128,0
0807B070010X	7 G 1	8,7	157,0
0807B070010	7 x 1	8,7	157,0
0807B100010X	10 G 1	11,2	230,0
0807B120010X	12 G 1	11,4	262,0
0807B180010X	18 G 1	13,6	381,0
0807B250010X	25 G 1	16,2	535,0
0807B340010X	34 G 1	18,5	740,0
0807B420010X	42 G 1	20,2	867,0
0807B500010X	50 G 1	22,0	1027,0
0807B020015	2 x 1,5	7,0	87,0
0807B030015X	3 G 1,5	7,4	102,0
0807B030015	3 x 1,5	7,4	102,0
0807B040015X	4 G 1,5	8,1	127,0
0807B040015	4 x 1,5	8,1	127,0
0807B050015X	5 G 1,5	9,0	159,0
0807B050015	5 x 1,5	9,0	159,0
0807B070015X	7 G 1,5	9,8	207,0
0807B120015X	12G1,5	12,8	340,0
0807B180015X	18G1,5	15,6	480,0
0807B250015X	25G1,5	18,4	704,0
0807B300015X	30G1,5	19,6	817,0
0807B020025	2x2,5	8,4	131,0
0807B030025X	3G2,5	8,8	168,0
0807B040025X	4 G 2,5	9,8	194,0
0807B050025X	5 G 2,5	10,8	222,0
0807B070025X	7 G 2,5	11,9	345,0
0807B120025X	12 G 2,5	15,8	570,0
0807B040040X	4 G 4	11,6	310,0
0807B050040X	5 G 4	12,9	386,0
0807B070040X	7 G 4	14,2	498,0
0807B040060X	4 G 6	13,8	414,0
0807B050060X	5 G 6	15,4	510,0
0807B070060X	7 G 6	17,0	673,0
0807B070100X	4 G 10	17,2	591,0
0807B070100X	5 G 10	19,1	768,0
0807B070100X	7 G 10	21,2	976,0
0807B040160X	4 G 16	20,3	1196,0

X=Green/Yellow

Control Cables - JZ-500

PUR Unshielded Number Coded





Application

JZ-500 PUR is an extremely robust control cable with high abrasion and tear resistant properties. Due to its high resistance coolant emulsions, it is especially suited for use in the machine, tool making and plant industries as well as in the steel industry for difficult and problem areas. The high flexibility of this cable type makes it quick and easy to install. Suitable for outdoor lying.
Product conforms to the low-voltage directive 2014/35/EU.

Construction

- Bare copper conductor, fine wire acc. To DIN VDE 0295 cl.5 / IEC 60228 cl.5
- Core insulation of special PVC compound type TI2 to DIN VDE 0207 - 363-3/ DIN EN 50363-3
- Core identification to DIN VDE 0293black cores with continuous white numbering GN-YE conductor, 3 cores and above in the outer layer
- Cores stranded in layers with optimal lay length
- Outer sheath of special full-polyurethanecompound type TMPU to DIN EN 50363-10-2
- Sheath colour: Black (RAL 9001), also available in other colours on request.

Properties

- Resistant to UV-radiation, oxygen, ozone and hydrolysis, microbes.
- Low adhesion, matt surface
- The materials used during manufacturing are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Technical Parameter

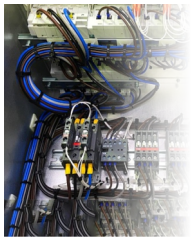
- Special polyurethane control cable in reference to DIN VDE 0285-525-1 /DIN EN 50525-1
- Temperature range : Flexing -15°C to +80°C
  fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V
- Test voltage : 4000 V
- Breakdown voltage : min. 8000 V
- Minimum bending radius : Flexing 7.5 x outer Ø,
  fixed installation 4 x outer Ø

RoHS CE

Cable Design Parameters

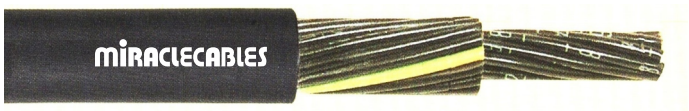
Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0808B020005	2x0.5	4.8	45.0
0808B030005X	3G0.5	5.1	55.0
0808B030005	3x0.5	5.1	55.0
0808B040005X	4G0.5	5.5	65.0
0808B040005	4x0.5	5.5	65.0
0808B050005X	5G0.5	6.2	75.0
0808B050005	5x0.5	6.2	75.0
0808B070005X	7G0.5	6.7	90.0
0808B070005	7x0.5	6.7	90.0
0808B100005X	10G0.5	8.6	120.0
0808B120005X	12G0.5	8.9	135.0
0808B180005X	18G0.5	10.7	205.0
0808B250005X	25G0.5	12.4	270.0
0808B340005X	34G0.5	14.3	380.0
0808B420005X	42G0.5	15.8	415.0
0808B020007	2x0.75	5.3	44.0
0808B030007X	3G0.75	5.6	53.0
0808B030007	3x0.75	5.6	53.0
0808B040007X	4G0.75	6.3	64.0
0808B040007	4x0.75	6.3	64.0
0808B050007X	5G0.75	6.9	76.0
0808B050007	5x0.75	6.9	76.0
0808B070007X	7G0.75	7.5	96.0
0808B070007	7x0.75	7.5	96.0
0808B100007X	10G0.75	9.6	140.0
0808B120007X	12G0.75	9.9	170.0
0808B180007X	18G0.75	12.2	260.0
0808B250007X	25G0.75	14.1	282.0
0808B340007X	34G0.75	16.5	475.0
0808B420007X	42G0.75	18.1	600.0
0808B020010	2x1	5.6	53.0

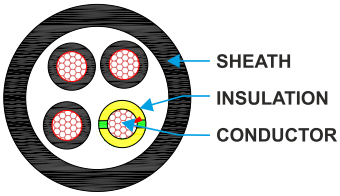
X=Green/Yellow



Control Cables - JZ-500

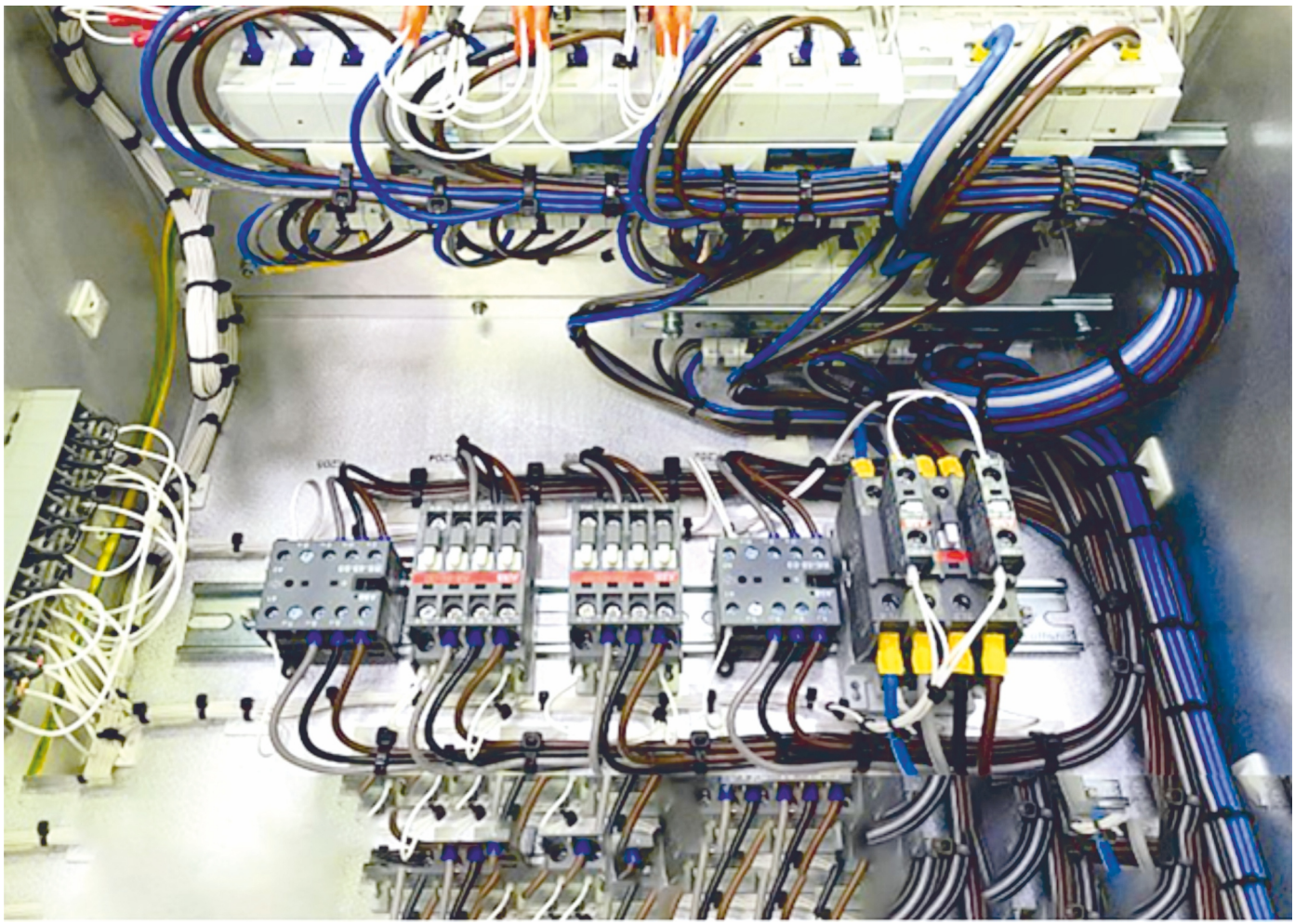
PUR Unshielded Number Coded





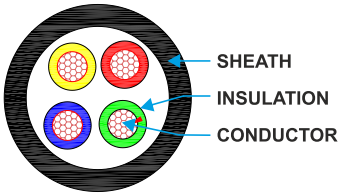
Cable Design Parameters

Part No.	No. Core X Cross-Sec. (mm^2)	Outer Dia Approx (mm)	Weight Approx (kg/km)
0808B030010X	3G1	5.9	63.0
0808B030010	3x1	5.9	63.0
0808B040010X	4G1	6.7	75.0
0808B040010	4x1	6.7	75.0
0808B050010X	5G1	7.3	89.0
0808B050010	5x1	7.3	89.0
0808B070010X	7G1	8.1	115.0
0808B070010	7x1	8.1	115.0
0808B100010X	10G1	10.2	166.0
0808B120010X	12G1	10.6	201.0
0808B180010X	18G1	12.9	289.0
0808B250010X	25G1	15.1	380.0
0808B340010X	34G1	17.7	645.0



Control Cables

Multi Core-PVC Flexible As per IS 694



Application

These cables are designed for residential and commercial infrastructure. They serve as the connecting medium in power and control panels, cabinets & switch gears. They can also used for the purposes such as stationary and static appliances, motors and for other single phase connections.

Construction

- Bare copper, fine wire conductors to IEC 60228 cl. 5, IS : 8130
- Conductor insulation of PVC IS : 5831
- Conductors core color coded as per IS 694.

Properties

- PVC self-extinguishing and flame retardant
- RoHS, CE Marking

Technical Parameter

- Voltage rating : 650V / 1100V
- Temp rating : -15°C to +85°C
- Short circuit :160°C
- Bending radius : 4 to 6 x diameter of cable
- Standard cable colour : Black or as per customer requirement

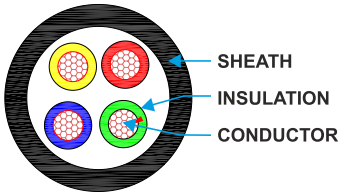
IS:694 RoHS CE

Cable Design Parameters

Part Code	No. of Cores	Nominal Cross Sectional Area	Nominal Insulation Thickness	Max. D.C. Conductor resistance at 20°C	Nominal Sheath Thickness	Maximum Overall Diameter
		sq. mm	mm	ohm/km	mm	mm
0809B010005	1	0.5	0.60	39.0	0.9	4.3
0809B020005	2	0.5	0.60	39.0	0.9	6.9
0809B030005	3	0.5	0.60	39.0	0.9	7.3
0809B040005	4	0.5	0.60	39.0	0.9	8.0
0809B050005	5	0.5	0.60	39.0	0.9	8.7
0809B010007	1	0.75	0.60	26.0	0.9	4.5
0809B020007	2	0.75	0.60	26.0	0.9	7.3
0809B030007	3	0.75	0.60	26.0	0.9	7.7
0809B040007	4	0.75	0.60	26.0	0.9	8.4
0809B050007	5	0.75	0.60	26.0	0.9	9.2
0809B010010	1	1	0.60	19.5	0.9	4.7
0809B020010	2	1	0.60	19.5	0.9	7.6
0809B030010	3	1	0.60	19.5	0.9	8.1
0809B040010	4	1	0.60	19.5	0.9	8.8
0809B050010	5	1	0.60	19.5	1.0	9.6
0809B010015	1	1.5	0.60	13.3	0.9	5.4
0809B020015	2	1.5	0.60	13.3	0.9	8.9
0809B030015	3	1.5	0.60	13.3	0.9	9.4
0809B040015	4	1.5	0.60	13.3	1.0	10.4
0809B050015	5	1.5	0.60	13.3	1.0	11.4
0809B010025	1	2.5	0.70	7.98	1.0	6.2
0809B020025	2	2.5	0.70	7.98	1.0	10.3
0809B030025	3	2.5	0.70	7.98	1.0	10.9
0809B040025	4	2.5	0.70	7.98	1.0	12.0
0809B050025	5	2.5	0.70	7.98	1.0	13.2
0809B010040	1	4	0.80	4.95	1.0	6.8
0809B020040	2	4	0.80	4.95	1.0	11.6
0809B030040	3	4	0.80	4.95	1.0	12.4
0809B040040	4	4	0.80	4.95	1.0	13.6
0809B050040	5	4	0.80	4.95	1.1	15.3
0809B010060	1	6	0.80	3.30	1.1	7.5
0809B020060	2	6	0.80	3.30	1.1	13.0
0809B030060	3	6	0.80	3.30	1.2	13.8
0809B040060	4	6	0.80	3.30	1.2	15.5
0809B010100	1	10	1.00	1.91	1.3	9.4
0809B020100	2	10	1.00	1.91	1.3	16.5
0809B030100	3	10	1.00	1.91	1.4	17.7
0809B040100	4	10	1.00	1.91	1.4	19.5

Control Cables

Multi Core-PVC Flexible As per IS 694

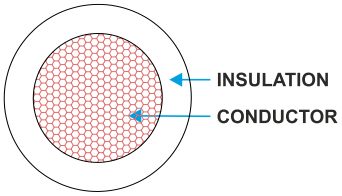


Cable Design Parameters

Part Code	No. of Cores	Nominal Cross Sectional Area	Nominal Insulation Thickness	Max. D.C. Conductor resistance at 20°C	Nominal Sheath Thickness	Maximum Overall Diameter
		sq. mm	mm	ohm/km	mm	mm
0809B010160	1	16	1.00	1.21	1.4	10.9
0809B020160	2	16	1.00	1.21	1.4	19.4
0809B030160	3	16	1.00	1.21	1.4	20.6
0809B040160	4	16	1.00	1.21	1.4	23.0
0809B010250	1	25	1.20	0.780	1.4	13.6
0809B020250	2	25	1.20	0.780	1.4	23.8
0809B030250	3	25	1.20	0.780	1.5	25.6
0809B040250	4	25	1.20	0.780	1.6	28.5
0809B010350	1	35	1.20	0.554	1.6	15.5
0809B020350	2	35	1.20	0.554	1.6	27.2
0809B030350	3	35	1.20	0.554	1.6	29.3
0809B040350	4	35	1.20	0.554	1.7	32.7
0809B010500	1	50	1.40	0.386	2.0	18.1
0809B020500	2	50	1.40	0.386	2.0	32.0
0809B030500	3	50	1.40	0.386	2.0	34.6
0809B040500	4	50	1.40	0.386	2.0	38.6
0809B010700	1	70	1.40	0.272	2.2	20.8
0809B020700	2	70	1.40	0.272	2.2	36.8
0809B030700	3	70	1.40	0.272	2.2	39.6
0809B040700	4	70	1.40	0.272	2.2	44.3
0809B010950	1	95	1.60	0.206	2.4	23.6
0809B020950	2	95	1.60	0.206	2.4	41.8
0809B030950	3	95	1.60	0.206	2.4	47.0
0809B040950	4	95	1.60	0.206	2.4	50.2
0809B011200	1	120	1.60	0.161	2.5	26.0
0809B021200	2	120	1.60	0.161	2.5	46.2
0809B031200	3	120	1.60	0.161	2.5	51.0
0809B041200	4	120	1.60	0.161	2.5	55.7
0809B031500	3	150	1.80	0.129	2.6	54.8
0809B041500	4	150	1.80	0.129	2.6	62.1
0809B031850	3	185	2.00	0.106	2.8	61.2
0809B041850	4	185	2.00	0.106	2.8	68.5
0809B032400	3	240	2.20	0.0801	3.0	69.7
0809B042400	4	240	2.20	0.0801	3.0	77.9
0809B033000	3	300	2.40	0.0641	3.2	75.7
0809B043000	4	300	2.40	0.0641	3.2	84.4

Control Cables

Single Core - Flexible As per IS 694



Application

These cables are designed for residential and commercial infrastructure. They serve as the connecting medium in power and control panels, cabinets & switch gears. They can also used for the purposes such as stationary and static appliances, motors and for other single phase connections.

Construction

- Bare copper, fine wire conductors to IEC 60228 cl. 5, IS: 8130
- Insulation of PVC (Type A, B, C) IS : 5831
- Conductors core color coded as per IS 694.

Properties

- PVC self-extinguishing
- Flame retardant
- RoHS
- CE marking

Technical Parameter

- Voltage rating : 650V/1100V
- Temp rating : - 15°C to +70°C / 105°C
- Short circuit : 160°C
- Bending radius : 4 to 6 x diameter of cable
- Standard cable colour : As per IS 694

IS:694 RoHS CE

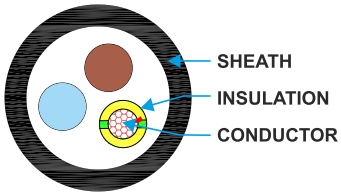
Cable Design Parameters

Part No.	Area in Sq. mm	Conductor construction No. Wire mm	Max. DC Resistance Km at 20°C	Nominal Insulation Thickness in mm	Cable Dia (Approx.) mm	Current Rating in Amp @ ambient 40°C
0810B010005	0.50	16/0.20	39.0	0.60	2.20	4
0810B010007	0.75	24/0.20	26.0	0.60	2.50	7
0810B010010	1.00	32/0.20	19.5	0.60	2.60	13
0810B010015	1.50	*30/0.20	13.3	0.60	2.90	16
0810B010025	2.50	**50/0.25	7.98	0.70	3.50	20
0810B010040	4.00	56/0.30	4.95	0.80	4.30	27
0810B010060	6.00	84/0.30	3.30	0.80	5.30	35
0810B010100	10.0	140/0.30	1.910	1.00	6.70	46
0810B010160	16.0	101/0.45	1.210	1.00	8.20	62
0810B010250	25.0	158/0.45	0.780	1.20	10.0	80
0810B010350	35.0	220/0.45	0.554	1.20	11.3	102
0810B010500	50.0	315/0.45	0.386	1.40	13.5	138
0810B010700	70.0	440/0.45	0.272	1.40	15.5	214
0810B010950	95.0	485/0.50	0.206	1.60	18.5	260
0810B011200	120	608/0.50	0.161	2.00	20.9	305
0810B011500	150	750/0.50	0.129	2.00	22.5	355
0810B011850	185	925/0.50	0.106	2.20	24.6	415
0810B012400	240	1221/0.50	0.0801	2.20	27.6	500

* This size can be supplied in 48/0.2 construction.
**This size can be supplied in 80/0.2 construction.

Control Cables

H05VV-F and H07VV-F



Application

These flexible PVC control cables are especially suited to use for the appliance with medium mechanical stresses with free movement without tensile stress in households, kitchens and offices, also for household appliances in damp and wet areas, e.g. refrigerators, washing machines, spin-driver etc., as far as this cable is admitted to the relevant specifications of the equipment.
These cables are suited to be used for cooking and heating apparatus under the condition that cable does not come in direct contact with hot parts of the apparatus and no other influences or heat.
The cables are suitable for fixed installation in furniture, partition walls, decoration covering and in hollow spaces of prefabricated building parts.
They are not suitable for use in open air, in industries (also permitted to tailor workshops and of that kind) and in agriculture plants and for connecting commercial electrical tools.

Properties

- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2 / IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Construction

- Bare copper, fine wire conductors bunch stranded to DIN VDE 0295 cl. 5, BS 6360 cl. 5, IEC 60228 cl. 5, HD 383
- PVC conductor insulation TI2 to DIN VDE 0281 part 1
- Conductors color coded to DIN VDE 0293-308
- Green-yellow grounding, 3 conductors and above
- Conductor stranded in layers with optimal lay-length
- PVC outer jacket, color by request
- PVC outer jacket TM2 to DIN VDE 0281 part 1
- Imprint on the outer jacket: e.g. european VDE HAR H05VV-F

Technical Parameter

- Control cable, special PVC with oil resistant outer jacket to DIN VDE 0281 part 13, HD 21.13S1 and IEC 60227/75
- Temperature range : Flexing, -5°C to +70°C, fixed installation -40°C to +70°C
- Nominal voltage : U0/U 300/500 V
- Test voltage : 2000 V, 5min.
- Breakdown voltage : Min. 4000 V
- Insulation resistance : Min. 20 M ohm x km
- Minimum bending radius : Flexing 7.5x cable dia, fixed installation 4x cable dia, radiation resistance, up to $80x10^6$ cJ/kg

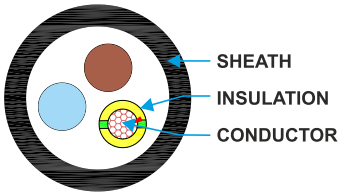
RoHS CE

Cable Design Parameters

Part No.	No. core x cross-sec (mm²)	Outer Diameter (mm)	Weight (kg/km)
0811B020005	HO5VV5-F-OZ 2X0.5	5.2-6.6	46
0811B030005X	HO5VV5-F 3G0.5	5.5-7.0	54
0811B040005X	HO5VV5-F 4G0.5	6.2-7.9	65
0811B050005X	HO5VV5-F 5G0.5	6.8-8.6	80
0811B060005X	HO5VV5-F 6G0.5	7.6-9.6	104
0811B070005X	HO5VV5-F 7G0.5	8.3-10.4	119
0811B080005X	HO5VV5-F 8G0.5	8.9-10.8	134
0811B090005X	HO5VV5-F 9G0.5	9.7-12.1	136
0811B100005X	HO5VV5-F 10G0.5	10.0-12.2	166
0811B120005X	HO5VV5-F 12G0.5	10.4-12.9	186
0811B140005X	HO5VV5-F 14G0.5	10.8-13.2	215
0811B180005X	HO5VV5-F 18G0.5	12.3-15.3	251
0811B250005X	HO5VV5-F 25G0.5	15.1-18.8	349
0811B270005X	HO5VV5-F 27G0.5	15.1-18.6	373
0811B340005X	HO5VV5-F 34G0.5	16.8-20.8	480
0811B360005X	HO5VVF-F 36G0.5	17.0-20.9	510
0811B410005X	HO5VV5-F 41G0.5	18.2-22.4	570
0811B020007	HO5VV5-F-OZ 2X0.75	5.7-7.2	52
0811B030007X	HO5VV5-F 3G0.75	6.0-7.6	68
0811B040007X	HO5VV5-F 4G0.75	6.6-8.3	82
0811B050007X	HO5VV5-F 5G0.75	7.4-9.3	107
0811B060007X	HO5VV5-F 6G0.75	8.1--10.1	132
0811B070007X	HO5VV5-F 7G0.75	9.0-11.3	145
0811B080007X	HO5VV5-F 8G0.75	10.0-12.2	189
0811B090007X	HO5VV5-F 9G0.75	10.7-13.4	194
0811B120007X	HO5VV5-F 12G0.75	11.0-13.7	231
0811B140007X	HO5VV5-F 14G0.75	11.9-14.6	274
0811B180007X	HO5VV5-F 18G0.75	13.2-16.4	313

Control Cables

H05VV-F and H07VV-F

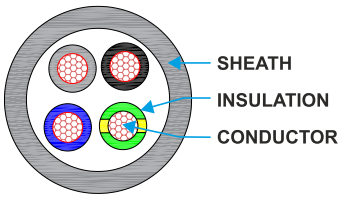


Cable Design Parameters

Part No.	No. core x cross-sec (mm^2)	Outer Diameter (mm)	Weight Cable (kg/km)
0811B250007X	HO5VV5-F 25G0.75	16.0-19.9	461
0811B270007X	HO5VV5-F 27G0.75	16.2-19.9	493
0811B340007X	HO5VV5-F 34G0.75	18.0-22.3	614
0811B360007X	HO5VV5-F 36G0.75	18.2-22.4	646
0811B410007X	HO5VV5-F 41G0.75	19.7-24.1	730
0811B500007X	HO5VV5-F 50G0.75	21.9-27.1	896
0811B020010	HO5VV5-F-OZ 2X1	5.9-7.8	66
0811B030010X	HO5VV5-F 3G1	6.3-8.0	78
0811B040010X	HO5VV5-F 4G1	6.9-8.7	104
0811B050010X	HO5VV5-F 5G1	7.8-9.8	123
0811B060010X	HO5VV5-F 6G1	8.7-10.8	152
0811B070010X	HO5VV5-F 7G1	9.5-11.8	183
0811B080010X	HO5VV5-F 8G1	10.5-12.9	220
0811B090010X	HO5VV5-F 9G1	11.3-14.0	230
0811B120010X	HO5VV5-F 12G1	11.8-14.6	269
0811B140010X	HO5VV5-F 14G1	12.7-15.6	361
0811B180010X	HO5VV5-F 18G1	14.0-17.2	400
0811B190010X	HO5VV5-F 19G1	14.3-17.6	413
0811B250010X	HO5VV5-F 25G1	16.8-17.6	546
0811B270010X	HO5VV5-F 27G1	17.0-21.0	582
0811B340010X	HO5VV5-F 34G1	19.2-23.6	724
0811B360010X	HO5VV5-F 36G1	19.4-23.8	775
0811B370010X	HO5VV5-F 37G1	19.8-24.5	785
0811B410010X	HO5VV5-F 41G1	20.8-25.5	822
0811B500010X	HO5VV5-F 50G1	22.9-28.0	1052
0811B020015	HO7VV7-F-OZ 2X1.5	6.8-8.6	77
0811B030015X	HO7VV7-F 3G1.5	7.4-9.4	97
0811B040015X	HO7VV7-F 4G1.5	8.2-10.2	128
0811B050015X	HO7VV7-F 5G1.5	9.1-11.4	149
0811B060015X	HO7VV7-F 6G1.5	10.2-12.6	196
0811B070015X	HO7VV7-F 7G1.5	11.3-14.1	216
0811B080015X	HO7VV7-F 8G1.5	12.5-15.5	271
0811B090015X	HO7VV7-F 9G1.5	12.9-16.1	282
0811B120015X	HO7VV7-F 12G1.5	13.8-17.0	324
0811B140015X	HO7VV7-F 14G1.5	14.3-18.0	372
0811B180015X	HO7VV7-F 18G1.5	16.5-20.3	485
0811B190015X	HO7VV7-F 19G1.5	16.2-20.0	495
0811B250015X	HO7VV7-F 25G1.5	20.8-25.6	671
0811B270015X	HO7VV7-F 27G1.5	20.3-24.9	695
0811B320015X	HO7VV7-F 32G1.5	21.4-26.4	820
0811B340015X	HO7VV7-F 34G1.5	23.1-28.8	881
0811B360015X	HO7VV7-F 36G1.5	23.0-28.2	905
0811B370015X	HO7VV7-F 37G1.5	23.0-28.2	920
0811B410015X	HO7VV7-F 41G1.5	24.3-29.8	1085
0811B020025	HO7VV7-F-OZ 2X2.5	8.4-10.6	110
0811B030025X	HO7VV7-F 3G2.5	9.2-11.4	154
0811B040025X	HO7VV7-F 4G2.5	10.1-12.5	212
0811B050025X	HO7VV7-F 5G2.5	11.2-13.9	242
0811B070025X	HO7VV7-F 7G2.5	13.6-16.8	350
0811B080025X	HO7VV7-F 8G2.5	14.9-18.7	379
0811B120025X	HO7VV7-F 12G2.5	16.8-20.6	543
0811B140025X	HO7VV7-F 14G2.5	17.5-22.1	611
0811B180025X	HO7VV7-F 18G2.5	20.2-24.8	787
0811B250025X	HO7VV7-F 25G2.5	24.6-3.2	1175
0811B270025X	HO7VV7-F 27G2.5	24.7-30.2	1280
0811B340025X	HO7VV7-F 34G2.5	27.9-34.1	1529
0811B360025X	HO7VV7-F 36G2.5	28.0-34.2	1791
0811B410025X	HO7VV7-F 41G2.5	30.3-36.9	1905

Control Cables - JB-500

Unshielded Colour Coded



Application

These cables are for flexible use in medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms, as measuring and control cables in machine tools, conveyor belts, production lines, as well as in machinery production, in air-conditioning and steel production plants. The green-yellow ground is located immediately below the outer jacket. JB cables are suitable for use in all electrical equipment either in wet or dry areas. They are not suitable for outdoor installations.
CE The product is conformed with the EC Low-Voltage Directive 73/23/EEC and 93/68/EEC.

Construction

- Bare copper, fine wire conductors to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Conductor insulation of special PVC Z 7225
- Core identification to JB/OB colour code as per chart
- Conductors stranded in layers with optimal lay-length
- Special PVC outer jacket TM2, to DIN VDE 0281 part 1
- Color : Gray (RAL 7001)

Properties

- Extensively oil and chemical resistant
- PVC self-extinguishing and flame retardant according to VDE 0482-332-1-2, DIN EN 60332-1-2 / IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers

Technical Parameter

- Special PVC control cables
- Requirements adapted to DIN VDE 0245, 0281, 0293, 0295
- Temperature range : Flexing -5°C to +80°C
  fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V
- Breakdown voltage : Min. 8000 V
- Insulation resistance : Min. 20 M ohm x km
- Minimum bending radius : Flexing 7.5 x cable dia,
  fixed installation 4 x cable dia
- Radiation resistance : Up to 80 x 10^6 cJ/kg

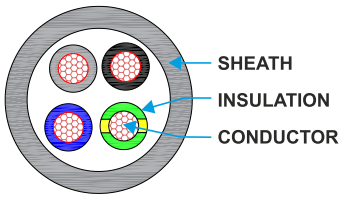
RoHS

Cable Design Parameters

Part No.	Core x Area	Outer Diameter	Copper Weight	Weight Cable
	sq.mm	mm	kg/km	kg/km
0812B020005	JB-500 2x0.5	4.9	9.6	40
0812B030005X	JB-500 3G0.5	5.2	14.4	46
0812B030005	JB-500 3x0.5	5.2	14.4	46
0812B040005X	JB-500 4G0.5	5.6	19.2	56
0812B040005	JB-500 4x0.5	5.6	19.2	56
0812B050005X	JB-500 5G0.5	6.3	24.0	65
0812B050005	JB-500 5x0.5	6.3	24.0	65
0812B050005X	JB-500 6G0.5	6.9	29.0	75
0812B070005X	JB-500 7G0.5	6.9	34.0	80
0812B070005	JB-500 7x0.5	6.9	34.0	84
0812B080005X	JB-500 8G0.5	8.1	38.0	97
0812B100005X	JB-500 10G0.5	9.0	48.0	116
0812B120005X	JB-500 12G0.5	9.2	58.0	135
0812B140005X	JB-500 14G0.5	9.7	67.0	150
0812B160005X	JB-500 16G0.5	10.4	77.0	172
0812B300005X	JB-500 30G0.5	13.8	144.0	310
0812B020007	JB-500 2x0.75	5.3	14.4	46
0812B030007X	JB-500 3G0.75	5.6	21.6	54
0812B030007X	JB-500 3x0.75	5.6	21.6	54
0812B040007X	JB-500 4G0.75	6.3	28.8	66
0812B040007	JB-500 4x0.75	6.3	28.8	66
0812B050007X	JB-500 5G0.75	6.9	36.0	80
0812B050007	JB-500 5x0.75	6.9	36.0	80
0812B060007X	JB-500 6G0.75	7.7	43.2	99
0812B070007X	JB-500 7G0.75	7.7	50.0	110
0812B070007	JB-500 7x0.75	7.7	50.0	110
0812B080007X	JB-500 8G0.75	9.0	58.0	130
0812B090007X	JB-500 9G0.75	9.8	65.0	153
0812B100007X	JB-500 10G0.75	9.8	72.0	162
0812B120007X	JB-500 12G0.75	10.0	86.0	179
0812B150007X	JB-500 15G0.75	11.2	108.0	218

Control Cables - JB-500

Unshielded Colour Coded

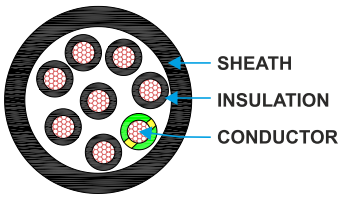


Cable Design Parameters

Part No.	Core x Area	Outer Diameter	Copper Weight	Weight Cable
	sq.mm	mm	kg/km	kg/km
0812B180007X	JB-500 18G0.75	12.2	130.0	257
0812B210007X	JB-500 21G0.75	13.5	151.0	320
0812B250007X	JB-500 25G0.75	14.5	180.0	365
0812B020010	JB-500 2x1	5.6	19.2	60
0812B030010X	JB-500 3G1	6.1	29.0	72
0812B030010	JB-500 3x1	6.1	29.0	72
0812B040010X	JB-500 4G1	6.6	38.4	86
0812B040010	JB-500 4x1	6.6	38.4	86
0812B050010X	JB-500 5G1	7.5	48.0	104
0812B050010	JB-500 5x1	7.5	48.0	104
0812B060010X	JB-500 6G1	8.1	58.0	125
0812B060010	JB-500 6x1	8.1	58.0	125
0812B070010X	JB-500 7G1	8.1	67.0	141
0812B070010	JB-500 7x1	8.1	67.0	141
0812B080010X	JB-500 8G1	9.6	77.0	175
0812B090010X	JB-500 9G1	10.6	87.0	200
0812B100010X	JB-500 10G1	10.6	96.0	207
0812B120010X	JB-500 12G1	10.8	115.0	230
0812B140010X	JB-500 14G1	11.4	134.0	271
0812B160010X	JB-500 16G1	12.3	154.0	300
0812B180010X	JB-500 18G1	12.9	173.0	343
0812B200010X	JB-500 20G1	13.7	192.0	375
0812B240010X	JB-500 24G1	14.7	230.0	468
0812B250010X	JB-500 25G1	15.6	240.0	485
0812B020015	JB-500 2x1.5	6.4	29.0	70
0812B030015X	JB-500 3G1.5	6.8	43.0	90
0812B030015	JB-500 3x1.5	6.8	43.0	90
0812B040015X	JB-500 4G1.5	7.6	58.0	109
0812B040015	JB-500 4x1.5	7.6	58.0	109
0812B050015X	JB-500 5G1.5	8.3	72.0	131
0812B050015	JB-500 5x1.5	8.3	72.0	131
0812B060015X	JB-500 6G1.5	9.2	86.4	157
0812B070015X	JB-500 7G1.5	9.2	101.0	184
0812B070015	JB-500 7x1.5	9.2	101.0	184
0812B080015X	JB-500 8G1.5	10.6	115.0	216
0812B110015X	JB-500 11G1.5	12.2	158.0	300
0812B120015X	JB-500 12G1.5	12.2	173.0	309
0812B140015X	JB-500 14G1.5	13.0	202.0	345
0812B160015X	JB-500 16G1.5	13.9	230.0	386
0812B180015X	JB-500 18G1.5	14.8	259.0	440
0812B200015X	JB-500 20G1.5	15.5	288.0	490
0812B250015X	JB-500 25G1.5	17.8	360.0	620
0812B020025	JB-750 2x2.5	7.8	48.0	112
0812B030025X	JB-500 3G2.5	8.3	72.0	148
0812B030025	JB-500 3x2.5	8.3	72.0	148
0812B040025X	JB-500 4G2.5	9.2	96.0	178
0812B040025	JB-500 4x2.5	9.2	96.0	178
0812B050025X	JB-500 5G2.5	10.1	120.0	221
0812B050025	JB-500 5x2.5	10.1	120.0	221
0812B060025X	JB-500 6G2.5	11.2	144.0	293
0812B070025X	JB-500 7G2.5	11.2	168.0	306

Control Cables - JZ-500

Unshielded Number Coded



Application

These cables are used for flexible use for medium mechanical stresses with free movement without tensile stress or forced movements in dry, moist and wet rooms but not suitable for open air, as measuring and control cables in tool machines, conveyor belts, production lines in machinery production, in air-conditioning and in steel production. The grounding is laid in the outer layer. Selected PVC-compounds guarantee a good flexibility as well as an economic and fast installation.
CE The product is conformed with the EC low-voltage directive 73/23/EEC and 93/68/EEC.

Construction

- Bare copper, fine wire conductors according to DIN VDE 0295 cl. 5, BS 6360 cl. 5 and IEC 60228 cl. 5
- Conductor insulation of special PVC Z 7225
- Black conductors with continuous white numbering according to DIN VDE 0293 (also available with other conductor colours)
- Green-yellow grounding in the outer layer (3 conductors and above)
- Conductors stranded in layers with optimal lay-length
- Outer jacket of special PVC, TM2 to DIN VDE 0281 part 1 and HD 21.1
- Color : Grey (RAL 7001)

Properties

- Extensively oil resistant
- For chemical resistance, see table technical information
- PVC self-extinguishing and flame retardant according to DIN VDE 0482-332-1-2, DIN EN 60332-1-2 / IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)
- The materials used in manufacture are cadmium-free, contain no silicone and are free from substances harmful to the wetting properties of lacquers substances harmful to the wetting properties of lacquers

Technical Parameter

- Control cables, special PVC
- Requirements adapted to DIN VDE 0245, 0281, 0293, 0295
- Temperature range : Flexing -5°C to +80°C, fixed installation -40°C to +80°C
- Nominal voltage : U0/U 300/500 V
- Test voltage : 4000 V
- Breakdown voltage : Min. 8000 V
- Insulation resistance : Min. 20 Mohm x km
- Minimum bending radius : Flexing 7.5 x cable dia, fixed installation 4 x cable dia
- Radiation resistance : Up to $80x10^6$ cJ/kg (up to 80 Mrad)

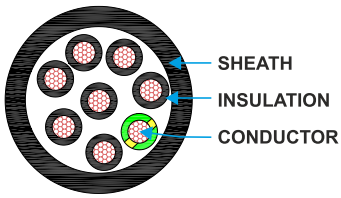
RoHS CE

Cable Design Parameters

Part No.	Description & No. Conductors x cross-sec.	Outer Diameter	Weight Cable
	mm^2	mm	kg/km
0813B020005	JZ-500 2X0.5	4.9	40
0813B030005X	JZ-500 3G0.5	5.2	46
0813B030005	JZ-500 3X0.5	5.2	46
0813B040005X	JZ-500 4G0.5	5.6	56
0813B040005	JZ-500 4X0.5	5.6	56
0813B050005X	JZ-500 5G0.5	6.3	65
0813B050005	JZ-500 5X0.5	6.3	65
0813B060005X	JZ-500 6G0.5	6.9	75
0813B070005X	JZ-500 7G0.5	6.9	80
0813B070005	JZ-500 7X0.5	6.9	80
0813B080005X	JZ-500 8G0.5	7.4	97
0813B080005	JZ-500 8X0.5	7.4	97
0813B100005X	JZ-500 10G0.5	8.3	116
0813B120005X	JZ-500 12G0.5	8.8	135
0813B120005	JZ-500 12X0.5	8.8	135
0813B140005X	JZ-500 14G0.5	9.7	150
0813B160005X	JZ-500 16G0.5	10.2	175
0813B180005X	JZ-500 18G0.5	11.0	196
0813B200005X	JZ-500 20G0.5	11.5	215
0813B210005X	JZ-500 21G0.5	11.5	240
0813B250005X	JZ-500 25G0.5	12.9	270
0813B300005X	JZ-500 30G0.5	13.8	310
0813B320005X	JZ-500 32G0.5	14.3	323
0813B340005X	JZ-500 34G0.5	15.6	362
0813B400005X	JZ-500 40G0.5	16.3	434
0813B420005X	JZ-500 42G0.5	16.1	449
0813B500005X	JZ-500 50G0.5	17.9	513
0813B020007	JZ-500 2X0.75	5.3	46
0813B030007X	JZ-500 3G0.75	5.6	54

Control Cables - JZ-500

Unshielded Number Coded

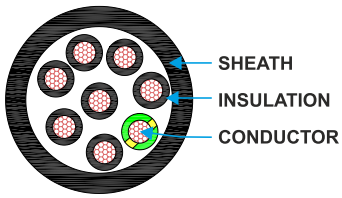


Cable Design Parameters

Part No.	Description & No. Conductors x cross-sec.	Outer Diameter	Weight Cable
	mm^2	mm	kg/km
0813B030007	JZ-500 3X0.75	5.6	54
0813B040007X	JZ-500 4G0.75	6.3	66
0813B040007	JZ-500 4X0.75	6.3	66
0813B050007X	JZ-500 5G0.75	6.9	80
0813B050007	JZ-500 5X0.75	6.9	80
0813B060007X	JZ-500 6G0.75	7.5	99
0813B060007	JZ-500 6X0.75	7.5	99
0813B070007X	JZ-500 7G0.75	7.5	110
0813B070007	JZ-500 7X0.75	7.5	110
0813B080007X	JZ-500 8G0.75	8.2	130
0813B080007	JZ-500 8X0.75	8.2	130
0813B090007X	JZ-500 9G0.75	8.8	153
0813B100007	JZ-500 10X0.75	9.2	162
0813B120007X	JZ-500 12G0.75	9.8	179
0813B120007	JZ-500 12X0.75	9.8	179
0813B140007X	JZ-500 14G0.75	10.6	214
0813B150007X	JZ-500 15G0.75	11.4	218
0813B180007X	JZ-500 18G0.75	12.2	257
0813B190007X	JZ-500 19G0.75	12.7	264
0813B200007X	JZ-500 20G0.75	12.7	286
0813B210007X	JZ-500 21G0.75	12.7	320
0813B250007X	JZ-500 25G0.75	14.3	365
0813B270007X	JZ-500 27G0.75	15.2	382
0813B320007X	JZ-500 32G0.75	15.9	455
0813B340007X	JZ-500 34G0.75	16.7	510
0813B370007X	JZ-500 37G0.75	17.2	537
0813B400007X	JZ-500 40G0.75	17.2	595
0813B410007X	JZ-500 41G0.75	18.0	607
0813B420007X	JZ-500 42G0.75	18.0	612
0813B500007X	JZ-500 50G0.75	19.8	735
0813B020010	JZ-500 2x1	5.6	60
0813B030010X	JZ-500 3G1	5.9	72
0813B030010	JZ-500 3x1	5.9	72
0813B040010X	JZ-500 4G1	6.6	86
0813B040010	JZ-500 4x1	6.6	86
0813B050010X	JZ-500 5G1	7.3	104
0813B050010	JZ-500 5x1	7.3	104
0813B060010X	JZ-500 6G1	8.1	125
0813B070010X	JZ-500 7G1	8.1	141
0813B070010	JZ-500 7x1	8.1	141
0813B080010X	JZ-500 8G1	9.6	175
0813B090010X	JZ-500 9G1	9.8	200
0813B100010X	JZ-500 10G1	9.8	217
0813B100010	JZ-500 10x1	9.8	217
0813B120010X	JZ-500 12G1	10.4	230
0813B120010	JZ-500 12x1	10.4	230
0813B140010X	JZ-500 14G1	11.4	271
0813B160010X	JZ-500 16G1	12.3	300
0813B180010X	JZ-500 18G1	12.9	343
0813B180010	JZ-500 18X1	12.9	343
0813B190010X	JZ-500 19G1	13.0	355
0813B200010X	JZ-500 20G1	13.7	375
0813B200010	JZ-500 20x1	13.7	375
0813B210010X	JZ-500 21G1	13.7	420
0813B210010X	JZ-500 24G1	14.7	440
0813B250010X	JZ-500 25G1	15.4	485
0813B250010	JZ-500 25x1	15.4	485
0813B260010X	JZ-500 26G1	15.6	500
0813B270010X	JZ-500 27G1	15.8	534
0813B300010X	JZ-500 30x1	16.4	550

Control Cables - JZ-500

Unshielded Number Coded

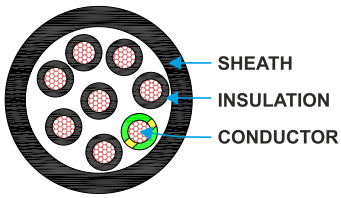


Cable Design Parameters

Part No.	Description & No. Conductors x cross-sec.	Outer Diameter	Weight Cable
	mm^2	mm	kg/km
0813B340010X	JZ-500 34G1	17.9	650
0813B360010X	JZ-500 36G1	17.9	668
0813B370010X	JZ-500 37G1	18.4	701
0813B400010X	JZ-500 40G1	18.5	755
0813B400010	JZ-500 40x1	18.5	755
0813B410010X	JZ-500 41G1	19.4	770
0813B420010X	JZ-500 42G1	19.4	810
0813B500010X	JZ-500 50G1	21.2	936
0813B020015	JZ-500 2x1.5	6.4	70
0813B030015X	JZ-500 3G1.5	6.8	90
0813B030015	JZ-500 3x1.5	6.8	90
0813B040015X	JZ-500 4G1.5	7.4	109
0813B040015	JZ-500 4x1.5	7.4	109
0813B050015X	JZ-500 5G1.5	8.3	131
0813B050015	JZ-500 5x1.5	8.3	131
0813B060015X	JZ-500 6G1.5	9.2	157
0813B070015X	JZ-500 7G1.5	9.2	184
0813B070015	JZ-500 7x1.5	9.2	184
0813B080015X	JZ-500 8G1.5	9.9	216
0813B090015X	JZ-500 9G1.5	10.9	259
0813B100015X	JZ-500 10G1.5	10.9	275
0813B110015X	JZ-500 11G1.5	12.0	300
0813B120015X	JZ-500 12G1.5	12.0	309
0813B120015	JZ-500 12x1.5	12.0	309
0813B140015X	JZ-500 14G1.5	13.0	345
0813B160015X	JZ-500 16G1.5	13.9	386
0813B180015X	JZ-500 18G1.5	14.6	440
0813B190015X	JZ-500 19G1.5	15.2	445
0813B200015X	JZ-500 20G1.5	15.5	490
0813B210015X	JZ-500 21G1.5	15.5	555
0813B250015X	JZ-500 25G1.5	17.4	620
0813B270015X	JZ-500 27G1.5	19.0	670
0813B320015X	JZ-500 32G1.5	19.5	790
0813B340015X	JZ-500 34G1.5	20.2	830
0813B370015X	JZ-500 37G1.5	20.2	892
0813B020025	JZ-500 2x2.5	7.8	112
0813B030025X	JZ-500 3G2.5	8.3	148
0813B030025	JZ-500 3x2.5	8.3	148
0813B040025X	JZ-500 4G2.5	9.2	178
0813B040025	JZ-500 4x2.5	9.2	178
0813B050025X	JZ-500 5G2.5	10.1	221
0813B050025	JZ-500 5x2.5	10.1	221
0813B070025X	JZ-500 7G2.5	11.2	306
0813B070025	JZ-500 7x2.5	11.2	306
0813B080025X	JZ-500 8G2.5	12.3	363
0813B120025X	JZ-500 12G2.5	14.8	498
0813B140025X	JZ-500 14G2.5	16.0	569
0813B180025X	JZ-500 18G2.5	18.2	764
0813B210025X	JZ-500 21G2.5	19.1	914
0813B250025X	JZ-500 25G2.5	21.6	1044
0813B340025X	JZ-500 34G2.5	25.0	1470
0813B420025X	JZ-500 42G2.5	27.2	1790
0813B500025X	JZ-500 50G2.5	30.0	2095
0813B020040	JZ-500 2x4	9.3	195
0813B030040X	JZ-500 3G4	9.8	230
0813B040040X	JZ-500 4G4	11	295
0813B050040X	JZ-500 5G4	12.3	361
0813B070040X	JZ-500 7G4	13.6	458
0813B080040X	JZ-500 8G4	14.6	590
0813B120040X	JZ-500 12G4	17.8	790

Control Cables - JZ-500

Unshielded Number Coded

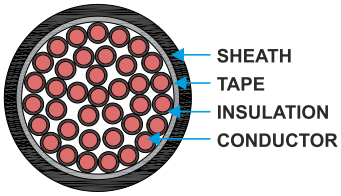


Cable Design Parameters

Part No.	Description & No. Conductors x cross-sec. mm²	Outer Diameter mm	Weight Cable kg/km
0813B030060X	JZ-500 3G6	11.9	355
0813B040060X	JZ-500 4G6	13.0	424
0813B050060X	JZ-500 5G6	14.5	525
0813B070060X	JZ-500 7G6	16.2	625
0813B030100X	JZ-500 3G10	14.8	540
0813B040100X	JZ-500 4G10	16.4	701
0813B050100X	JZ-500 5G10	18.3	858
0813B070100X	JZ-500 7G10	20.2	1106
0813B030160X	JZ-500 3G16	18.2	827
0813B040160X	JZ-500 4G16	20.0	1035
0813B050160X	JZ-500 5G16	22.6	1259
0813B070160X	JZ-500 7G16	24.8	1780
0813B030250X	JZ-500 3G25	22.2	1186
0813B040250X	JZ-500 4G25	24.9	1582
0813B050250X	JZ-500 5G25	27.7	1999
0813B070250X	JZ-500 7G25	30.6	2825
0813B030350	JZ-500 3x35	25.6	1585
0813B040350X	JB-500 4G35	28.4	2105
0813B050350X	JB-500 5G35	31.7	2633
0813B030500X	JB-500 3G50	30.9	2550
0813B040500X	JB-500 4G50	34.2	2940
0813B050500X	JB-500 5G50	38.3	2936
0813B030700X	JB-500 3G70	36.5	3180
0813B040700X	JB-500 4G70	40.3	4090
0813B030950X	JB-500 3G95	41.1	4680
0813B040950X	JB-500 4G95	45.8	5540
0813B050950X	JB-500 5G95	52.7	6931
0813B041200X	JB-500 4G120	51.4	7000
0813B041500X	JB-500 4G150	58.5	8340
0813B041850X	JB-500 4G185	61.1	9904

Control Cables

PVC Control Cables IS 1554/Pt1/1988



Application

Control cables are an excellent choice for power distribution systems due to their high performance. They are perfect for electrical systems that require multiple functionalities such as monitoring, controlling, regulating, and measuring technical devices and components. Automated systems and systems with multiple inputs and outputs can also benefit from control cables. We are providing control cables to a diverse range of electrical, electronic, digital, and technical sectors for many years. We cater to small, medium, and large entities, industries, and commercial businesses. Additionally, we offer custom-designed and tailored control cables to meet your specific needs.

Construction

- Conductor : Solid / Stranded bare copper conductor as per IS8130
- Insulation : PVC type A, C as per requirement (IS 5831)
- Inner sheath : PVC type ST-1 / St-2 as applicable
- Armouring : GI round wire / flat Strip as applicable
- Outer sheath : PVC type ST-1 / St-2 as applicable
- Others : FRLSH or FR cables on request

Properties

- PVC self-extinguishing
- Flame retardant
- Flame retardant and low smoke Cables
- RoHS
- CE marking

Technical Parameter

- Voltage rating : 650V/1100V
- Temp rating : - 15°C to +70°C /85°C
- Short circuit : 160°C
- Bending radius : 10 x diameter of cable
- Standard cable colour : As per IS 1554/pt-1/1988
- Packing : standard packing of 500 mtr. +/-5% tolerance longer length available on request

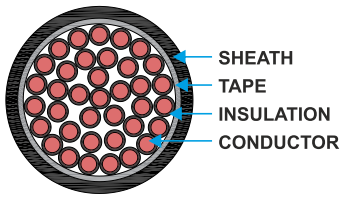
1.1KV Grade 1.5Sqmm PVC Insulated (Unarmd & Armoured) Control Cable as per IS 1554/Pt1/1988

Part Code	No. of Core	Insulation Nom. Thick.(mm.)	Min Inner sheath Thick.(mm.)	Outer Sheath Thic.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)	Nom. Dia of round wire / Thick.(mm.)	Outer Sheath Thick.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)
0814B020015	2	0.8	0.3	1.80	12.0	164	1.4	1.24	14.0	378
0814B030015	3	0.8	0.3	1.80	12.5	189	1.4	1.24	14.5	415
0814B040015	4	0.8	0.3	1.80	13.5	222	1,4	1.24	15.0	471
0814B050015	5	0.8	0.3	1.80	14.5	262	1.4	1.24	16.0	535
0814B060015	6	0.8	0.3	1.80	15.5	279	1.4	1.24	17.0	576
0814B070015	7	0.8	0.3	1.80	15.5	290	1,4	1.24	17.0	587
0814B080015	8	0.8	0.3	1.80	16.5	334	1.4	1.24	18.5	654
0814B090015	9	0.8	0.3	1.80	17.5	379	1.4	1.24	19.5	722
0814B100015	10	0.8	0.3	1.80	19.0	393	1.4	1.40	21.0	777
0814B120015	12	0.8	0.3	1.80	19.5	443	4 x 0.8	1.40	21.5	685
0814B140015	14	0.8	0.3	1.80	20.0	498	4 x 0.8	1.40	22.5	755
0814B160015	16	0.8	0.3	1.80	21.0	558	4 x 0.8	1.40	23.5	840
0814B190015	19	0.8	0.3	2.00	22.5	650	4 x 0.8	1.40	24.5	939
0814B210015	21	0.8	0.3	2.00	23.5	717	4 x 0.8	1.40	25.5	1004
0814B240015	24	0.8	0.3	2.00	26.0	801	4 x 0.8	1.40	28.0	1136
0814B270015	27	0.8	0.3	2.00	26.5	875	4 x 0.8	1.40	28.5	1208
0814B300015	30	0.8	0.3	2.00	27.5	952	4 x 0.8	1.40	29.5	1311
0814B330015	33	0.8	0.3	2.00	28.0	1037	4 x 0.8	1.40	30	1420
0814B370015	37	0.8	0.3	2.00	29.0	1133	4 x 0.8	1.40	31.5	1514
0814B440015	44	0.8	0.3	2.00	32.5	1329	4 x 0.8	1.56	35	1783
0814B520015	52	0.8	0.4	2.2	34.5	1570	4 x 0.8	1.56	37.5	2046
0814B610015	61	0.8	0.4	2.2	36.0	1799	4 x 0.8	1.56	39.5	2270

Note : Suffix A for Armoured Cable

Control Cables

PVC Control Cables IS 1554/Pt1/1988



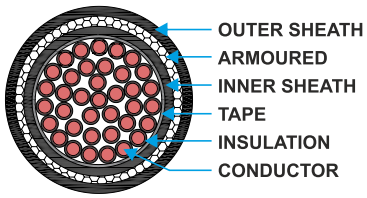
1.1KV Grade 2.5Sqmm PVC Insulated (Unarmd & Armoured) Control Cable as per IS 1554/Pt1/1988

Part Code	No. of Core	Insulation Nom. Thick.(mm.)	Min Inner sheath Thick.(mm.)	Outer Sheath Thic.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)	Nom. Dia of round wire / Thick.(mm.)	Outer Sheath Thick.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)
0814B020025	2	0.9	0.3	1.80	13.5	210	1.4	1.24	15.0	447
0814B030025	3	0.9	0.3	1.80	14.0	246	1.4	1.24	15.5	507
0814B040025	4	0.9	0.3	1.80	15.0	294	1,4	1.24	17.0	579
0814B050025	5	0.9	0.3	1.80	16.0	347	1.4	1.24	18.0	655
0814B060025	6	0.9	0.3	1.80	17.5	373	1.4	1.24	19.0	704
0814B070025	7	0.9	0.3	1.80	17.5	390	1,4	1.24	19.0	721
0814B080025	8	0.9	0.3	1.80	18.5	451	1.4	1.40	21.0	835
0814B090025	9	0.9	0.3	1.80	20.0	514	4 x 0.8	1.40	21.0	772
0814B100025	10	0.9	0.3	1.80	21.5	533	4 x 0.8	1.40	22.0	815
0814B120025	12	0.9	0.3	2.00	22.5	628	4 x 0.8	1.40	23.0	917
0814B140025	14	0.9	0.3	2.00	23.5	708	4 x 0.8	1.40	24.0	995
0814B160025	16	0.9	0.3	2.00	24.5	796	4 x 0.8	1.40	25.0	1107
0814B190025	19	0.9	0.3	2.00	26.0	904	4 x 0.8	1.40	26.0	1239
0814B210025	21	0.9	0.3	2.00	27.0	1001	4 x 0.8	1.40	27.5	1360
0814B240025	24	0.9	0.3	2.00	29.5	1121	4 x 0.8	1.40	30.0	1501
0814B270025	27	0.9	0.3	2.00	30.5	1230	4 x 0.8	1.56	31.0	1636
0814B300025	30	0.9	0.3	2.00	31.5	1334	4 x 0.8	1.56	32.0	1799
0814B330025	33	0.9	0.3	2.00	32.5	1467	4 x 0.8	1.56	33.5	1921
0814B370025	37	0.9	0.4	2.20	34.5	1653	4 x 0.8	1.56	34.5	2104
0814B440025	44	0.9	0.4	2.20	38.5	1943	4 x 0.8	1.56	38.5	2439
0814B520025	52	0.9	0.4	2.20	40.0	2237	4 x 0.8	1.56	40.0	2755
0814B610025	61	0.9	0.4	2.20	42.5	2575	4 x 0.8	1.56	42.5	3142

Note : Suffix A for Armoured Cable

Control Cables

XLPE Control Cables IS 7098/Pt1/1988



Application

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Construction

- Conductor : Solid / Stranded bare copper conductor as per IS8130
- Insulation : XLPE
- Inner sheath : PVC type St-2 as applicable
- Armouring : GI round wire / flat Strip as applicable
- Outer sheath : PVC type St-2 as applicable
- Others : FRLSH or FR cables on request

Properties

- Higher Current rating
- Flame retardant
- Flame retardant and low smoke Cables
- RoHS
- CE marking

Technical Parameter

- Voltage rating : 650V/1100V
- Temp rating : - 15°C to +70°C /85°C
- Short circuit : 250°C
- Bending radius : 10 x diameter of cable
- Standard cable colour : As per IS 7098/pt-1/1988
- Packing : standard packing of 500 mtr. +/-5% tolerance longer length available on request

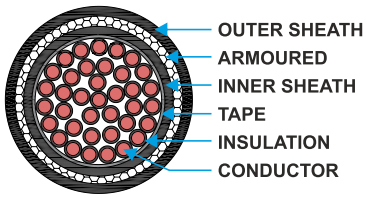
1.1KV Grade 1.5Sqmm XLPE Insulated (Unarmd & Armoured) Control Cable as per IS 7098/Pt1/1988

Part Code	No. of Core	Insulation Nom. Thick.(mm.)	Min Inner sheath Thick.(mm.)	Outer Sheath Thic.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)	Nom. Dia of round wire / Thick.(mm.)	Outer Sheath Thick.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)
0815B020015	2	0.7	0.3	1.80	11.5	170	1.4	1.24	14.0	430
0815B030015	3	0.7	0.3	1.80	12.0	190	1.4	1.24	14.5	470
0815B040015	4	0.7	0.3	1.80	13.0	220	1,4	1.24	15.0	530
0815B050015	5	0.7	0.3	1.80	14.0	260	1.4	1.24	16.0	590
0815B060015	6	0.7	0.3	1.80	15.0	290	1.4	1.24	17.0	650
0815B070015	7	0.7	0.3	1.80	15.0	300	1,4	1.24	17.0	660
0815B080015	8	0.7	0.3	1.80	16.0	340	1.4	1.24	18.0	720
0815B090015	9	0.7	0.3	1.80	17.0	390	1.4	1.24	19.0	810
0815B100015	10	0.7	0.3	1.80	18.0	400	1.4	1.24	20.0	850
0815B120015	12	0.7	0.3	1.80	18.5	450	1.4	1.24	20.5	910
0815B140015	14	0.7	0.3	1.80	19.0	500	1.4	1.40	22.0	1010
0815B160015	16	0.7	0.3	1.80	20.0	560	4 x 0.8	1.40	23.0	930
0815B190015	19	0.7	0.3	1.80	21.0	630	4 x 0.8	1.40	24.0	1020
0815B210015	21	0.7	0.3	2.00	22.5	710	4 x 0.8	1.40	25.0	1100
0815B240015	24	0.7	0.3	2.00	24.5	800	4 x 0.8	1.40	27.5	1230
0815B270015	27	0.7	0.3	2.00	25.0	860	4 x 0.8	1.40	28.0	1310
0815B300015	30	0.7	0.3	2.00	26.0	940	4 x 0.8	1.40	28.5	1400
0815B330015	33	0.7	0.3	2.00	27.0	1020	4 x 0.8	1.40	29.5	1490
0815B370015	37	0.7	0.3	2.00	27.5	1110	4 x 0.8	1.40	30.5	1600
0815B440015	44	0.7	0.3	2.00	31.0	1290	4 x 0.8	1.56	34	1850
0815B520015	52	0.7	0.3	2.00	32.0	1480	4 x 0.8	1.56	35.5	2090
0815B610015	61	0.7	0.4	2.20	34.5	1720	4 x 0.8	1.56	38.0	2340

Note : Suffix A for Armoured Cable

Control Cables

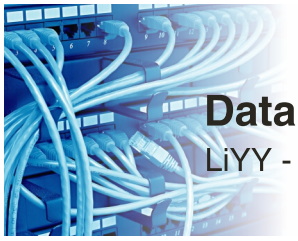
XLPE Control Cables IS 7098/Pt1/1988



1.1KV Grade 2.5Sqmm XLPE Insulated (Unarmd & Armoured) Control Cable as per IS 7098/Pt1/1988

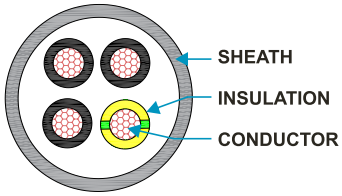
Part Code	No. of Core	Insulation Nom. Thick.(mm.)	Min Inner sheath Thick.(mm.)	Outer Sheath Thic.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)	Nom. Dia of round wire / Thick.(mm.)	Outer Sheath Thick.(mm.)	Overall Diameter (mm)	Weight of Cable Appr. (Kg/km)
0815B020025	2	0.7	0.3	1.80	12.5	210	1.4	1.24	15.0	500
0815B030025	3	0.7	0.3	1.80	13.0	240	1.4	1.24	15.5	550
0815B040025	4	0.7	0.3	1.80	14.0	290	1,4	1.24	16.5	620
0815B050025	5	0.7	0.3	1.80	15.0	340	1.4	1.24	17.0	700
0815B060025	6	0.7	0.3	1.80	16.0	390	1.4	1.24	18.5	780
0815B070025	7	0.7	0.3	1.80	16.0	400	1,4	1.24	18.5	800
0815B080025	8	0.7	0.3	1.80	17.0	460	1.4	1.24	19.5	870
0815B090025	9	0.7	0.3	1.80	18.5	510	1.4	1.24	21.0	990
0815B100025	10	0.7	0.3	1.80	19.5	540	4 x 0.8	1.24	22.5	880
0815B120025	12	0.7	0.3	1.80	20.0	610	4 x 0.8	1.40	23.0	980
0815B140025	14	0.7	0.3	1.80	21.0	690	4 x 0.8	1.40	24.0	1070
0815B160025	16	0.7	0.3	2.00	22.5	790	4 x 0.8	1.40	25.0	1180
0815B190025	19	0.7	0.3	2.00	23.5	900	4 x 0.8	1.40	26.0	1300
0815B210025	21	0.7	0.3	2.00	25.0	990	4 x 0.8	1.40	27.5	1420
0815B240025	24	0.7	0.3	2.00	27.0	1100	4 x 0.8	1.40	30.0	1580
0815B270025	27	0.7	0.3	2.00	27.5	1210	4 x 0.8	1.40	30.5	1700
0815B300025	30	0.7	0.3	2.00	28.5	1310	4 x 0.8	1.40	31.5	1820
0815B330025	33	0.7	0.3	2.00	29.5	1428	4 x 0.8	1.40	32.5	1960
0815B370025	37	0.7	0.3	2.00	30.5	1570	4 x 0.8	1.40	34.0	2120
0815B440025	44	0.7	0.4	2.20	35.0	1870	4 x 0.8	1.56	38.5	2490
0815B520025	52	0.7	0.4	2.20	36.5	2140	4 x 0.8	1.56	40.0	2800
0815B610025	61	0.7	0.4	2.20	38.5	2460	4 x 0.8	1.56	42.0	3150

Note : Suffix A for Armoured Cable



Data Cables

LiYY - PVC Unshielded



Application

This cable is versatile, making it compatible with a wide range of machine interfaces for transmitting data and signals at low frequencies. It's ideal for computer systems, electronic control devices, office machines, scales, and more. Designed for permanent installation, it's suitable for use in both dry and damp environments. Additionally, it can handle light mechanical strain, and its PVC outer sheath provides some resistance to oil.

Construction

- Standards : Generally to VDE 812 & EN 50288-7
- Conductor : Fine wire strands of plain annealed copper strands to BS:6360.
- Insulation : PVC acc. to VDE 0207
- Core colour sequence : DIN 47100
- Laying up : Cores twisted together
- Sheath : PVC acc. to VDE 0207
- Outer jacket colour : Grey sim. RAL 7001

Properties

- Minimum bending radius : Fixed: 6 x cable diameter, flexing : 15 x cable diameter
- Mutual capacitance : C/C approx 120 nF / km. @ 800 Hz
- Inductance : Approx 0.65 mH/km

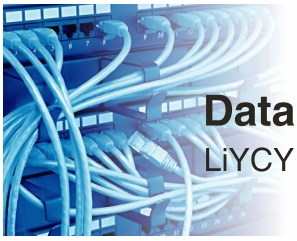
Technical Parameter

- Voltage rating : Working test
  0.14 - 0.34 mm^2 250 v 1000 v
  0.5 - 1.5 mm^2 300 v 2000 v
  2.5 - 6 mm^2 500 v 2000 v
- Temperature range : Static -20°C to +80°C, flexing -5°C to +70°C

ERTL RoHS CE

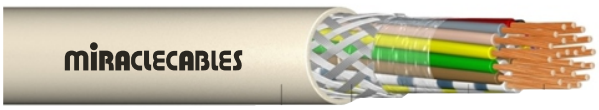
Dimension

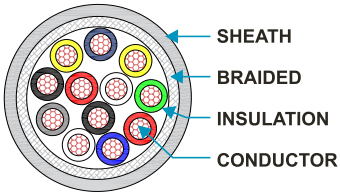
Part Code	No. of Core x Sq.mm.	O.D. approx. mm	Weight kg/km
0901B020005	2 x 0,50	4,90	33,0
0901B030005	3 x 0,50	5,20	47,0
0901B040005	4 x 0,50	5,70	53,0
0901B050005	5 x 0,50	6,30	70,0
0901B060005	6 x 0,50	6,80	75,0
0901B070005	7 x 0,50	7,00	80,0
0901B080005	8 x 0,50	7,60	92,0
0901B100005	10 x 0,50	8,90	105,0
0901B120005	12 x 0,50	9,40	130,0
0901B160005	16 x 0,50	10,40	165,0
0901B240005	24 x 0,50	14,00	221,0
0901B320005	32 x 0,50	16,10	295,0
0901B520005	52 x 0,50	19,80	530,0
0901B020007	2 x 0,75	5,30	47,0
0901B030007	3 x 0,75	5,60	61,0
0901B040007	4 x 0,75	6,30	75,0
0901B050007	5 x 0,75	7,00	85,0
0901B060007	6 x 0,75	7,80	105,0
0901B080007	8 x 0,75	8,30	120,0
0901B100007	10 x 0,75	9,60	172,0
0901B120007	12 x 0,75	10,20	175,0
0901B160007	16 x 0,75	11,60	235,0
0901B200007	20 x 0,75	13,00	312,0
0901B240007	24 x 0,75	15,00	350,0



Data Cables

LiYCY - PVC Copper Braid Shielded Cable





Application

- Indoor installation for electronic control and regulating gear office machinery
- These cables have feature for screening which defect external electrical influences and ensures precise flues transmission

Construction

- Standards : Generally to BS 6500 and VDE 0250
- Conductor : Fine wire strands of plain annealed copper strands to BS 6360.
- Insulation : PVC acc. to VDE 0207
- Core colour sequence : DIN 47100
- Laying up : Cores twisted together
- Wrapping : Polyester tape
- Screen : Tinned copper wire braid
- Sheath : PVC acc. to VDE 0207
- Outer jacket colour : Grey sim. RAL 7001

Properties

- Temperature range : Static -20°C to +80°C, flexing -5°C to +70°C
- Minimum bending radius : Fixed: 6 x Cable diameter, flexing : 15 x Cable diameter
- Core identification : Number coded, black cores with white numbers + Green/Yellow
- Mutual capacitance : C/C approx 120 nF / km, C/C approx 160 nF/ km
- Inductance : Approx 0.65 mH/km

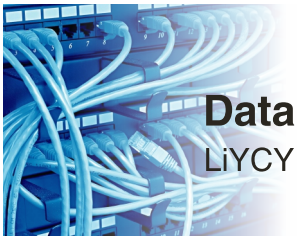
Technical Parameter

- Voltage rating : Working test
  0.14 - 0.34 mm^2 250 v 1000 v
  0.5 - 1.5 mm^2 300 v 2000 v
  2.5 - 6 mm2 500 v 2000 v
- Temperature range : Static -20°C to +80°C, flexing -5°C to +70°C

ERTL RoHS CE

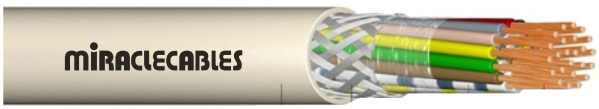
Dimension

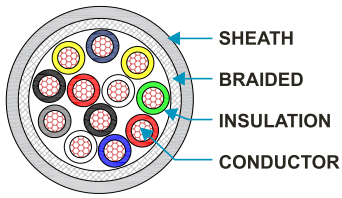
Part Code	No. of Core x Sq.mm.	O.D. approx. mm	Weight kg/km
0902B020005	2 x 0,50	5.4	42.00
0902B030005	3 x 0,50	5.8	51.00
0902B040005	4 x 0,50	6.5	61.00
0902B070005	7 x 0,50	7.8	98.00
0902B120005	12 x 0,50	10.1	156.00
0902B180005	18 x 0,50	11.8	215.00
0902B250005	25 x 0,50	14.4	314.00
0902B020007	2 x 0,75	6.7	56.00
0902B030007	3 x 0,75	7.1	70.00
0902B040007	4 x 0,75	7.6	95.00
0902B050007	5 x 0,75	8.2	130.00
0902B070007	7 x 0,75	8.9	168.00
0902B120007	12 x 0,75	12.0	232.00
0902B180007	18 x 0,75	13.9	315.00
0902B250007	25 x 0,75	16.5	418.00
0902B300007	30 x 0,75	18.0	500.00
0902B020010	2 x 1.00	7.7	84.00
0902B030010	3 x 1.00	8.5	110.00
0902B040010	4 x 1.00	9.2	130.00
0902B050010	5 x 1.00	9.9	156.00
0902B070010	7 x 1.00	10.7	192.00
0902B120010	12 x 1.00	13.7	265.00
0902B180010	18 x 1.00	15.9	380.00
0902B250010	25 x 1.00	17.5	475.00
0902B340010	34 x 1.00	21.5	629.00
0902B020015	2 x 1.50	8.1	97.00
0902B030015	3 x 1.50	8.9	125.00
0902B040015	4 x 1.50	9.7	165.00
0902B050015	5 x 1.50	10.5	193.00
0902B070015	7 x 1.50	11.30	245.00
0902B120015	12 x 1.50	14.5	365.00
0902B180015	18 x 1.50	16.9	553.00
0902B250015	25 x 1.50	20.1	720.00
0902B300015	30 x 1.50	20.7	776.00



Data Cables

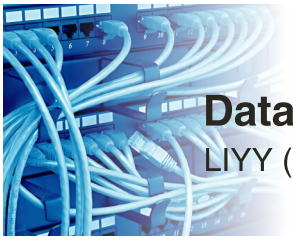
LiYCY - PVC Copper Braid Shielded Cable





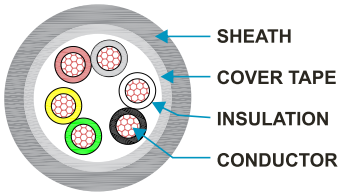
Dimension

Part Code	No. of Core x Sq.mm.	O.D. approx. mm	Weight kg/km
0902B420015	42 x 1.50	25.5	1140.00
0902B020025	2 x 2.50	10.1	148.00
0902B030025	3 x 2.50	10.6	188.00
0902B040025	4 x 2.50	11.6	236.00
0902B050025	5 x 2.50	12.6	270.00
0902B070025	7 x 2.50	13.7	340.00
0902B120025	12 x 2.50	18.5	585.00
0902B180025	18 x 2.50	19.7	725.00
0902B030040	3 x 4.00	12.4	250.00
0902B040040	4 x 4.00	13.5	302.00
0902B050040	5 x 4.00	14.8	370.00
0902B070040	7 x 4.00	16.1	473.00
0902B030060	3 x 6.00	13.9	285.00
0902B040060	4 x 6.00	15.2	412.00
0902B050060	5 x 6.00	16.7	505.00
0902B040100	4 x 10.00	20.8	620.00
0902B050100	5 x 10.00	22.9	796.00
0902B040160	4 x 16.00	23.2	1090.00
0902B050160	5 x 16.00	25.6	2070.00
0902B040250	4 x 25.00	28.2	1787.00
0902B050250	5 x 25.00	31.1	2047.00
0902B040350	4 x 35.00	31.5	2142.00



Data Cables

LIYY (TP) – PVC Unshielded Twisted Pairs



Application

- Data transmission cables used in control and signal lines and in electronics for computer systems, electronic control and regulation, office machinery where cables of robust construction and relatively small outer diameter are required
- Flexible, small outer diameter, small bending radius

Construction

- Conductor : Bare copper strands with reference to VDE 0812
- Insulation : PVC, TI2 acc. to EN 50363-3+ VDE 0207-363-3
- Colour code : With reference to DIN47100
- Stranding : Cores twisted to pairs, pairs twisted in layers
- Wrapping : PETP foil
- Sheath material : PVC, Tm2 acc. to EN50363-4-1+VDE0207-363-4-1
- Sheath colour : Grey (RAL7032)

Properties

- Oil resistance
- Chemical resistance
- Radiation resistance : 8 X 10^7 cJ/kg
- Fire performance : Flame retardant and self-extinguishing acc. to IEC 60332-1-2 + VDE 0482-332-1-2
- Absence of harmful substances : Acc. to RoHS directive of the European union

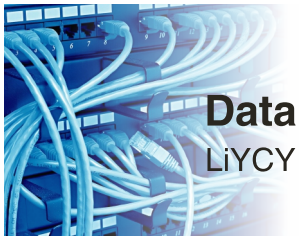
Technical Parameter

- Peak operating voltage : < 0,25 mm² = max. 350 V, 0,25 mm² = max. 500 V
- Testing voltage : core/core 1500 V
- Min. bending radius : fixed laying: 5 x d flexible application : 10 x d
- Temperature range fixed laying : -30 / +70°C flexible application : -5 / +70°C

ERTL RoHS CE

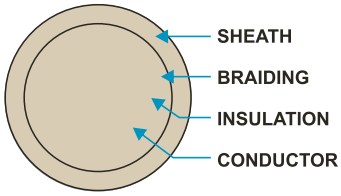
Dimension

Part Code	No. of pairs n x 2 x mm²	Outer Diameter mm	Cable Wt. kg/km
0903B020005	2x2x0.50	6.4	47
0903B030005	3x2x0.50	7.1	64
0903B040005	4x2x0.50	8.6	87
0903B050005	5x2x0.50	9.4	105
0903B060005	6x2x0.50	9.6	120
0903B070005	7x2x0.50	9.9	128
0903B080005	8x2x0.50	10.6	146
0903B100005	10x2x0.50	11.8	174
0903B120005	12x2x0.50	13.4	216
0903B140005	14x2x0.50	14.6	259
0903B180005	18x2x0.50	15.3	311
0903B240005	24x2x0.50	17.8	406
0903B020007	2x2x0.75	7.3	63
0903B030007	3x2x0.75	8.6	87
0903B040007	4x2x0.75	9.9	118
0903B050007	5x2x0.75	10.7	140
0903B060007	6x2x0.75	11.1	164
0903B070007	7x2x0.75	11.4	173
0903B080007	8x2x0.75	12.7	207
0903B100007	10x2x0.75	14.0	251
0903B120007	12x2x0.75	15.9	309
0903B140007	14x2x0.75	16.8	351
0903B180007	18x2x0.75	18.1	443



Data Cables

LiYCY - (TP) Cable PVC, Shielded



Application

- Data transmission cables used in control and signal lines and in electronics for computer systems, electronic control and regulation, office machinery where cables of robust construction and relatively small outer diameter are required
- The overall screening protects against external electrical influences and ensures precise transmission
- LiYCY (TP) is a data transmission cable with particularly efficient screening against electro magnetic interference
- The pair-twisted conductors in this Miracle LiYCY reduce electrical cross-talk between adjacent pairs and this offers protection against capacitive influences by external electrical fields, which are for example caused by parallel running power cables

Construction

- Standards : VDE 0812 and VDE 0814 PVC cables.
- Conductor : Flexible in stranded bare copper according to VDE 0295/CL.5 and IEC 288/CL.5.
- Insulation : PVC. Y12 acc. to DIN VDE 0207 part 4
- Core colour sequence : DIN 47100
- Laying up : Cores twisted into pairs - pairs twisted into layers.
- Braiding : ATC braided
- Sheath : PVC Grey according to RAL 7001 or RAL 7032 on other colours
- Outer jacket colour : Grey sim. RAL 7001

Properties

- Minimum bending radius: Fixed : 6 x cable diameter, flexing : 15 x cable diameter
- Mutual capacitance : C/C approx 120 nF / km, C/S approx 160 nF/ km
- Inductance : Approx 0.65 mH/km

Technical Parameter

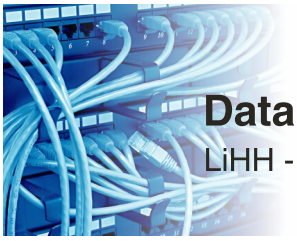
- Nominal voltage : 250V
- Test voltage : 26 AWG: 1200V , >26 AWG: 1500V
- Temperature range : Static -20°C to +80°C, flexing -5°C to +70°C

ERTL RoHS CE

Dimension

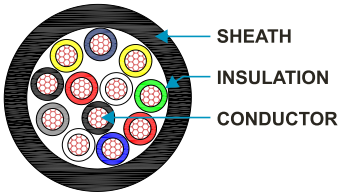
Part Code	No. of pairs n x 2 x mm²	Outer Diameter mm	Cable Wt. kg/km
0904B020005	2 x 0.50	8.6	93
0904B030005	3 x 0.50	8.7	129
0904B040005	4 x 0.50	9.4	146
0904B060005	6 x 0.50	11.1	198
0904B080005	8 x 0.50	13.1	259
0904B120005	12 x 0.50	14.9	354
0904B160005	16 x 0.50	16.5	459
0904B020010	2 x 1.00	10.3	142
0904B030010	3 x 1.00	10.4	173
0904B040010	4 x 1.00	11.3	212
0904B050010	5 x 1.00	11.8	266

Note : Current Rating and Conductor Resistance see "Appendix-09"



Data Cables

LiHH - Halogen Free Unshielded



Application

LiHH cables are used in the industrial applications, for indoor use, like signal transmission and control cable. Due to their low dimensions, they are widely used in applications like: electronic control systems of computer or audio systems or in communication sector, electronic circuits, measurement devices, office equipment, etc. Thanks to use of halogen-free and flame retardant materials (HFFR cables), they don't easily burn, the flames go off by themselves, but above all, they emit very low fumes and toxic and corrosive gases during the fire. Their use is strongly recommended in public buildings, or everywhere it's important to protect and save goods and human population against the acid gases that could be emitted during a fire.

Construction

- Conductor : Class 5 bare or tinned copper flexible conductor, conforming to IEC 60228 requirements
- Insulation : Halogen-free thermoplastic compound accordingly to EN 50363 with low emission of fume and toxic and acid gases
- Sheath : Halogen-free thermoplastic compound accordingly to EN 50363 with low emission of fume and toxic and acid gases

Properties

- Halogen free : EN 50525-1, EN 50267-2-2, EN 50267-2-1, EN 60884-2
- Flame resistance : IEC 60332-1-2
- Fire resistance : IEC 60332-3-24 Cat. C

Technical Parameter

- Temperature range : - 20°C to 70 °C
- Short-circuit temperature : 160°C
- Rated voltage : 300 Vac
- Test voltage : 1500 Vac
- Bending radius : ≥ 8 x D (fixed installation)

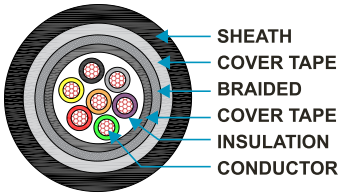
ERTL RoHS CE

Dimension

Part Code	No. of pairs n x 2 x mm²	Outer Diameter mm	Cable Wt. kg/km
0905T020002	2 x 0.25	3.7	19
0905T030002	3 x 0.25	4.0	22
0905T040002	4 x 0.25	4.4	27
0905T050002	5 x 0.25	4.7	35
0905T060002	6 x 0.25	5.0	45
0905T070002	7 x 0.25	5.0	50
0905T080002	8 x 0.25	5.8	55
0905T100002	10 x 0.25	6.5	65
0905T120002	12 x 0.25	6.7	72
0905T140002	14 x 0.25	7.0	85
0905T160002	16 x 0.25	7.5	100
0905T190002	19 x 0.25	8.0	112
0905T210002	21 x 0.25	8.5	116
0905T250002	25 x 0.25	9.7	130

Data Cables

LiHCH - Halogen Free Copper Braid Shielded



Application

Thermoplastic halogen-free jacketed and insulated screened multi-core flexible cable that is intended for control and data transmission. It's fire retardant according to IEC 60332-3-24 Cat. C requirements.

Construction

- Conductor : Class 5 bare or tinned copper flexible conductor, conforming to IEC 60228 requirements
- Insulation : Halogen-free thermoplastic compound accordingly to EN 50363 with low emission of fume and toxic and acid gases
- Mylar (PET) tape
- Braided electrolytic tinned copper screen
- Sheath : Halogen-free thermoplastic compound according to EN 50363 with low emission of fume and toxic and acid gases

Properties

- Halogen Free : EN 50525-1, EN 50267-2-2, EN 50267-2-1, EN 60884-2
- Flame resistance : IEC 60332-1-2
- Fire resistance : IEC 60332-3-24 Cat. C
- Low Acid gas generation

Technical Parameter

- Temperature Range : - 20°C to 70 °C
- Short-circuit temperature : 160°C
- Rated voltage : 300 V ac
- Test voltage : 1500 Vac
- Suitable for fixed installation
- Suitable for indoor use
- Bending radius : ≥ 10 x D (fixed installation)

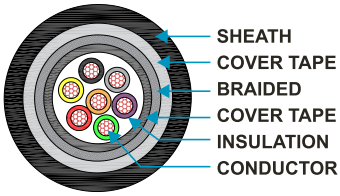
ERTL RoHS CE

Dimension

Part Code	No. of pairs n x 2 x mm²	Outer Diameter mm	Cable Wt. kg/km
0906T020002	2x0.25	4.2	22
0906T030002	3x0.25	4.5	29
0906T040002	4x0.25	4.9	34
0906T050002	5x0.25	5.2	42
0906T060002	6x0.25	5.5	53
0906T070002	7x0.25	5.5	60
0906T080002	8x0.25	6.3	66
0906T090002	9x0.25	6.6	69
0906T100002	10x0.25	7.0	78
0906T120002	12x0.25	7.2	86
0906T140002	14x0.25	7.6	101
0906T160002	16x0.25	8.1	118
0906T190002	19x0.25	8.6	130
0906T210002	21x0.25	9.1	138
0906T250002	25x0.25	10.4	150

Data Cables

LiHCH (TP) - Halogen Free Copper Braid Shielded, Twisted Pairs



Application

- Halogen-free data transmission cables used in control and signal lines and in electronics for computer systems, electronic control and regulation, office machinery where cables of robust construction and relatively small outer diameter are required
- The overall screening protects against external electrical influences and ensures precise transmission
- LiHCH (TP) is a data transmission cable with particularly efficient screening against electro magnetic interference
- The pair-twisted conductors in this Miracle LiHCH reduce electrical cross-talk between adjacent pairs and this offers protection against capacitive influences by external electrical fields, which are for example caused by parallel running power cables

Construction

- Conductor : Tinned or bare stranded flexible copper wire
- Insulation : Halogen-free thermoplastic compound
- Core identification : DIN 47100 without colour repetition
- Laying up : Cores twisted into pairs - pairs twisted into layers
- Braiding : Tinned copper braid
- Sheath : Halogen-free thermoplastic compound according to EN 50363 with low emission of fume and toxic and acid gases
- Outer jacket colour : Black, RAL 9005

Properties

- Minimum bending radius : 10 D x Cable diameter
- Oil resistance
- Flame retardant - As per IEC 60332-1-2
- Low smoke zero halogen (LSZH)
- Halogen free as per IEC 60754-1
- Low smoke density according to IEC 61034-2

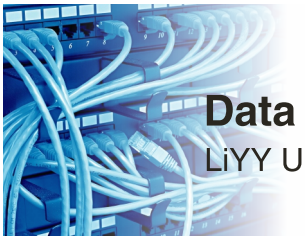
Technical Parameter

- Temperature range : Static -5°C to +80°C, dynamic -30°C to +80°C
- Nominal voltage : 300 V
- Test voltage : 1200 V
- Mutual capacitance : Approx 80 nF/km C/C
  Approx 120 nF/km C/S
- Inductance : Approx .65 mH/km

CSA c UL us ERTL RoHS CE

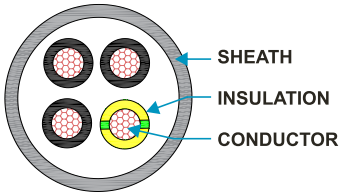
Dimension

Part Code	No. of Core x AWG	Outer Diameter approx mm	Cable Wt. kg/km
0907B002602	2 x 26	3.6	16
0907B002603	3 x 26	3.8	19
0907B002604	4 x 26	4.1	22
0907B002606	6 x 26	4.7	30
0907B002608	8 x 26	5.1	35
0907B002610	10 x 26	5.8	42
0907B002402	2 x 24	4.0	17
0907B002403	3 x 24	4.2	25
0907B002404	4 x 24	4.5	29
0907B002406	6 x 24	5.2	37
0907B002408	8 x 24	5.5	45
0907B002410	10 x 24	6.3	53
0907B002002	2 x 20	4.6	28
0907B002003	3 x 20	4.9	36
0907B002004	4 x 20	5.4	47
0907B002006	6 x 20	6.1	64
0907B002008	8 x 20	6.8	79
0907B002010	10 x 20	7.8	95



Data Cables

LiYY UL - Unshielded Cables as per UL 2464



Application

For connections in all fields of measuring and control engineering as well as in the signal and impulse technology. UL-specifications have to be matched for products which are exported to the American market.
The outer jacket is to a very large extent resistant against oils, petrol and also weather-proof and uv-resistant.

Construction

- Conductor : Tinned or bare stranded flexible copper wire UL-758, UL-2464
- Core insulation : PVC
- Core colour sequence : As per UL
- Laying up : Cores are laid up in layers
- Outer jacket : Special PVC, flame retardant acc. UL-VW-1
- Outer jacket colour : Black, RAL 9005

Properties

- Minimum bending radius : 10 x Cable diameter
- Flame retardant : VW-1, IEC 60332-1

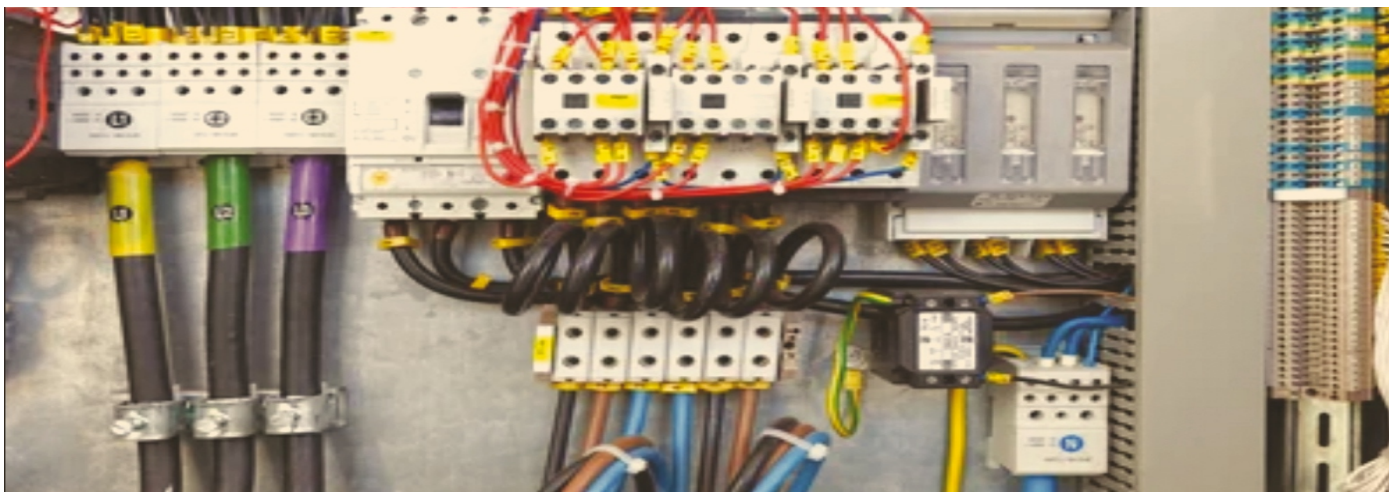
Technical Parameter

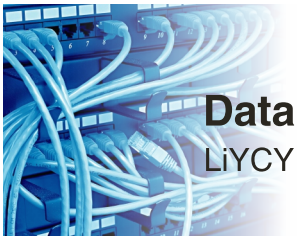
- Temperature Range : Static -30°C to +80°C , Dynamic -15°C to +80°C UL-1569, as per UL2464 only +80°C
- Insulation resistance : > 20 MOhm x km at + 20°C
- Nominal voltage : 300 V
- Test voltage : 1000 V

CSA c UL us ERTL RoHS CE

Dimension

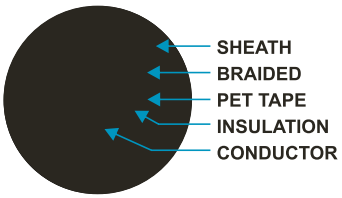
Part Code	No. of Core x AWG	Outer Diameter mm	Cable Wt. kg/km
0908B002602	2 x 26	3.6	16
0908B002603	3 x 26	3.8	19
0908B002604	4 x 26	4.1	22
0908B002606	6 x 26	4.7	30
0908B002608	8 x 26	5.1	35
0908B002610	10 x 26	5.8	42
0908B002402	2 x 24	4.0	17
0908B002403	3 x 24	4.2	25
0908B002404	4 x 24	4.5	29
0908B002406	6 x 24	5.2	37
0908B002408	8 x 24	5.5	45
0908B002410	10 x 24	6.3	53
0908B002002	2 x 20	4.6	28
0908B002003	3 x 20	4.9	36
0908B002004	4 x 20	5.4	47
0908B002006	6 x 20	6.1	64
0908B002008	8 x 20	6.8	79
0908B002010	10 x 20	7.8	95





Data Cables

LiYCY UL - Shielded Cables as per UL 2464



Application

- For connections in all fields of measuring and control engineering as well as in signal and impulse technology.
- UL-specifications have to be matched for products which are exported to the American market. The outer jacket is to a very large extend resistant against oils, petrol, and weather-proof as well as UV-resistant by special PVC.
- The screening prevents electrical noise of influences to a large extend.

Construction

- Conductor : Tinned or bare stranded flexible copper wire UL-758, UL-2464
- Core insulation : PVC compound as per UL
- Core colour sequence : As per UL
- Laying up : Cores are laid up in layers
- Cover tape : PET tape
- Overall shield : Tinned copper braid, coverage approx. 85%
- Outer jacket : Special PVC, flame retardant acc. UL-VW-1
- Outer jacket colour : Black, RAL 9005

Properties

- Minimum bending radius : 10 x Cable diameter
- Flame retardant : VW-1, IEC 60332-1

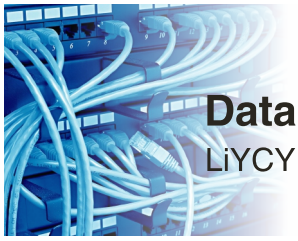
Technical Parameter

- Temperature Range : Static -30°C to +80°C , Dynamic -15°C to +80°C UL-1569, as per UL2464 only +80°C
- Insulation resistance : > 20 MOhm x km at + 20°C
- Nominal voltage : 300 V
- Test voltage : 1000 V

CSA c UL us RoHS CE

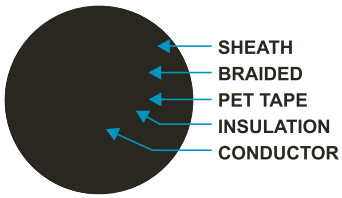
Dimension

Part Code	No. of Core x AWG	Outer Diameter mm	Cable Wt. kg/km
0909B002802	2 x 28	3.9	21.3
0909B002803	3 x 28	4.1	23.5
0909B002804	4 x 28	4.3	26.9
0909B002806	6 x 28	4.8	33.5
0909B002808	8 x 28	5.1	37.7
0909B002810	10 x 28	5.8	48.4
0909B002812	12 x 28	5.9	49.9
0909B002816	16 x 28	6.5	64.3
0909B002602	2 x 26	4.1	27.0
0909B002603	3 x 26	4.4	30.0
0909B002604	4 x 26	4.6	35.0
0909B002606	6 x 26	5.2	41.0
0909B002608	8 x 26	5.50	49.0
0909B002610	10 x 26	6.20	57.0
0909B002612	12 x 26	6.50	67.0
0909B002616	16 x 26	7.30	78.0
0909B002404	4 x 24	4.90	43.0
0909B002406	6 x 24	5.60	50.0
0909B002408	8 x 24	6.00	64.0
0909B002410	10 x 24	6.80	79.0
0909B002412	12 x 24	7.00	89.0
0909B002416	16 x 24	7.80	104.0
0909B002002	2 x 20	5.10	42.0
0909B002003	3 x 20	5.30	49.0
0909B002004	4 x 20	5.70	60.0
0909B002006	6 x 20	6.60	79.0
0909B002008	8 x 20	7.40	103.0
0909B002010	10 x 20	8.10	120.0
0909B002012	12 x 20	8.50	135.0
0909B002016	16 x 20	9.50	168.0



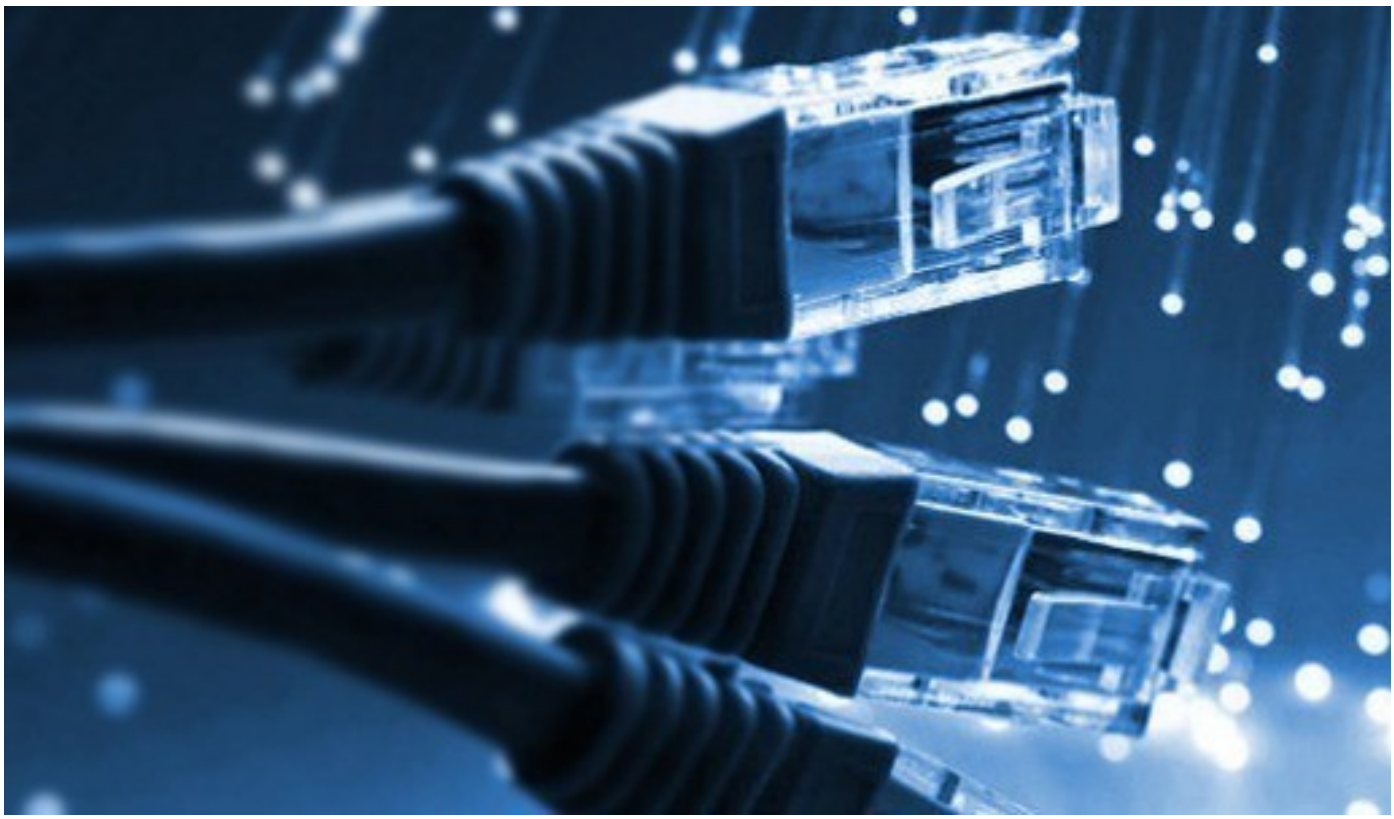
Data Cables

LiYCY UL - Shielded Cables as per UL 2464



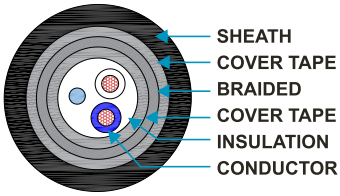
Dimension

Part Code	Dimension # Core x AWG	Outer Diameter approx. mm	weight kg/km	Cable-weight kg/km
0909B002404	4 x AWG 24	4,90	43,0	17,1
0909B002406	6 x AWG 24	5,60	50,0	22,6
0909B002408	8 x AWG 24	6,00	64,0	31,1
0909B002410	10 x AWG 24	6,80	79,0	37,1
0909B002412	12 x AWG 24	7,00	89,0	43,2
0909B002416	16 x AWG 24	7,80	104,0	58,8
0909B002002	2 x AWG 20	5,10	42,0	19,5
0909B002003	3 x AWG 20	5,30	49,0	26,2
0909B002004	4 x AWG 20	5,70	60,0	32,8
0909B002006	6 x AWG 20	6,60	79,0	45,6
0909B002008	8 x AWG 20	7,40	103,0	61,2
0909B002010	10 x AWG 20	8,10	120,0	75,6
0909B002012	12 x AWG 20	8,50	135,0	99,6
0909B002016	16 x AWG 20	9,50	168,0	120,2



RS 485_Modbus_Fieldbus

Li2Y St CY (TP) PVC Foil & Copper Braid Shielded



Application

Specifically designed with ratings to withstand exposure to water, fire and sunlight, the RS-485 direct burial cable is ideal for settings that require reliable performance underground.
Any remote application that relies on strong signals over long distances, like solar plant and outdoor lighting systems that require 120 Ohm direct burial cables are an ideal fit for this cabling.

Construction

- Conductor : Class-2 stranded tinned copper
- Insulation : PE - Polyethylene
- Pair colour : 1Pair- White/Blue, Blue/White Stripe,
  1.5 Pair- Blue/White, Orange/White, White/Orange
  2 Pair- Blue/White, Orange/White, White/Orange,
- Outer shield : Taping - Alum mylar Tape 100% Coverage- 22AWG (7/0.254mm) TC. Braiding - Tinned copper (TC) 65% coverage
- Water block : Water blocking tape
- Outer jacket : PVC

Properties

- Water-blocking and water-resistant jacket design protects against exposure to moisture and water.
- Crush resistance and direct burial rating for underground installation.
- UV resistance makes cable ideal for use in outdoor environments
- Fire resistance

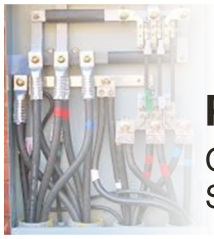
Technical Parameter

- Voltage rating : 300 volts
- Temperature limits : -20°C to +60°C
- Bending radius : 100mm

ERTL RoHS CE

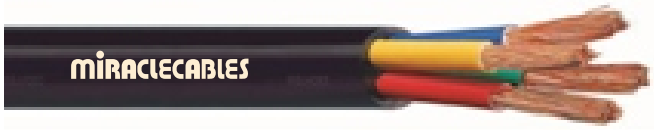
Dimension

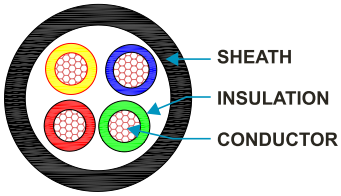
MCIPL	PAIR	Size	Insulation Thickness	Overall Diameter	Cable Wt.
Code	Nos.	Sq.mm.	mm	mm	Kg/km
1001B010003	1	0.34	0.70	5.80	44
1001B020003	2	0.34	0.70	7.7	79
1001B030003	3	0.34	0.70	8.4	89
1001B040003	4	0.34	0.70	8.7	101
1001B080003	8	0.34	0.70	11	176
1001B010005	1	0.50	0.70	6.3	53
1001B020005	2	0.50	0.70	8.50	85
1001B030005	3	0.50	0.70	9.30	105
1001B040005	4	0.50	0.70	9.60	122
1001B080005	8	0.50	0.70	12.70	213



Power Cables

Copper conductor, PVC Insulated and Sheathed Unarmoured 1100 V as per IS 1554-1-1988





Application

This type of cable is used for transmitting and distributing power. It is typically installed as a permanent fixture in commercial and retail locations, both indoors and outdoors, as well as in industrial plants. It can be buried in the ground, run overhead, or exposed to the sun in cable trays.

Construction

- Conductor material : Copper as per IS 8130
- Shape of conductor : For Cu stranded - (Circular compacted)
- Insulation : PVC Type A or PVC Type C as per IS 5831
- Inner sheath : PVC ST1, ST2 (optional)
- Jacket : PVC ST1, ST2 Conforming to IS 5831-1984
  (Optional : FR & FRLS), UV & ATR

Properties

- PVC self-extinguishing and flame retardant
- Low smoke, low halogen.

Technical Parameter

- Temp range : Flexing + 5°C to + 70°C, Short circuit temp + 160°C
- Nominal voltage : 1100 V
- Test voltage : 3 kV for 5 mins
- Insulation resistance : Min. 36.7 MOhm x km
- Mini. bending radius : Min. 15 x Cable dia - for single core
  : Min. 12 x Cable dia - for multi core

IS 1554-1 ERTL RoHS

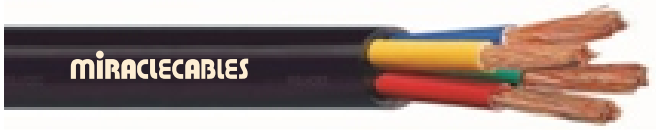
Dimension

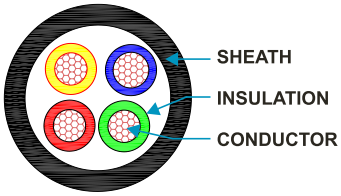
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1101B010040	1	4	1.00	8.60	114
1101B010060	1	6	1.00	9.10	142
1101B010100	1	10	1.00	10.1	190
1101B010160	1	16	1.00	10.8	248
1101B010250	1	25	1.20	12.40	357
1101B010350	1	35	1.20	13.40	458
1101B010500	1	50	1.40	14.90	595
1101B010700	1	70	1.40	16.50	805
1101B010950	1	95	1.60	18.60	1081
1101B011200	1	120	1.60	21.10	1332
1101B011500	1	150	1.80	22.20	1630
1101B011850	1	185	2.00	24.50	2013
1101B012400	1	240	2.20	27.30	2592
1101B013000	1	300	2.40	29.80	3202
1101B014000	1	400	2.60	33.60	4070

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Outer Sheath Thick (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1101B020015	2	1.50	0.80	1.80	10.40	194
1101B020025	2	2.50	0.90	1.80	11.90	248
1101B020040	2	4	1.00	1.80	13.40	316
1101B020060	2	6	1.00	1.80	14.40	397
1101B020100	2	10	1.00	1.80	15.90	515
1101B020160	2	16	1.00	1.80	18.00	531
1101B020250	2	25	1.20	2.00	20.40	676
1101B020350	2	35	1.20	2.00	21.40	966
1101B020500	2	50	1.40	2.00	23.90	1254
1101B020700	2	70	1.40	2.00	26.00	1677
1101B020950	2	95	1.60	2.20	30.00	2274
1101B021200	2	120	1.60	2.20	31.40	2760
1101B021850	2	150	1.80	2.40	35.20	3409
1101B021850	2	185	2.00	2.40	38.50	4201
1101B022400	2	240	2.20	2.60	42.00	5409

Power Cables

Copper conductor, PVC Insulated and Sheathed Unarmoured 1100 V as per IS 1554-1-1988





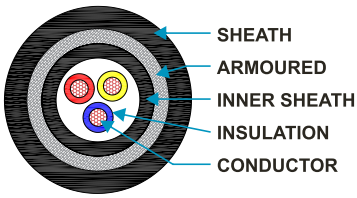
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thick (mm)	Outer Sheath Thick (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1101B030015	3	1.50	0.80	1.80	11	218
1101B030025	3	2.50	0.90	1.80	12	284
1101B030040	3	4	1.00	1.80	13.50	372
1101B030060	3	6	1.00	1.80	14.40	470
1101B030100	3	10	1.00	1.80	15.60	629
1101B030160	3	16	1.00	1.80	18.40	705
1101B030250	3	25	1.20	2.00	21.50	1046
1101B030350	3	35	1.20	2.00	23.30	1350
1101B030500	3	50	1.40	2.00	26.50	1783
1101B030700	3	70	1.40	2.20	29.90	2446
1101B030950	3	95	1.60	2.20	33.80	3286
1101B031200	3	120	1.60	2.20	37	4034
1101B031500	3	150	1.80	2.40	40.10	4954
1101B031850	3	185	2.00	2.60	44.60	6145

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thick (mm)	Outer Sheath Thick (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1101B040150	4	1.50	0.80	1.80	11.70	256
1101B040250	4	2.50	0.90	1.80	13.20	335
1101B040400	4	4	1.00	1.80	15.00	446
1101B040600	4	6	1.00	1.80	16.00	576
1101B041000	4	10	1.00	1.80	19.00	773
1101B041600	4	16	1.00	2.00	22.40	940
1101B042500	4	25	1.20	2.00	23.80	1342
1101B043500	4	35	1.20	2.00	26.10	1744
1101B045000	4	50	1.40	2.20	30.60	2347
1101B047000	4	70	1.40	2.20	33.70	3165
1101B049500	4	95	1.60	2.40	38.60	4330
1101B041200	4	120	1.60	2.40	41.70	5335
1101B041500	4	150	1.80	2.60	45.10	6511
1101B041850	4	185	2.00	2.80	50.80	8152

Part Code	No. of Core	Size (Sq.mm.)	Nom. Insulation Thickness (mm)	Mini. Inner Sheath Thickness (mm)	Nom. Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1101B050250	3.5	25	1.20/1.0	0.30	2.00	23	1250
1101B050350	3.5	35	1.20/1.00	0.30	2.00	25	1550
1101B050500	3.5	50	1.40/1.20	0.30	2.20	28	2050
1101B050700	3.5	70	1.40/1.20	0.40	2.20	32	2800
1101B050950	3.5	95	1.60/1.40	0.40	2.20	36	3700
1101B051200	3.5	120	1.60/1.40	0.50	2.40	39	4700
1101B051500	3.5	150	1.80/1.40	0.50	2.40	43	5550
1101B051850	3.5	185	2.00/1.60	0.50	2.60	47	6900
1101B052400	3.5	240	2.20/1.60	0.60	3.00	53	8950

Power Cables

Copper conductor, PVC Insulated and Sheathed Armoured 1100 V as per IS 1554-1-1988



Application

This type of cable is used for transmitting and distributing power. It is typically installed as a permanent fixture in commercial and retail locations, both indoors and outdoors, as well as in industrial plants. It can be buried in the ground, run overhead, or exposed to the sun in cable trays.

Construction

- Conductor material : Copper as per IS 8130
- Shape of conductor : For Cu stranded - (Circular compacted)
- Insulation : PVC Type A or PVC Type C as per IS 5831
- Inner sheath : PVC ST1/ST2 (optional)
- Armoured : For single core non magnetic material & for multi core GI wire upto 10mm^2, Above 16mm2 GI Strip
- Jacket : PVC ST1/ST2 Conforming to IS 5831-1984 (Optional : FR & FRLS), UV & ATR

Properties

- PVC self-extinguishing and flame retardant
- Low smoke, low halogen

Technical Parameter

- Temp range : + 5°C to + 70°C, Short circuit temp + 160°C
- Nominal voltage : 1100 V
- Test voltage : 3 kV for 5 mins
- Insulation resistance : Min. 10 MOhm x km
- Mini. bending radius : Min. 15 x Cable dia - for single core
  : Min. 12 x Cable dia - for multi core

IS 1554-1 ERTL

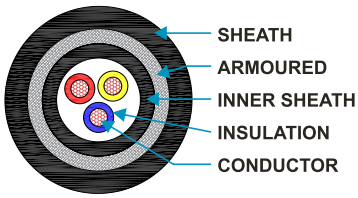
Dimension

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1102B010040	1	4	1.30	1.40	1.24	10.90	173
1102B010060	1	6	1.30	1.40	1.24	11.40	204
1102B010100	1	10	1.30	1.40	1.24	12.30	259
1102B010160	1	16	1.30	1.40	1.24	13.10	320
1102B010250	1	25	1.50	1.40	1.24	14.70	440
1102B010350	1	35	1.50	1.40	1.24	15.70	548
1102B010500	1	50	1.70	1.40	1.24	17.20	696
1102B010700	1	70	1.70	1.40	1.40	19.20	930
1102B010950	1	95	1.90	1.60	1.40	21.60	1243
1102B011200	1	120	1.90	1.60	1.40	23.70	1515
1102B011500	1	150	2.10	1.60	1.40	24.80	1802
1102B011850	1	185	2.30	1.60	1.40	27.10	2198
1102B012400	1	240	2.50	1.60	1.56	30.20	2822
1102B013000	1	300	2.80	2.00	1.56	33.70	3542
1102B014000	1	400	3.00	2.00	1.56	37.10	4412

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1102B020015	2	1.5	0.80	1.40	1.24	13.50	407
1102B020025	2	2.5	0.90	1.40	1.24	15.00	482
1102B020040	2	4	1.00	1.40	1.24	16.50	596
1102B020060	2	6	1.00	1.40	1.24	17.50	711
1102B020100	2	10	1.00	1.40	1.24	19.00	863
1102B020160	2	16	1.00	4x0.80	1.40	18.80	721
1102B020250	2	25	1.20	4x0.80	1.40	20.80	965
1102B020350	2	35	1.20	4x0.80	1.40	21.80	1176
1102B020500	2	50	1.40	4x0.80	1.40	24.30	1494
1102B020700	2	70	1.40	4x0.80	1.56	26.70	1963
1102B020950	2	95	1.60	4x0.80	1.56	30.20	2577
1102B021200	2	120	1.60	4x0.80	1.56	31.70	3082
1102B021500	2	150	1.80	4x0.80	1.72	35.40	3765
1102B021850	2	185	2.00	4x0.80	1.88	39.40	4626
1102B022400	2	240	2.20	4x0.80	2.04	42.50	5865

Power Cables

Copper conductor, PVC Insulated and Sheathed Armoured 1100 V as per IS 1554-1-1988



Dimension

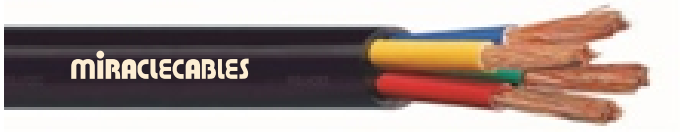
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1102B030015	3	1.5	0.80	1.40	1.24	14.00	442
1102B030025	3	2.5	0.90	1.40	1.24	15.00	542
1102B030040	3	4	1.00	1.40	1.24	16.50	663
1102B030060	3	6	1.00	1.40	1.24	17.50	789
1102B030100	3	10	1.00	1.40	1.40	19.50	1017
1102B030160	3	16	1.00	4x0.80	1.40	18.60	859
1102B030250	3	25	1.20	4x0.80	1.40	21.30	1210
1102B030350	3	35	1.20	4x0.80	1.40	23.10	1532
1102B030500	3	50	1.40	4x0.80	1.56	26.60	2016
1102B030700	3	70	1.40	4x0.80	1.56	29.60	2684
1102B030950	3	95	1.60	4x0.80	1.72	33.50	3564
1102B031200	3	120	1.60	4x0.80	1.72	37.00	4371
1102B031500	3	150	1.80	4x0.80	1.88	40.10	5309
1102B031850	3	185	2.00	4x0.80	2.04	44.20	6502

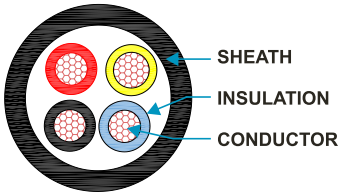
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1102B040015	4	1.5	0.80	1.40	1.24	14.50	503
1102B040025	4	2.5	0.90	1.40	1.24	16.00	616
1102B040040	4	4	1.00	1.40	1.24	17.50	771
1102B040060	4	6	1.00	1.40	1.24	19.00	947
1102B040100	4	10	1.00	1.40	1.40	21.50	1045
1102B040160	4	16	1.00	4x0.80	1.40	22.20	1113
1102B040250	4	25	1.20	4x0.80	1.40	23.60	1529
1102B040350	4	35	1.20	4x0.80	1.40	25.90	1955
1102B040500	4	50	1.40	4x0.80	1.56	30.30	2593
1102B040700	4	70	1.40	4x0.80	1.56	33.40	3459
1102B040950	4	95	1.60	4x0.80	1.72	38.20	4643
1102B041200	4	120	1.60	4x0.80	1.88	41.70	5702
1102B041500	4	150	1.80	4x0.80	1.88	44.70	6872
1102B041850	4	185	2.00	4x0.80	2.04	50.10	8519

Part Code	No. of Core	Size (Sq.mm.)	Nom. Insulation Thickness (mm)	Min. Inner Sheath Thick. (mm)	Armouring GI Flat Strip	Min. Outer Sheath Thick.(mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1102B050250	3.5	25	1.20/1.0	0.30	4 x 0.8mm	1.4	23	1450
1102B050350	3.5	35	1.20/1.00	0.30	4 x 0.8mm	1.4	25	1800
1102B050500	3.5	50	1.40/1.20	0.30	4 x 0.8mm	1.56	29	2350
1102B050700	3.5	70	1.40/1.20	0.40	4 x 0.8mm	1.56	32	3100
1102B050950	3.5	95	1.60/1.40	0.40	4 x 0.8mm	1.56	36	4050
1102B051200	3.5	120	1.60/1.40	0.50	4 x 0.8mm	1.71	40	5050
1102B051500	3.5	150	1.80/1.40	0.50	4 x 0.8mm	1.88	44	6000
1102B051850	3.5	185	2.00/1.60	0.50	4 x 0.8mm	2.04	48	7400
1102B052400	3.5	240	2.20/1.60	0.60	4 x 0.8mm	2.20	53	9400

Power Cables

Copper conductor, XLPE Insulated and PVC Sheathed Unarmoured 1100 V as per IS 7098-1





Application

This type of cable is used for transmitting and distributing power. It is typically installed as a permanent fixture in commercial and retail locations, both indoors and outdoors, as well as in industrial plants. It can be buried in the ground, run overhead, or exposed to the sun in cable trays.

Construction

- Conductor material : Copper as per IS 8130
- Shape of conductor : For Cu stranded - (Circular compacted)
- Insulation : XLPE as per IS 7098
- Inner sheath : PVC ST2 (optional)
- Outer jacket : PVC ST2 Conforming to IS 5831-1984 (Optional : FRLS), UV & ATR

Properties

- XLPE PVC compound
- PVC self-extinguishing and flame retardant

Technical Parameter

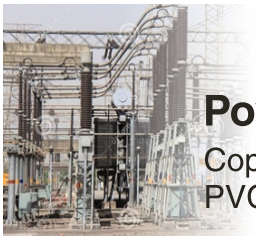
- Temp range : -15°C to + 90°C, Short circuit temp + 250 °C
- Nominal voltage : 1100 V
- Test voltage : 3 kV for 5 mins
- Mini. bending radius : Min. 15 x Cable dia - for single core
  : Min. 12 x Cable dia - for multi core

ERTL

Dimension

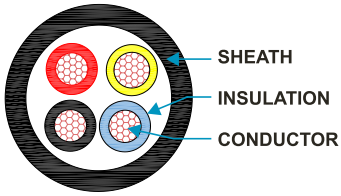
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1103B010040	1	4	1.00	8.60	114
1103B010060	1	6	1.00	9.10	142
1103B010100	1	10	1.00	10.1	190
1103B010160	1	16	1.00	10.8	248
1103B010250	1	25	1.20	12.40	357
1103B010350	1	35	1.20	13.40	458
1103B010500	1	50	1.40	14.90	595
1103B010700	1	70	1.40	16.50	805
1103B010950	1	95	1.60	18.60	1081
1103B011200	1	120	1.60	21.10	1332
1103B011500	1	150	1.80	22.20	1630
1103B011850	1	185	2.00	24.50	2013
1103B012400	1	240	2.20	27.30	2592
1103B013000	1	300	2.40	29.80	3202
1103B014000	1	400	2.60	33.60	4070

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1103B020015	2	1.50	0.80	1.80	10.40	194
1103B020025	2	2.50	0.90	1.80	11.90	248
1103B020040	2	4	1.00	1.80	13.40	316
1103B020060	2	6	1.00	1.80	14.40	397
1103B020100	2	10	1.00	1.80	15.90	515
1103B020160	2	16	1.00	1.80	18.00	531
1103B020250	2	25	1.20	2.00	20.40	676
1103B020350	2	35	1.20	2.00	21.40	966
1103B020500	2	50	1.40	2.00	23.90	1254
1103B020700	2	70	1.40	2.00	26.00	1677
1103B020950	2	95	1.60	2.20	30.00	2274
1103B021200	2	120	1.60	2.20	31.40	2760
1103B021500	2	150	1.80	2.40	35.20	3409
1103B021850	2	185	2.00	2.40	38.50	4201
1103B022400	2	240	2.20	2.60	42.00	5409



Power Cables

Copper conductor, XLPE Insulated and PVC Sheathed Unarmoured 1100 V as per IS 7098-1



Dimension

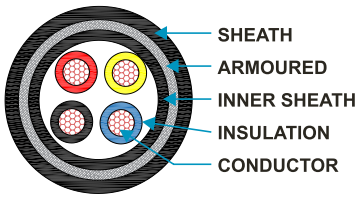
Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Outer Sheath Thick ness(mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1103B030040	3	1.50	0.80	1.80	11	218
1103B030060	3	2.50	0.90	1.80	12	284
1103B030100	3	4	1.00	1.80	13.50	372
1103B030160	3	6	1.00	1.80	14.40	470
1103B030250	3	10	1.00	1.80	15.60	629
1103B030350	3	16	1.00	1.80	18.40	705
1103B030500	3	25	1.20	2.00	21.50	1046
1103B030700	3	35	1.20	2.00	23.30	1350
1103B030950	3	50	1.40	2.00	26.50	1783
1103B031200	3	70	1.40	2.20	29.90	2446
1103B031500	3	95	1.60	2.20	33.80	3286
1103B031850	3	120	1.60	2.20	37	4034
1103B032400	3	150	1.80	2.40	40.10	4954
1103B033000	3	185	2.00	2.60	44.60	6145

Part Code	No. of Core	Size (Sq.mm.)	Insulation Thickness (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1103B040040	4	4	0.70	1.80	14.0	340
1103B040060	4	6	0.70	1.80	15.0	430
1103B040100	4	10	0.70	1.80	17.0	630
1103B040160	4	16	0.70	1.80	19.0	800
1103B040250	4	25	0.90	2.00	22.0	1200
1103B040350	4	35	0.90	2.00	24.0	1600
1103B040500	4	50	1.00	2.00	27.0	2000
1103B040700	4	70	1.10	2.20	31.0	2900
1103B040950	4	95	1.10	2.20	35.0	3900
1103B041200	4	120	1.20	2.40	39.0	4910
1103B041500	4	150	1.40	2.60	43.0	6000
1103B041850	4	185	1.60	2.80	48.0	7450
113B042400	4	240	1.70	3.00	54.0	9700

Part Code	No. of Core	Size (Sq.mm.)	Nom. Insulation Thickness (mm)	Mini. Inner Sheath Thickness (mm)	Nom. Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1103B050250	3.5	25	0.90/0.70	0.30	2.00	21	1150
1103B050350	3.5	35	0.90/0.70	0.30	2.00	24	1400
1103B050500	3.5	50	1.00/0.90	0.30	2.00	26	1850
1103B050700	3.5	70	1.10/0.90	0.40	2.20	30	2600
1103B050950	3.5	95	1.10/1.00	0.40	2.20	34	3450
1103B051200	3.5	120	1.20/1.10	0.40	2.20	37	4350
1103B051500	3.5	150	1.40/1.10	0.50	2.40	41	5250
1103B051850	3.5	185	1.60/1.10	0.50	2.60	46	6600
1103B052400	3.5	240	1.70/1.20	0.60	2.80	50	8500

Power Cables

Copper conductor, XLPE Insulated and PVC Sheathed Armoured 1100 V as per IS 7098-1-1988



Application

These cables are made of stranded compacted circular copper conductor, XLPE insulated core laid up, PVC inner sheathed, and suitable armoring. They are PVC type ST-2 outer sheathed, black in color, and are 1.1KV grade cables confirming to IS 7098-1-1988. These cables are suitable for various AC applications. Moreover, they can also be used for DC applications with a rated voltage up to and including 1500 V to earth.

Construction

- Conductor material : Copper as per IS 8130
- Shape of conductor : For Cu stranded - (Circular compacted)
- Insulation : XLPE as per IS 7098-1
- Inner sheath : PVC ST2
- For single core non magnetic material & for multi core GI wire upto 10mm^2, Above 16mm2 GI Strip
- Jacket : PVC ST2 Conforming to IS 5831-1984 (Optional : FRLS), UV & ATR

Properties

- special XLPE compound
- Lead-Free (RoHS)

Technical Parameter

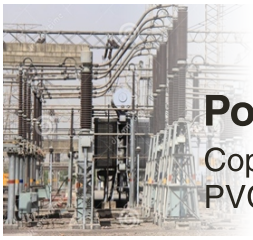
- Temp range : - 15°C to + 90°C, Short circuit temp + 250°C
- Nominal voltage : 1100 V
- Test voltage : 3 kV for 5 mins
- Mini. bending radius : Min. 15 x Cable dia - for single core
  : Min. 12 x Cable dia - for multi core

IS 7098-1

Dimension

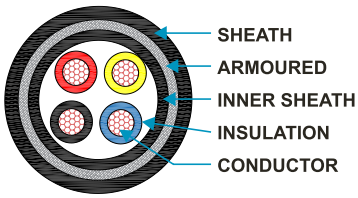
Part Code	Core x Size (Sq.mm.)	Insulation Thickness (mm)	Dimension of Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1104B010100	1Cx10	1.00	1.40	1.24	12	219
1104B010160	1Cx 16	1.00	1.40	1.24	13	281
1104B010250	1Cx 25	1.20	1.40	1.24	14	390
1104B010350	1Cx 35	1.20	1.40	1.24	16	485
1104B010500	1Cx 50	1.30	1.40	1.24	17	608
1104B010700	1Cx 70	1.40	1.40	1.24	19	817
1104B010950	1Cx 95	1.40	1.60	1.40	22	1102
1104B011200	1Cx 120	1.50	1.60	1.40	23.5	1339
1104B011500	1Cx150	1.70	1.60	1.40	24.50	1615
1104B011850	1Cx 185	1.90	1.60	1.40	26.50	1976
1104B012400	1Cx 240	2.00	1.60	1.40	29	2508
1104B013000	1Cx 300	2.10	1.60	1.56	31.5	3078
1104B014000	1Cx 400	2.40	2.0	1.56	36.0	3962
1104B015000	1Cx 500	2.60	2.0	1.56	39.5	4969

Part Code	Core x Size (Sq.mm.)	Insulation Thickness (mm)	Dimension of Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1104B020250	2Cx 25	0.90	4x0.80mm	1.40	18.5	804
1104B020350	2Cx 35	0.90	4x0.80mm	1.40	20.0	1019
1104B020500	2Cx 50	1.00	4x0.80mm	1.40	22.5	1311
1104B020700	2Cx 70	1.10	4x0.80mm	1.56	25.5	1757
1104B020950	2Cx 95	1.10	4x0.80mm	1.56	28.0	2289
1104B021200	2Cx120	1.20	4x0.80mm	1.56	30.5	2755
1104B021500	2Cx150	1.40	4x0.80mm	1.72	31.8	3353
1104B021850	2Cx 185	1.60	4x0.80mm	1.72	37	4097
1104B022400	2Cx 240	1.70	4x0.80mm	1.88	38.7	5225
1104B023000	2Cx 300	1.80	4x0.80mm	2.04	42.5	6412
1104B024000	2Cx 400	2.00	4x0.80mm	2.36	48.2	8075



Power Cables

Copper conductor, XLPE Insulated and PVC Sheathed Armoured 1100 V as per IS 7098-1-1988

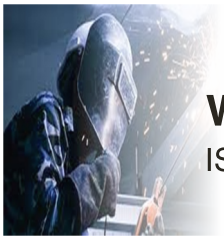


Dimension

Part Code	Core x Size (Sq.mm.)	Insulation Thickness (mm)	Dimension of Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1104B030160	3Cx16	0.70	4x0.80	1.24	16.80	772
1104B030250	3Cx 25	0.90	4x0.80	1.40	20.1	1102
1104B030350	3Cx 35	0.90	4x0.80	1.40	22.0	1396
1104B030500	3Cx 50	1.00	4x0.80	1.40	24.8	1767
1104B030700	3Cx 70	1.10	4x0.80	1.56	28.5	2441
1104B030950	3Cx 95	1.10	4x0.80	1.56	31.3	3182
1104B031200	3Cx120	1.20	4x0.80	1.56	34.3	3895
1104B031500	3Cx150	1.40	4x0.80	1.72	38.3	4759
1104B031850	3Cx 185	1.60	4x0.80	1.88	42.3	5852
1104B032400	3Cx 240	1.70	4x0.80	2.04	47.3	7505
1104B033000	3Cx 300	1.80	4x0.80	2.20	51.8	9243

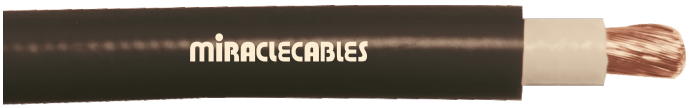
Part Code	Core x Size (Sq.mm.)	Insulation Thickness (mm)	Dimension of Armour (mm)	Outer Sheath Thickness (mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1104B040160	4Cx16	0.70	4x0.80	1.40	20	969
1104B040250	4Cx 25	0.90	4x0.80	1.40	23	1406
1104B040350	4Cx 35	0.90	4x0.80	1.40	25	1786
1104B040500	4Cx 50	1.00	4x0.80	1.56	28	2308
1104B040700	4Cx 70	1.10	4x0.80	1.56	32	3154
1104B040950	4Cx 95	1.10	4x0.80	1.56	35	4161
1104B041200	4Cx120	1.20	4x0.80	1.72	39	5101
1104B041500	4Cx150	1.40	4x0.80	1.88	43.5	6232
1104B041850	4Cx 185	1.60	4x0.80	2.04	48	7676
1104B042400	4Cx 240	1.70	4x0.80	2.20	54	9880

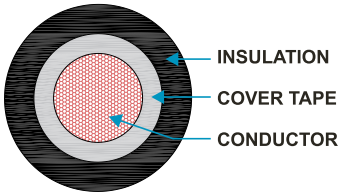
Part Code	No. of Core	Size (Sq.mm.)	Nom. Insulation Thickness (mm)	Min. Inner Sheath Thick.(mm)	Armouring GI Flat Strip	Min. Outer Sheath Thick.(mm)	Overall Diameter (mm)	Weight of Cable Approx. (Kg/km)
1104B050250	3.5	25	0.90/0.70	0.30	4 x 0.8mm	1.4	22	1350
1104B050350	3.5	35	0.90/0.70	0.30	4 x 0.8mm	1.4	24	1650
1104B050500	3.5	50	1.00/0.90	0.30	4 x 0.8mm	1.4	27	2150
1104B050700	3.5	70	1.10/1.0	0.40	4 x 0.8mm	1.56	31	2850
1104B050950	3.5	95	1.20/1.10	0.40	4 x 0.8mm	1.56	34	3800
1104B051200	3.5	120	1.40/1.10	0.40	4 x 0.8mm	1.72	38	4750
1104B051500	3.5	150	1.60/1.10	0.50	4 x 0.8mm	1.72	41	5600
1104B051850	3.5	185	1.70/1.20	0.50	4 x 0.8mm	1.88	46	7000
1104B052400	3.5	240	1.80/1.40	0.60	4 x 0.8mm	2.04	50	8900



Welding Cables

IS 9857 / BS EN 50525-2-81 / BS 638-4 / DIN VDE 0282





Application

Transmission of high currents from the electric welding machine to the welding tool. Assembly lines and conveyor systems, in machine tool and motor car manufacturing, ship building. Manually and automatically operated line and spot welding machines. suitable for flexible use under rugged conditions

Construction

- Conductor : Superfine strands of plain copper class-6
- Separator : Polyester tape
- Insulation & sheath : Double elastomeric rubber compound EM5 / EI7
- Colour : Black

Properties

- Heat and oil resistance and fire retardant (HOFR)
- Bending radius : 6 x overall diameter of cable

Technical Parameter

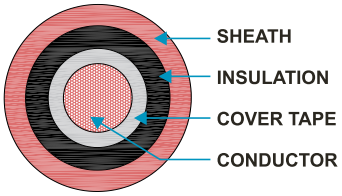
- Voltage rating : 100 V (450 V for non welding applications If suitably protected from Mech. damage)
- Temperature rating : - 20°C to 85°C
- Standards / Specf. : IS : 9857, BS 638P-4, VDE -0282-6

Dimension

Part code	Cores x Nom Cross Sect	Max. Strand Diameter	Max. CR (Spec)	Nominal Insulation	Nominal Sheath	Nominal Cable Diameter	Approx Weight
	Area Sq. mm	(mm)	Ohm/km	Thickness (mm)	Thickness (mm)	mm	kg/km
1201B010100	1x10	0.30	1.91	2.0	1.2	10.6	180
1201B010160	1x16	0.30	1.21	2.0	1.2	11.7	250
1201B010250	1x25	0.30	0.78	2.0	1.4	13.3	350
1201B010350	1x35	0.30	0.554	2.0	1.6	14.	460
1201B010500	1x50	0.30	0.386	2.2	1.8	17.2	650
1201B010700	1x70	0.30	0.272	2.4	2.0	19.6	880
1201B010950	1x95	0.30	0.206	2.6	2.1	22.4	1170
1201B011200	1x120	0.30	0.161	2.8	2.3	24.2	1430
1201B011500	1x150	0.30	0.129	3.0	2.4	26.1	1720

Welding Cables

Insulated & Sheathed



Application

The welding cable is specially designed for the transmission of high currents from the electric welding machine to the welding tool. It is suitable for flexible use under rugged conditions, on assembly lines and conveyor systems.

Construction

- Conductor : Superfine strands of plain copper class-6
- Insulation& sheath : Double elastomeric PVC insulation
- Separator : Polyester foil or tape
- Colour : Black

Properties

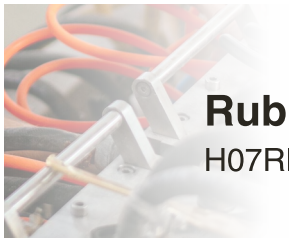
- Heat and oil resistance and fire retardant (HOFR)
- Bending radius : 6 x overall diameter of cable

Technical Parameter

- Voltage rating : 100 V (450 V for non welding applications If suitably protected from Mech. damage)
- Temperature rating : - 20°C to 85°C
- Standards / Specf. : IS : 9857

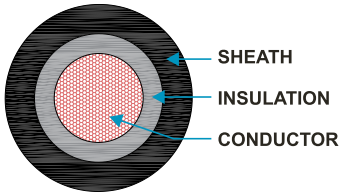
Dimension

Part code	Core x Nominal area (Sq.mm.)	Thickness of Covering (mm)	Approx. overall diameter (mm)	Maximum Resistance at 20°C (ohm/km)	Approx Weight kg/km
1202B010160	1x16	2.0	10	1.21	175
1202B010250	1x25	2.0	12	0.78	245
1202B010350	1x35	2.0	13.7	0.554	350
1202B010500	1x50	2.2	15.3	0.386	440
1202B010700	1x70	2.4	17.3	0.272	640
1202B010950	1x95	2.6	20.5	0.206	860



Rubber Cables

H07RN-F Rubber-sheathed - Single core Cable



Application

Heavy-duty rubber-sheathed cable for use in practically all machines destined for export markets, in dry, damp, wet environments and outdoors. As a feeder to transportable motors or machines, cranes, hoists, hand lamps and drilling machines.

Construction

- Conductor : Annealed copper conductor, class 5 flexible conductor, (Optional : Tinned copper)
- Insulation : Elastomeric compound Type EI 4
- Sheath : Elastomeric compound type EM 2

Properties

- Ozone-resistant
- Weather and UV-resistant
- Resistant to oils and grease

Technical Parameter

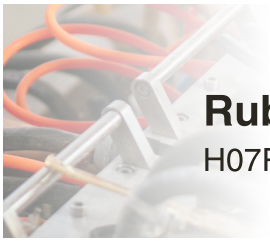
- Rubber-sheathed cable H07RN-F according to VDE 0282 Part 4, HD 22.4 S4 Ozone-resistant weather and UV-resistant.
- Temperature range -25°C to +60°C, UL/CSA -40°C to +90°C
- Permissible operating temperature at the conductor +60°C
- Nominal voltage : HAR 450/750 V, UL/CSA 600 V
- Test voltage : 2500 V
- Minimum bending radius : Flexing 10x cable ø
  Fixed installation 7.5 cable ø

ERTL

Dimension

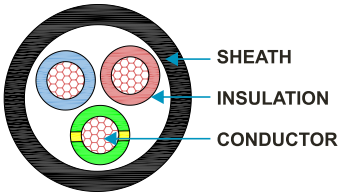
Part code	No. of core Cross Section area (mm^2)	Thickness of Insulation (mm)	Nominal Overall Diameter (mm)	Approx Weight kg/km
1301B010015	1 x 1.5	0.8	5.9	50
1301B010025	1 x 2.5	0.9	6.5	65
1301B010040	1 x 4.0	1.0	7.4	89
1301B010060	1 x 6.0	1.0	8.1	115
1301B010100	1 x 10.0	1.2	10.4	190
1301B010160	1 x 16.0	1.2	11.6	259
1301B010250	1 x 25.0	1.4	13.7	375
1301B010350	1 x 35.0	1.4	15.4	492
1301B010500	1 x 50.0	1.6	17.7	675
1301B010700	1 x 70.0	1.6	20.0	908
1301B010950	1 x 95.0	1.8	22.1	1171
1301B011200	1 x 120.0	1.8	24.5	1445
1301B011500	1 x 150.0	2.0	26.9	1783
1301B011850	1 x 185.0	2.2	28.9	2125
1301B012400	1 x 240.0	2.4	32.6	2733
1301B013000	1 x 300.0	2.6	36.5	3348
1301B014000	1 x 400.0	2.8	40.4	4293
1301B015000	1 x 500.0	3.0	42.6	5262
1301B016300	1 x 630.0	3.0	47.2	6790

Note: 1 Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.



Rubber Cables

H07RN-F Rubber-sheathed Multi core Cable



Application

Heavy-duty rubber-sheathed cable for use in practically all machines destined for export markets, in dry, damp, wet environments and outdoors. As a feeder to transportable motors or machines, cranes, hoists, hand lamps and drilling machines.

Construction

- Conductor : Annealed copper conductor, class 5 flexible conductor, (Optional : Tinned copper)
- Insulation : Elastomeric compound Type EI 4
- Sheath : Elastomeric compound type EM 2

Properties

- Ozone-resistant
- Weather and UV-resistant
- Resistant to oils and grease

Technical Parameter

- Rubber-sheathed cable H07RN-F according to VDE 0282 Part 4, HD 22.4 S4 Ozone-resistant weather and UV-resistant.
- Temperature range -25°C to +60°C, UL/CSA -40°C to +90°C
- Permissible operating temperature at the conductor +60°C
- Nominal voltage : HAR 450/750 V, UL/CSA 600 V
- Test voltage : 2500 V
- Minimum bending radius : Flexing 10x cable ø
  Fixed installation 7.5 cable ø

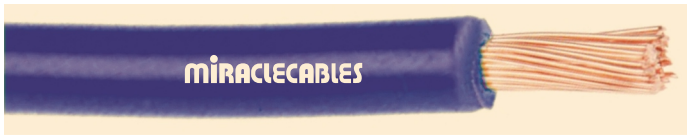
Dimension

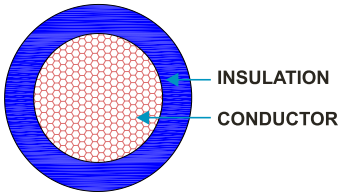
Part code	No. of core Cross Section area (mm^2)	Thickness of Insulation (mm)	Nominal overall diameter (mm)	Approx Weight kg/km
1302B001003X	3G x1	0.70	130	9.60
1302B001503X	3Gx1.5	0.80	165	10.2
1302B001504X	4Gx 1.5	0.80	200	11.4
1302B001505X	5Gx1.5	0.80	240	13.1
1302B002503X	3Gx2.5	0.90	235	14.0
1302B002504X	4Gx2.5	0.90	290	15.1
1302B002505X	5Gx2.5	0.90	345	16.9
1302B004003X	3Gx4	1.00	320	16.0
1302B004004X	4Gx4	1.00	395	17.3
1302B004005X	5Gx4	1.00	485	18.7
1302B006003X	3Gx6	1.00	420	17.1
1302B006004X	4Gx6	1.00	540	18.4
1302B006005X	5Gx6	1.00	650	20.1
1302B010003X	3Gx10	1.20	810	22.9
1302B010004X	4Gx10	1.20	950	25.0

Note : X= Green/Yellow

Automotive Cables

DIN Cables - FLRY-A





Application

Automotive PVC insulated single-core cable with symmetrical conductor structure (type A) and thin wall is used for automobiles, motorcycles electrical equipment in high temperature condition.

Construction

- Conductor : Conductor construction according to DIN 72551, Part 6, type A and ISO 6722 (concentric construction-unilay)
- Insulation : Plasticized PVC with properties according to DIN 72551 and ISO 6722, Class B, Lead free

Properties

- Self-extinguishing and flame retardant
- Ozone resistance
- Good abrasive resistance
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel

Technical Parameter

- Temperature range : - 40°C to +105°C (3000 Hours)
- Standard compliance : ISO 6722 Class A
- Test voltage : 3kV (r.m.s.) for cables < 0.5 mm2 5kV (r.m.s.) for cables ≥ 0.5 mm2
- Type A : Concentric (Unilay) conductor

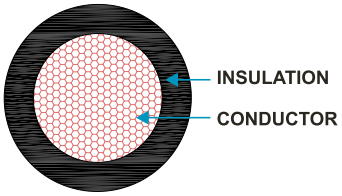
Dimension

Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Resistance at 20°C Bare/tinned max.	Thickness Wall min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	kg/km
1401B010002	1x0.22	7/0.21	0.7	84.80/86.50	0.20	1.2	3
1401B010003	1x0.35	7/0.26	0.8	52.00/54.50	0.20	1.3	5
1401B010005	1x0.50	19/0.19	1.0	37.10/38.20	0.22	1.6	7
1401B010007	1x0.75	19/0.23	1.2	24.70/25.40	0.24	1.9	9
1401B010010	1x1.00	19/0.26	1.35	18.50/19.10	0.24	2.1	11
1401B010015	1x1.50	19/0.32	1.7	12.70/13.00	0.24	2.4	16
1401B010020	1x2.00	19/0.37	2.0	9.42/9.69	0.24	2.6	23
1401B010025	1x2.50	19/0.41	2.2	7.60/7.80	0.28	3.0	26

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Automotive Cables

DIN Cables - FLRY-B



Application

Automotive PVC insulated single-core cable with symmetrical conductor structure (type B) and thin wall is used for automobiles, motorcycles electrical equipment in high temperature condition.

Construction

- Conductor : Conductor construction according to DIN 72551, Part 6.
- Insulation : Plasticized PVC with properties according to DIN 72551 and ISO 6722, Class B, Lead free

Properties

- Self-extinguishing and flame retardant
- Ozone resistance
- Good abrasive resistance
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel

Technical Parameter

- Temperature range : - 40°C to +105°C (3000 Hours)
- Standard compliance : ISO 6722 Class B
- Test voltage : 3kV (r.m.s.) for cables < 0.5 mm2 5kV (r.m.s.) for cables ≥ 0.5 mm2
- Type B : Flexible conductor

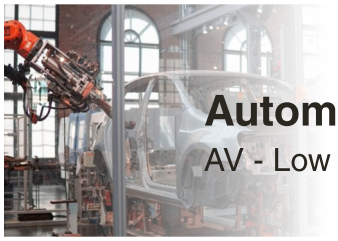
ARAI ERTL RoHS CE

Dimension

Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Resistance at 20°C Bare/tinned max.	Thickness Wall min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	kg/km
1402B010003	1x0.35	12/0.21	0.9	52.00/5.50	0.2	1.4	5
1402B010005	1x0.50	16/0.21	1.0	37.10/38.20	0.22	1.6	7
1402B010007	1x0.75	24/0.21	1.2	24.70/25.40	0.24	1.9	9
1402B010010	1x1.00	32/0.21	1.35	18.50/19.10	0.24	2.1	11
1402B010015	1x1.50	30/0.26	1.7	12.70/13.00	0.24	2.4	16
1402B010020	1x2.00	30/0.31	1.9	9.31/9.59	0.24	2.6	22
1402B010025	1x2.50	50/0.26	2.2	7.60/7.80	0.28	3	26
1402B010030	1x3.00	45/0.31	2.4	6.21/6.40	0.28	3.2	33
1402B010040	1x4.00	56/0.31	2.75	4.70/4.80	0.32	3.7	42
1402B010060	1x6.00	84/0.31	3.3	3.10/3.20	0.32	4.3	61
1402B010100	1x10.00	80/0.41	4.5	1.82/1.85	0.48	6	108
1402B010160	1x16.00	126/0.41	6.3	1.16/1.18	0.52	7.9	170
1402B010250	1x25.00	196/0.41	7.8	0.743/0.757	0.52	9.4	265

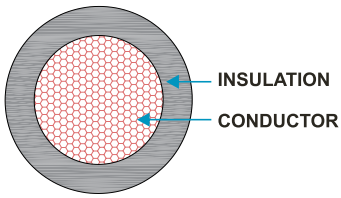
Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Note- 2 : FLRY --C (-40 to +125 °C) / W



Automotive Cables

AV - Low Voltage Cables



Application

Automotive PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and motorcycles.
These are standard wall auto cables for ideal use in automotive by harness manufacturers.

Construction

- Conductor : Soft-annealed electrolytic Copper E-Cu ETP1 according to JIS C 3102.
- Insulation : Plasticized PVC lead free

Properties

- Self-extinguishing and flame retardant.
- Ozone resistance
- Good abrasive resistance.
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel.

Technical Parameter

- Temperature range : - 40°C to +80°C (3000 Hours)
- Standard compliance : JIS C 3406
- Test voltage : 1kV

Dimension

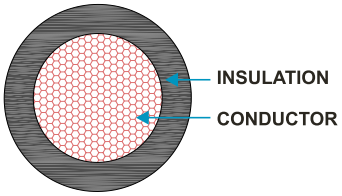
Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20℃ max.	Insulation Thickness Wall Nom.	Overall Diameter min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1403B010005	1x0.50	7/0.32	1	32.7	0.6	2.2	2.4	10
1403B010008	1x0.85	11/0.32	1.2	20.8	0.6	2.4	2.6	13
1403B010012	1x1.25	16/0.32	1.5	14.3	0.6	2.7	2.9	17
1403B010020	1x2.00	26/0.32	1.9	8.81	0.6	3.1	3.4	26
1403B010030	1x3.00	41/0.32	2.4	5.59	0.7	3.8	4.1	40
1403B010050	1x5.00	65/0.32	3	3.52	0.8	4.6	4.9	62
1403B010080	1x8.00	50/0.45	3.7	2.32	0.9	5.5	5.8	92
1403B010100	1x10.00	63/0.45	4.5	1.84	1	6.5	6.9	120
1403B010150	1x15.00	84/0.45	4.8	1.38	1.1	7	7.4	160
1403B010200	1x20.00	41/0.80	6.1	0.89	1.1	8.2	8.8	226
1403B010300	1x30.00	70/0.80	8	0.52	1.4	10.8	11.5	384
1403B010400	1x40	85/0.80	8.6	0.43	1.4	11.4	12.1	462
1403B010500	1x50	108/0.80	9.8	0.34	1.6	13	13.8	583
1403B010600	1x60	127/0.80	10.4	0.29	1.6	13.6	14.4	678
1403B010850	1x85	169/0.80	12	0.22	2	16	17	924
1403B011000	1x100	217/0.80	13.6	0.17	2	17.6	18.6	1151
1403B010005	1x0.5f	20/0.18	1	36.7	0.6	2.2	2.4	9
1403B010007	1x0.75f	30/0.18	1.2	24.4	0.6	2.4	2.6	12
1403B010012	1x1.25f	50/0.18	1.5	14.7	0.6	2.7	2.9	18
1403B010020	1x2f	37/0.26	1.8	9.5	0.6	3	3.4	25
1403B010030	1x3f	61/0.26	2.4	5.76	0.7	3.8	4.1	40

The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter. Note: Other configurations, sizes, colors and length not specified herein are available upon request.

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Automotive Cables

AVS - Low Voltage Cables



Application

Automotive PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and motorcycles.
These are standard wall auto cables for ideal use in automotive by harness manufacturers.

Construction

- Conductor : Soft-annealed electrolytic Copper E-Cu ETP1 according to JIS C 3102.
- Insulation : Plasticized PVC lead free

Properties

- Self-extinguishing and flame retardant
- Ozone resistance
- Good abrasive resistance
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel

Technical Parameter

- Temperature range : - 40°C to +80°C (3000 Hours)
- Intermittent temperature : 120°C (120h)
- Standard compliance : JIS C 3406 / JASO D 611-94
- Test voltage : 1kV

ARAI ERTL RoHS CE

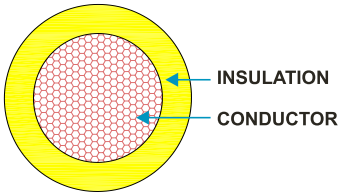
Dimension

Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20℃ max.	Insulation Thickness Wall Nom.	Overall Diameter min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1404B010003	1 x0.3	7/0.26	0.8	50.2	0.5	1.8	1.9	6
1404B010005	1 x0.5	7/0.32	1	32.7	0.6	2.1	2.4	7
1404B010008	1 x0.85	11/0.32	1.2	20.8	0.6	2.3	2.6	10
1404B010012	1 x1.25	16/0.32	1.5	14.3	0.6	2.6	2.9	15
1404B010020	1 x2	26/0.32	1.9	8.81	0.6	3	3.4	22
1404B010030	1 x3	41/0.32	2.4	5.59	0.7	3.5	3.9	42
1404B010050	1 x5	65/0.32	3	3.52	0.8	4.5	4.9	61
1404B010003	1 x0.3f	15/0.18	0.8	48.9	0.5	1.8	1.9	6
1404B010005	1 x0.5f	20/0.18	1	36.7	0.5	2	2.1	8
1404B010007	1 x0.75f	30/0.18	1.2	24.4	0.5	2.2	2.3	11
1404B010012	1 x1.25f	50/0.18	1.5	14.7	0.5	2.5	2.6	17
1404B010020	1 x2f	37/0.26	1.8	9.5	0.5	2.9	3.1	24

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Automotive Cables

AVSS - Low Voltage Cables



Application

Automotive PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and motorcycles.
These are Super Thin wall auto cables for ideal use in automotive by harness manufacturers

Construction

- Conductor : Soft-annealed electrolytic Copper E-Cu ETP1 according to JIS C 3102
- Insulation : Plasticized PVC lead free

Properties

- Self-extinguishing and flame retardant
- Ozone resistance
- Good abrasive resistance
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel

Technical Parameter

- Temperature range : - 40°C to +80°C (3000 Hours)
- Intermittent temperature : 120°C (120h)
- Standard compliance : JIS C 3406 / JASO D 611-94
- Test voltage : 1kV

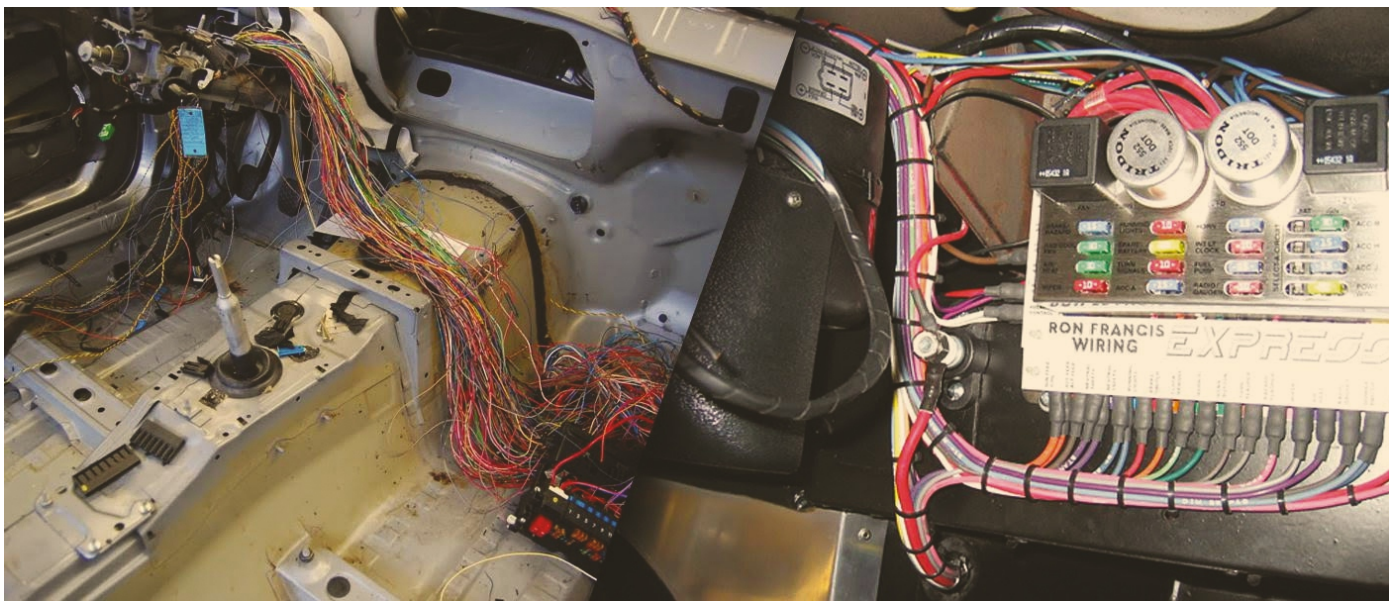
ARAI ERTL RoHS CE

Dimension

Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20℃ max.	Insulation Thickness Wall Nom.	Overall Diameter min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1405B010003	1 x 0.30	7/0.26	0.8	50.2	0.3	1.4	1.5	5
1405B010005	1 x 0.50	7/0.32	1	32.7	0.3	1.6	1.7	7
1405B010008	1 x 0.85	19/0.24	1.2	21.7	0.3	1.8	1.9	10
1405B010012	1 x 1.25	19/0.29	1.5	14.9	0.3	2.1	2.2	14
1405B010003	1 x 0.3f	19/0.16	0.8	48.8	0.3	1.4	1.5	5
1405B010005	1 x 0.5f	19/0.19	1	34.6	0.3	1.6	1.7	7
1405B010007	1 x 0.75f	19/0.23	1.2	23.6	0.3	1.8	1.9	10
1405B010012	1 x 1.25f	37/0.21	1.5	14.6	0.3	2.1	2.2	14
1405B010020	1 x 2f	37/0.26	1.8	9.5	0.4	2.6	2.7	22

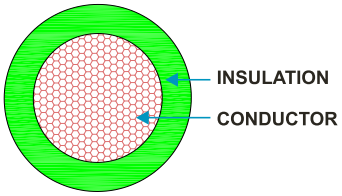
The "f" in the nominal size column indicates a flexible conductor with a finer wire diameter.

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.



Automotive Cables

FLY Cables



Application

Automotive PVC insulated single-core unshielded low-tension wire is used for automobiles.

Construction

- Conductor : Soft-annealed electrolytic Copper E-Cu ETP1 according to DIN 13602
- Insulation : Plasticized PVC lead free

Properties

- Self-extinguishing and flame retardant
- Ozone resistance
- Good abrasive resistance
- Good fuel /oil resistance
- RoHS compliance
- Highly resistant against acids, lyes, petrol and diesel

Technical Parameter

- Operating temperature : - 40°C to +80°C (3000 Hours)
- Standard compliance : ISO 6722 Class B
- Test voltage : 1kV

ARAI Progress through Research ERTL RoHS CE

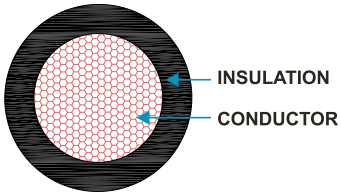
Dimension

Part code	Nominal Cross Section	No. and Dia. of Wires	Diameter max.	Electrical Resistance at 20℃ max.	Insulation Thickness Wall Nom.	Overall Diameter min.	Overall Diameter max.	Approx Weight
	mm^2	No./mm	mm	mΩ/m	mm	mm	mm	kg/km
1406B010005	1x0.50	16 /0.21	1.0	37.1	0.48	2	2.3	8
1406B010007	1x0.75	24/0.21	1.2	24.7	0.48	2.2	2.5	12
1406B010010	1x1.00	32/0.21	1.35	18.5	0.48	2.4	2.7	15
1406B010015	1x1.50	30/0.26	1.7	12.7	0.48	2.7	3	20
1406B010020	1x2.00	40/0.26	2.0	9.42	0.6	2.9	3.2	26
1406B010025	1x2.50	50/0.26	2.2	7.6	0.7	3.3	3.7	32
1406B010030	1x3.00	60/0.26	2.5	6.0	0.7	3.5	3.9	37
1406B010040	1x4.00	56/0.31	2.75	4.71	0.8	4	4.4	49
1406B010060	1x6.00	84/0.31	3.3	3.14	0.8	4.6	5	68
1406B010100	1x10	80 /0.41	4.5	1.82	0.8	6	6.5	117
1406B010160	1x16	126/0.41	6.3	1.16	0.8	7.5	8.3	193
1406B010250	1x25	196/0.41	7.8	0.74	1.04	9.5	10.4	274
1406B010350	1x35	276/0.41	9.0	0.53	1.04	10.6	11.6	397
1406B010500	1x50	400/0.41	10.5	0.37	1.2	12.9	13.5	547
1406B010700	1x70	555/0.41	12.5	0.26	1.2	14.8	15.5	769
1406B010950	1x95	740/0.41	14.8	0.20	1.28	17	18	990
1406B011200	1x120	960/0.41	16.5	0.15	1.6	18.7	19.7	1250

Note-1 :
Kindly complete the part numbers for these cables by adding the suffix (in place of 'xx') for the colour required: 01 - Green, 02 - Black, 03 - Red, 04 - Blue, 05 - Yellow, 06 - Green/Yellow, 07 - \White, 08 - Violet, 09 - Brown, 10 - Orange, 11 - Pink, 12 - grey.

Battery Cables

PVC Single Core Cables



Application

Automotive PVC insulated single-core cable is used for low voltage circuits in automobiles, vehicles and motorcycle battery cables.

Construction

- Conductor : Soft-annealed electrolytic Copper E-Cu ETP1 according to IS 8130
- Insulation : Plasticized PVC lead free

Properties

- Flame retardant
- Highly resistant against acids, lyes, petrol and diesel
- Flexible conductor with PVC normal insulation thickness for battery cables
- Extra flexibility
- RoHS compliance

Technical Parameter

- Temperature range : - 40°C to +70°C (3000 Hours)
- Spark test voltage : 3kV
- Voltage rating : Not exceed 100V

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Standard Battery Cable

Part code	Nominal Cross Section	No. of Strands	Max. Strand Diameter	Outer Diameter max.	Max. DC Conductor Resistance at 20oC Ω/km
	mm^2	No./mm	mm	mm	mm
1501B010250	25	196	0.40	9.7	0.780
1501B010350	35	276	0.40	12.2	0.554
1501B010500	50	396	0.40	13.3	0.386
1501B010700	70	360	0.50	14.6	0.272

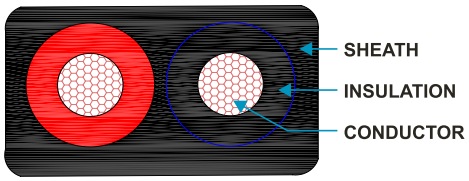
Flexible Battery Cable

Part code	Nominal Cross Section	No. of Strands	Max. Strand Diameter	Outer Diameter max.	Max. DC Conductor Resistance at 20oC Ω/km
	mm^2	No./mm	mm	mm	mm
1501B010160F	16	512	0.20	8.3	1.21
1501B010250F	25	800	0.20	10.1	0.780
1501B010350F	35	1120	0.20	11.8	0.554
1501B010500F	50	705	0.30	13.3	0.386
1501B010700F	70	990	0.30	15.5	0.272
1501B010950F	95	1340	0.30	17.9	0.206
1501B011200F	120	1690	0.30	19.7	0.161

F= Flexible

Battery Cables

PVC Multi Core Cables



Application

PVC battery cable has a wide range of applications in DC battery systems in the automotive industry, process control industry and is widely used in automation. It is used to provide power to a variety of electrical vehicles and connection to DC operated conveyor systems etc. PVC battery cable is a flexible double insulated twin-core cable with a clear outer sheath. For indoor or outdoor use in the dry or wet.

Construction

- Conductor : Class 6 very flexible copper
- Insulation : Thermoplastic elastomer (TPE)
- Sheath : Polyvinyl chloride (PVC) - (VDE0250 BS EN 60332-1-2) TM2 according to BS EN 50363
- Sheath colour : Natural / transparent / black

Properties

- Flame retardant
- Highly resistant against acids, petrol and diesel
- Extra flexibility
- RoHS compliance

Technical Parameter

- Voltage rating : 450/750 Volts
- Temperature limits : -20°C to +70°C Minimum
- Cores : Black Red

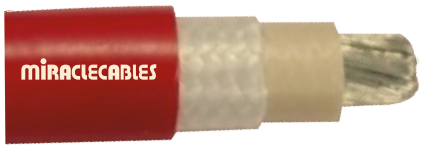
ARAI Progress through Research RoHS CE

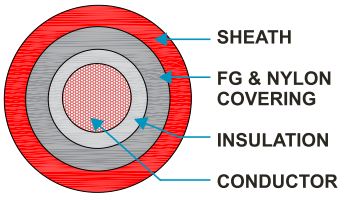
Dimension

Part code	Conductor Size	Number of Cores	Thickness of Insulation	Normal Thickness of Sheath	Overall Diameter	Weight
	mm^2		mm	mm	mm	Kg/Km
1502B020025	2.5	2	0.8	0.8	4.4 x 10.8	90
1502B020040	4	2	0.8	0.8	6.5 x 14.5	120
1502B020060	6	2	1.0	1.0	7.1 x 15.5	190
1502B020100	10	2	1.0	1.2	7.9 x 17.6	294
1502B020160	16	2	1.0	1.2	10.0 x 21.5	420
1502B020250	25	2	1.1	1.3	11.2 x 24.3	627
1502B020350	35	2	1.1	1.3	12.4 x 25.9	824
1502B020500	50	2	1.2	1.4	14.5 x 30.5	1132
1502B020700	70	2	1.6	1.6	17.2 x 36.5	1600

Battery Cables

HRFR Uninyvin Battery Cable





Application

Uninyvin HRFR Battery cable has a wide range of applications in DC battery systems in genset and UPS application

Construction

- Conductor : ATC Class 5 very flexible copper
- Insulation : HR 105°C PVC
- Inner sheath : Fibre glass & nylon braid with lacquer
- Sheath : HRFR PVC

Properties

- Heat resistant and flame retardant
- Highly resistant against acids, petrol and diesel
- Good flexibility
- Good abrasive resistance
- RoHS compliance

Technical Parameter

- Voltage rating : 600/1000 Volts
- Temperature limits : -30°C to +105°C Minimum
- Bending radius : 3 to 6 times of cable diameter
- Cores : Black and Red

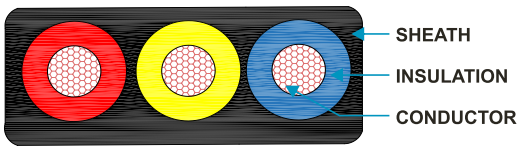
ERTL RoHS CE

Genset Batterycables

Part code	Uninyvin Cable	Size(area)	Conductor Diameter Max	Diameter Over Braid /Lacquer Max	Overall Diameter (HRFR)	Conductor Resistance at20°C"Max"	Max Current Rating BS-G-177
	AWG	Sq.mm.	mm	mm	mm	Ω/900m	Amps
1503T601	6	13.3	5.54	7.50	9.50	1.30	115
1503T401	4	21.5	6.90	9.30	11.30	0.802	160
1503T201	2	33.3	8.76	11.00	13.0	0.517	200
1503T101	1	40.7	9.75	12.20	14.20	0.423	220
1503T001	0	53.0	11.0	13.70	15.70	0.325	240
1503T0001	00	68.3	12.4	15.40	17.40	0.252	270
1503T00001	000	84.2	13.9	16.90	19.00	0.204	300
1503T000001	0000	109	15.6	18.70	21.00	0.158	350

Flat Submersible Cables

Flat Submersible Cable-PVC Insulated



Application

The PVC insulated and sheathed 3 core flat cables are mainly used in pump connections. They are also used in many industrial applications. The sheath is specially made out to resist tough and difficult outdoor conditions & excellent resistant to water.

Construction

- Conductor: Electrolytic grade annealed copper
- PVC 70°C,IS 694, IS 8130 Class 2 (1.5 & 2.5 Sq. mm), for others class 5, IS 5831 Type A insulation & ST-1 sheath.
- PVC HR 85°C. IS 694, IS 8130 Class 2 (1.5 & 2.5 Sq. mm), for others class 5, IS 5831 Type C insulation & ST-2 sheath.
- Core Colour : Red, Yellow, Blue
- Sheath Colour : Black

Properties

- Excellent resistance to water
- RoHS compliance

Technical Parameter

- Approvals : IS 694 marked
- Voltage grade : Upto and including 1100v
- Temp rating : -25°C to 85°C

IS:694 ERTL RoHS

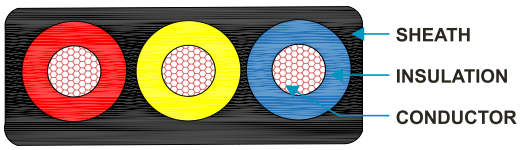
Dimension

Part code	Core x Cross sectional area	Conductor resistance at 20°C (Ω/km) Max	Nom. Insulation thickness	Nominal sheath thickness	Approx. overall dimensions	Weight Approx
	Sq. mm		mm	mm	mm	Kg/Km
1601B030010	3x1	19.5	0.6	0.9	11.0 X 5.40	120
1601B030015	3x1.5*	12.1	0.6	0.9	12.0 X 5.6	135
1601B030025	3x2.5*	7.41	0.7	1.0	13.0 X 6.2	185
1601B030040	3x4	4.95	0.8	1.0	15.3 X 7.1	255
1601B030060	3x6	3.30	0.8	1.1	19.2 X 8.4	355
1601B030100	3x10	1.91	1.0	1.4	24.2 X 10.4	570
1601B030160	3x16	1.21	1.0	1.4	29.0 X 12.4	850
1601B030250	3x25	0.78	1.2	2.0	36.5 X 15.7	1390
1601B030350	3x35	0.554	1.2	2.0	40.5 X 17.2	1800
1601B030500	3x50	0.386	1.4	2.2	46.5 X 19.3	2260

*Conductor configuration offered for 1.5 Sq mm-22/0.3 mm, 2.5 Sq mm – 36/0.3 mm (max.), class 2 as per IS 8130

Flat Submersible Cables

Flat Submersible Cable-XLPE Insulated



Application

These cables are mainly used in pump connection. Though they are mainly used to supply power to pumps, they are also used in industrial applications. These cables are specially manufactured keeping in mind the severe, tough and difficult conditions in which they are used.

Construction

- Conductor : Class 2 (1 to 2.5 Sq. mm) for others class 5 to IS 8130/84
- Insulation : XLPE as per IS 7098 part 1
- Sheath : PVC ST-2 sheath to as per IS 5831-84
- Core colour : Red, Yellow, Blue
- Sheath colour : Black

Properties

- Excellent resistance to water
- RoH compliance

Technical Parameter

- Voltage grade : Upto and including 1100v
- Temp rating : -40°C to 90°C

ERTL RoHS

Dimension

Part code	Cross sectional area	No. of Strands/Max. Strands Dia.	Conductor resistance at 20°C (Ω/km) Max	Nom. Insulation thickness	Nominal sheath thickness	Approx. overall dimensions	Core x
	Sq. mm	mm		mm	mm	mm	mm^2
1602B030010	1	14/0.3	18.1	0.7	1.0	10.6 X 5.2	3x 1.00
1602B030015	1.5	22/0.3	12.1	0.7	1.0	11.6 X 5.5	3x 1.50
1602B030025	2.5	36/0.3	7.41	0.7	1.1	13.1 X 6.2	3x 2.50
1602B030040	4	56/0.3	4.95	0.8	1.1	15.0 X 6.8	3x 4.00
1602B030060	6	84/0.3	3.30	0.8	1.2	17.2 X 7.7	3x 6.00
1602B030100	10	140/0.3	1.91	0.8	1.3	20.2 X 8.8	3x 10.0
1602B030160	16	126/0.4	1.21	0.8	1.4	23.6 X 10.0	3x 16
1602B030250	25	196/0.4	0.78	1.0	1.5	28.9 X 12.0	3x 25
1602B030350	35	276/0.4	0.554	1.0	1.6	32.7 X 13.4	3x 35
1602B030500	50	396/0.4	0.386	1.2	1.7	38.7 X 15.5	3x 50

Elevator Cables

PVC Flat Elevator Cable

Application

- Lift handling systems
- Suitable for use in dry, damp and wet rooms as power and control cable, especially on hoisting equipment,

Properties

- Enhanced thermal, electrical, mechanical and fire properties
- The cores are laid up in flat parallel mode and outer sheathed using PVC hard grade compound that are highly resistant to abrasion, water and oil
- Excellent flexibility
- RoHS compliance

Construction

- Conductor : Electrolytic grade annealed copper as per IS 8130
- Insulation : PVC Type A, PVC HR or PVC Type D as per IS 5831
- Jacket : Specially formulated PVC with a blend of Elastomer with type ST3 Conforming to IS 5831-1984
- Core colour : 1core Green/Yellow, remaining all core Black
- Sheath colour : Black

Technical Parameter

- Voltage grade : Upto and including 1100v
- Temp rating : - 25 °C to + 85 °C
- Packing : Standard packing of 100 mtr. in coils
- Longer length available on request
- Test coltage : 3 kV for 5 min.

BS EN 50214 DIN VDE 0281 Part 404 IEC 60332-1 RoHS CE

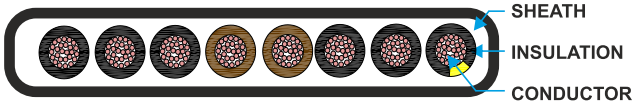
Dimension

Part code	Cross sectional area	Conductor resistance at 20°C (Ω/km) Max	Nom. Insulation thickness	Nominal sheath thickness	Approx. overall dimensions	Weight Approx
	Sq. mm		mm	mm	mm	Kg/Km
1701B100005	10Cx0.5	39.0	0.60	0.90	3.90 x 23.0	62
1701B120005	12Cx0.5	39.0	0.60	0.90	3.90 x 27.0	72
1701B160005	16Cx0.5	39.0	0.60	0.90	3.90 x 36.0	97
1701B100007	10Cx0.75	26.0	0.60	0.90	4.15 x 24.5	66
1701B120007	12Cx0.75	26.0	0.60	0.90	4.15 x 29.5	80
1701B160007	16Cx0.75	26.0	0.60	0.90	4.15 x 38.0	102

***Conductor configuration offered for 1.5 Sq mm-22/0.3 mm, 2.5 Sq mm – 36/0.3 mm (max.), class 2 as per IS 8130**

Elevator Cables

H05VVH6-F / H07VVH6-F (PVC Flat Elevator Cable)



Application

The cables are used for applications with medium mechanical stresses and sharp bending in one place. They are suitable for use in dry, damp and wet rooms as power and control cable, especially on hoisting equipment, handling systems, machine tools, etc.

Construction

- Conductor material : Electrolytic grade annealed copper as per IEC 60228
- Insulation : PVC T12
- Jacket : PVC TM2

Properties

- Enhanced thermal, electrical, mechanical and fire properties
- The cores are laid up in flat parallel mode and outer sheathed using PVC hard grade compound that are highly resistant to abrasion, water and oil
- Excellent flexibility
- RoHS compliance

Technical Parameter

- Working voltage : 300/500V (H05VVH6-F) ; 450/700V (H07VVH6-F)
- Test voltage : 2KV (H05VVH6-F) ; 2.5KV (H07VVH6-F)
- Bending radius : 10 × cable Ø
- Flexing temperature : - 5°C to + 80°C
- Static temperature : -40°C to +80°C
- Flame retardant : Test class B according to VDE 0472 part 804, IEC 60332-1
- Insulation resistance : 20 MΩ x km

BS EN 50214 | DIN VDE 0281 Part 404 | IEC 60332-1 | RoHS | CE

Dimension

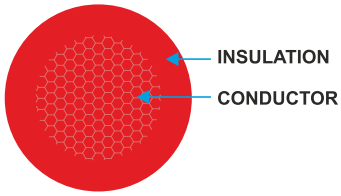
Part code	No. of Cores X Normal Cross Sectional Area	Normal Conductor Diameter	Normal Insulation Thickness	Nominal Overall Diameter	Normal Copper Weight	Normal Weight
	# X mm²	mm	mm	mm	Kg/Km	Kg/Km
H05VVH6-F						
1702B040007	4 x 0.75	1.2	0.6	4.2 x 12.6	29	90
1702B080007	8x 0.75	1.2	0.6	4.2 x 23.2	58	175
1702B120007	12x 0.75	1.2	0.6	4.2 x 33.8	86	260
1702B180007	18x 0.75	1.2	0.6	4.2 x 50.2	130	380
1702B240007	24x 0.75	1.2	0.6	4.2 x 65.6	172	490
1702B040010	4 x 1.00	1.4	0.7	4.4 x 13.4	38	105
1702B050010	5x1.00	1.4	0.7	4.4 x 15.5	48	120
1702B080010	8 x 1.00	1.4	0.7	4.4 x 24.8	77	205
1702B120010	12x 1.00	1.4	0.7	4.4 x 36.2	115	300
1702B180010	18x 1.00	1.4	0.7	4.4 x 53.8	208	450
1702B240010	24x 1.00	1.4	0.7	4.4 x 70.4	230	590
H07VVH6-F						
1702B040015	4 x1.5	1.5	0.8	5.1 x 14.8	130	58
1702B050015	5 x1.5	1.5	0.8	5.1 x 17.7	158	72
1702B070015	7 x1.5	1.5	0.8	5.1 x 25.2	223	101
1702B080015	8 x1.5	1.5	0.8	5.1 x 27.3	245	115
1702B100015	10 x1.5	1.5	0.8	5.1 x 33.9	304	144
1702B120015	12 x1.5	1.5	0.8	5.1 x 40.5	365	173
1702B180015	18 x1.5	1.5	0.8	6.1 x 61.4	628	259
1702B240015	24 x1.5	1.5	0.8	5.1 x 83.0	820	346
1702B040025	4 x2.5	1.9	0.8	5.8 x 18.1	192	96
1702B050025	5 x2.5	1.9	0.8	5.8 x 21.6	248	120
1702B070025	7 x2.5	1.9	0.8	5.8 x 31.7	336	168
1702B080025	8 x2.5	1.9	0.8	5.8 x 33.7	368	192
1702B100025	10 x2.5	1.9	0.8	5.8 x 42.6	515	240
1702B120025	12 x2.5	1.9	0.8	5.8 x 49.5	545	288
1702B120025	24 x2.5	1.9	0.8	5.8 x 102.0	1220	480

Note : Tinned copper on Request

B = Bare Copper
T = Tin Copper

Silicon Cables

SiF - Silicone Single Core Cable



Application

Suitable where PVC insulated cables become brittle due to high-temperature variations. Silicone-insulated single cores are preferably used in the metallurgical industry, steel works, hot rolling mills, coking plants, foundries, etc.
Insulation consists of silicone rubber. It is resistant to vegetable and animal fat, many types of oil, and diluted acids. No decomposition occurs when exposed to alcohol, alkaline solutions, etc. The insulation is resistant to oxygen and ozone. Should the cable burn, an insulation silicon dioxide layer will remain on the conductor to render it short-circuit-proof.

Construction

- Fine tinned copper strands
- Strands to VDE-0295 Class-5, IEC 60228 Cl-5
- Silicone core insulation
- Cores to VDE-0293 colors on the chart

Properties

Advantages high ignition or flash point resistant to high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clothes, diluted acids, lye and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen Halogen-free according to DIN VDE 0482 part 267/ EN 50267-2-1/ IEC 60754-1 (equivalent DIN VDE 0472 part 815). Behaviour in fire No flame propagation test according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B).
For laying as a fixed installation only in open or ventilated pipe systems as well as in ducts. Otherwise, the mechanical properties of the silicon are reduced by the enclosed air at temperatures exceeding 90°C.

Technical Parameter

- Working voltage : 300 / 500 V
- Test voltage : 2 KV
- Bending radius : 6 x Ø
- Temp range : -55°C to +180°C
- Short time temp up to +350°C
- Flame retardant : IEC 60332.1
- Insulation resistance : Min.870 MΩ x km

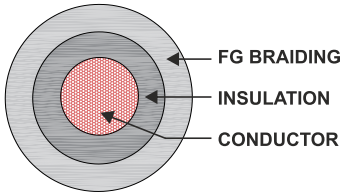
VDE	EN	IEC
0482-261	50267-2-1	60754-1

Dimension

Part code	No. of Cores	Conductor cross-section mm2	Nominal OD mm	Gross Weight kg/km
1801T010002	1	0.25	1.9	5.5
1801T010005	1	0.5	2.1	8.6
1801T010007	1	0.75	2.4	11.8
1801T010010	1	1	2.5	13.5
1801T010015	1	1.5	2.8	18.5
1801T010025	1	2.5	3.4	30
1801T010040	1	4	4.2	47.3
1801T010060	1	6	5.2	71.1
1801T010100	1	10	7.1	119.4
1801T010160	1	16	8.4	187.7
1801T010250	1	25	10.3	289.6
1801T010350	1	35	11.6	398.3
1801T010500	1	50	13.9	559.7
1801T010700	1	70	16.0	765.8
1801T010950	1	95	18.4	1031.5
1801T011200	1	120	20.0	1284.6
1801T011500	1	150	23.0	1563.4
1801T011850	1	185	24.9	1858.2

Silicon Cables

SiF / GL - Silicone Single Core with Glass fibre + lacquering braiding cable



Application

Suitable where PVC insulated cables become brittle due to high-temperature variations. Silicone-insulated single cores are preferably used in the metallurgical industry, steel works, hot rolling mills, coking plants, foundries, etc.
Insulation consists of silicone rubber. It is resistant to vegetable and animal fat, many types of oil, and diluted acids. No decomposition occurs when exposed to alcohol, alkaline solutions, etc. The insulation is resistant to oxygen and ozone. Should the cable burn, an insulation silicon dioxide layer will remain on the conductor to render it short-circuit-proof. Additional mechanical protection due to the glass fibber braid.

Construction

- Fine strands of tinned copper wire
- Stranding acc. to VDE 0295 class 5
- Core insulation made of silicone rubber
- Glass fibre braiding
- Bending radius : 10 x cable Ø

Properties

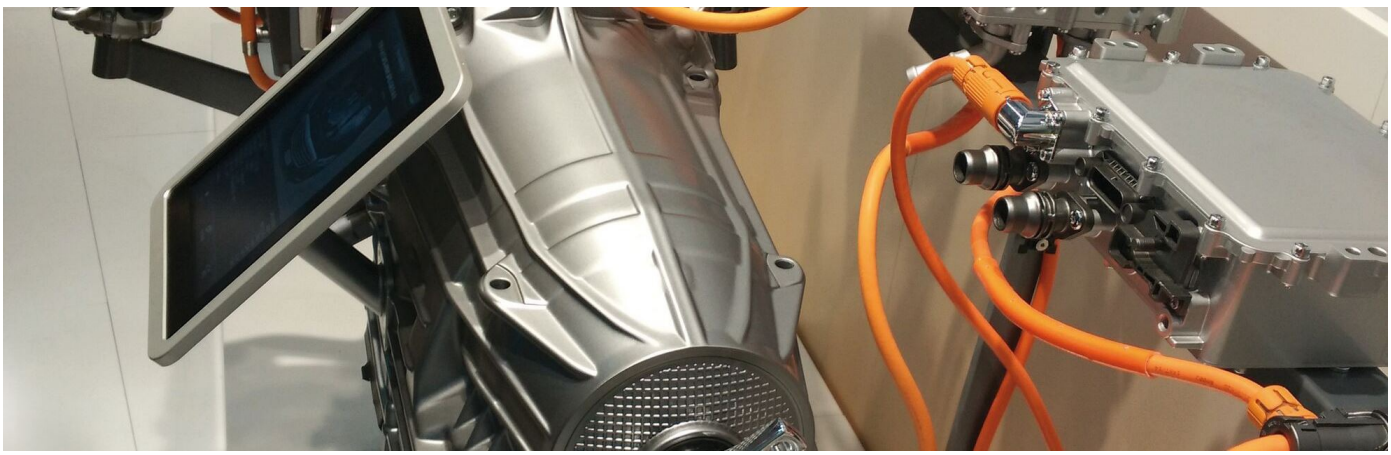
Advantages high ignition or flash point resistant to high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clothes, diluted acids, lye and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen halogen-free according to DIN VDE 0482 part 267/ EN 50267-2-1/ IEC 60754-1 (equivalent DIN VDE 0472 part 815). Behaviour in fire No flame propagation Test according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B).

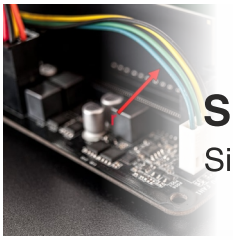
Technical Parameter

- Special silicone single conductor cable with higher heat-resistance range adapted to DIN VDE 0250 part 1 and part 502
- Temperature range : -55°C to +180°C
- Short time temp up to : 350°C
- Temperature limit at the conductor in operation +180°C
- Nominal voltage : 300/500 V
- Test voltage : 2 KV
- Minimum bending radius : 10 x cable Ø

Dimension

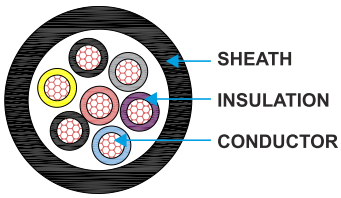
Part code	No. of Cores	Conductor cross-section mm^2	Nominal OD mm	Gross Weight kg/km
1802T010002	1	0.25	2.4	7.9
1802T010005	1	0.5	2.6	12.6
1802T010007	1	0.75	2.9	16
1802T010010	1	1	3	18.4
1802T010015	1	1.5	3.3	23.7
1802T010025	1	2.5	3.9	35.6
1802T010040	1	4	4.7	53.3
1802T010060	1	6	5.7	77.4
1802T010100	1	10	7.5	129.2
1802T010160	1	16	8.9	198.4
1802T010250	1	25	10.8	303
1802T010350	1	35	12.1	413.2
1802T010500	1	50	14.4	577.8





Silicon Cables

SiHF - Silicone Control Cable



Application

Suitable where PVC insulated cables become brittle due to high-temperature variations. Silicone-insulated single cores are commonly used in the metallurgical industry, steel works, hot rolling mills, coking plants, foundries, etc. The insulation consists of silicone rubber. It is resistant to vegetable and animal fat, many types of oil, and diluted acids. No decomposition occurs when exposed to alcohol, alkaline solutions, etc. The insulation is resistant to oxygen and ozone. Should the cable burn, a silicon dioxide layer will remain on the conductor to render it short-circuit-proof.

Construction

- Tinned copper conductors to DIN VDE 0295 cl. 5, BS 6360 cl. 5, and IEC 60228 cl. 5
- Silicone conductor insulation
- Conductor identification to DIN VDE 0293-308 color-coded or black conductors with continuous white numbers For 2-conductors brown, blue
- Conductors stranded in layers with optimal lay-length
- Green-yellow earth-conductor (3 conductors and above)
- The outer jacket is silicone

Properties

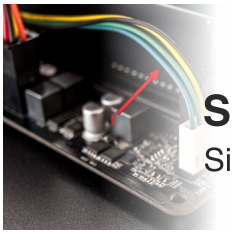
Advantages hardly changes in dielectric strength and insulation resistance at high temperatures, high ignition, or flash points, in case of fire, forms an insulating layer of SiO2. Resistant to high molecular oils, fats from vegetables and animals, alcohols, plasticizers and clothes, diluted acids, lye and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen, and UV halogen-free according to DIN VDE 0482 part 267/ EN 50267-2-2/ IEC 60754-2 (equivalent DIN VDE 0472 part 813) behavior in fire no flame propagation.
Test according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Technical Parameter

- Special silicone multi-conductor cable with higher heat-resistance range adapted to DIN VDE 0250 part 1 and part 816
- Working voltage : 300/500 V
- Test voltage : 2 KV
- Bending radius : flexing 7.5 x cable Ø, fixed installation 4 x cable Ø
- Temp range : -55°C to +180°C
- Short time temp up to +350°C
- Flame retardant : IEC 60332.1

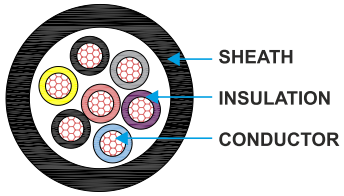
Dimension

Part code	No. of Cores	Conductor cross-section mm²	Nominal OD mm	Gross Weight kg/km
1803T020005	2	0.5	5.5	42
1803T030005	3	0.5	5.8	44
1803T040005	4	0.5	6.2	58
1803T050005	5	0.5	6.8	62
1803T060005	6	0.5	7.4	79
1803T070005	7	0.5	7.4	85
1803T080005	8	0.5	8.6	99
1803T100005	10	0.5	9.5	124
1803T120005	12	0.5	9.8	141
1803T160005	16	0.5	11	186
1803T180005	18	0.5	11.5	211
1803T250005	25	0.5	13.7	271
1803T020007	2	0.75	6.4	53
1803T030007	3	0.75	6.8	63
1803T040007	4	0.75	7.8	83
1803T050007	5	0.75	8.5	101
1803T060007	6	0.75	9.2	115
1803T070007	7	0.75	9.2	124
1803T080007	8	0.75	9.7	138
1803T100007	10	0.75	10.9	156
1803T120007	12	0.75	11.1	185
1803T160007	16	0.75	12.6	218
1803T180007	18	0.75	13.3	260
1803T250007	25	0.75	15.6	370
1803T020010	2	1	6.6	59
1803T030010	3	1	7.4	77
1803T040010	4	1	8	94
1803T050010	5	1	8.8	115
1803T060010	6	1	9.5	134



Silicon Cables

SiHF - Silicone Control Cable

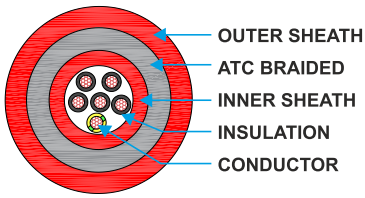


Dimension

Part code	No. of Cores	Conductor cross-section mm2	Nominal OD mm	Gross Weight kg/km
1803T100010	7	1	9.5	144
1803T080010	8	1	10.4	175
1803T100010	10	1	11.3	216
1803T120010	12	1	11.5	231
1803T160010	16	1	13.1	302
1803T180010	18	1	13.8	340
1803T250010	25	1	16.2	431
1803T020015	2	1.5	7.6	81
1803T030015	3	1.5	8	98
1803T040015	4	1.5	8.8	122
1803T050015	5	1.5	9.6	147
1803T060015	6	1.5	10.4	173
1803T070015	7	1.5	10.4	187
1803T080015	8	1.5	11.6	213
1803T100015	10	1.5	13.6	263
1803T120015	12	1.5	14.6	314
1803T140015	14	1.5	15.4	379
1803T160015	16	1.5	16.7	445
1803T180015	18	1.5	17.6	506
1803T200015	20	1.5	18.2	566
1803T240015	24	1.5	20	722
1803T020025	2	2.5	9.2	134
1803T030025	3	2.5	9.7	152
1803T240025	4	2.5	10.6	188
1803T050025	5	2.5	11.6	228
1803T060025	6	2.5	12.9	304
1803T070025	7	2.5	13	320
1803T080025	8	2.5	14.9	373
1803T100025	10	2.5	16.5	450
1803T120025	12	2.5	17.8	502
1803T160025	16	2.5	19.1	659
1803T180025	18	2.5	20	761
1803T250025	25	2.5	24.5	1007
1803T020040	2	4	10.8	180
1803T030040	3	4	11.4	224
1803T040040	4	4	13.1	295
1803T050040	5	4	14.4	359
1803T070040	7	4	16.2	479
1803T020060	2	6	13.4	274
1803T030060	3	6	14.2	338
1803T040060	4	6	16.2	441
1803T050060	5	6	17.7	535
1803T070060	7	6	19.2	685
1803T020100	2	10	17.6	400
1803T030100	3	10	18.7	620
1803T040100	4	10	20.4	707
1803T050100	5	10	22.5	900
1803T070100	7	10	24.4	1151
1803T020160	2	16	20.4	400
1803T030160	3	16	22	500
1803T040160	4	16	24.3	714
1803T050160	5	16	26.7	850
1803T070160	7	16	27.6	1682
1803T020250	2	25	24.6	700
1803T030250	3	25	26.2	1100
1803T040250	4	25	31.8	1500
1803T020350	2	35	28.2	1100
1803T030350	3	35	29.9	1500
1803T040350	4	35	32.8	2100

Silicon Cables

SiHF-C-Si - Silicone Multi-Core Braided Cable



Application

SiHF-C-Si is a special 180-degree C silicone multi-core cable for use in high and low-temperature areas or whenever the insulation is subject to extreme temperature changes. These cables are mainly found in the steel-producing industry and aviation industry as well as in shipbuilding, cement, glass, and ceramic factories.
SiHF-C-Si cables are low-smoke and halogen-free especially suited for use in power stations. The silicone jacket provides added heat, chemical, oil, and acidic resistance while the internal tinned copper braid shield protects against electromagnetic interference offering disturbance-free signals and impulses. Not permitted for outdoor use.

Construction

- Tinned copper conductor according to DIN VDE 0295 cl.5, BS 6360 cl.5, and IEC 60228 cl.5.
- Conductor insulation of silicone.
- Conductor identification according to DIN VDE 0293-308, single color, or black conductors with sequential.
- Numbering imprinted in white, for 2 conductors brown, and blue.
- Conductors are stranded in layers with optimal lay length.
- Green-yellow grounding (3 conductors)
- Inner jacket of silicone.
- Braid of tinned Cu wires, coverage approx. 85%
- Silicone-rubber-insulated common outer jacket.
- Jacket preferentially red-brown color.

Properties

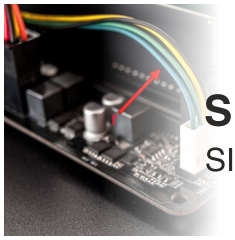
Resistant to High molecular oils, fats from vegetables and animals, alcohols, plasticizers and clothes, diluted acids, lye and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen, and UV halogen-free.
According to DIN VDE 0482 part 267 / EN 50267-2-2 / IEC 60754-2 (equivalent DIN VDE 0472 part 813) Burning behaviour No propagation of fire Testing according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Technical Parameter

- Special silicone-insulated cable with higher heat resistance adapted to DIN VDE 0250 part 1 and part 816
- Temperature range : -55°C to +180°C
- Short time temp up to : +350°C
- Temperature limit at the conductor in operation +180°C
- Nominal voltage : 300 / 500 V
- Test voltage : 2 KV
- Minimum bending radius : Flexing 10 x cable Ø, 5 x cable Ø
- Coupling resistance : Max. 250Ω/km

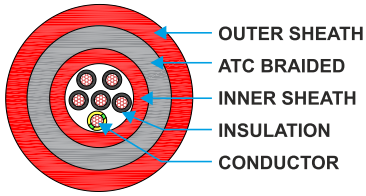
Dimension

Part code	No. of Cores	Conductor cross-section mm^2	Nominal OD mm	Gross Weight kg/km (approx)
1804T020002	2	0.25	8.7	101
1804T030002	3	0.25	8.9	118
1804T040002	4	0.25	9.4	131
1804T050002	5	0.25	10	153
1804T070002	7	0.25	10.5	173
1804T100002	10	0.25	13.1	242
1804T120002	12	0.25	13.4	263
1804T160002	16	0.25	14.6	326
1804T180002	18	0.25	15.1	351
1804T250002	25	0.25	19.4	348
1804T020007	2	0.75	9.2	124
1804T030007	3	0.75	9.5	136
1804T040007	4	0.75	10.1	159
1804T050007	5	0.75	10.8	180
1804T070007	7	0.75	11.6	212
1804T100007	10	0.75	14.4	306
1804T120007	12	0.75	14.7	333
1804T160007	16	0.75	16.5	418
1804T180007	18	0.75	17.3	453
1804T250007	25	0.75	22.1	468
1804T020010	2	1	9.5	132
1804T030010	3	1	9.7	153
1804T040010	4	1	10.4	173
1804T050010	5	1	11.3	202
1804T070010	7	1	12	243
1804T100010	10	1	14.9	238
1804T120010	12	1	15.2	371
1804T160010	16	1	17	468
1804T180010	18	1	17.8	526



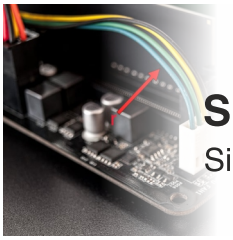
Silicon Cables

SIHF-C-Si - Silicone Multi-Core Shielded Double Jacket Cable



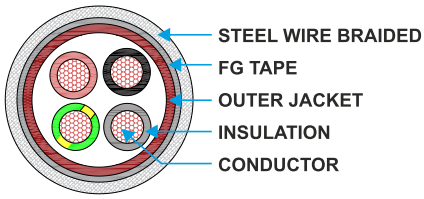
Dimension

Part code	No. of Cores	Conductor cross-section mm^2	Nominal OD mm	Gross Weight kg/km (approx)
1804T250010	25	1	23	559
1804T020015	2	1.5	10.7	172
1804T030015	3	1.5	11.2	198
1804T040015	4	1.5	11.8	235
1804T050015	5	1.5	13.3	281
1804T070015	7	1.5	14.3	345
1804T100015	10	1.5	17.7	482
1804T120015	12	1.5	18	531
1804T160015	16	1.5	20.1	662
1804T180015	18	1.5	20.9	720
1804T250015	25	1.5	24.1	791
1804T020025	2	2.5	12.1	230
1804T030025	3	2.5	12.9	275
1804T040025	4	2.5	14.2	340
1804T050025	5	2.5	15.3	394
1804T070025	7	2.5	16.9	488
1804T040040	4	4	17.1	520
1804T050040	5	4	19.4	653
1804T040060	4	6	18.8	781
1804T050060	5	6	21.2	982
1804T040100	4	10	25.7	1294
1804T040160	4	16	28.4	1988
1804T040250	4	25	35	2995



Silicon Cables

SiHF-GLP-Silicone Multi Core Cable



Application

SiHF-GLP is a special 180 Degree C silicone multi-core cable with an overall steel braid for use in high and low temperature areas or whenever the insulation is subject to extreme temperature changes. These cables are mainly found in steel producing and aviation industry as well as in ship building, cement, glass and ceramic factories. SiHF-GLP cables are low-smoke and halogen-free especially suited for use in power stations. The silicone jacket provides added heat, chemical, oil and acid resistance. The external galvanized steel braid ensures excellent mechanical protection.

Construction

- Tinned copper conductors to DIN VDE 0295 cl. 5, BS 6360 cl. 5, and IEC 60228 cl. 5
- Silicon insulation.
- Conductor identification to DIN VDE 0293-308 color-coded or black conductors with continuous white numbers
- For 2 conductor brown & blue
- Conductors stranded in layers with optimal lay-length
- Green-yellow earth-conductor (3 conductors and above)
- The outer jacket is silicon
- Jacket color preferably red brown
- Glass fibre tape over the jacket
- Galvanized steel wire outer braiding

Properties

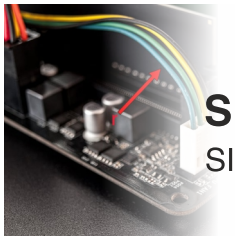
Advantages Hardly changes of dielectric strength and insulation resistance at high temperatures, high ignition or flash point. In case of fire, an insulating layer of SiO_2 is formed. Resistant to molecular oils, fats from vegetables and animals, alcohols, plasticizers and clothes, diluted acids, lye and salt dissolution, oxidation substances, tropical influences and weather, lake water, oxygen. Halogen-free.
According to DIN VDE 0482 part 267/ IEC 60754-2 (equivalent DIN VDE 0472 part 813) Behaviour in fire No flame propagation. Test according to DIN VDE 0482 part 265-2-1/ EN 50265-2-1/ IEC 60332-1 (equivalent DIN VDE 0472 part 804 test method B)

Technical Parameter

- Special silicon multi-conductor cable with higher heat-resistance range adapted to DIN VDE 0250 part 1 and part 816
- Temperature range : -55°C to +180°C
- Short time temp up to : +350º C
- Temperature limit at the conductor in operation +180°C
- Nominal voltage : 300 / 500 V
- Test voltage : 2 KV
- Minimum bending radius : flexing 10 x cable Ø
  fixed installation 5 x cable Ø

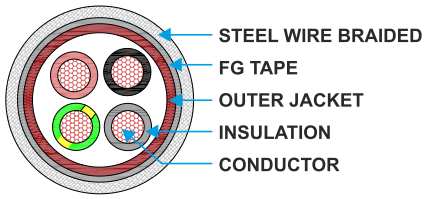
Dimension

Part code	No. of Cores	Conductor cross-section mm^2	Nominal OD mm	Gross Weight kg/km
1805T020007	2	0.75	7.2	88
1805T030007	3	0.75	7.6	99
1805T040007	4	0.75	8.1	121
1805T050007	5	0.75	9.2	147
1805T060007	6	0.75	9.9	169
1805T070007	7	0.75	9.9	178
1805T020010	2	1	7.6	98
1805T030010	3	1	8	119
1805T040010	4	1	8.8	139
1805T050010	5	1	9.7	167
1805T060010	6	1	10.4	185
1805T070010	7	1	10.4	194
1805T020015	2	1.5	8.3	126
1805T030015	3	1.5	8.7	143
1805T040015	4	1.5	9.6	170
1805T050015	5	1.5	10.4	198
1805T060015	6	1.5	11.4	245
1805T070015	7	1.5	11.4	256
1805T080015	8	1.5	12.7	315
1805T100015	10	1.5	14	370
1805T120015	12	1.5	14.5	408
1805T140015	14	1.5	15.6	471
1805T160015	16	1.5	17	541
1805T180015	18	1.5	17.8	599
1805T200015	20	1.5	18.3	630
1805T240015	24	1.5	20.4	760



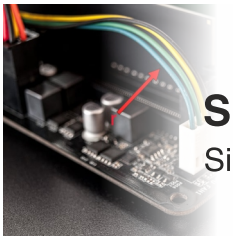
Silicon Cables

SIHF-GLP-Silicone Multi Core Cable



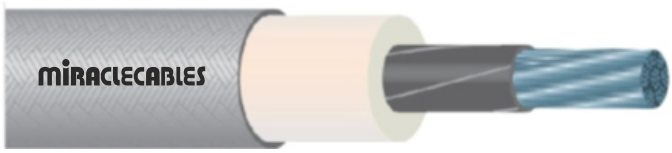
Dimension

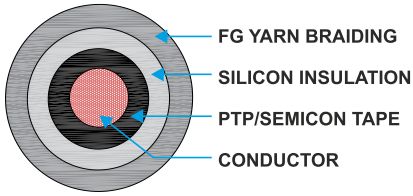
Part code	No. of Cores	Conductor cross-section mm^2	Nominal OD mm	Gross Weight kg/km
1805T020025	2	2.5	9.7	165
1805T030025	3	2.5	10.2	238
1805T040025	4	2.5	11.5	268
1805T050025	5	2.5	12.7	315
1805T060025	6	2.5	13.7	370
1805T070025	7	2.5	13.7	385
1805T120025	12	2.5	17.6	608
1805T020040	2	4	11.5	255
1805T030040	3	4	12.2	299
1805T040040	4	4	13.4	365
1805T050040	5	4	15.1	455
1805T060040	6	4	16.4	525
1805T070040	7	4	16.4	556
1805T020060	2	6	12.9	326
1805T030060	3	6	13.7	401
1805T040060	4	6	14.8	485
1805T050060	5	6	16.8	602
1805T060060	6	6	18.2	701
1805T070060	7	6	18.2	736
1805T020100	2	10	17.3	543
1805T030100	3	10	18.4	652
1805T040100	4	10	20.6	825
1805T050100	5	10	22.5	987
1805T020160	2	16	20.2	748
1805T030160	3	16	21.5	909
1805T040160	4	16	23.4	1183
1805T050160	5	16	26.2	1393
1805T020250	2	25	23.8	1046
1805T030250	3	25	26	1347
1805T040250	4	25	28.3	1678
1805T020350	2	35	27.2	1378
1805T030350	3	35	29	1846
1805T040350	4	35	32.3	2240
1805T020500	2	50	31.4	1869
1805T030500	3	50	33.5	2384
1805T040500	4	50	37.2	2702



Silicon Cables

Single Core V Cables – 1.1 KV, 3.3 KV, 6.6 KV





Application

Cabling for rotating machines, motors, alternators, generators.
Cabling for static machine transformers, inductors, inverter, choppers, shipbuilding and railway construction.
Power cabinets, high voltage machines.

Construction

- Flexible tin-plated copper core - class 5 as per IEC 60228 - PTP separator tape for 1.1 kv & Semicon tape (including & above 3.3 kv)
- Insulation : Silicone rubber synthetic yarn braid varnish

Properties

- Breakdown field strength : >20 KV / mm
- Dielectric constant : 3-4
- Loss factor : <10-2
- Insulation resistance : 200 MΩ X KM
- Tensile strength : 8Mpq (Min.)
- Elongation at break of insulation : 250% (Min.)
- Minimum bending radius : 5 X Overall diameter
- Flexibility (Conductor) : Class-5 conf. to IEC-60228

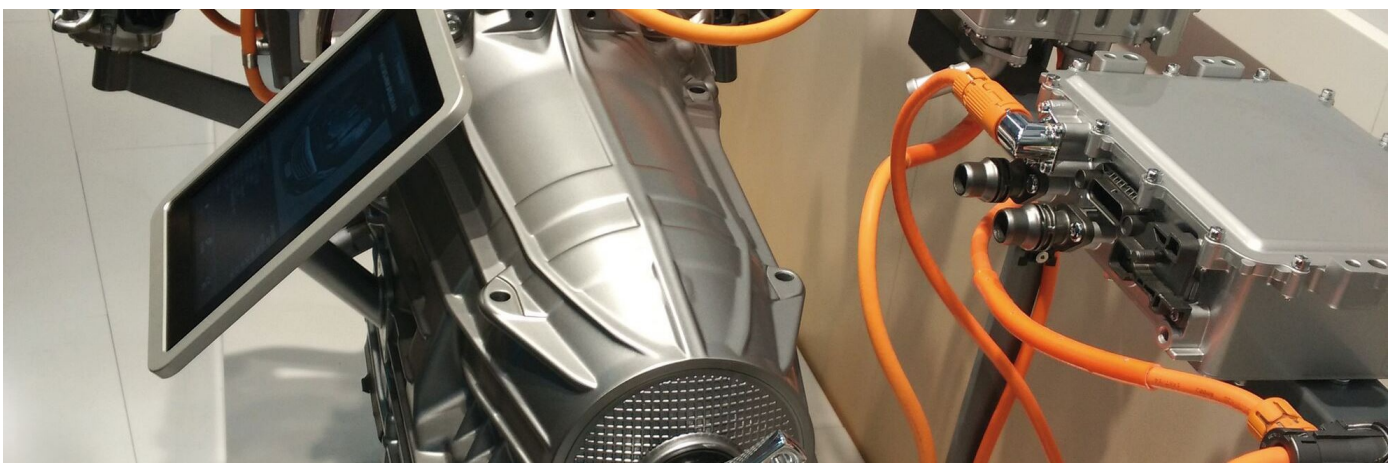
Technical Parameter

- Continuous operating temperature : +180°C
- Intermittent : +180°C
- Short time duration 1-5 sec. : +350°C
- Rated voltage 1.1 KV (Test voltage - 3.5 KV)
- Rated voltage 3.3 KV (Test voltage - 10 KV)
- Rated voltage 6.6 KV (Test voltage - 15 KV)

Dimension

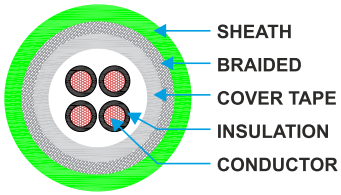
Part code	Sq.mm.	Thickness Insulation (mm)			Overall Diameter (mm)						Cond Resistance @20degC
		Voltage category V			1.1KV		3.3KV		6.6KV		
		1.1KV	3.3kv	6.6kv	Min	Max	Min	Max	Min	Max	
1806T010040	4.00	1.0	~	~	5.0	5.6	~	~	~	~	5.09
1806T010060	6.00	1.0	~	~	5.6	6.3	~	~	~	~	3.39
1806T010100	10	1.2	~	~	6.9	7.6	~	~	~	~	1.95
1806T010160	16	1.2	2.2	2.8	8.2	9.0	10.5	11.3	11.8	12.6	1.24
1806T010250	25	1.4	2.2	2.8	10	11	11.8	12.8	13	13.8	0.795
1806T010350	35	1.4	2.2	2.8	11.3	12.3	12.9	13.9	14.2	15.3	0.565
1806T010500	50	1.6	2.2	2.8	13.3	14.3	13.4	15.6	15.8	16.0	0.393
1806T010700	70	1.6	2.2	2.8	15.2	16.2	16.4	17.6	17.7	19.1	0.277
1806T010950	95	1.8	2.4	3.0	17.8	18.8	18.6	19.7	19.9	21.4	0.210
1806T011200	120	1.8	2.4	3.0	19.1	20.1	20.2	21.5	21.6	23.0	0.164
1806T011500	150	2.0	2.4	3.0	21.4	22.4	22.0	23.3	23.3	24.6	0.132

Bare = Bare Copper



Servo Cables

PVC Servo Shielded Cable 0.6 / 1 KV



Application

- Motor connecting and power supply cable in machine engineering, transport and conveyor technology, HVAC technology.
- In dry and damp rooms
- Cable with integrated, shielded measurement circuit cable for motor protector devices.
- For flexible application without continuous flexible.

Construction

- Bare copper, fine wire conductors, as per EN 60228 Cl.5
- PVC core insulation TI2, to EN 50363-3
- Harmonised core colour to HD 308 (Refer Appendix Table No. 1-1)
- Cores stranded in layers with optimal lay-length
- Tinned copper braided with coverage > 85%.
- PVC outer sheath TM2, to EN 50363-4.1

Properties

- High interference resistance (EMC)
- PVC flame retardant, self-extinguishing
- Good resistant to oils, grease, acids and bases.
- Silicone free
- RoHS compliant.
- Flammability : Acc. to IEC 60332-1-2

Technical Parameter

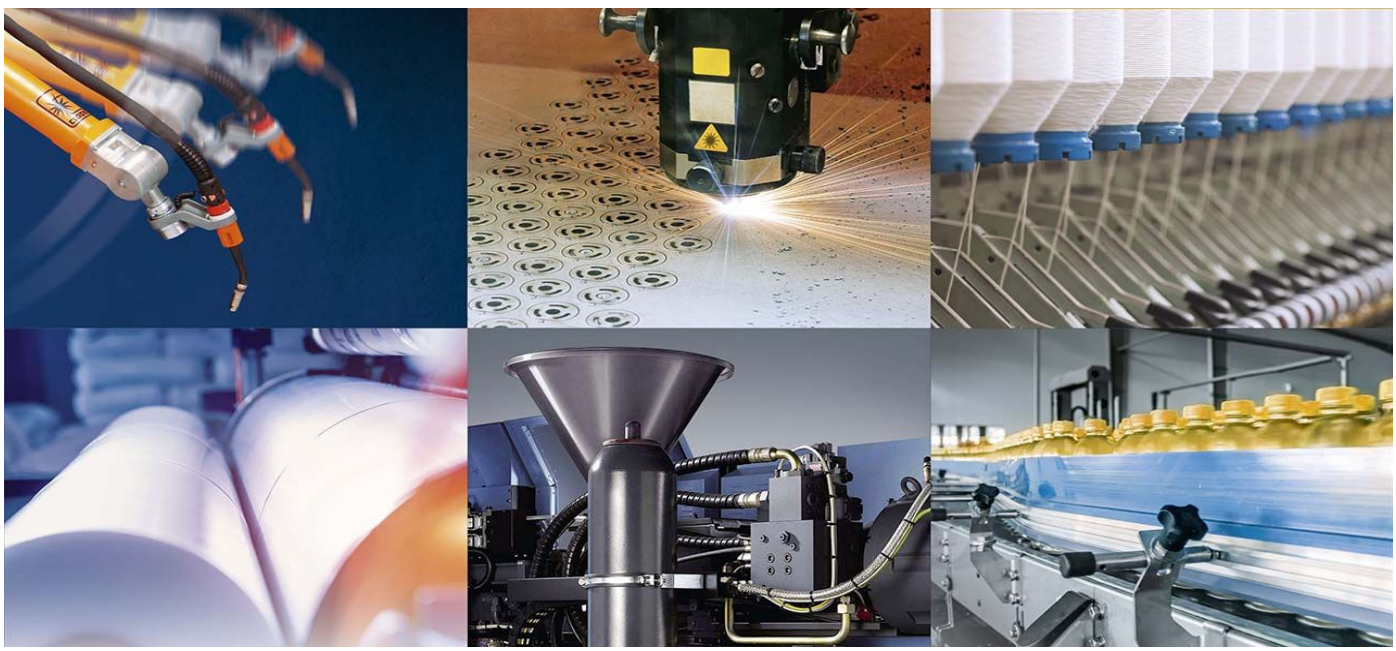
- Voltage grade : 600 / 1000V
- Test voltage : 4000V
- Insulation resistance : 20 MOhm-Km
- Temperature range : -5°C to +70°C
- Bending radius : Flexing - 10D & Fixed - 4D

ERTL RoHS CE

Dimension

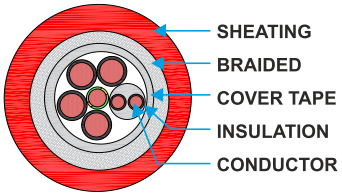
Part code	No. core X CS Area	Outer Diameter	Cable Wt. Approx.
	Sq. mm	mm	kg/km
1901B040015	4G*1.5	11.50	217
1901B040025	4G*2.5	13.30	316
1901B040040	4G*4	15.30	407
1901B040060	4G*6	17.60	521
1901B040100	4G10	21.10	866
1901B040160	4G*16	24.50	1200
1901B040250	4G*25	29.40	1820
1901B040350	4G*35	32.20	2399

Note : G = Green Yellow core



Servo Cables

PVC Servo Shielded Cable 0.6 / 1 KV with Control Pairs



Application

- Especially for frequency converters and servo drives in machine plant construction.
- Continuous flexing applications in "C" tracks
- Very good resistance against Aggressive coolants and lubricants.
- Industrial environments in mechanical and system engineering.

Construction

- Conductor : Bare copper, class-6, IEC – 60228.
- Insulation : Special TPM / PP
- Power conductor black with numbered print, ground green/yellow. (G)
- Pair color black and white with a braided shield and foil tape,
- Cores stranded in layers with optimal lay-length
- Tinned copper braided with coverage > 85%.
- Sheath: PVC - adhesion-free surface, Colour : Orange.

Properties

- High interference resistance (EMC).
- Braid shield optimized for continuous flexible use.
- Good bending strength.
- Low adhesion, abrasion resistance nick resistance, tear propagation resistance.
- Grease, oil, alcohol-free, UV-resistant, silicon-free, ROHS compliant.

Technical Parameter

- Nominal voltage : 1000V 80°C
- Voltage grade : 600/1000V - Power & 500V - Shielded Pair
- Test voltage : 4kv
- Temp range : - 40°C to + 80°C
- Bending radius : 15 x D - flexing & 6 x D - fixed
- Flammability : IEC 60332-1-2, UL 1581 VW-1
- Halogen free : EN- 50267-2-1

ERTL RoHS CE

Construction without Signal Wire

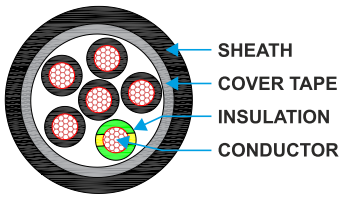
Part code	No. of Core x Sq. mm	Outer Diameter mm	Cable Weight kg/km
1902B040015	4G x 1.5	8.40	130
1902B040025	4G x 2.5	10.6	219
1902B040040	4G x 4	11.5	312
1902B040060	4G x 6	13.2	380
1902B040100	4G x 10	16.5	620
1902B040160	4G x 16	21.2	1060
1902B040250	4G x 25	25.0	1650
1902B040350	4G x 35	31.8	2310

Assembly with 1 Signal Pair =P

Part code	No. of Core x Sq. mm	Outer Diameter mm	Cable Weight kg/km
1902B040015P	4G*1.5+2*1.5	11.6	248
1902B040025P	4G*2.5+2*1.5	13.0	310
1902B040040P	4G*4+2*1.5	14.0	445
1902B040060P	4G*6+2*1.5	16.0	554
1902B040100P	4G*10+2*1.5	18.5	806
1902B040160P	4G*16+2*1.5	23.6	1085
1902B040250P	4G*25+2*1.5	28.5	1685

Servo Cables

PVC Servo Unshielded Cable 300V / 500V



Application

This cable is designed to connect frequency converters and servo motors and is suitable for both fixed installations and occasional flexing without any tensile strain. It can be used in both dry and damp rooms and is suitable for medium mechanical stress. The PVC outer sheath of the cable is resistant to acids and alkalis and has limited oil resistance. It can be used outdoors too, but only within a specific temperature range.

Construction

- Bare copper, fine wire conductors according to EN 60228 Cl. 6
- Core insulation of special PVC TI2 EN 50363-3
- Black core with continuous white numbering according to DINVDE 0293. Green-yellow earth core in the outer layer (3 cores and above). Non-woven wrapping
- Cores stranded in layers with optimal lay-length
- Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1
- Colour grey (RAL 7001)

Properties

- PVC self-extinguishing and flame retardant according to EN 60332-1-2
- This cable is also available with UV resistance property, ASTM G 154

Technical Parameter

- Standard : Requirement adapted to DIN VDE 0245, 0281
- Temperature range : Flexing -5°C to +80°C. Fixed installation -30°C to +80°C
- Nominal voltage : UO / U 300 / 500V
- Test voltage : 2000V
- Insulation resistance : Min. 20 GΩ x cm
- Minimum bending radius : Flexing 7.5 x cable ø. Fixed installation 4 x cable ø

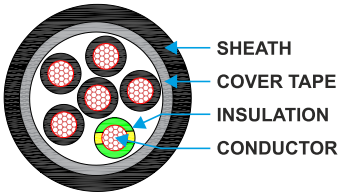
ERTL RoHS CE

Dimension

Part Code	No. of Cores & C.S. Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
1903B020005	2 x 0.5	5.3	39
1903B030005	3G 0.5	5.7	48
1903B040005	4G 0.5	6.3	60
1903B050005	5G 0.5	6.8	71
1903B070005	7G 0.5	8.0	99
1903B120005	12G 0.5	9.5	147
1903B180005	18G 0.5	11.4	214
1903B250005	25G 0.5	13.7	306
1903B300005	30G 0.5	14.3	344
1903B340005	34G 0.5	15.6	403
1903B500005	50G 0.5	18.5	574
1903B020007	2 x 0.75	5.7	48
1903B030007	3G 0.75	6.2	60
1903B040007	4G 0.75	6.8	75
1903B050007	5G 0.75	7.4	90
1903B070007	7G 0.75	8.9	129
1903B120007	12G 0.75	10.6	194
1903B160007	16G 0.75	12.0	253
1903B180007	18G 0.75	12.7	283
1903B250007	25G 0.75	15.2	402
1903B020010	2 x 1	6.1	57
1903B030010	3G 1	6.6	72
1903B040010	4G 1	7.3	90
1903B050010	5G 1	8.0	110
1903B070010	7G 1	9.6	157
1903B120010	12G 1	11.4	237
1903B140010	14G 1	12.3	276
1903B160010	16G 1	13.0	311
1903B180010	18G 1	13.9	353
1903B250010	25G 1	16.4	491
1903B260010	26G 1	16.4	498
1903B340010	34G 1	18.9	658
1903B410010	41G 1	20.6	786
1903B500010	50G 1	22.3	936
1903B650010	65G 1	25.4	1215
1903B020015	2 x 1.5	6.8	75

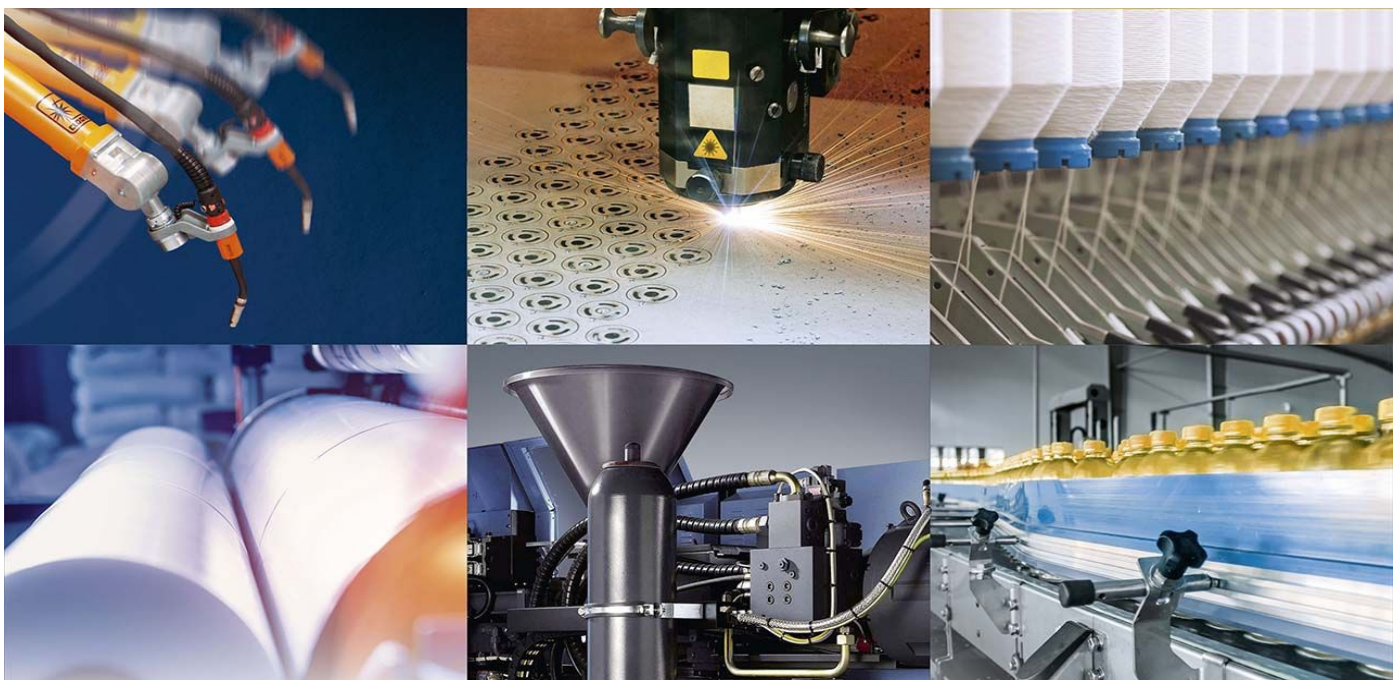
Servo Cables

PVC Servo Unshielded Cable 300V / 500V



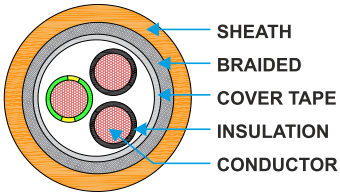
Dimension

Part Code	No. of Cores & C.S. Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Cable Weight (kg/km)
1903B030015	3G 1.5	7.4	96
1903B040015	4G 1.5	8.1	119
1903B050015	5G 1.5	9.1	150
1903B070015	7G 1.5	9.9	189
1903B120015	12G 1.5	12.9	322
1903B180015	18G 1.5	15.0	456
1903B250015	25G 1.5	17.6	630
1903B260015	26G 1.5	17.8	649
1903B340015	34G 1.5	20.2	841
1903B410015	41G 1.5	22.0	1006
1903B420015	42G 1.5	22.0	1017
1903B020015	50G 1.5	24.0	1210
1903B030025	3G 2.5	9.0	148
1903B040025	4G 2.5	10.0	188
1903B050025	5G 2.5	11.2	235
1903B070025	7G 2.5	12.5	307
1903B120025	12G 2.5	16.0	513
1903B140025	14G 2.5	17.2	595
1903B030040	3G 4	10.6	217
1903B040040	4G 4	11.7	274
1903B050040	5G 4	13.1	343
1903B040060	4G 6	13.9	398
1903B050060	5G 6	15.5	496
1903B040100	4G 10	17.6	658
1903B050100	5G 10	19.6	819
1903B040160	4G 16	21.0	983



Servo Cables

PUR Servo Shielded Cables 600V / 1000V



Application

- Especially for frequency converters and servo drives
- Continuous flexing applications in "C" tracks
- Very good resistance against aggressive coolants and lubricants.
- Industrial environments in mechanical and system engineering.

Construction

- Conductor : Bare copper, class-6, IEC – 60228.
- Insulation : Special TPE.
- Power conductor black with numbered print, ground green/yellow. (G)
- Cores stranded in layers with optimal lay-length
- Tinned copper braided with coverage > 85%.
- Sheath: PUR, colour: Orange

Properties

- High resistance to interference from external magnic (EMC).
- Braid shield optimized for continuous flexible use.
- Good bending strength.
- Low adhesion, abrasion resistance, tear propagation resistance.
- Grease, oil, alcohol-free, UV-resistant, silicon-free, ROHS compliant.

Technical Parameter

- Voltage grade : 600/1000V
- Test voltage : 4kv
- Temp range : - 30 to + 80°C fixed & - 5 to + 80°C flexing
- Bending radius : 6 to 10 x Diameter of cable
- Flame retardant : Acc. to EN 60332-1-2
- Halogen free : EN- 50267-2-1
- Insulation Resistance : Min. 20GOhm-cm

ERTL RoHS CE

Construction without Signal Wire

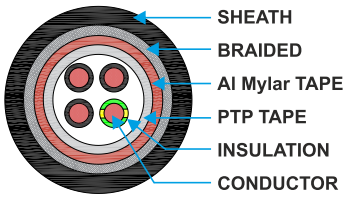
Part code	No. of Core x Sq. mm	Outer Diameter mm	Cable Weight kg/km
1904B040010	4G x 1.0	7.40	108
1904B040015\	4G x 1.5	8.60	117
1904B040025	4G x 2.5	10.8	173
1904B040040	4G x 4	12.2	245
1904B040060	4G x 6	14.0	365
1904B040100	4G x 10	17.6	549
1904B040160	4G x 16	21.2	849
1904B040250	4G x 25	25.0	1300
1904B040350	4G x 35	28.8	1700
1904B040500	4G x 50	33.9	2440

Assembly with 1 Signal Pair

Part code	#Core x Sq. mm	Outer Diameter mm	Cable Weight kg/km
1904B040015P	4G*1.5+2*1.5	11.4	210
1904B040025P	4G*2.5+2*1.5	12.9	235
1904B040040P	4G*4+2*1.5	14.5	320
1904B040060P	4G*6+2*1.5	16.1	430
1904B040100P	4G*10+2*1.5	19.5	680
1904B040160P	4G*16+2*1.5	23.6	956
1904B040250P	4G*25+2*1.5	28.5	1360
1904B040350P	4G*35+2*1.5	31.0	2740
1904B040500P	4G*50+2*1.5	34.5	3730

VFD Cables

VFD-Shielded Power Cable



Application

These high performance VFD cables are for dynamic industrial applications designed for the connection of motors to the control drives where there is requirement of electromagnetic compatibility. The shielding provided reduces the effects of electrical noise while providing a low impedance path to ground.

Construction

- Conductor : Stranded fine copper conductor flexible, IEC-60228
- Insulation : XLPE insulation, high dielectric, tensile and mechanical properties.
- Colour code : 3 black cores+1 green/yellow
- Cores stranded in layers with optimal lay-length
- Aluminium mylar shielding tape (outward)
- Braid : Min. 85% coverage tinned copper braid.
- Sheath : Special TPE compound,

Properties

- Oil resistance
- Ozone resistance
- Excellent flame resistance and heat resistance
- UV resistance
- All-weather flexibility

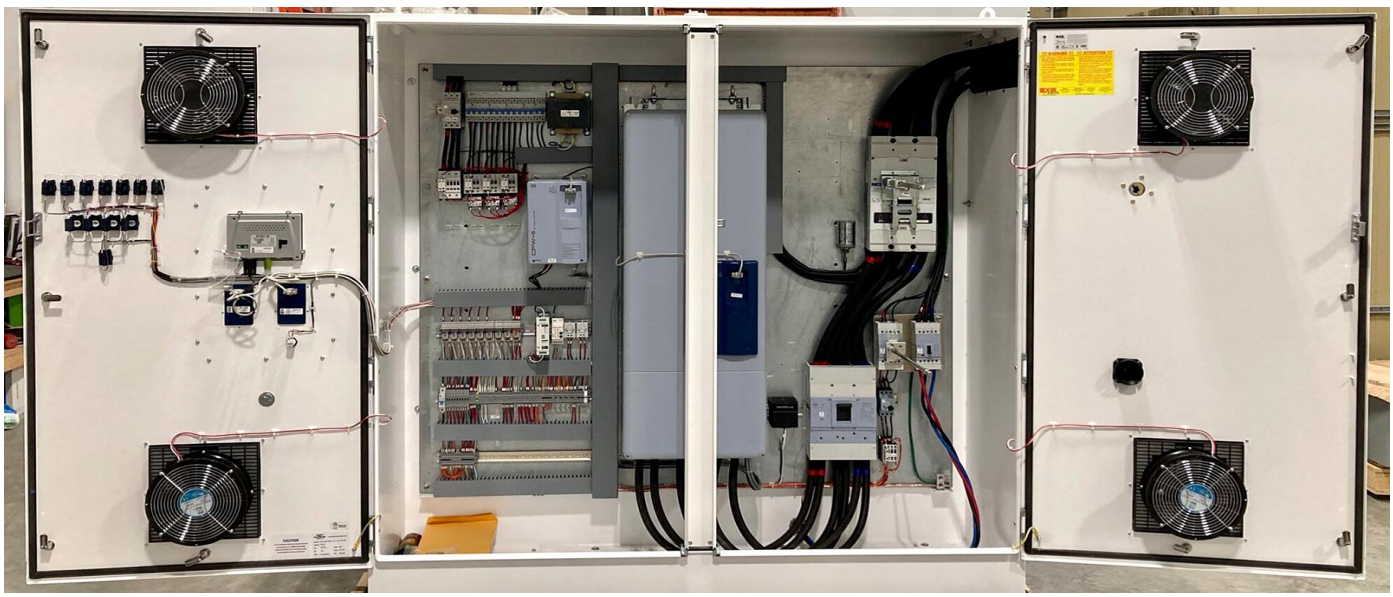
Technical Parameter

- CSA : 600V / 1000V
- CSA : FT-4
- TC-ER : 600V
- Rated temperature : -25°C to +90°C
- Test voltage : 6000V
- Bending radius : 15D - flexing & 7.5D fixed

RoHS

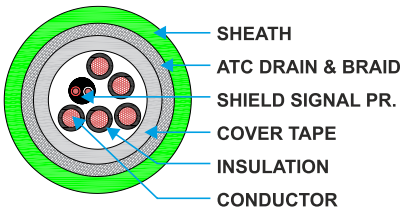
Dimension

Part code	Cable Size Core x AWG	Stranding Nos x mm	Ampacity Amp	Nominal O.D. (IN.)	WT. (kg) per km
2001B04016	4x16	65 x 0.16	18	11.85	213
2001B04014	4x14	105 x 0.16	25	12.92	235
2001B04012	4x12	165 x 0.16	30	15.39	368
2001B04010	4x10	105 x 0.254	40	17.34	457
2001B04008	4x8	168 x 0.254	55	22.52	786
2001B04006	4x6	266 x 0.254	75	25.90	1121
2001B04004	4x4	413 x 0.254	95	30.20	1615



VFD Cables

VFD-Shielded Power Cable with Brake & Signal Pairs



Application

These high performance VFD cables are for dynamic industrial applications designed for the connection of motors to the control drives where there is requirement of electromagnetic compatibility. The shielding provided reduces the effects of electrical noise while providing a low impedance path to ground.

Construction

- Conductor : Stranded fine copper conductor.
- Insulation : XLPE or oil resistant composite material, provide high dielectric, tensile & mechanical properties
- Color code : 3 black cores+1 green/yellow (Power)
- Color code : Black and white with printed numbers (Brake & Signal Pairs)
- Shield : 100% coverage aluminum/mylar foil with drain wire (Brake & Signal Pairs)
- Sheath : PVC Oil resistant composite material, Assembly (Brake & Signal Pairs)
- Laying up : Power core laid up together with brake & signal pair
- Filers : Low friction, non-wicking fillers provide increased flexibility in dynamic applications.
- Drain wire : Flat braid drain wire
- Braid : Min. 85% coverage tinned copper braid
- Outer sheath : Special TPE compound, oil, ozone, UV resistant, flame and heat resistant. All-weather flexibility.

Properties

- Oil resistance
- Ozone resistance
- Excellent flame resistance and heat resistance
- UV resistance
- All-weather flexibility

Technical Parameter

- CSA : 1000 Volt
- CSA : FT-4
- TC-ER : 600 Volt
- Rated temperature : 90°C Max.

ERTL RoHS

Cable parameter with single pair

Part code	Power Conductor				Brake & Signal Pairs			Jacket Thickness (mm)	Nominal O.D. mm	WT. (kg.) PER 304Mtr
	AWG/ COND.	Stranding Nos x AWG	Ampacity (1)	Overall Drain	AWG/ NO. PAIRS	Stranding No. x AWG	Drain Wires AWG			
2002B14041P	14/4	105x34	25	16	16/1	65x34	18	1.778	15.70	97
2002B12041P	12/4	165x34	30	14	16/1	65x34	18	1.778	17.00	140
2002B10041P	10/4	105x30	40	14	16/1	65x34	18	1.778	19.30	190
2002B8041P	8/4	168x30	55	14	16/1	65x34	18	2.286	23.80	280
2002B6041P	6/4	266x30	75	14	16/1	65x34	18	2.286	26.65	374
2002B4041P	4/4	1050x34	67	18	14/1	105x30	16	2.921	35.30	657

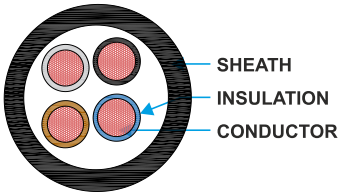
Cable parameter with two pair

Part code	Power Conductor				Brake & Signal Pairs			Jacket Thickness (mm)	Nominal O.D. mm	WT. (kg.) PER 304Mtr
	AWG/ COND.	Stranding Nos x AWG	Ampacity (1)	Overall Drain	AWG/ NO. PAIRS	Stranding No. x AWG	Drain Wires AWG			
2002B14042P	14/4	105x34	25	16	16/2	65x34	18	1.778	17.65	127
2002B12042P	12/4	165x34	30	14	16/2	65x34	18	1.778	18.90	167
2002B10042P	10/4	105x30	40	14	16/2	65x34	18	1.778	21.80	229
2002B8042P	8/4	168x30	55	14	16/2	65x34	18	2.286	25.40	362
2002B6042P	6/4	266x30	75	14	16/2	65x34	18	2.286	28.20	533

Note : 1P=1pair, 2P=2pair

Sensor Cables

PVC Unshielded Cable



Application

Sensor cable for medium mechanical stress. They are suitable for use in automated production in dry conditions. The cables are intended for fixed installation and conditional flexible use. The used materials can be processed very well and are easily removable.

Construction

- Conductor : superfine wire strands of bare copper wires standard VDE 0812
- Insulation : special PVC-based compound
- Core identification : Colour code
- 3-core : brown, blue, black
- 4-core : brown, white, blue, black
- 5-core : brown, white, blue, black, grey
- Stranding : Cores stranded to bundle.
- Outer sheath : special PVC-based compound
- Colour : black (similar RAL 9005)

Properties

- Minimum bending radius : Flexing 10D, fixed installation : 5D
- Temperature range flexing : -5°C up to +70°C, ixed installation : -40°C up to +80°C
- Flammability flame retardant : Acc. to IEC 60332-1-2

D = Cable Diameter

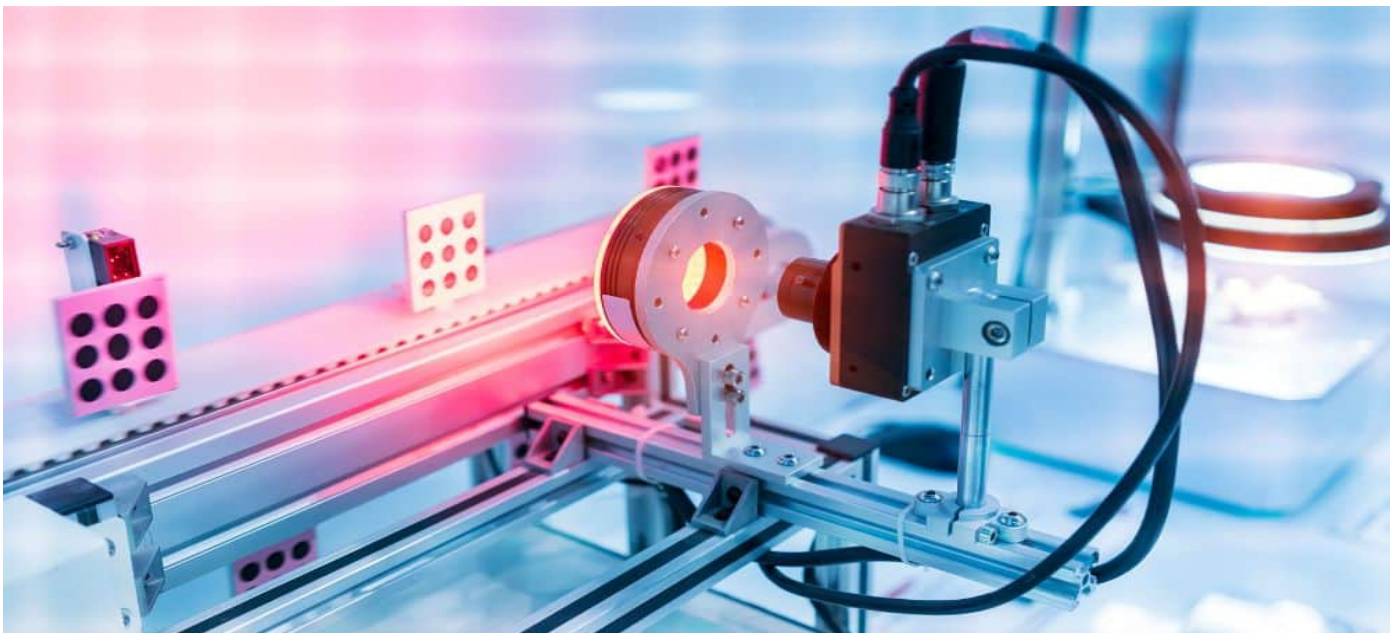
Technical Parameter

- Conductor resistance : 0.25 mm² max. 79 Ω/km, 0.34 mm² max. 57 Ω/km
- Specific volume resistivity : > 20 G Ω x cm
- Peak operating voltage : 300 V (not for power applications)
- Test voltage : C/C : 2000 V

RoHS CE

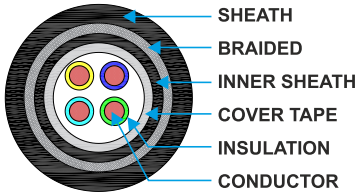
Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
2101B000203	3x0.25 mm²	3.8 mm
2101B000204	4x0.25 mm²	4.2 mm
2101B000303	3x0.34 mm²	4.1 mm
2101B000304	4x0.34 mm²	4.4 mm
2101B000305	5x0.34 mm²	4.8 mm



Sensor Cables

PVC Shielded Cable



Application

Sensor cables have a variety of applications that vary by industry and intended use. Piezoelectric sensors are commonly used in many applications, which can measure changes in pressure, acceleration, strain, or force. These cables are used for various sensor applications in industries such as marine, military, aerospace, industrial, wind energy, driverless cars/autonomous vehicles, and oil & gas sectors. These applications include measuring pressure for industrial, automotive, and aerospace applications to measure oil, gas, water, temperature, etc. Temperature measurement of ambient environments, position sensors for construction equipment, building control, weighing systems, vibration sensors for railway, aerospace, and automotive measurement in critical applications, traffic sensors for speed and red light camera, and cameras and visual/motion detection systems.

Construction

- Conductor : Superfine wire strands of bare copper wire multi strands
- Insulation : Special PVC-based compound
- Core identification : Colour code
- 3-core : Brown, blue, black
- 4-core : Brown, white, blue, black
- 5-core : Brown, white, blue, black, grey
- Stranding : Cores stranded to bundle.
- Inner sheath : Special PVC-based compound (Optional)
- Braid : Min. 85% coverage tinned copper braid
- Outer sheath : Special PVC-based compound
- Colour: Black (similar RAL 9005)

Properties

- Minimum bending radius : Flexing : 10D, fixed installation : 5D
- Temperature range : Flexing -5˚C up to +70˚C
  fixed installation : -40˚C up to +80˚C
- Flammability flame retardant : Acc. to IEC 60332-1-2 UL : FT1 and VW1 CSA : FT1

D = Cable Diameter

Technical Parameter

- Conductor resistance : 0.25 mm² max. 79 Ω/km,
  0.34 mm² max. 57 Ω/km
- Specific volume resistivity : > 20 G Ω x cm
- Peak operating voltage : 300 V (not for power applications)
- Test voltage : C/C : 2000 V

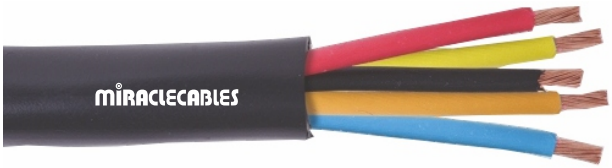
RoHS CE

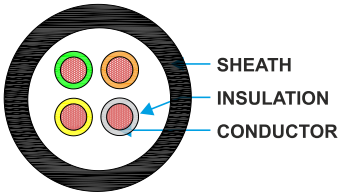
Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
2102B000203	3x0.25 mm²	4.3 mm
2102B000204	4x0.25 mm²	4.6 mm
2102B000303	3x0.34 mm²	4.4 mm
2102B000304	4x0.34 mm²	4.8 mm
2102B000305	5x0.34 mm²	5.2 mm

Sensor Cables

PUR Unshielded Cable





Application

Sensor cables have a variety of applications that vary by industry and intended use. Piezoelectric sensors are commonly used in many applications, which can measure changes in pressure, acceleration, strain, or force. These cables are used for various sensor applications in industries such as marine, military, aerospace, industrial, wind energy, driverless cars/autonomous vehicles, and oil & gas sectors. These applications include measuring pressure for industrial, automotive, and aerospace applications to measure oil, gas, water, temperature, etc. Temperature measurement of ambient environments, position sensors for construction equipment, building control, weighing systems, vibration sensors for railway, aerospace, and automotive measurement in critical applications, traffic sensors for speed and red light camera, and cameras and visual/motion detection systems.

Construction

- Conductor: Superfine wire strands of bare copper wire. multi strands- VDE 0812
- Insulation: PVC-based compound
- Core identification: Colour code
- 3-core: brown, blue, black
- 4-core: brown, white, blue, black
- 5-core: brown, white, blue, black, grey
- Stranding: Cores stranded to bundle.
- Outer sheath: PUR-based compound
- Colour: Black (similar RAL 9005)

Properties

- Minimum bending radius flexing: 10D, fixed installation : 5D
- Temperature range flexing : -5˚C up to +70˚C, fixed installation : -40˚C up to +80˚C
- Flammability flame retardant : Acc. to IEC 60332-1-2.

D = Cable Diameter

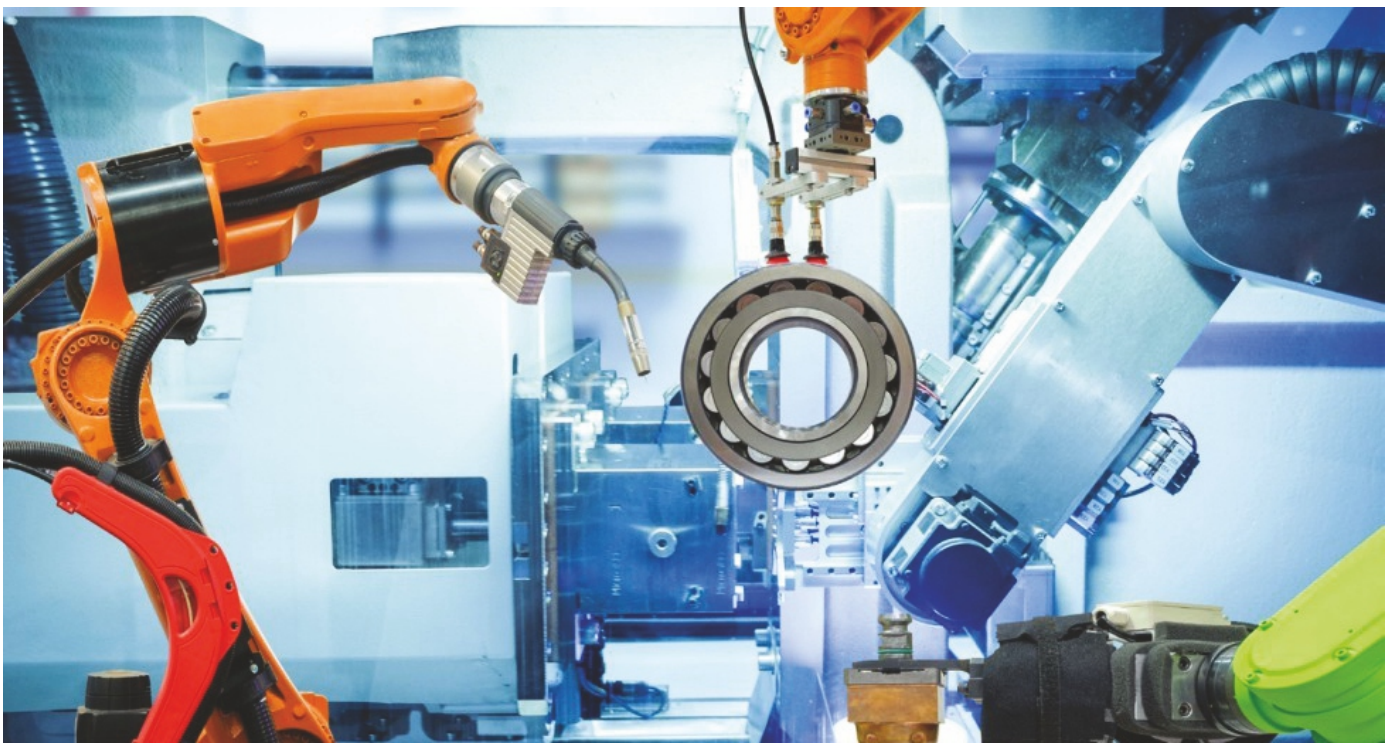
Technical Parameter

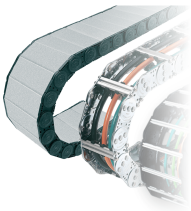
- Conductor resistance : 0.25 mm²: max. 79 /Ω/km 0.34 mm²: max. 57 Ω/km
- Specific volume resistivity : > 20 G Ω x cm
- Peak operating voltage : 300 V (not for power applications)
- Test voltage : C/C: 2000 V

RoHS CE

Dimension

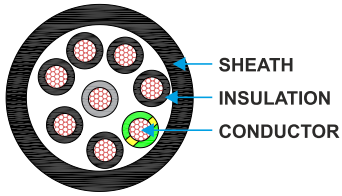
Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)
2103B000205	5x0.25 mm²	4.3 mm
2103B000304	4x0.34 mm²	4.6 mm





Drag Chain Cables

PVC/PVC Servo FD YY - Unshielded Cable



Application

- For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits.
- Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

Construction

- Bare copper, fine wire conductors according to EN 60228 Cl. 6
- Core insulation of special PVC TI2 EN 50363-3.
- Black core with continuous white numbering according to DINVDE 0293.
- Green-yellow earth core in the outer layer (3 cores and above)
- Cores twisted in layer in short laylength
- Non-woven wrapping.
- Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1.
- Colour grey (RAL 7001).

Properties

- PVC self-extinguishing and flame retardant according to EN 60332-1-2.
- Low adhesive surface

Technical Parameter

- Standard : Requirement adapted to DIN VDE 0245, 0281
- Temperature range : Flexing -5°C to +70°C.
  fixed installation -40°C to +80°C
- Nominal voltage : UO / U 300 / 500V, Voltage : 4000V
- Insulation resistance : Min. 20 GΩ x cm
- Minimum bending Radius : Flexing 7.5 x cable ø.
  fixed installation 4 x cable ø

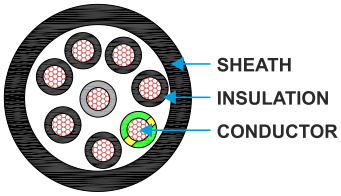
RoHS CE

Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2201B000502	2 x 0.5	5.3	8.7	39
2201B000503X	3G 0.5	5.7	13.0	48
2201B000504X	4G 0.5	6.3	17.4	60
2201B000505X	5G 0.5	6.8	21.7	71
2201B000507X	7G 0.5	8.0	30.4	99
2201B000512X	12G 0.5	9.5	52.1	147
2201B000518X	18G 0.5	11.4	78.1	214
2201B000525X	25G 0.5	13.7	108.5	306
2201B000530X	30G 0.5	14.3	130.2	344
2201B000534X	34G 0.5	15.6	147.5	403
2201B000550X	50G 0.5	18.5	216.9	574
2201B000702	2 x 0.75	5.7	13.0	48
2201B000703X	3G 0.75	6.2	19.5	60
2201B000704X	4G 0.75	6.8	26.0	75
2201B000705X	5G 0.75	7.4	32.5	90
2201B000707X	7G 0.75	8.9	45.6	129
2201B000712X	12G 0.75	10.6	78.1	194
2201B000716X	16G 0.75	12.0	104.1	253
2201B000718X	18G 0.75	12.7	117.2	283
2201B000725X	25G 0.75	15.2	162.7	402
2201B001002	2 x 1	6.1	17.4	57
2201B001003X	3G 1	6.6	26.0	72
2201B001004X	4G 1	7.3	34.7	90
2201B001005X	5G 1	8.0	43.4	110
2201B001007X	7G 1	9.6	60.7	157
2201B001012X	12G 1	11.4	104.1	237
2201B001014X	14G 1	12.3	121.5	276
2201B001016X	16G 1	13.0	138.8	311
2201B001018X	18G 1	13.9	156.2	353
2201B001025X	25G 1	16.4	216.9	491
2201B001026X	26G 1	16.4	225.6	498
2201B001034X	34G 1	18.9	295.1	658
2201B001041X	41G 1	20.6	355.8	786
2201B001050X	50G 1	22.3	433.9	936
2201B001065X	65G 1	25.4	564.1	1215
2201B001502	2 x 1.5	6.8	26.0	75
2201B001503X	3G 1.5	7.4	39.1	96

Drag Chain Cables

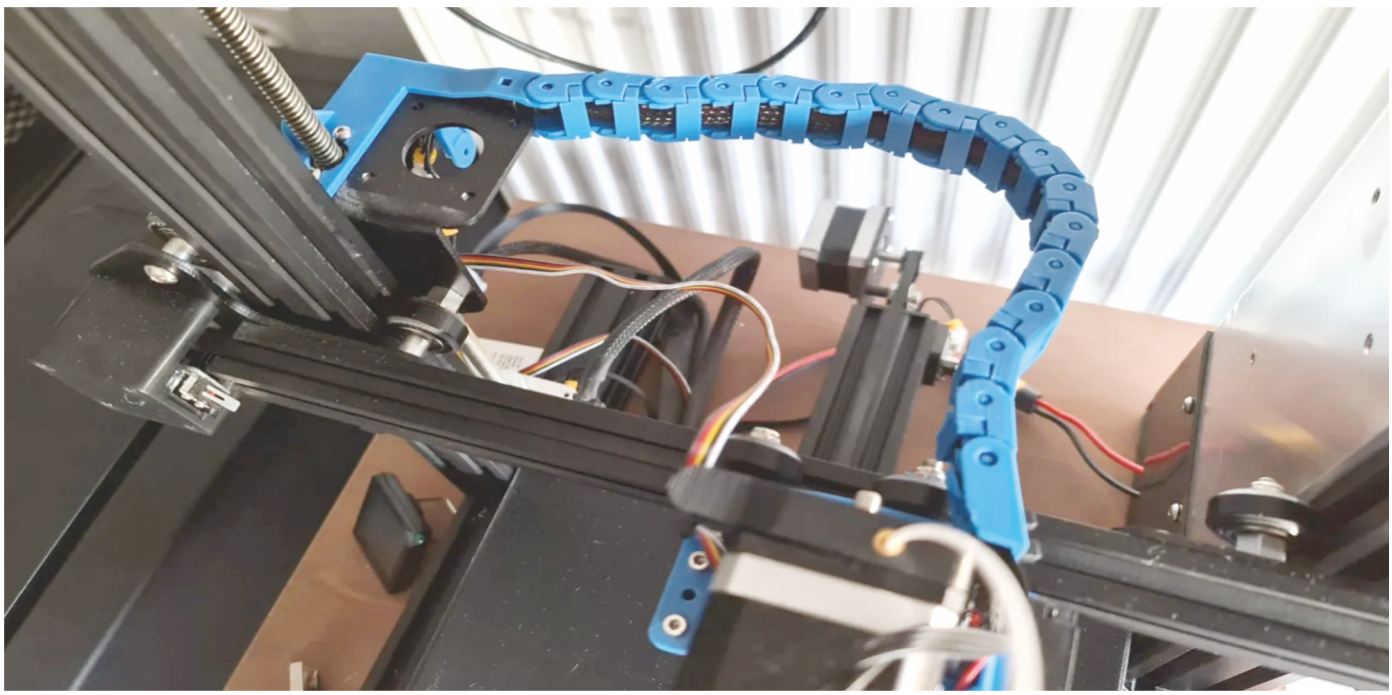
PVC/PVC Servo FD YY - Unshielded Cable

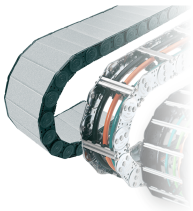


Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2201B001504X	4G 1.5	8.1	52.1	11
2201B001505X	5G 1.5	9.1	65.1	150
2201B001507X	7G 1.5	9.9	91.1	189
2201B001512X	12G 1.5	12.9	156.2	322
2201B001518X	18G 1.5	15.0	234.3	456
2201B001525X	25G 1.5	17.6	325.4	630
2201B001534X	34G 1.5	20.2	442.6	841
2201B001541X	41G 1.5	22.0	533.7	1006
2201B001542X	42G 1.5	22.0	546.7	1017
2201B001550X	50G 1.5	24.0	650.8	1210
2201B002503X	3G 2.5	9.0	65.1	148
2201B002504X	4G 2.5	10.0	86.8	188
2201B002505X	5G 2.5	11.2	108.5	235
2201B002507X	7G 2.5	12.5	151.9	307
2201B002512X	12G 2.5	16.0	260.3	513
2201B002514X	14G 2.5	17.2	303.7	595
2201B004003X	3G 4	10.6	104.1	217
2201B004004X	4G 4	11.7	138.8	274
2201B004005X	5G 4	13.1	173.6	343
2201B006004X	4G 6	13.9	208.6	398
2201B006005X	5G 6	15.5	260.8	496
2201B010004X	4G 10	17.6	358.5	658
2201B010005X	5G 10	19.6	448.2	819
2201B016004X	4G 16	21.0	565.0	983
2201B016005X	5G 16	23.6	706.2	1236

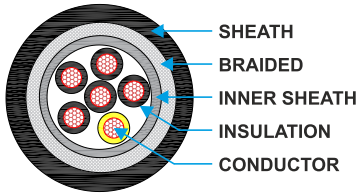
Note: X = With green/yellow earth core





Drag Chain Cables

PVC/PVC Servo FD YY - Shielded Cable



Application

- For use in power chains or moving machine parts. Suitable for use in measuring, control and regulating circuits where EMC protection is desired
- Power circuits for electrical equipment used in automation engineering assembly lines, production lines and in all kinds of machines and plant engineering.

Construction

- Bare copper, fine wire conductors according to EN 60228 Cl.6.
- Core insulation of special PVC TI2 EN 50363-3
- Black core with continuous white numbering according to DINVDE 0293
- Green/yellow earth core in the outer layer (3 cores and above)
- Cores stranded in layers with short lay-length
- Non-woven wrapping
- PVC inner sheath, grey. Tinned copper braiding
- Outer sheath of special PVC, TM2 to DIN/BS EN 50363-4.1
- Colour grey or black (RAL 7001)

Properties

- PVC self-extinguishing and flame retardant according to EN 60332-1-2.
- SERVO FD CY is also available with UV resistance property as SERVO FD CY UV
- Low adhesive surface
- EMC compliant

Technical Parameter

- Standard : Requirement adapted to DINVDE 0245, 0281
- Nominal voltage : UO / U 300 / 500V
- Insulation resistance : Min. 20 GΩ x cm
- Temperature range : Flexing -5°C to +70°C. fixed installation -40°C to +70°C
- Minimum bending radius : Fixed installation 4 x cable ø, flexing installation 7.5 x cable ø
- Test voltage : Core/core : 4000V. Core/screen: 2000V

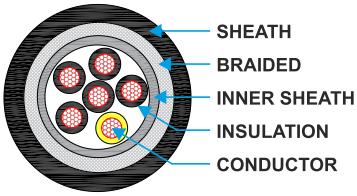
ERTL RoHS CE

Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2202B000502	2 x 0.5	7.2	24.5	76
2202B000503X	3G 0.5	7.5	30.2	86
2202B000504X	4G 0.5	8.1	36.3	102
2202B000505X	5G 0.5	8.6	42.4	116
2202B000507X	7G 0.5	9.1	54.3	136
2202B000512X	12G 0.5	11.5	84.2	216
2202B000518X	18G 0.5	13.5	117.5	301
2202B000525X	25G 0.5	15.12	156.9	386
2202B000530X	30G 0.5	16.02	185.1	442
2202B000702	2 x 0.75	7.6	30.6	88
2202B000703X	3G 0.75	8.1	39.5	104
2202B000704X	4G 0.75	8.6	47.2	120
2202B000705X	5G 0.75	9.1	56.6	138
2202B000707X	7G 0.75	9.9	71.7	167
2202B000712X	12G 0.75	12.5	117.1	271
2202B000718X	18G 0.75	14.42	166.1	371
2202B000725X	25G 0.75	16.52	221.4	491
2202B000730X	30G 0.75	18	288.2	595
2202B001002	2 x 1	8.1	37.3	102
2202B001003X	3G 1	8.4	47.3	116
2202B001004X	4G 1	8.9	58.8	136
2202B001005X	5G 1	9.7	69.4	161
2202B001012X	12G 1	13.22	145.7	316
2202B001018X	18G 1	15.42	210.4	442
2202B001025X	25G 1	17.4	286.0	580
2202B001026X	26G 1	17.4	295.7	588
2202B001034X	34G 1	20.2	392.5	788
2202B001041X	41G 1	22	466.3	927
2202B001050X	50G 1	23.7	554.0	1093
2202B001502	2 x 1.5	8.9	48.2	126
2202B001503X	3G 1.5	9.3	64.0	148
2202B001504X	4G 1.5	10.0	82.3	180
2202B001505X	5G 1.5	10.5	96.8	202

Drag Chain Cables

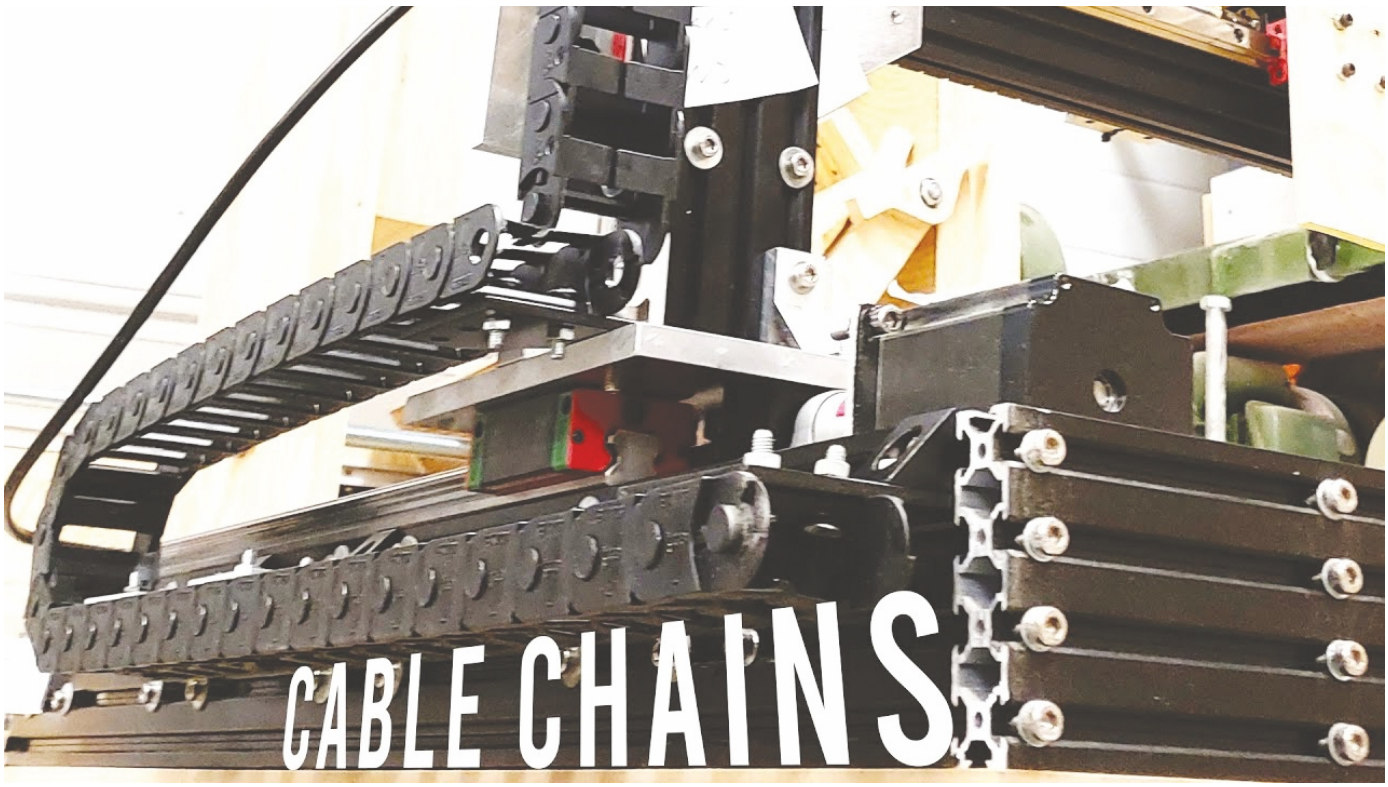
PVC/PVC Servo FD YY - Shielded Cable

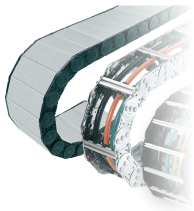


Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2202B001507X	7G 1.5	11.5	128.8	254
2202B001512X	12G 1.5	15.2	216.8	439
2202B001516X	16G 1.5	16.7	295.2	555
2202B001518X	18G 1.5	17.7	317.5	617
2202B001525X	25G 1.5	20.7	426.7	840
2202B001534X	34G 1.5	23.5	563.9	1095
2202B002503X	3G 2.5	10.3	100.7	200
2202B002504X	4G 2.5	11.3	129.4	249
2202B002505X	5G 2.5	12.6	158.5	309
2202B002507X	7G 2.5	13.9	211.5	392
2202B004004X	4G 4	13.4	192.3	361
2202B004005X	5G 4	14.7	236.4	439
2202B006004X	4G 6	15.8	254.9	492
2202B010004X	4G 10	19.3	414.4	763
2202B016004X	4G 16	22.0	635.7	1076

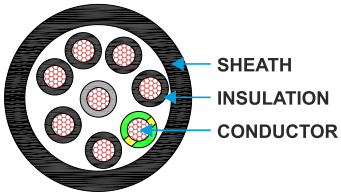
Note : X = With Green/yellow earth core





Drag Chain Cables

TPE/PUR Servo FD - Unshielded Cable



Application

Connecting cable between servo controller and encoder / resolver. Connecting cable between servo controller and speed generators. In power chains or moving machine parts. Particularly in wet areas of machine tools and transfer lines. Assembly lines, production lines, in all kinds of machines. For indoor and outdoor use

Construction

- Bare copper, fine wire conductors according to EN 60228 cl. 5/6
- Core insulation of TPE
- Black core with continuous white numbering according to DIN VDE 0293
- Cores stranded in layers with optimal lay-length
- Special polyurethane outer sheath (PUR)
- Sheath colour : Grey (RAL 7001)

Properties

- Flammability : UL/CSA: VW-1, FT1IEC/EN: 60332-1-2
- Halogen-free materials
- Low-capacitance design
- Abrasion and notch-resistant
- Oil-resistant

Technical Parameter

- Nominal voltage UO / U : 300 / 500V
- Insulation resistance : Min. 20 GΩ x cm
- Temperature range : Flexing -40°C to +90°C, fixed installation -50°C to +90°C
- Bending radius : Min. Flexing 7.5D fixed installation 4D
- Test voltage : 1500V Core to core

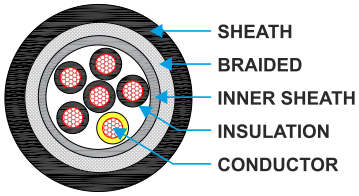
Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2203B000502	2 x 0.5	5.9	8.7	39
2203B000503X	3G 0.5	6.2	13.0	45
2203B000504X	4G 0.5	6.9	17.4	57
2203B000505X	5G 0.5	7.4	21.7	67
2203B000507X	7G 0.5	9.1	30.4	100
2203B000512X	12G 0.5	11.3	52.2	158
2203B000518X	18G 0.5	13.2	78.2	220
2203B000525X	25G 0.5	15.0	108.6	290
2203B000702	2 x 0.75	6.4	13.0	48
2203B000703X	3G 0.75	6.8	19.6	58
2203B000704X	4G 0.75	7.4	26.1	71
2203B000705X	5G 0.75	8.6	32.6	94
2203B000707X	7G 0.75	10.0	45.6	128
2203B000712X	12G 0.75	12.4	78.2	203
2203B000718X	18G 0.75	14.4	117.3	283
2203B000725X	25G 0.75	17.2	163.0	401
2203B00102	2 x 1	6.8	17.4	57
2203B001003X	3G 1	7.2	26.1	69
2203B001004X	4G 1	8.2	34.8	90
2203B001005X	5G 1	9.0	43.5	110
2203B001007X	7G 1	11.1	60.8	163
2203B001012X	12G 1	13.2	104.3	244
2203B001018X	18G 1	15.4	156.5	344
2203B001025X	25G 1	19.0	217.3	507
2203B001034X	34G 1	21.8	295.5	675
2203B001041X	41G 1	23.4	356.4	791
2203B001502	2 x 1.5	7.4	25.5	71
2203B001503X	3G 1.5	8.3	38.2	94
2203B001504X	4G 1.5	9.0	50.9	116
2203B001505X	5G 1.5	9.8	63.7	140
2203B001507X	7G 1.5	12.2	89.1	209
2203B001518X	18G 1.5	17.6	229.2	471
2203B001525X	25G 1.5	20.7	318.3	653
2203B001541X	41G 1.5	26.3	522.0	1060
2203B002503X	3G 2.5	9.7	63.7	139
2203B002504X	4G 2.5	11.0	84.9	181
2203B002505X	5G 2.5	12.1	106.1	221
2203B002507X	7G 2.5	14.2	148.5	307
2203B002512X	12G 2.5	17.8	254.6	500

Note: X = With green/yellow earth core

Drag Chain Cables

TPE/PUR Servo FD - Shielded Cable



Application

Connecting cable between servo controller and encoder / resolver. Connecting cable between servo controller and speed generators. In power chains or moving machine parts. Particularly in wet areas of machine tools and transfer lines. Assembly lines, production lines, in all kinds of machines. For indoor and outdoor use

Construction

- Bare copper, fine wire conductors according to EN 60228 cl. 5.
- Core insulation of TPE.
- Black core with continuous white numbering to DIN VDE 0293.
- Green/yellow earth core in outer layer (3 cores and above).
- Cores stranded in layers with optimal lay-length.
- TPE inner sheathed.
- Tinned copper braided screen.
- Special polyurethane outer sheath (PUR).
- Sheath colour : Grey (RAL 7001).

Properties

- Flammability : UL/CSA: VW-1, FT1IEC/EN: 60332-1-2
- Halogen-free materials
- Low-capacitance design
- Abrasion and notch-resistant
- Oil-resistant

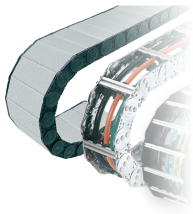
Technical Parameter

- Nominal voltage UO / U : 300 / 500V
- Insulation resistance : Min. 20 GΩ x cm
- Temperature range : Flexing -40°C to +90°C, fixed installation -50°C to +90°C
- Bending radius : Min. Flexing 7.5D fixed installation 4D
- Test voltage : 1500V Core to core & 750V Core to screen

Dimension

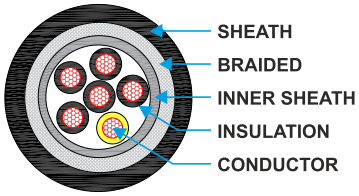
Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2204B000503X	3G 0.5	8.3	31.1	83
2204B000504X	4G 0.5	8.8	37.1	95
2204B000505X	5G 0.5	9.7	43.3	114
2204B000507X	7G 0.5	11.2	53.8	150
2204B000512X	12G 0.5	13.7	83.1	226
2204B000518X	18G 0.5	15.7	114.4	301
2204B000525X	25G 0.5	18.5	176.0	430
2204B000702	2 x 0.75	8.4	31.0	84
2204B000703X	3G 0.75	8.7	38.8	95
2204B000704X	4G 0.75	9.5	47.0	114
2204B000705X	5G 0.75	10.2	55.4	133
2204B000707X	7G 0.75	11.9	71.2	179
2204B000712X	12G 0.75	14.5	111.8	269
2204B000725X	25G 0.75	20.3	236.3	542
2204B001002	2 x 1	8.7	36.2	93
2204B001003X	3G 1	9.3	46.3	111
2204B001004X	4G 1	9.9	58.3	131
2204B001005X	5G 1	10.8	67.6	154
2204B001007X	7G 1	12.8	88.2	213
2204B001012X	12G 1	15.4	161.2	332
2204B001018X	18G 1	17.7	223.2	448
2204B001025X	25G 1	21.5	295.9	637
2204B001034X	34G 1	23.8	386.0	799
2204B001502	2 x 1.5	9.5	46.8	114
2204B001503X	3G 1.5	9.9	60.8	132
2204B001504X	4G 1.5	10.8	76.3	161
2204B001505X	5G 1.5	11.32	91.0	182
2204B001507X	7G 1.5	13.92	119.5	265
2204B001512X	12G 1.5	16.8	216.1	416
2204B001518X	18G 1.5	20	302.9	591
2204B001525X	25G 1.5	23.5	408.1	808
2204B001541X	41G 1.5	28.72	635.4	1229
2204B002503X	3G 2.5	11.12	90.9	178
2204B002504X	4G 2.5	12.32	115.1	222
2204B002505X	5G 2.5	14	159.9	296
2204B002507X	7G 1.5	16.4	208.5	402
2204B002512X	12G 2.5	21	329.4	648

Note: X = With green/yellow earth core



Drag Chain Cables

PVC/PVC Control FD YCY - Shielded Cable



Application

Connecting cable between frequency convertor and motor. This motor power supply cable is used for the frequency converters and assures electromagnetic compatibility in plants and buildings. Handling equipment, for SIMOVERT drives, they are particularly suitable for use with industrial pumps, ventilators, conveyor belts and air-conditioning installations and similar applications.

Construction

- Bare copper, fine wire conductors according to EN 60228 cl. 5 / cl. 6
- Special PVC : Core insulation type TI2 to acc. to EN 50363-3
- Core colours : black, brown, grey, green-yellow
- Cores stranded in concentric layers
- Special PVC inner sheath
- Screening with tinned coated copper : Min. 85%
- Special PVC outer sheath

Properties

- Flame retardant according to EN 60332-1-2
- Special PVC insulation ensures low mutual capacitance, lower dielectric loss, low screen interference currents
- Low capacitance design allows a longer cable connection between frequency converter and motor
- Meets EMC requirements
- Due to the optimal screening an interference-free operation of frequency converters is obtained

Technical Parameter

- Standard : Adapted DINVDE 0207/0250/0295
- Nominal voltage : UO / U 300 / 500V
- Insulation resistance : Min. 200 GΩ x cm
- Temperature range : Flexing -5°C to +70°C. fixed installation -30°C to +70°C
- Minimum bending radius : Flexing 5D fixed installation 3D
- Test voltage : Supply cores: C/C 1500V & C/S : 750V
- Control cores : C/C: 1000V, C/S : 500V

RoHS CE

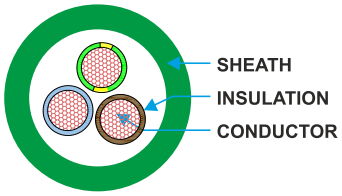
Dimension

Part code	No. of Cores & Nominal Cross Sectional Area (Sq. mm)	Approx. Cable Diameter (mm)	Approx. Copper Weight (kg/km)	Approx. Cable Weight (kg/km)
2205B001504X	4 G 1.5	11.4	72.9	167
2205B002504X	4 G 2.5	12.4	110.0	215
2205B004004X	4 G 4.0	15.6	193.3	363
2205B006004X	4 G 6.0	17.0	269.0	462
2205B010004X	4 G 10.0	19.6	435.0	660
2205B016004X	4 G 16.0	22.1	698.3	955
2205B025004X	4 G 25.0	26.3	1045.7	1390
2205B035004X	4 G 35.0	29.5	1431.6	1842
2205B050004X	4 G 50.0	35.8	2010.3	2656
2205B001506X*	3 x 1.5 + 3 G 0.25	11.4	65.1	158
2205B002506X*	3 x 2.5 + 3 G 0.5	12.2	99.4	202
2205B004006X*	3 x 4 + 3 G 0.75	14.4	174.0	308
2205B006006X*	3 x 6 + 3 G 1	15.7	237.6	391
2205B010006X*	3 x 10 + 3 G 1.5	18.0	375.2	554
2205B016006X*	3 x 16 + 3 G 2.5	20.2	603.9	809
2205B025006X*	3 x 25 + 3 G 4	23.8	906.3	1174
2205B035006X*	3 x 35 + 3 G 6	26.9	1250.8	1581

Note: X* = With green/yellow earth core + Mixed Coductor

Spiral Cables

PVC/PVC Spiral Cables



Application

These PVC spiral cables are used in lighting industry, machine industry, power tools, construction industry, consumer electronics, mobile equipment etc. These cables offers excellent low mechanical and chemical resistance capabilities; middle elastic force; has good low-cost advantage. PVC cables have a high reset power, an excellent appearance and especially a long service life.

Construction

- Conductor type : Bare copper conductors according to DIN VDE 0295
- Conductor class : IEC 60228 class 5
- Conductor sizes : 0.5mm2to 1.5mm2, 2 to 5 cores
- Core insulation : Special PVC core insulation
- Core color code : According to VDE 0293 or DIN 47100
- Sheath : PVC outer sheath
- Sheath color : black, white or grey

Properties

High economy, low mechanical and chemical resistance. Medium elasticity. It is suitable for installation and use in the light industry, computers, and other applications.

Technical Parameter

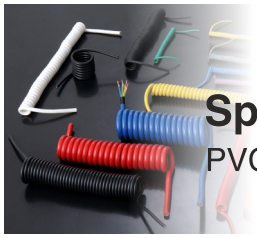
- Temperature rating : -5°C to +70°C
- Voltage rating : H03VVH8-F 300/300V (up to 1 mm²) H05VVH8-F 300/500V (from 1.5 mm²)
- Test voltage : 2000 V

RoHS

Dimension

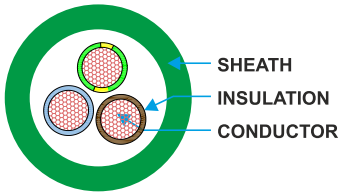
Part code	Core x Cross-section Core x mm2	Closed Spiral Length (mm)	Cable Diameter (mm)	Outer Diameter (mm)	Weight
2301B000702L1	2 x 0.75	200	6.20	21.40	34.60
2301B000702L2	2 x 0.75	400	6.20	21.40	63.40
2301B000702L3	2 x 0.75	600	6.20	21.40	92.20
2301B000702L4	2 x 0.75	800	6.20	21.40	121.00
2301B000702L5	2 x 0.75	1000	6.20	21.40	149.80
2301B000702L6	2 x 0.75	1200	6.20	21.40	178.60
2301B000702L7	2 x 0.75	1400	6.20	21.40	207.40
2301B000703L1	3 x 0.75	200	6.60	22.20	51.90
2301B000703L2	3 x 0.75	400	6.60	22.20	95.10
2301B000703L3	3 x 0.75	600	6.60	22.20	138.30
2301B000703L4	3 x 0.75	800	6.60	22.20	181.50
2301B000703L5	3 x 0.75	1000	6.60	22.20	224.70
2301B000703L6	3 x 0.75	1200	6.60	22.20	267.80
2301B000703L7	3 x 0.75	1400	6.60	22.20	311.10
2301B001002L1	2 x 1.00	200	6.60	22.20	43.20
2301B001002L2	2 x 1.00	400	6.60	22.20	65.30
2301B001002L3	2 x 1.00	600	6.60	22.20	122.80
2301B001002L4	2 x 1.00	800	6.60	22.20	161.30
2301B001002L5	2 x 1.00	1000	6.60	22.20	199.70
2301B001002L6	2 x 1.00	1200	6.60	22.20	238.10
2301B001002L7	2 x 1.00	1400	6.60	22.20	276.50
2301B001502L1	2 x 1.50	200	7.70	26.40	69.60
2301B001502L2	2 x 1.50	400	7.70	26.40	127.00
2301B001502L3	2 x 1.50	600	7.70	26.40	185.60
2301B001502L4	2 x 1.50	800	7.70	26.40	243.60
2301B001502L5	2 x 1.50	1000	7.70	26.40	301.60
2301B001502L6	2 x 1.50	1200	7.70	26.40	359.60
2301B001502L7	2 x 1.50	1400	7.70	26.40	417.60
2301B001503L1	3 x 1.50	200	8.50	29.00	103.20
2301B001503L2	3 x 1.50	400	8.50	29.00	189.20
2301B001503L3	3 x 1.50	600	8.50	29.00	275.20
2301B001503L4	3 x 1.50	800	8.50	29.00	361.20
2301B001503L5	3 x 1.50	1000	8.50	29.00	447.20
2301B001503L6	3 x 1.50	1200	8.50	29.00	533.20
2301B001503L7	3 x 1.50	1400	8.50	29.00	619.20

Note: L1 to L7 is Closed Spiral length



Spiral Cables

PVC/PUR Spiral Cables



Application

These PVC/PUR spiral cables are used as till feeder cable and they are ideally suited for use of high quality kitchen and housekeeping utensils, lighting, electrical tools, building industry, handing equipment, entertainment equipment etc. These cables have a high reset power, an excellent appearance and especially a long service life.

Construction

- Conductor type : Bare copper conductors according to DIN VDE 0295
- Conductor class : IEC 60228 class 5
- Conductor sizes : 0.5mm2to 1.5mm2, 2 to 5 cores
- Core insulation : PVC core insulation
- Core color Code : According to VDE 0293 or DIN 47100
- Sheath : PUR outer sheath
- Sheath color : Black,

Properties

Good elasticity. It has mechanical and chemical properties, especially cold resistance, oil resistance, weather resistance, abrasion resistance, and tear resistance. It is suitable for use in machinery manufacturing, electric tools, and other occasions. It is an excellent solution in most areas of application.

Technical Parameter

- Temperature rating : -5°C to +70°C
- Voltage rating : 300V/500V (up to 1 mm²), for type H07BQ-F 450/750 V (up to 1.5 mm²)
- Test voltage : 2000 V, for type H07BQ-F 2500V

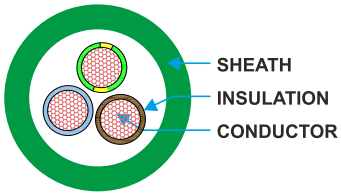
RoHS

Dimension

Part code	Core x Cross-section Core x mm2	Closed Spiral Length (mm)	Cable Diameter (mm)	Outer Diameter (mm)	Weight (Kg/Km)
2302B000702L1	2 x 0.75	500	6.50	23.00	77.80
2302B000702L2	2 x 0.75	1000	6.50	23.00	149.80
2302B000702L3	2 x 0.75	1400	6.50	23.00	207.40
2302B000702L4	2 x 0.75	2000	6.50	23.00	293.80
2302B000702L5	2 x 0.75	3000	6.50	23.00	437.80
2302B000703L1	3 x 0.75	500	7.10	25.20	116.70
2302B000703L2	3 x 0.75	1000	7.10	25.20	224.70
2302B000703L3	3 x 0.75	1400	7.10	25.20	311.10
2302B000703L4	3 x 0.75	2000	7.10	25.20	440.60
2302B000703L5	3 x 0.75	3000	7.10	25.20	656.60
2302B000704L1	4 x 0.75	500	7.90	28.80	156.60
2302B000704L2	4 x 0.75	1000	7.90	28.80	301.60
2302B000704L3	4 x 0.75	1400	7.90	28.80	417.60
2302B000704L4	4 x 0.75	2000	7.90	28.80	591.60
2302B000704L5	4 x 0.75	3000	7.90	28.80	881.60
2302B000705L1	5 x 0.75	500	8.60	31.20	194.40
2302B000705L2	5 x 0.75	1000	8.60	31.20	374.40
2302B000705L3	5 x 0.75	1400	8.60	31.20	518.40
2302B000705L4	5 x 0.75	2000	8.60	31.20	734.40
2302B000705L5	5 x 0.75	3000	8.60	31.20	1094.40
2302B001002L1	2 x 1.00	500	6.80	24.60	103.70
2302B001002L2	2 x 1.00	1000	6.80	24.60	199.70
2302B001002L3	2 x 1.00	1400	6.80	24.60	276.50
2302B001002L4	2 x 1.00	2000	6.80	24.60	391.70
2302B001002L5	2 x 1.00	3000	6.80	24.60	583.70
2302B001003L1	3 x 1.00	500	7.20	26.40	156.60
2302B001003L2	3 x 1.00	1000	7.20	26.40	301.60
2302B001003L3	3 x 1.00	1400	7.20	26.40	417.60
2302B001003L4	3 x 1.00	2000	7.20	26.40	591.60
2302B001003L5	3 x 1.00	3000	7.20	26.40	884.60
2302B001004L1	4 x 1.00	500	7.80	28.60	207.40
2302B001004L2	4 x 1.00	1000	7.80	28.60	399.40
2302B001004L3	4 x 1.00	1400	7.80	28.60	553.00
2302B001004L4	4 x 1.00	2000	7.80	28.60	783.40

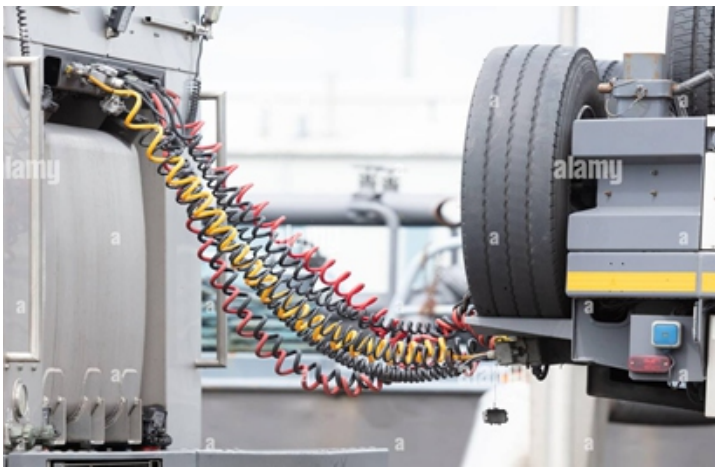
Spiral Cables

PVC/PUR Spiral Cables

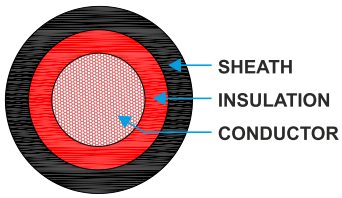


Dimension

Part code	Core x Cross-section Core x mm2	Closed Spiral Length (mm)	Cable Diameter (mm)	Outer Diameter (mm)	Weight (Kg/Km)
2302B001004L5	4 x 1.00	3000	7.80	28.60	1167.40
2302B001005L1	5 x 1.00	500	9.00	32.00	259.20
2302B001005L2	5 x 1.00	1000	9.00	32.00	499.20
2302B001005L3	5 x 1.00	1400	9.00	32.00	691.20
2302B001005L4	5 x 1.00	2000	9.00	32.00	979.20
2302B001005L5	5 x 1.00	3000	9.00	32.00	1459.20
2302B001007L1	7 x 1.00	500	11.10	39.00	361.80
2302B001007L2	7 x 1.00	1000	11.10	39.00	696.80
2302B001007L3	7 x 1.00	1400	11.10	39.00	964.80
2302B001007L4	7 x 1.00	2000	11.10	39.00	1366.80
2302B001007L5	7 x 1.00	3000	11.10	39.00	2036.80
2302B001502L1	2 x 1.50	500	8.50	30.00	156.60
2302B001502L2	2 x 1.50	1000	8.50	30.00	301.60
2302B001502L3	2 x 1.50	1400	8.50	30.00	417.60
2302B001502L4	2 x 1.50	2000	8.50	30.00	591.60
2302B001502L5	2 x 1.50	3000	8.50	30.00	881.60
2302B001503L1	3 x 1.50	500	8.90	32.80	232.20
2302B001503L2	3 x 1.50	1000	8.90	32.80	447.20
2302B001503L3	3 x 1.50	1400	8.90	32.80	619.20
2302B001503L4	3 x 1.50	2000	8.90	32.80	877.20
2302B001503L5	3 x 1.50	3000	8.90	32.80	1307.20
2302B001505L1	5 x 1.50	500	10.90	38.80	388.80
2302B001505L2	5 x 1.50	1000	10.90	38.80	748.80
2302B001505L3	5 x 1.50	1400	10.90	38.80	1036.80
2302B001505L4	5 x 1.50	2000	10.90	38.80	1468.80
2302B001505L5	5 x 1.50	3000	10.90	38.80	2188.80
2302B001507L1	7 x 1.50	500	12.20	46.40	545.40
2302B001507L2	7 x 1.50	1000	12.20	46.40	1050.40
2302B001507L3	7 x 1.50	1400	12.20	46.40	1451.10
2302B001507L4	7 x 1.50	2000	12.20	46.40	2060.40
2302B002503L1	3 x 2.50	500	10.60	38.20	388.80
2302B002503L2	3 x 2.50	1000	10.60	38.20	748.80
2302B002503L3	3 x 2.50	1400	10.60	38.20	1036.80
2302B002503L4	3 x 2.50	2000	10.60	38.20	1468.80
2302B002503L5	3 x 2.50	3000	10.60	38.20	2188.80



Solar Cables



Application

Solar cables are intended for use in photovoltaic power supply systems and similar applications as free hanging, movable, fixed installation and buried in ground in constructional covered systems. The cables can be used indoor, outdoor, in hazard explosion areas, in industry and agriculture.

Construction

- Conductor : ATC According to EL 60228, class 5
- Insulation : Halogen free XLPO compound - According to Table B1
- Core Identification : Red, black or natural
- Sheath : UV resistant, cross linkable, halogen free (XLPO), flame retardant compound for sheath over insulation.
- Cable Colour : Red, black, black with red strip
- Jacket : Halogen free compound - According to Table B1

Properties

- Standard : Cable as per EN 50618 / 2015
- Flame propagation acc. to EN 60332-1-2
- Low smoke emission
- Enhanced thermal, electrical, mechanical and fire properties
- UV resistant

Technical Parameter

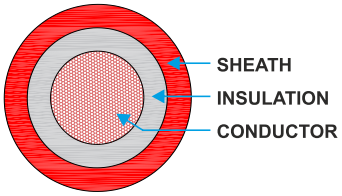
- Operating temperature : -40°C to 120°C
- Max. Permissible operating temperature of the conductor : +120°C, Interpretation according to IEC 60216, permanent temperature.
- 120°C for 20,000 h (= 2.3 years), at max. 90°C permanent temperature (= 30 years).
- Short - Circuit temperature : +250°C referring to a period of 5 sec.
- Damp - Heat test : According to EN 60068 - 2 - 78. 1,000h at 90°C and 85% humidity. Min. Permissible ambient temperature : -40°C (stationary and in motion) resistance to cold
- Bending test at low temperature according to DIN EN 60811 - 1 - 4, Impact test similar to DIN EN 50305.
- Minimum bending radius : Fixed installation approx. 5D
- Voltage rating : 1.0/1.0kV AC,1.5kV DC
- Max. PV - System voltage : DC up to 2.0 kV possible
- Max. Permissible operating voltage in AC systems : 0.7 / 1.2 kV
- Max. Permissible operating voltage in DC systems : 0.9 / 1.8 kV
- Test voltage : 6500V AC for 5 minutes

Dimension

Part code	Area. Sq.mm.	Insulation Thickness (mm)	Outer sheath Thickness (mm)	Approx. Cable Diameter (mm)	Cable Weight (Kg/Km)
2401T001501	1.5	0.7	0.8	4.66	39
2401T002501	2.5	0.7	0.8	5.09	50
2401T004001	4	0.7	0.8	5.59	64
2401T006001	6	0.7	0.8	6.13	87
2401T010001	10	0.7	0.8	7.07	132
2401T016001	16	0.7	0.9	8.32	198
2401T025001	25	0.9	1	10.14	300
2401T035001	35	0.9	1.1	11.49	404
2401T050001	50	1	1.2	13.33	565
2401T070001	70	1.1	1.2	15.19	766
2401T095001	95	1.1	1.3	16.94	1000
2401T120001	120	1.2	1.3	18.71	1250
2401T150001	150	1.4	1.4	20.86	1560
2401T185001	185	1.6	1.6	23.24	1940
2401T240001	240	1.7	1.7	26.14	2480

Trirated Cables (BASEC)

BS 6231 CK 90°C



Application

High temperature, flame retardant cable designed for use in switch control, relay and instrumentation panels of power switchgear and for purposes such as internal connectors in rectifier equipment, motor starters and controllers

Construction

- Conductor material : ABC according to IEC 60228
- Insulation : HR PVC 105 deg C
- Standard : BS 6231

Properties

- Enhanced thermal, electrical, mechanical and fire properties
- PVC self-extinguishing and flame retardant according to EN 60332-1-2.
- BASEC certification

Technical Parameter

- Voltage rating : 600 / 1000V
- Temperature UL, CSA : +105°C
- Minimum bending radius : 6 x Overal diameter 8 mm : 4 x outer diameter.
- Approx. diameter : > 8 to 12 mm : 5 x outer diameter.
- Approx. diameter : > 12 mm: 6 x outer diameter.
- Test voltage : 4000V
- Mark on cable : MIRACLE CABLE 1CX sqmm Type CK heat resisting 90 Table 2 Insul. TI 3 class 5 600/1000 V BS 6231:2006

Dimension

Part code	Area. Sq.mm.	Insulation Thickness (mm)	Outer sheath Thickness (mm)	Approx. Cable Diameter (mm)	Cable Weight (Kg/Km)
2501B000501	0.5	0.8	2.4	3.0	11
2501B000701	0.75	0.8	2.6	3.1	14
2501B001001	1	0.8	2.7	3.3	16
2501B001501	1.5	0.8	3.0	3.6	21
2501B002501	2.5	0.8	3.4	4.1	32
2501B004001	4	0.8	3.9	4.8	46
2501B006001	6	0.8	4.4	5.3	64
2501B010001	10	1.0	5.7	7.2	109
2501B016001	16	1.0	6.7	9.0	166
2501B025001	25	1.2	8.4	11.5	256
2501B035001	35	1.2	9.7	12.5	352
2501B050001	50	1.4	11.5	15.4	501
2501B070001	70	1.4	13.2	17.5	692
2501B095001	95	1.6	15.1	19.2	914
2501B120001	120	1.6	16.7	21.2	1155
2501B150001	150	1.8	18.6	23.9	1441
2501B185001	185	2.0	20.6	25.9	1754
2501B240001	240	2.2	23.5	28.9	2305

Appendix

UL CABLES -Current rating for UL-1007, UL 1015, UL 1284, UL-10269, UL-10070.

PVC-insulated single and multi-conductor wiring cables according to UL-AWM and CSA TEW standards. PVC insulation is allowed at a maximum temperature range of 105°C.

The following indicated values in the below tables are considered as guiding values.

In critical situations, the rules and recommendations for the current ratings should be followed.

For Single conductor cables at ambient temperatures up to 30°C

AWG	CURRENT RATING AMPS
24	3.5
22	5.0
20	6.0
18	9.5
16	20
14	24
12	34
10	52
8	75
6	95
4	120
3	154
2	170
1	180
1/0	200
2/0	225
3/0	275
4/0	325
250 kcm	345
300 kcm	390
400 kcm	415

Core Identification for Colour Coded Low-Voltage Cables.

VDE 0293-302/HD 308 S2.
For making cores in multi and several core cables for use in electrical systems and distribution systems.
For the supply of permanently secured or portable supplies and for portable equipment cables.

Number of Cores	Cables with Protective Conductor (Code J or G)	Cables without Protective Conductor (Code O or X)	Cables with Concentric Conductor
2	-	BU/BN	BU/BN
3	GNYE/BN/BU	BN/BK/GY	BN/BK/GY
3a	-	BU/BN/BK	BU/BN/BK
4	GNYE/BN/BK/GY	BU/BN/BK/GY	BU/BN/BK/GY
4a	GNYE/BU/BN/BK	-	-
5	GNYE/BU/BN/BK/GY	BU/BN/BK/GY/BK	BU/BN/BK/GY/BK
6 and above	GNYE/BK (with printed numbers)	BK (with printed numbers)	BK (with printed numbers)

Colour Code for Power Cables as per VDE 0293 (old).

(Colour codes are listed in IEC 60757).
For making cores in multicores in multi and several core cables for connecting portable consumers.

Number of Cores	Cables with Green/Yellow Core (Harmonised)	Cables with Green/Yellow Core (Currently not Yet Harmonised)	Cables with Concentric Conductor
2	-	BU/BN	-
3	GNYE/BN/BU	BU/BN/BK	-
3	-	BU/BN/BK	-
4	GNYE/BK/BU/BN	BU/BN/BK/GY	-
5	GNYE/BK/BU/BN/BK	BU/BN/BK/GY/BK	-
6 and above	GNYE/further core in BK with printed numbers, starting from the inside with 1 GNYE in the outer layer	BK (with printed numbers)	-

Colour Codes for Fixed Installation.

For making cores in multi- and several- core cables and in multi-core cables for fixed installation

Number of Cores	Cables with Green/Yellow Core (Harmonised)	Cables with Green/Yellow Core (Currently not Yet Harmonised)	Cables with Concentric Conductor
2	-	BK/BU	BK/BU
3	GNYE/BN/BU	BN/BU/BK	BK/BU/BN
3	-	BN/BK/BU	-
4	GNYE/BK/BU/BN	BK/BN/BU/BK	BK/BU/BN/BK
5	GNYE/BK/BU/BN/BK	BK/BN/BU/BK/BK	-
6 and above	GNYE/further core in BK with printed numbers, starting from the inside with 1 GNYE in the outer layer	Cores in BK with printed numbers, starting from the inside with 1	Cores in BK with printed numbers, starting from the inside with 1

Core Identification for Multicore Cables as per IS 694 : 2010.

Number of Cores	Cable for Fixed Installation	Cables for Flexible Use
2	RD/BK	RD/BK
3	RD/YL/BL	RD/BK/GNYE
3a	-	RD/YL/BL
4	RD/YL/BL/BK	RD/YL/BL/GNYE
4a	-	RD/YL/BL/BK
5	-	RD/YL/BL/BK/GY
6 and above	-	BK (with printed numbers)

Colour Codes for Twisted Pair as per DIN 47100.

Each pair has an a-core and a b-core. The marking is repeated for the first time as from 23 pairs, and for the second time as from 45 pairs. The cores in pair from 6 to 22 are provided with bi colour strip with the first mentioned as major colour.

Pair No.	Colour of a-core	Colour of b-core	Pair No.	Colour of a-core	Colour of b-core
1	white	brown	13	white/black	brown/black
2	green	yellow	14	grey/green	yellow/grey
3	grey	pink	15	pink/green	yellow/pink
4	blue	red	16	green/blue	yellow/blue
5	black	violet	17	green/red	yellow/red
6	grey/pink	red/blue	18	green/black	yellow/black
7	white/green	brown/green	19	grey/blue	pink/blue
8	white/yellow	yellow/brown	20	grey/red	pink/red
9	white/grey	grey/brown	21	grey/black	pink/black
10	white/pink	pink/brown	22	blue/black	red/black
11	white/blue	brown/blue	23-44	see 1 -22	see 1-22
12	white/red	brown/red	45-66	see 1 -22	see 1-22

Colour Codes for Cores as per DIN 47100.

(but differs from DIN as the core colour after 44th core shall be bi-colour insulation with the ring colour being the last).

Core No.	Colour	Core No.	Colour	Core No.	Colour	Core No.	Colour	Core No.	Colour
1	white	14	brown/green	27	grey/green	40	pink/red	53	white/grey/black
2	brown	15	white/yellow	28	yellow/grey	41	grey/black	54	grey/brown/black
3	green	16	yellow/brown	29	pink/green	42	pink/black	55	white/pink/black
4	yellow	17	white/grey	30	yellow/pink	43	blue/black	56	pink/brown/black
5	grey	18	grey/brown	31	green/blue	44	red/black	57	white/blue/black
6	pink	19	white/pink	32	yellow/blue	45	white/brown/black	58	brown/blue/black
7	blue	20	pink/brown	33	green/red	46	yellow/green/black	59	white/red/black
8	red	21	white/blue	34	yellow/red	47	grey/pink/black	60	brown/red/black
9	black	22	brown/blue	35	green/black	48	red/blue/black	61	black/white
10	violet	23	white/red	36	yellow/black	49	white/green/black		
11	grey/pink	24	brown/red	37	grey/blue	50	brown/green/black		
12	red/blue	25	white/black	38	pink/blue	51	white/yellow/black		
13	white/green	26	brown/black	39	grey/red	52	yellow/brown/black		

Max. DC Conductor Resistance for Copper Conductor.

Nominal Cross Section (Sq. mm)	Max. DC Conductor resistance at 20°C (Ω/km)			
	Tin Coated Copper Conductor		Plain Copper Conductor	
	Class 2	Class 5+6	Class 2	Class 5+6
0.08	-	250.0	-	243.0
0.14	-	142.0	-	138.0
0.25	-	82.0	-	79.0
0.34	-	59.0	-	57.0
0.38	-	52.8	-	48.5
0.5	36.7	40.1	36	39.0
0.75	24.8	26.7	24.5	26.0
1	18.2	20.0	18.1	19.5
1.5	12.2	13.7	12.1	13.3
2.5	7.56	8.21	7.41	7.98
4	4.70	5.09	4.61	4.95
6	3.11	3.39	3.08	3.30
10	1.84	1.95	1.83	1.91
16	1.16	1.24	1.15	1.21
25	0.734	0.795	0.727	0.780
35	0.529	0.565	0.524	0.554
50	0.391	0.393	0.387	0.386
70	0.270	0.277	0.268	0.272
95	0.195	0.210	0.193	0.206
120	0.154	0.165	0.153	0.161
150	0.126	0.132	0.124	0.129
185	0.100	0.108	0.0991	0.106
240	0.0762	0.0817	0.0754	0.0801
300	0.0607	0.0654	0.0601	0.0641
400	0.0475	-	0.0470	-
500	0.0369	-	0.0366	-
630	0.0286	-	0.0283	-
800	0.0224	-	0.0221	-
1000	0.0177	-	0.0176	-

Notes :

* 0.08 Sq. mm to 0.38 Sq. mm as per DIN VDE 0295 (Class 5/6)
* In accordance to
  - IS 8130, Class 1, Plain and tin coated copper max up to and including 150 Sq. mm and 16 Sq. mm respectively
  - IEC 60228, Class 1, Plain and tin coated copper max up to and including 400 Sq. mm and 16 Sq. mm respectively
  - IS 8130, Class 2, Plain and tin coated copper from 1 Sq. mm to 1000 Sq. mm
  - IEC 60228, Class 2, Plain and tin coated copper from 0.5 Sq. mm to 1000 Sq. mm
  - IS 8130 and IEC 60228, Class 5 and 6, Plain and tin coated copper up to and including 630 Sq. mm and 300 Sq. mm respectively

Conductor Stranding (Metric).

CrossSection (Sq. mm)	Multiwire Conductor	Several-wire Conductor	Fine-Wire Conductor	Extra-Fine Wire Conductor			
Class of Conductor	Class-2	Class-2	Class-5	Class-6	Class-6	Class-6	Class-6
0.14	-	-	8 x 0.15	18 x 0.10	18 x 0.1	36 x 0.07	72 x 0.05
0.25	-	-	14 x 0.15	32 x 0.10	32 x 0.1	65 x 0.07	128 x 0.05
0.34	-	7 x 0.25	19 x 0.15	42 x 0.10	42 x 0.1	88 x 0.07	174 x 0.05
0.38	-	7 x 0.27	19 x 0.16	19 x 0.16	64 x 0.1	100 x 0.07	194 x 0.05
0.5	7 x 0.30	7 x 0.30	16 x 0.20	28 x 0.15	96 x 0.1	131 x 0.07	256 x 0.05
0.75	7 x 0.37	7 x 0.37	24 x 0.20	42 x 0.15	128 x 0.1	195 x 0.07	384 x 0.05
1	7 x 0.43	7 x 0.43	32 x 0.20	56 x 0.15	192 x 0.1	260 x 0.07	512 x 0.05
1.5	7 x 0.52	7 x 0.52	30 x 0.25	84 x 0.15	320 x 0.1	392 x 0.07	768 x 0.05
2.5	7 x 0.67	19 x 0.41	50 x 0.25	140 x 0.15	512 x 0.1	651 x 0.07	1280 x 0.05
4	7 x 0.85	19 x 0.52	56 x 0.30	224 x 0.15	768 x 0.1	1040 x 0.07	-
6	7 x 1.05	19 x 0.64	84 x 0.30	192 x 0.20	1280 x 0.1	1560 x 0.07	-
10	7 x 1.35	49 x 0.51	140 x 0.30	320 x 0.20	2048 x 0.1	2600 x 0.07	-
16	7 x 1.7	49 x 0.65	126 x 0.40	512 x 0.20	3200 x 0.1	-	-
25	7 x 2.13	84 x 0.62	196 x 0.40	800 x 0.20	-	-	-
35	7 x 2.52	133 x 0.58	276 x 0.40	1120 x 0.20	-	-	-
50	19 x 1.83	133 x 0.69	396 x 0.40	705 x 0.30	-	-	-
70	19 x 2.17	189 x 0.69	360 x 0.50	990 x 0.30	-	-	-
95	19 x 2.52	259 x 0.69	480 x 0.50	1340 x 0.30	-	-	-
120	37 x 2.03	336 x 0.67	608 x 0.50	1690 x 0.30	-	-	-
150	37 x 2.27	392 x 0.69	750 x 0.50	2123 x 0.30	-	-	-
185	37 x 2.52	464 x 0.69	931 x 0.50	1470 x 0.40	-	-	-
240	37 x 2.87	627 x 0.70	1200 x 0.50	1905 x 0.40	-	-	-
300	61 x 2.50	790 x 0.70	1500 x 0.50	2385 x 0.40	-	-	-
400	61 x 2.89	-	2013 x 0.50	-	-	-	-
500	61 x 3.23	-	2562 x 0.50	-	-	-	-
630	91 x 2.97	-	3416 x 0.50	-	-	-	-

Current Rating Conversion Factor for Deviating Ambient Temperature.

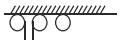
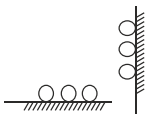
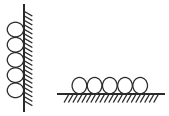
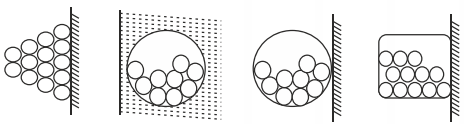
Conversion factors, used to the current ratings data in tables of the following pages.

Conversion factors for deviating ambient temperature.

Permissible Operating Temperature	40°C	60°C	70°C	80°C	85°C	90°C
Ambient Temperature°C	Conversion Factors					
10	1.73	1.29	1.22	1.18	1.17	1.15
15	1.58	1.22	1.17	1.14	1.13	1.12
20	1.41	1.15	1.12	1.1	1.09	1.08
25	1.22	1.08	1.06	1.05	1.04	1.04
30	1.00	1.00	1.00	1.00	1.00	1.00
35	0.71	0.91	0.94	0.95	0.95	0.96
40	-	0.82	0.87	0.89	0.90	0.91
45	-	0.71	0.79	0.84	0.85	0.87
50	-	0.58	0.71	0.77	-	0.82
55	-	0.41	0.61	0.71	-	0.76
60	-	-	0.5	0.63	-	0.71
65	-	-	0.35	0.55	-	0.65
70	-	-	-	0.45	-	0.58
75	-	-	-	0.32	-	0.5
80	-	-	-	-	-	0.41
85	-	-	-	-	-	0.29

Current Rating Conversion Factor for Different Installation Methods.

for grouping on the wall, on the floor, in insulation tubes or in conduit and under the ceiling

Number of multicore cables or number of a.c. or 3-phase circuits of single core cable.	1	2	3	4	5	6	7	8	9	10	12	14	16	18	20
Installation method	Conversion factors														
One layer under the ceiling with contact 	0,95	0,81	0,72	0,68	0,66	0,64	0,63	0,62	0,61	0,61	0,61	0,61	0,61	0,61	0,61
One layer under the ceiling, with a space equal to the outer diameter d 	0,95	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85	0,85
One layer on the wall or on the floor with a space equal to the outer diameter d 	1,00	0,94	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90	0,90
One layer on the wall or on the floor with contact 	1,00	0,85	0,79	0,75	0,73	0,72	0,72	0,71	0,70	0,70	0,70	0,70	0,70	0,70	0,70
Bunched directly on the wall, on the floor, in insulating tubes or trunking or in the wall 	1,00	0,80	0,70	0,65	0,60	0,57	0,54	0,52	0,50	0,48	0,45	0,43	0,41	0,39	0,38

O Symbol for one single core or one multicore cable

Notes:

When these factors are to be applied for the calculation of power ratings, the same type of cables and with equal loaded cores in the same installation method shall correspond. At the same time the Crosssection are permitted to differ maximum one grade of Crosssection.

If the actual horizontal-space between the adjacent cables is more than double of the outer diameter, no reduction factor is necessary.

The same reduction factors are to be applied for grouping of two or three-core or multicore cables. For a system consisting of two or as well as three-core cables, firstly the total number of cables will be assumed as the number of circuits. For that the applicable factor is to be used either in the tables for two-cores loaded cables or the tables for three-cores loaded cables.

If the grouping of single core cables consist of n loaded single core cables, the rating factor shall be determinated for n/2 or n/3 circuits and applied to the current carrying capacity of two or three loaded cores.

Current Rating Conversion Factor for Different Numbers of Loading Cores in Multicore Cables.

(Conversion factors for multicore cables with Cross section up to 10 mm²).

Number of Loaded Cores	Conversion Factros
5	0.75
7	0.65
10	0.55
14	0.5
19	0.45
24	0.4
40	0.35
61	0.30

Current Rating Conversion Factor for Reeled Cables.

Number of layers on drums	1	2	3	4	5
Conversion factors	0.80	0.61	0.49	0.42	0.38

Note : For spiral-reeling the conversion factor 0.80.

Current Rating - Single Core Cables for Fixed Installation as per IS 694.

(for fixed wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 1 Conductor	Max. Current Capacity (A) for Class 2 Conductor
0.5	5.5	-
0.75	9	-
1	14	14
1.5	19	19
2.5	26	26
4	32	32
6	41	41
10	54	54
16	-	74
25	-	94
35	-	118
50	-	146
70	-	219
95	-	280
120	-	326
150	-	369
185	-	444
240	-	531
300	-	587
400	-	610
500	-	692
630	-	735

Current Rating - Single Core Cables for Flexible Application as per IS 694.

(for electric panels and switchboards for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 5 Conductor
0.5	5
0.75	8
1	13
1.5	17
2.5	24

Nominal Cross Section Area of Conductor (Sq. mm)	Max. Current Capacity (A) for Class 5 Conductor
4	30
6	38
10	52
16	70
25	88
35	112
50	146
70	216
95	262
120	310
150	355
185	415
240	500
300	550

Current Rating & Voltage Drop for Stranded Multicore Cables as per IS 694.

(for fixed wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	2 Core & 3 Core Cable for Single Phase AC/DC		3 Core & 4 Core Cable for Three Phase AC	
	Max. Current Capacity (A)	Voltage Drop (mV/A/m)	Max. Current Capacity (A)	Voltage Drop (mV/A/m)
1	14	40	13	35
1.5	19	27	18	23
2.5	26	16	24	14
4	32	10	30	8.8
6	41	6.8	39	5.9
10	54	4	50	3.5
16	74	2.6	68	2.2
25	94	1.6	85	1.4
35	118	1.2	105	1.0
50	146	0.97	130	0.84
70	219	0.7	195	0.62
95	280	0.59	246	0.48
120	326	0.48	284	0.42

Current Rating & Voltage Drop for Flexible Multicore Cables as per IS 694.

(for flexible application especially in electric panels and switchboard wiring for voltage up to and including 1100V).

Nominal Cross Section Area of Conductor (Sq. mm)	2 Core & 3 Core Cable for Single Phase AC/DC		3 Core & 4 Core Cable for Three Phase AC	
	Max. Current Capacity (A)	Voltage Drop (mV/A/m)	Max. Current Capacity (A)	Voltage Drop (mV/A/m)
0.5	5	83	4	72
0.75	8	56	7	48
1	13	40	12	35
1.5	17	27	16	23
2.5	24	16	22	14
4	30	10	28	8.8
6	38	6.8	36	5.9
10	52	4	48	3.5
16	70	2.6	64	2.2
25	88	1.6	80	1.4
35	112	1.2	100	1.0
50	146	0.97	130	0.84
70	216	0.7	192	0.62
95	262	0.59	230	0.48
120	310	0.48	270	0.42
150	355	0.38	305	0.34
185	415	0.34	360	0.3
240	500	0.28	430	0.26
300	550	0.22	470	0.18

Current Rating Conversion Factor for Deviating Ambient Temperature (IS 694).

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
25	1.25
30	1.16
35	1.09
40	1.00
45	0.90
50	0.81
55	0.74
60	0.68

Current Rating for H05V-K/H07V-K/H05Z1-K/H07Z1-K.

Nominal Cross Section Area of Conductor (Sq. mm)	Installation in Thermally Insulated Walls		Installation in Insulating Tubes (on a wall)		In Free Air
Number of Loaded Cores	2	3	2	3	1
Cross Section (Sq. mm)	Current ratings in Ampere (A)				
1.5	14.5	13.5	17.5	15.5	24
2.5	19.5	18	24	21	32
4	26	24	32	28	42
6	34	31	41	36	54
10	46	42	57	50	73
16	61	56	76	68	98
25	80	73	101	89	129
35	99	89	125	110	158
50	119	108	151	134	198
70	151	136	192	171	245
95	182	164	232	207	292
120	210	188	269	239	344
150	240	216	-	-	391
185	273	245	-	-	448
240	320	286	-	-	528

Note : Conversion factors for deviating ambient temperature, grouping, installation under the ceiling, multicore cables and insulated wires - see Table 4-1. 5-1 & 5-2 in accordance to DIN VDE 0298 Part 4.

Current Rating for H05V2-K/H07V2-K/BS 6231/Trirated Cable.

Nominal Cross Section Area (Sq. mm)	Max. Current Rating (A)	Voltage Drop (mV/A/m)
0.50	11	46.0
0.75	14	31.0
1.00	17	22.0
1.50	21	15.0
2.50	30	9.1
4.00	41	5.7
6.00	53	3.8
10.00	75	2.2
16.00	100	1.4
25.00	136	0.9
35.00	167	0.6

Current ratings are based on a conductor operating temperature of 85°C and an ambient air temperature of 45°C and assumes single cable isolated in free air.

Current Rating Conversion Factor for H05V2-K/H07V2-K/BS 6231/Trirated Cable.

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
45°C	1.0
50°C	0.97
55°C	0.90
60°C	0.82
65°C	0.73
70°C	0.63
75°C	0.52

Where cables are to be grouped, the following factors should be applied :

Number of Cables in Group	Reduction Factor
2	0.80
3	0.70
4	0.65
5	0.60
6	0.56
7	0.53
8	0.50

Current Rating - H05Z-K/H07Z-K/H05Z-R/H07Z-R/6491B/LS0H 90°C.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional area	Reference Method A (Enclosed in Conduits in Thermally Insulating Wall, etc.)		Reference Method B (Enclosed in Conduits on a Wall or in Trunking, etc.)		Reference Method C (Clipped Direct)		Reference Method F (in Free Air or on Perforated Cable Tray etc. Horizontal or Vertical etc.) Touching			Reference Method G (in free air) Spaced by One Cable Diameter	
	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC Flat and Touching	3 or 4 Cables, Three-Phase AC Flat and Touching or Trefoil	2 Cable, Single-Phase AC or DC Flat	3 Cables. Three-Phase A. C. Flat	3 Cables, Three-Phase A. C. Trefoil	2 Cable, Single-Phase ACor DC or 3 Cables. Three-Phase A. C. Flat	
										Horizontol	Vertical
1	2	3	4	5	6	7	8	9	10	11	12
(Sq. mm)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
0.5	6	5	10	8	12	11	-	-	-	-	-
0.75	9	8	14	12	16.5	14	-	-	-	-	-
1	14	13	17	15	19	17.5	-	-	-	-	-
1.5	19	17	23	20	25	23	-	-	-	-	-
2.5	26	23	31	28	34	31	-	-	-	-	-
4	35	31	42	37	46	41	-	-	-	-	-
6	45	40	54	48	59	54	-	-	-	-	-
10	61	54	75	66	81	74	-	-	-	-	-
16	81	73	100	88	109	99	-	-	-	-	-
25	106	95	133	117	143	130	161	141	135	182	161
35	131	117	164	144	176	161	200	176	169	226	201
50	158	141	198	175	228	209	242	216	207	275	246
70	200	179	253	222	293	268	310	279	268	353	318
95	241	216	306	269	355	326	377	342	328	430	389
120	278	249	354	312	413	379	437	400	383	500	454
150	318	285	393	342	476	436	504	464	444	577	527
185	362	324	449	384	545	500	575	533	510	661	605
240	424	380	528	450	644	590	679	634	607	781	719
300	486	435	603	514	743	681	783	736	703	902	833
400	-	-	683	584	868	793	940	868	823	1085	1008
500	-	-	783	666	990	904	1083	998	946	1253	1169
630	-	-	900	764	1130	1033	1254	1151	1088	1454	1362
800	-	-	-	-	1288	1179	1358	1275	1214	1581	1485
1000	-	-	-	-	1443	1323	1520	1436	1349	1775	1671

Ambient temperature: 30°C. Conductor operating temperature: 90°C.

Notes:

1 Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2).

2 Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4DIA) must be used (see also Regulation 523.1).

3 The above table is in accordance with Table 4E1A of the 17th Edition of IEE Wiring Regulations.

Current Rating - PVC Insulated Building Wire (H07V-R) - 6491X.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional area	Reference Method A (Enclosed in Conduits in Thermally Insulating Wall, etc.)		Reference Method B (Enclosed in Conduits on a Wall or in Trunking, etc.)		Reference Method C (Clipped Direct)		Reference Method F (in Free Air or on Perforated Cable Tray Horizontal or Vertical)				
							Touching			Spaced by One Diameter	
	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC	3 or 4 Cables, Three-Phase AC	2 Cable, Single-Phase AC or DC Flat and Touching	3 or 4 Cables, Three-Phase AC Flat and Touching or Trefoil	2 Cable, Single-Phase AC or DC Flat	3 Cables. Three-Phase A. C. Flat	3 Cables, Three-Phase A. C. Trefoil	2 Cable, Single-Phase ACor DC or 3 Cables. Three-Phase A. C. Flat	
										Horizontol	Vertical
1	2	3	4	5	6	7	8	9	10	11	12
(Sq. mm)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)	(A)
1	11	10.5	13.5	12	15.5	14	-	-	-	-	-
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	216	341	311
120	210	188	269	239	330	303	352	321	264	396	362
150	240	216	300	262	381	349	406	372	308	456	419
185	273	245	341	296	436	400	463	427	356	521	480
240	321	286	400	346	515	472	546	507	409	615	569
300	367	328	458	394	594	545	629	587	485	709	659
400	-	-	546	467	694	634	754	689	656	852	795
500	-	-	626	533	792	723	868	789	749	982	920
630	-	-	720	611	904	826	1005	905	855	1138	1070
800	-	-	-	-	1030	943	1086	1020	971	1265	1188
1000	-	-	-	-	1154	1058	1216	1149	1079	1420	1337

Ambient Temperature: 30°C. Conductor Operating Temperature: 70°C.

The above table is in accordance with Table 4D1A of the 17th Edition of IEE Wiring Regulations.

Current Rating - H03/H05VVH2-F & H03/H05VV-F, H03/H05V2V2H2-F & H03/H05V2V2-F, JB-H.

Conductor Cross Sectional Area (Sq. mm)	Current-Carrying Capacity	
	Single-Phase AC (A)	Three-Phase AC (A)
0.5	3	3
0.75	6	6
1	10	10
1.25	13	-
1.5	16	16
2.5	25	20
4	32	25
6	40	-
10	63	-

The above table is in accordance with table 4F3A of the 17 edition of IEE wiring regulation.

Voltage Drop for H03/H05VVH2-F & H03/H05VV-F, H03/H05V2V2H2-F & H03/H05V2V2-F, JB-H

Conductor Cross Sectional Area (Sq. mm)	Current-Carrying Capacity	
	Single-Phase AC (mV/A/m)	Three-Phase AC (mV/A/m)
0.5	93	80
0.75	62	54
1	46	40
1.25	37	-
1.5	32	27
2.5	19	16
4	12	10

Conductor operating temperature: 60°C*.

*The tabulated values above are for 60°C thermoplastic or thermosetting insulated flexible cords.
For other types of flexible cords they are to be multiplied by the following factors: for thermoplastic or thermoset insulation at 90°C: 1.09, at 105°C: 1.31.
The above table is in accordance with Table 4F3B of the 17th Edition of IEE Wiring Regulations.

Current Rating as per DIN VDE 0298-4, at 30°C Ambient Temperature.

Current Carrying Capacity (Amperes).

Nominal Cross Sectional Area (Sq. mm)	JB-500, 750, YCY, YSY, Black (0.6 / 1.0 kV), H JZ-500, YCY, YSY, CY, YCY-Black (0.6 / 1.0 kV), EB, EB CY, H, HCH
0.5	9
0.75	12
1	15
1.5	18
2.5	26
4	34
6	44
10	61
16	82
25	108
35	135
50	168
70	207
95	250
120	292
150	335
185	382
240	453
300	523

Current rating conversion factor for deviating ambient temperature

Ambient Temperature (°C)	Derating Factor
30	1.09
40	1.00
45	0.78
50	0.70
55	0.60
60	0.48

Current rating conversion factor for different numbers of loading cores in multicore cables

Number of loaded cores	5	7	10	14	19	24	40	61
Conversion Factor	0.75	0.65	0.55	0.50	0.45	0.40	0.35	0.30

Note:
*Current carring capacity is in accordance to VDE 0298-4, 2003-08, table 11, column 2.
For different installation methods, conversion factors from table 5-1 shall be used.

Current Rating for Silicone Cable.

Nominal Cross Section (Sq. mm)	Current Rating (A)
0.5	12
0.75	15
1	19
1.5	24
2.5	32
4	42
6	54
10	73
16	98
25	129
35	158
50	198
70	245

The above table is in accordance with DIN VDE 0298-4, 2003-08 Table 11/column 2.

Current Rating Conversion Factor for Silicone Cable.

Multiply the current carrying capacity of the cable by the factors given below for various ambient temperature.

Ambient Temperature (°C)	Derating Factor
up to 150	1
155	0.91
160	0.82
165	0.71
170	0.58
175	0.41

Current Rating - Fire Survival BS 7846.

Current Carrying Capacity (Amperes).

Conductor Cross Sectional Area	Reference Method C (Clipped Direct)		Reference Method E (in Free Air or on a Perforated Cable Tray etc. Horizontal or Vertical)		Reference Method D (Direct in Ground or in Ducting in Ground, in or Around Buildings)	
	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC	1 Two-Core Cable, Single-Phase AC or DC	1 Three-, or 1 Four-Core Cable, Three-Phase AC
1	2	3	4	5	6	7
(mm²)	(A)	(A)	(A)	(A)	(A)	(A)
1.5	27	23	29	25	25	21
2.5	36	31	39	33	33	28
4	49	42	52	44	43	36
6	62	53	66	56	53	44
10	85	73	90	78	71	58
16	110	94	115	99	91	75
25	146	124	152	131	116	96
35	180	154	188	162	139	115
50	219	187	228	197	164	135
70	279	238	291	251	203	167
95	338	289	354	304	239	197
120	392	335	410	353	271	223
150	451	386	472	406	306	251
185	515	441	539	463	343	281
240	607	520	636	546	395	324
300	698	599	732	628	446	365
400	787	673	847	728	-	-

Ambient Temperature: 30°C. Ground Ambient Temperature: 20°C. Conductor Operating Temperature: 90°C.

Notes:

1 Where a conductor operates at a temperature exceeding 70°C it must be ascertained that the equipment connected to the conductor is suitable for the conductor operating temperature (see Regulation 512.1.2).

2 Where cables in this table are connected to equipment or accessories designed to operate at a temperature not exceeding 70°C, the current ratings given in the equivalent table for 70°C thermoplastic insulated cables (Table 4D4A) must be used (see also Regulation 523.1).

3 The above table is in accordance with Table 4E4A of the 17th Edition of IEE Wiring Regulations.

Voltage Drop - Fire Survival BS 7846.

Voltage Drop (per ampere per meter).

Conductor Cross Sectional Area	Two Cables DC	Two Core Cables, Single-Phase AC			Three or Four Core Cables, Three-Phase AC		
1	2	3			4		
Sq. mm	(mV/A/m)	(mV/A/m)			(mV/A/m)		
1.5	31	31			27		
2.5	19	19			16		
4	12	12			10		
6	7.9	7.9			6.8		
10	4.7	4.7			4.0		
16	2.9	2.9			2.5		
		r	x	z	r	x	z
25	1.85	1.85	0.160	1.90	1.60	0.140	1.65
35	1.35	1.35	0.155	1.35	1.15	0.135	1.15
50	0.98	0.99	0.155	1.00	0.86	0.135	0.87
70	0.67	0.67	0.150	0.69	0.59	0.130	0.60
95	0.49	0.50	0.150	0.52	0.43	0.130	0.45
120	0.39	0.40	0.145	0.42	0.34	0.130	0.37
150	0.31	0.32	0.145	0.35	0.28	0.125	0.30
185	0.25	0.26	0.145	0.29	0.22	0.125	0.26
240	0.195	0.20	0.140	0.24	0.175	0.125	0.21
300	0.155	0.16	0.140	0.21	0.140	0.120	0.185
400	0.12	0.13	0.140	0.190	0.115	0.120	0.163

Conductor Operating Temperature: 90°C.

Conductor Data - IS 7098 P1.

Copper & Aluminium conductor for single core & multicore cable conforming to IS 8130.

Nominal Area of Conductor (Sq. mm)	Minimum Number Wire in Conductor Solid Conductor Class-1	Minimum Number of Wire in Conductor Stranded Conductor Class-2				Max. DC Resistance at 20°C (Ω/Km)		Max. AC Resistance at 90°C (Ω/Km)	
		Circular Conductor (Non-Compacted)		Circular Compacted or Shape Conductor					
		Aluminium	Copper	Aluminium	Copper	AL	CU	AL	CU
1.5	1	3	3	NA	NA	18.1	12.1	22.6	15.2
2.5	1	3	3	NA	NA	12.1	7.41	15.2	9.35
4	1	3	7	NA	NA	7.41	4.61	10.5	5.9
6	1	3	7	NA	NA	4.61	3.08	5.9	3.94
10	1	7	7	NA	6	3.08	1.83	3.94	2.34
16	NA	7	7	6	6	1.91	1.15	2.44	1.47
25	NA	7	7	6	6	1.2	0.727	1.54	0.931
35	NA	7	7	6	6	0.868	0.524	1.11	0.671
50	NA	19	19	6	6	0.641	0.387	0.82	0.495
70	NA	19	19	12	12	0.443	0.268	0.567	0.343
95	NA	19	19	15	18	0.32	0.193	0.411	0.248
120	NA	37	37	15	18	0.253	0.153	0.325	0.197
150	NA	37	37	15	18	0.206	0.124	0.265	0.159
185	NA	37	37	30	30	0.164	0.0991	0.211	0.127
240	NA	37	61	30	34	0.125	0.0754	0.162	0.0976
300	NA	61	61	30	34	0.1	0.0601	0.13	0.0778
400	NA	61	61	53	53	0.0778	0.047	0.1023	0.0618
500	NA	61	61	53	53	0.0605	0.0366	0.0808	0.0489
630	NA	91	91	53	53	0.0469	0.0283	0.0648	0.0391
800	NA	91	91	53	53	0.0367	0.0221	0.0533	0.0319
1000	NA	91	91	53	53	0.0291	0.0176	0.0444	0.0268

Single Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
16	81	80	83	104	102	106
25	99	90	115	130	115	145
35	117	110	135	155	140	175
50	138	125	170	185	165	215
70	168	155	210	225	200	270
95	204	185	255	265	235	330
120	230	210	300	300	265	380
150	265	230	342	335	300	430
185	295	260	385	380	335	495
240	340	300	450	435	385	590
300	390	335	519	490	430	670
400	450	380	605	550	480	780
500	500	430	700	610	530	900
630	555	485	809	680	590	1020
800	625	530	935	740	630	1140
1000	690	570	1065	780	660	1250

Two Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
4	40	28	34	51	37	44
6	50	37	44	63	46	56
10	69	49	59	88	62	75
16	88	61	74	113	81	98
25	112	81	98	144	109	131
35	138	103	124	175	125	150
50	169	129	156	206	161	194
70	200	156	188	256	203	244
95	238	192	231	300	239	288
120	262	217	262	344	275	331
150	300	249	300	388	316	381
185	344	286	344	438	364	438
240	400	337	406	506	425	512
300	444	378	456	562	482	581
400	481	436	525	612	549	662
500	565	523	678	660	620	780
630	652	592	786	730	690	875

Three & Half & Four Core Cable Current Rating - IS 7098 P1.

Size CrossSectional Area (Sq. mm)	Normal Current Rating (Amps)					
	With AL Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
4	34	28	30	44	37	39
6	43	37	40	55	47	50
10	57	48	53	74	61	67
16	78	61	70	94	78	85
25	95	80	99	120	100	125
35	116	94	117	145	120	155
50	140	110	140	170	145	190
70	170	140	176	210	175	235
95	200	165	221	250	210	290
120	225	185	258	285	240	330
150	255	210	294	315	270	375
185	285	235	339	355	300	435
240	325	270	402	410	350	510
300	370	305	461	460	390	590
400	435	350	542	520	440	670
500	481	405	624	580	480	750
630	537	470	723	680	575	875

Capacitance Single & Multicore Cable - IS 7098 P1.

Approx capacitance (µF/km) for XLPE 1100V cable.

Nominal Area of Conductor (Sq. mm)	Single Core Cable		2 Core Cable	Multicore (3, 3.5 & 4 core cable)
	Unarmoured	Armoured		
1.5	0.19	-	0.051	0.15
2.5	0.24	-	0.058	0.18
4	0.29	-	0.065	0.22
6	0.34	-	0.071	0.25
10	0.43	0.32	0.081	0.31
16	0.51	0.38	0.088	0.36
25	0.49	0.38	0.089	0.41
35	0.57	0.44	0.096	0.47
50	0.58	0.46	0.098	0.50
70	0.63	0.51	0.100	0.53
95	0.68	0.57	0.110	0.61
120	0.73	0.61	0.110	0.63
150	0.73	0.61	0.110	0.64
185	0.74	0.64	0.110	0.65
240	0.74	0.64	0.110	0.66
300	0.80	0.69	0.120	0.67
400	0.83	0.70	0.120	0.67
500	0.83	0.71	0.120	0.69
630	0.87	0.75	0.120	0.73
800	0.92	0.78	NA	NA
1000	0.94	0.81	NA	NA

Reactance Single Core & Multi Core Cable - IS 7098 P1.

Approx reactance at 50 Hz (Ω/Km) for XLPE 1100V cable.

Nominal Area of Conductor (Sq. mm)	Single Core Cable		Multicore (2, 3, 3.5 & 4 core cable)
	Unarmoured	Armoured	
1.5	0.155	-	0.107
2.5	0.142	-	0.0985
4	0.132	-	0.0927
6	0.123	-	0.0884
10	0.114	0.134	0.0837
16	0.108	0.125	0.0808
25	0.103	0.120	0.0805
35	0.0986	0.114	0.0783
50	0.0937	0.108	0.0750
70	0.09	0.102	0.0740
95	0.0865	0.100	0.0724
120	0.0841	0.0968	0.0718
150	0.0839	0.0941	0.0716
185	0.0836	0.0932	0.0712
240	0.0813	0.0900	0.0710
300	0.0795	0.0881	0.0705
400	0.0787	0.0873	0.0704
500	0.0779	0.0859	0.0702
630	0.0765	0.0843	0.0698
800	0.0755	0.0826	NA
1000	0.0752	0.0825	NA

Short Circuit Rating - IS 7098 P1.

Nominal Area of Conductor (Sq. mm)	Short circuit for 1 Second Duration (K. Amps.)	
	Aluminium	Copper
1.5	0.15	0.21
2.5	0.21	0.36
4	0.38	0.57
6	0.57	0.86
10	0.94	1.40
16	1.5	2.3
25	2.4	3.6
35	3.3	5
50	4.7	7.1
70	6.6	10
95	9	13.6
120	11.3	17.1
150	14.2	21.4
185	17.5	26.4
240	22.6	34.3
300	28.3	42.9
400	37.7	57.1
500	47.2	71.4
630	59.4	90
800	75.5	114.3
1000	94.3	142.3

1. Max. Conductor temperature prior to short circuit : 90°C
2. Max. Conductor temperature at the termination of short circuit : 250°C

Formula for calculating the short circuit rating for other duration.

$$It = \frac{Ish}{\sqrt{\tau}}$$

where

It= Short circuit rating for t second.
t= Duration in seconds.
Ish= Short circuit rating for 1 second.

Current Rating for Control Cable ARM / UN ARM IS 7098 P-1.

No. of Core	1.5 SQ.MM			2.5 SQ.MM		
	With CU Cond.			With CU Cond.		
	Ground	Duct	Air	Ground	Duct	Air
2	30.0	27.0	28.0	41.0	36.0	37.0
3	28.0	23.0	24.0	35.0	32.0	33.0
4	28.0	23.0	24.0	35.0	32.0	33.0
5	28.0	23.0	24.0	35.0	32.0	33.0
6	20.5	18.0	19.0	27.5	24.5	25.5
7	19.5	18.0	19.0	26.5	23.5	24.0
10	18.0	15.5	16.5	24.0	21.0	21.5
12	17.0	14.5	15.0	23.0	19.5	20.5
14	15.5	14.5	15.0	21.5	18.5	19.0
16	15.5	13.0	14.0	20.5	18.5	19.0
19	14.5	13.0	14.0	19.5	17.0	17.5
24	13.0	12.0	12.5	18.0	16.0	16.5
27	13.0	12.0	12.5	17.0	14.5	14.0
30	12.0	10.5	11.0	16.0	13.5	14.0
37	11.0	9.5	10.5	14.5	12.5	13.0
40	11.0	9.5	10.5	14.5	12.5	13.0
44	10.0	8.5	9.0	13.5	11.5	12.0
52	9.5	7.5	8.0	12.0	10.0	11.0
61	9.5	7.0	7.5	11.0	9.0	10.0

Voltage 450/750V and 600/1000V

Copper conductor Size (mm²)	Maxi. Conductor Resistance @20°C Ohm/Km)	Short Circuit Current Rating @ 1second (KA)	
		XLPE	PVC
1.50	12.0	0.215	0.173
2.50	7.41	0.358	0.288
4.00	4.61	0.572	0.46
6.00	3.08	0.858	0.69
10	1.83	1.43	1.15
16	1.15	2.29	1.84
25	0.727	3.57	2.87
35	0.524	5.00	4.00
50	0.387	7.15	5.75
70	0.268	10.1	8.00
95	0.193	13.5	11.0
120	0.153	17.2	13.8
150	0.124	21.4	17.25
185	0.0991	26.5	21.2
240	0.0754	34.5	27.6
300	0.0601	43.0	34.5
400	0.0470	57.0	41.0
500	0.0366	71	51.5
630	0.2830	90	64.0
800	0.0221	114	82.0
1000	0.0176	143	103

Note:

XLPE cable $I = \frac{0.143\ A}{\sqrt{t}}$

PVC cable $I = \frac{0.115\ A}{\sqrt{t}}$ For an Equal and less than 300 mm²

$I = \frac{0.103\ A}{\sqrt{t}}$ For a Greater than 400 mm²

Cable Handling & Storage Guideline.

Although Miracle cables are durable & high quality products relatively unaffected by ambient conditions, they should be handled and stored properly to avoid incidental damage.

Reel Handling:

Upon receipt, and before acceptance of a shipment, all reels should be inspected for evidence of damage during shipment.

This damage would include broken flanges, damaged wrapping or lagging, interlocked flanges, reels broken loose from their ties or blocking, etc. Any signs of such damage should immediately be reported to the carrier. If the protective wrapping or lagging is removed to inspect for possible damage during shipment, it should be replaced prior to placing the reel into long term storage.

Unloading of reels from the delivery truck must be accomplished in a manner that prevents the transfer equipment from coming into contact with either the cable itself or the protective covering over the reel. A crane may be used to lift reels using a steel shaft of sufficient strength placed through the arbor holes. The shaft must be lifted using a spreader bar to prevent the lifting cable or chain from pressing against the reel flanges (see Figure 1). The force exerted by improperly positioned slings has been known to break reel flanges, resulting in damage to the cable.

If a fork lift truck is used, the forks must be placed at a 90° angle to

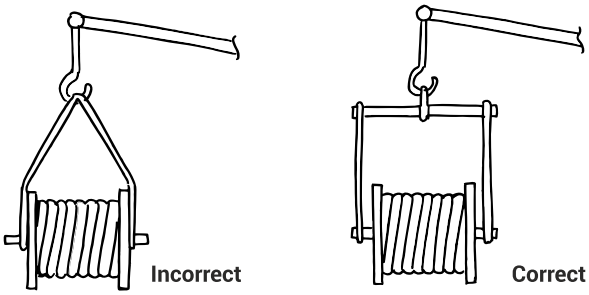
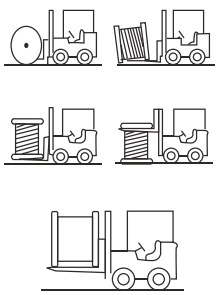


Figure-1

the flanges, and must be long enough to make contact with both flanges (see Figure 2). Under no circumstances should the forks make direct contact with the cable or protective covering.

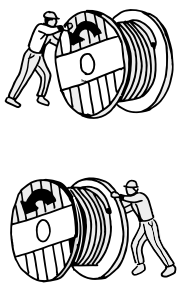
Some facilities may have an inclined ramp available for unloading reels. This ramp must be wide enough to contact both reel flanges with an adequate safety margin. The method used to stop the reel should ensure that the cable or protective covering does not come into contact with any solid object, and that the force transmitted to the reel flanges is not sufficient to damage them.

Reels must not be dropped from the delivery vehicle to the ground



Correct

Figure-2



Correct

Figure-3

under any circumstances. When a reel is rolled from one point to another, care must be taken to see that the reel does not straddle objects such as rocks, pipes, or wooden blocks which could damage the cable or protective covering. A reel should always be rolled in the direction indicated by arrows stenciled on the reel. By doing so, you will ensure that the reel is rolled in such a direction as to tighten the cable on the reel. Rolling in the other direction will tend to loosen the turns of cable on the reel (see Figure 3). This can result in turns crossing over one another and subsequently causing kinks in the cable as it is removed from the reel

Storage Conditions:

Reels should be stored in an area reserved for this purpose. The location must be accessible to forklifts and trucks, but removed from areas of constant traffic. If available space prohibits separation, suitable barriers should be erected to prevent damage from moving equipment. Reels must be stored in an area where they cannot be damaged by falling objects, chemical spills including oil and grease, open flames or welding operations, and excessive heat.

It is also advisable to secure the designated area to prevent theft or vandalism. Whenever possible, reels should be stored indoors to provide maximum protection. If the cable must be stored outside, the reels should be placed on a hard, well-drained surface that will prevent the reel flanges sinking into it and allowing the weight of cable and reel to rest on the cable surface. It is recommended, but not required, that cable intended for storage longer than six months have overhead protection or be covered with a suitable material such as canvas or opaque polyethylene to avoid prolonged exposure to sunlight.

If a portion of the cable is used, the open end of the cable remaining on the reel should immediately be re-sealed in a manner equivalent to the factory seal to prevent the entrance of moisture. After re-sealing, the cut end should be fixed to the inside edge of the reel flange to prevent the end from extending beyond the flanges during reel movement.

Reels should always be stored with their flanges vertical. They

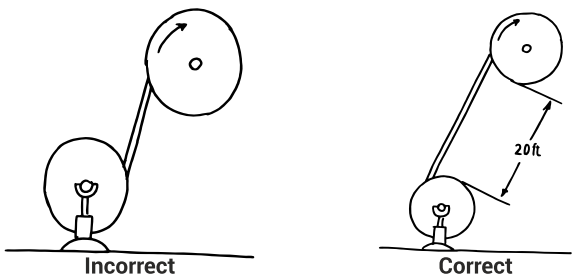


Figure-4

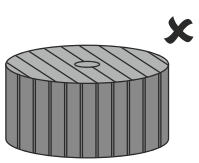
must not be stored on their sides or stacked one on top of another. Care should be taken that reels cannot roll into one another, so that the flange of one reel hits the surface of cable on another reel. If necessary, reel flanges should be chocked to prevent movement.

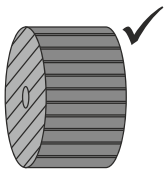
Removal of Cable from Reel:

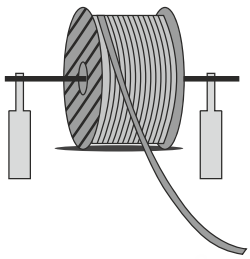
Considerable care must be exercised in uncoiling or unreeling flexing cables since their performance is substantially influenced by the way in which they are handled. Reverse bending or twisting can cause internal

Cable Laying Guideline.

For laying of cable, special care is to be taken to prevent sharp bending, kinking and twisting. Cable should be unwound from drum by proper mounting the cable drum on a cable wheel stand. Making sure that the spindle is strong enough to carry the weight without bending and that it is lying horizontally in the bearings so as to prevent the drum creeping to one side or the other while it is rotating.







Provision should be made to avoid further rolling & buckling of the cable. A simple wooden plank can serve this purpose.

Cable must be pulled from the top only.

Note:

Since 1997

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Head Office :

Miracle Cables (India) Pvt. Ltd.

1203/1204, Dhamji Shamji Bussiness Galeria,
L.B.S Marg, Near Huma Talkies, Kanjur Marg West,
Mumbai-400078

+91-022-25792011 +91-25792012 +91-25792012

info@miraclecables.com.

Thane Factory :
(Unit I)
K-29/2 MIDC, Additional MIDC,
Anand Nagar, Opp Bharat Serum,
Ambernath (E), Thane - 421501.

+91-0251-2620096

Chennai Factory:
(Unit II)
First Floor, 309/A, Fourth street,
DHARMAM, Nethaji Nagar,
Allappakkam Main Road, Maduravoyal,
Chennai, Tamil Nadu - 600095.

Mangaon Factory:
(Unit III)
Plot No.C-36/2,
Vile Bhagad MIDC Industrial Area,
Mangaon - 402308.

www.miraclecables.com