

TECHNICAL CATALOGUE

world famous KEMA-KEUR, BASEC and DNV-GL certified only cable company in BANGLADESH

P A R A D I S E C A B L E S



International Certification

PCR includes requirements for Environmental issues directly relating to the Product and Manufacturing processes as well as limited Health & Safety issues directly relating to the Product and Manufacturing processes.

SITE:
Paradise Cables Ltd
Awal Centre (12th Floor)
34, Kamal Ataturk Avenue
Banani
Dhaka-1213
Bangladesh

SCOPE OF CERTIFICATION
Head Office Activities including:
Corporate Management and Administrative Functions for Sales & Marketing,
Purchasing and Human Resources

Schedule No: PCR-222001 Issue No: 02 Issue date: 23rd February 2011

Agreed for and on behalf of the British Approvals Service for Cables
[Signature] Date: 23 Feb 2011
The Certificate and Schedule remain the property of BASEC, and shall be returned when required.
BSI 121 880 41708 (Page No. 1)

BASEC
BSI

PCR includes requirements for Environmental issues directly relating to the Product and Manufacturing processes as well as limited Health & Safety issues directly relating to the Product and Manufacturing processes.

SITE:
Paradise Cables Ltd
Kutubali
Narayanganj
Bangladesh

SCOPE OF CERTIFICATION
The design, manufacture and supply of the following types of cable:
Armoured and Unarmoured PVC and XLPE
Insulated Low Voltage Electrical Cables and Cords

Schedule No: PCR-222002 Issue No: 02 Issue date: 23rd February 2011

Agreed for and on behalf of the British Approvals Service for Cables
[Signature] Date: 23 Feb 2011
The Certificate and Schedule remain the property of BASEC, and shall be returned when required.
BSI 121 880 41708 (Page No. 1)

BASEC
BSI

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

CERTIFICATE OF CONFORMITY
This is to certify that the
Quality Management System
of
Paradise Cables Ltd
conforms to the requirements of
BASEC Product Certification Requirements
including Clause 2.6 (Formerly BS 2250:1996 Parts 1 & 2)
'Enhanced Quality Management Systems For Product Related Functions'
in respect of the sites specified in the attached schedule(s).

Schedule ref:-
PCR-222001
PCR-222002

Certificate No: PCR-222 Date of Issue: 23rd February 2011
Date of original certification: 9th April 2010 Expiry Date: 9th April 2013

This certificate is issued subject to and in accordance with BASEC Regulations and continued compliance
includes requirements for Environmental issues directly relating to the Product and Manufacturing processes as
well as limited Health & Safety issues directly relating to the Product and Manufacturing processes.
Agreed for and on behalf of the British Approvals Service for Cables
[Signature] Date: 23 Feb 2011
The Certificate and Schedule remain the property of BASEC, and shall be returned when required.
BSI 121 880 41708 (Page No. 1)

BASEC
BSI

Certificate of Registration

MOODY
INTERNATIONAL

This is to certify that the
Quality Management System of:
PARADISE CABLES LIMITED
AWAL CENTRE (12TH FLOOR), 34, KAMAL ATATURK AVENUE, BANANI,
DHAKA - BANGLADESH
has been assessed and found compliant with the requirements of
ISO 9001:2008
Approval is hereby granted for registration providing the
Certification rules and conditions are observed at all times.

Certification Scope:
MANUFACTURER OF PVC & XLPE ELECTRICAL CABLES & CONDUCTORS.

Certificate No: 04-B-08-QMS 0115
Original Issue Date: October 30, 2008
Issue Date: December 15, 2011
Expiry Date: October 26, 2014

Authorized Signature
[Signature]
Moody International Certification Ltd.
www.moodyint.com

The use of the Accreditation Mark indicates accreditation in respect of those activities covered by the Accreditation Certificate 0115.
The certificate remains the property of Moody International Certification Limited to whom it must be returned on request.

DEKRA

CERTIFICATE

Issued to:
Applicant:
Paradise Cables Limited
Awal Center 12-13 F
34 Kamal Ataturk Avenue, Banani CA
1213 Dhaka
Bangladesh

Manufacturer/Company:
Paradise Cables Limited
Awal Center 12-13 F
34 Kamal Ataturk Avenue, Banani CA
1213 Dhaka
Bangladesh

Product:
Trade name:
Type:
Power cables for fixed wiring with XLPE insulation, armoured and PVC sheath
CULXPEPVC/ARWPC
CULXPEPVC/ARWPC

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.
DEKRA hereby declares that the above mentioned product has been certified on the basis of:
- a type test according to the standard IEC 60502-1:2004
- an inspection of the production location according to CENELEC Operational Document ODI 021
- a certification agreement with the number 2140149

DEKRA hereby grants the right to use the KEMA-KEUR certification mark.

The KEMA-KEUR certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR certification agreement and under the conditions of the KEMA-KEUR BS certification agreement.

This certificate is issued on: 13 February 2012 and expires upon withdrawal of one of the above mentioned standards.
Certificate number: 2140149.01

DEKRA Certification B.V.
[Signature] *[Signature]*

DEKRA

CERTIFICATE

Issued to:
Applicant:
Paradise Cables Limited
Awal Center 12-13 F
34 Kamal Ataturk Avenue, Banani CA
1213 Dhaka
Bangladesh

Manufacturer/Company:
Paradise Cables Limited
Awal Center 12-13 F
34 Kamal Ataturk Avenue, Banani CA
1213 Dhaka
Bangladesh

Product:
Trade name:
Type:
Power cables for fixed wiring with XLPE insulation, armoured and PVC sheath
CULXPEPVC/ARWPC
CULXPEPVC/ARWPC

The product and any acceptable variation thereto is specified in the Annex to this certificate and the documents therein referred to.
DEKRA hereby declares that the above mentioned product has been certified on the basis of:
- a type test according to the standard BS 5467:1997 + A3:2006
- an inspection of the production location according to CENELEC Operational Document ODI 021
- a certification agreement with the number 2140149

DEKRA hereby grants the right to use the KEMA-KEUR BS certification mark.

The KEMA-KEUR BS certification mark may be applied to the product as specified in this certificate for the duration of the KEMA-KEUR BS certification agreement and under the conditions of the KEMA-KEUR BS certification agreement.

This certificate is issued on: 13 February 2012 and expires upon withdrawal of one of the above mentioned standards.
Certificate number: 2140149.02

DEKRA Certification B.V.
[Signature] *[Signature]*

Technical Catalogue



Technical Catalogue

Paradise Cables Limited



View of Factory



From the desk of Chairman



The Paradise group started its business with textile and trading. Soon its journey through Paradise Metallurgical Complex Ltd. In 1989 and later it diversified into wire and cable manufacturing and it has marked its footprint in the diversified business unit covering Electronics, Real Estate, Spinning, Telecom, Garments, Merchandising etc.

Now Paradise Cables Limited as the name implies, is dedicated to manufacturing of electrical (Copper/Aluminum) cables of both PVC and XLPE insulated as well as aluminum conductors and explore a new horizon by exporting it throughout the world. It came into being by launching its products in 1989. By now, it has emerged as a prestigious and top ranking cable manufacturing Industry of Bangladesh. It is a professionally managed organization coupled with latest technologies for cable production.

Simultaneously contributing the national economy, we are also playing a significant role by providing a huge no. of approx. 4000 employment throughout its different factories and other concern of the group. The group has a yearly turnover, approximately USD 150 million.

It is worth mentioning that to keep pace with the growing global challenge; BMRE (Blancing, Modernization, Rehabilitation and Expansion) is ongoing phenomenon of this organization. We are proud to mention that our organization is the only cable Industry in Bangladesh which has successfully achieve the prestigious **BASEC** (British Approvals Service for Cables) QMS and product Certification License, moreover, **KEMA-KEUR**, Netherlands (A Testing and Certification body of Electrical Engineering Products) for product Quality Certificate and **DNV-GL**, Germany accreditation of XLPE Shipboard indicates our product's standard & quality.

This glorious achievement has paved the way to expand our export Market in almost all the countries of the world. We have also started marketing our products in Middle East and UK through our own sales outlet in Dubai. A scheme to expand our market in Canada and USA is in the final stage. We are enlisted Supplier of GE Energy, USA a top leader in power Generation arena across the world. Paradise Cables Limited recognizes the importance of corporate social responsibility (CSR) and demonstrates it by keeping a balance between economic, social and environmental responsibilities in order to meet the expectation of stakeholders. Paradise Cables Ltd tries its best to include the rudiments of CSR into its business operation by ensuring good governance, local community engagement and reducing its carbon footprint.

Paradise Cables follows the system of adaptability as a necessary feature of manufacturing system, as we consider adaptability in the context of factory planning, where it is an objective to develop modular adaptable system. For us, being a manufacturing organization it is an important consideration.



Md. Mosharraf Hossain
Chairman





Company Profile

Paradise Cables Limited as the name implies, is dedicated to manufacturing of electrical (copper/aluminium) cables of both PVC and XLPE insulated as well as aluminium conductors. It came into being by launching its products in 1989. By now, it has emerged as a prestigious and top ranking cable manufacturing industry of Bangladesh. It is a professionally managed organization coupled with latest technologies for cable production.

Our product mix is huge and the product ranges from house wiring cables up to and including medium voltage cables of 36KV and Aluminium Conductors up to 132KV. We also produce all types of Telecommunication, Electronic and Instrumentation Cables. Paradise Cables Ltd. is the pioneer of CCV (Catenary curing and Vulcanizing) with on-line Nitrogen dry curing plant in Bangladesh. We follow the standards like IEC, ASTM, BS, VDE, BDS etc. for our products. We use electrolytically refined oxygen free cathode copper of 99.99% purity ensuring the quality of cables as international standard. In addition, there exists a modern computerized laboratory equipped with latest equipment of USA and German origin to determine the electrical, mechanical, physical and chemical properties of the materials and the products. By virtue of consistent quality of products and implementation of quality management system, our company has earned the name and fame throughout Bangladesh and even beyond. Our product demand is continuously increasing considerably.

It is worth mentioning that to keep pace with the growing global challenge; **BMRE (Balancing, Modernization, Rehabilitation and Expansion)** is ongoing phenomenon of this organization. We are proud to mention that our organization is the only cable industry in Bangladesh which has successfully achieved the prestigious **BASEC (British Approvals Service for Cables)** QMS and Product Certification License. Moreover, we have successfully received Product Quality Certificate of **KEMA-KEUR (A testing and certification body of Electrical Engineering Products)** a globally renowned accreditation body of Netherland. This glorious achievement has paved the way to expand our Export Market in almost all the countries of the World. We have also started marketing our products in **Middle East and UK** through our own sales outlet in Dubai. A scheme to expand our market in Canada and USA is in the final stage. We are enlisted Supplier of **GE Energy, USA**, a top leader in Power Generation arena across the world.

DNV GL, Germany accreditation of our XLPE Ship Board cables is our unique achievement in 2014. It has strengthened our organization to cater to the requirement of export- oriented ship Building sector of Bangladesh.

Further, based on strength of **BASEC's** QMS certificate we have got the access to export our products to 24 countries including UK, USA, Australia, South Africa, UAE, China and India.

Above all, we express our firm commitment to provide quality cables to the customers at large and earn their ultimate satisfaction.





Paradise Cables Limited
SBS Cables Limited
Paradise Spinning Mills Limited
Paradise Fashions (Pvt) Limited
Paradise Hi-Design Limited
Paradise Properties Limited
Paradise Dresses Limited
Paradise Metallurgical Complex Limited
Paradise Telecom Limited
Saleha Wires Limited
Paradise Electric & Electronics Industries Ltd.





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PRODUCTS AT A GLANCE

- H.T XLPE power Cables (3.3KV to 33KV)
- L.T XLPE/PVC Power Cables (up to & including 1 kv)
- XLPE/PVC Control Cables (up to & including 1 KV)
- XLPE/PVC Multi pair & Triad /Individual/Overall Shielded and armoured/unarmoured Instrument Cables
- XLPE Arial Bunch Cables / Installation Cables.
- Domestic Cables- Single core Insulated (BYA) Cables
- Domestic Cables-Single core Insulated and sheathed (BYM) Cables
- Domestic Cables-Flexible Cords
- Service Flat 2C/3C Cables
- Service Flat 2C/3C and earth cables
- PVC/PVC Multi-core Heavy Duty Flexible Cables
- PVC Twisted Jumper Wires
- PVC Insulated Telephone Cable for Installation within Buildings
- PE Insulated Co-Axial Cables
- PE/PE Unfilled Subscriber Cables
- Hook up and Jumper Wires
- Heat Resistant (HR) Cables
- FRLS/FR Cables [Fire Resistant Low Smoke]
- All aluminum Conductors (AAC)
- All aluminum Insulated Conductors (AAIC)
- Aluminum Conductor Steel Reinforced (ACSR)
- Hard Drawn Bare Copper Conductors (HDBC)
- Medium Hard Drawn XLPE Insulated Copper Conductors
- XLPE Service Drop Duplex/Quadruplex Cables
- Fire Alarm Signaling Circuit cables
- Concentric Conductor XLPE/PVC Insulated Frequency Conversion cables
- Flexible Connection & Control cables
- Flexible screened Control cables
- PE Insulated Low Capacitance Telephone/Data cables
- Submersible Pump Cables
- Local Area Network Cable - LAN
- Computer Cables - CC
- Data Transmission Cables - DTC
- Industrial Electronic Cables - IEC
- Low capacitance Instrumentation Cables - LCIC
- Fire survival cable
- Special flexible flat cable



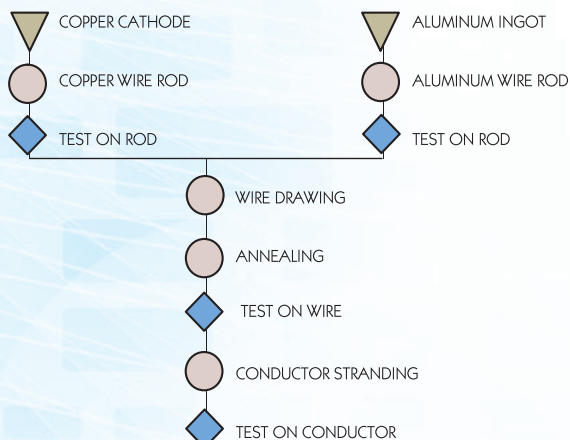


FLOW CHART FOR MANUFACTURING OF CABLES

L.T. PVC CABLES AS PER IEC: 60502(1)/VDE:271/BS:6346
 L.T. XLPE CABLES AS PER IEC: 60502(1)/VDE:272/BS:5467
 H.T XLPE CABLES UPTO 33 KV AS PER IEC-60502(2)

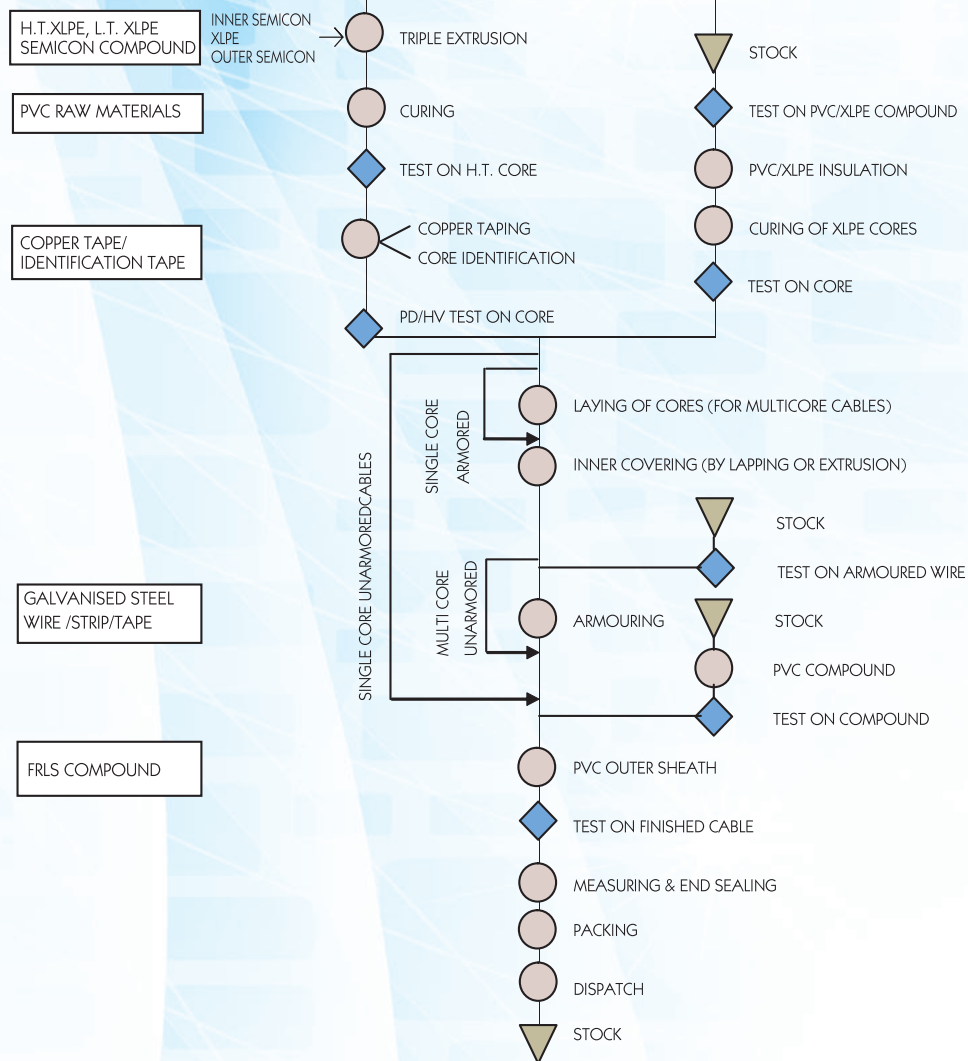
RAW MATERIAL

COPPER CATHODE/
ALUMINIUM INGOT



H.T. CABLES

L.T. PVC/XLPE/PE CABLES





DESIGNATION CODE FOR CABLES

Voltage Code Designation:

- U_0 = Rated Power frequency Voltage between conductor and earth/screen
- U = Rated power frequency Voltage between conductors
- U_m = Maximum permissible Operating Voltage
- U_0/U = Rated Voltage(Nominal)
- $U_0/U (U_m)$ = 0.6 / 1 (1.2) KV
- = 3.6 / 6 (7.2) KV
- = 6 / 10 (12) KV
- = 12 / 20 (24) KV
- = 18 / 30 (36) KV

Material Code Designation:

- - = Copper conductor
- A = Aluminum Conductor
- 2X = XLPE (cross linked polyethylene)Insulation
- Y = PVC (Polyvinyl chloride)
- 2Y = PE (Polyethylene)
- H = Non-metallic Semi-conducting screen over conductor & over insulation
- SE = Non-metallic Semi-conducting screen over conductor & over insulation and Copper screen around each individual core for three core cables
- C = Concentric conductor of copper over laid up cable
- CE = Concentric conductor of copper over each individual core
- S = Screen of copper wires over laid up cable
- R = Galvanized Round Steel wire armor
- F = Galvanized Flat Steel wire armor
- B = Galvanized Steel Tape armor
- G = Counter helix galvanized steel tape binder over Armor
- Ra = Non Magnetic Round Aluminum wire Armor
- Fa = Non Magnetic Flat aluminum wire Armor
- Ba = Non Magnetic Flat Aluminum Tape Armor



OPERATING CHARACTERISTICS

The construction data and current rating of cables are shown in tables are based on standard conditions of installations as provided below

BASIC DATA:

1. Max. Conductor Temperature : 70°C for PVC 90°C for XLPE
2. Max. Conductor Temperature during short Circuit : 160°C for PVC 250°C for XLPE
3. Thermal Resistivity of dielectric cm/W : 650°C for PVC 350°C for XLPE
4. Thermal Resistivity of soil (moist area) cm/W : 100°C
5. Ground Temperature : 30°C
6. Ambient Air Temperature : 35°C
7. Duration of Short circuit : 1 second
8. Depth of laying in the Ground
 - 700 mm : LT Cables Up to 1.2 KV
 - 900 mm : 3.3 KV to 12KV
 - 1050 mm : 5 KV to 36KV

9. Installation of Cables

- Single Core cables installed in Trefoil formation or Flat Formation
- Multi core cables installed in single

10. Recommended Minimum Bending Radius

- Upto 1.2KV for smaller (>20mm) single and Multi core cables: [8 - 10] X D
- Upto 1.2KV For Larger Multi core cables : 12 X D
- Upto 1.2KV For Larger Single core Cables : 15 X D
- 3.3 KV Upto 12KV For Single and Multicore cables : 15 X D
- Above 12 KV upto 36KV for Multicore Cables : 18 X D
- Above 12 KV upto 36KV for single core Cables : 20 X D





Low Voltage Cables





View of Skin Layer Nylon Extrusion Line



View of Double Twist Machine





LOW VOLTAGE CABLES - CONSTRUCTION

Low voltage cables are manufactured with PVC, PE and XLPE insulations for various applications within voltage range from 300V to 1000V category.

APPLICATIONS:

Extensively used for power distribution, control, instrumentation, communication, signaling and data transmission applications

PVC, as insulation and sheath compounds, has the following superior features:

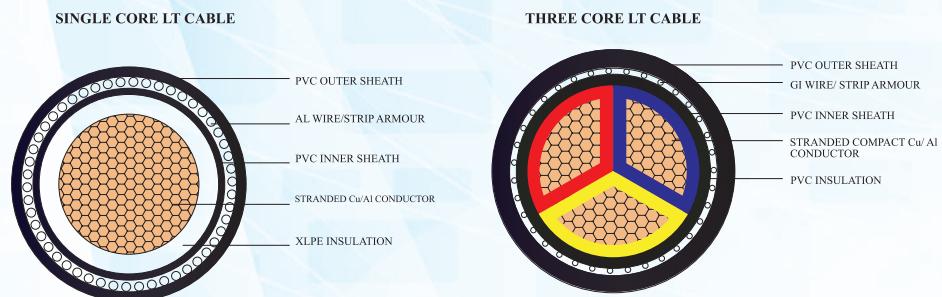
- Strong and made for easy processing
- Resistant to water, moisture, oils and chemicals
- PVC black compounds can resist ultraviolet degradation
- Specially formulated PVC is flame retardant and reduces emission of halogens and smoke.

PE, as insulation, has the following superior features:

- Good for low distortion and high speed data transmission
- Used for precision audio, pulse or R.F. signal transmission
- Good for all modern electronic equipments where high speed data processing is required
- Low capacitance, with high speed signal processing in computers, Telephone etc.

XLPE, as insulation has the following superior features:

- Low dielectric loss
- Higher temperature rating and higher emergency overload rating
- High continuous current rating
- Superior short circuit rating
- Much better insulation resistance
- Higher resistance to moisture
- Resistant to chemicals and corrosive gases
- Exhibits better properties, such as resistance to vibration, impact, ageing and hot deformation
- Termination and jointing methods are easy, as compared to other cables



CONDUCTORS

The conductor is made either of Copper or Aluminum as per the requirement by following standard specifications. While designing, flexibility and compactness are carefully worked out by choice of wires, drawn bright and smooth. Under strict supervision, stranding and compacting is carried out by skilled operators to bring out a smooth surface so as to ensure minimum stress development on the surface of the conductor.

INSULATION

High quality PVC base compound is used for voltages up to 1.2 KV PVC cables, high quality unfilled PE compound is used for processing of low voltage (up to 500V), data processing and communication cables and high quality Cross Linked Polyethylene unfilled compound is used for low voltage and High voltage cables also.





LOW VOLTAGE CABLES - CONSTRUCTION

LAYING UP

In multicore cables, cores are laid up as per the colour scheme and interstices are filled up wherever necessary to make the laid up cable circular.

INNER SHEATH

For all cables having two or more cores and single core armoured cables, a common covering is applied over single core or the laid up cores either by extruded sheath of PVC Compound or wrapping of thermoplastic or proofed tapes.

ARMOURING

For multicore cables, wire armouring is applied over the inner sheath, where the fictitious diameter over the inner sheath does not exceed 15mm. The diameter above this, armouring can be applied by either round steel wires or flat steel wires or double steel tapes. However, non magnetic Aluminum wire armouring is applied over single core cables.

OUTER SHEATH

Extruded over armour	:	in armoured cables
Over Inner sheath	:	in multicore unarmoured cables
Over Insulation	:	in single core cables

It is always kept Black in colour for outdoor exposure. Any other colour can be provided for indoor use. Normally tough outer sheath of Heat resisting PVC compound (Type ST2) is extruded over all the XLPE cables. In special cases when required by the customers, fire resistant (FR) or fire resistant low smoke (FRLS) PVC outer sheath cables are also supplied.

CORE IDENTIFICATION

Cores are identified by the colour scheme of insulation. The following colour scheme is normally adopted for power cables as per IEC specification. Any other colour scheme also can be offered as per other international standards like BS, VDE, etc. on request.

1 Core	:	Red, Yellow, Blue, Brown, Green, Black and Yellow-Green
2 Cores	:	Red and Black
3 Cores	:	Red, Yellow and Blue
4 Cores	:	Red, Yellow, Blue and Black
5 Cores	:	Red, Yellow, Blue, Black and Grey

For cables having more than 5 cores, black or white coloured cores with no. printing will be provided. Communication and data processing cables are having their own colour schemes.

TESTING AND QUALITY ASSURANCE

The various tests carried on Low Voltage cables are classified in three different groups

ROUTINE TESTS

The following tests constitute Routine Tests which are carried out on each and every length of cable as per relevant specification.

- Conductor Resistance Test
- High Voltage Test

TYPE TESTS

These tests are carried out on samples taken from each production lot as per relevant specification. They are carried out to prove conformity as regards the general qualities and design to the of particular type of cables

ACCEPTANCE TESTS

These tests are carried out as per relevant specification in the presence of the concerned Inspecting Authority for Testing, Approval and Release of material offered for inspection.





PVC INSULATED, SINGLE CORE NON-SHEATHED GENERAL PURPOSE CABLES

Solid conductor: (Class-1) : H07V-U

Stranded conductor: (Class-2) : H07V-R

Flexible conductors: (Class-5) : H07V-K

BDS 900 - BS 6004:2004

BYA VOLTAGE GRADE: 450/750V

Temp. Range: -20°C to +70°C

APPLICATION: Used for fixed installation for the purpose of lighting in residential and commercial buildings, inside appliances, switchgear and control gear.

CONSTRUCTION: Annealed copper/Aluminum conductor as per IEC - 228, (of class-1 solid; class-2 stranded, class-5 flexible) and PVC insulated as per BS-6746 and Colour coded.



Nominal area of Conductor	Class of conductor	Insulation thickness	Approx. O.D	Approx. Wt. of cable		Enclosed in conduit @ 35°C		Clipped to a surface or on a open cable tray@ 35°C	
				Cu kg/km	AL kg/km	Cu amps	AL amps	Cu amps	AL amps
mm ²		mm	mm						
1.0	1	0.7	2.60	15	-	13	-	16	-
1.0	2	0.7	2.8	16.5	-	13	-	17	-
1.3	2	0.7	3.05	19.7	12	15	10	19	12
1.5	1	0.7	2.90	20	13	16	-	20	-
1.5	2	0.7	3.00	21	13	16	11	20	13
1.5	5	0.7	3.00	20	-	16	-	20	-
2.0	2	0.8	3.40	29	17	20	13	25	15
2.5	1	0.8	3.50	31	-	22	15	28	-
2.5	2	0.8	3.65	33	18.5	22	15	28	18
2.5	5	0.8	3.65	33	-	22	-	28	-
3.0	2	0.8	3.65	38	20	26	17	31	20
4	2	0.8	4.20	49	25	30	20	37	24
4	5	0.8	4.20	49	-	30	-	37	-
4.5	2	0.8	3.60	54	27	32	21	39	25
6	2	0.8	4.75	70	33	38	25	47	31
6	5	0.8	4.80	70	-	38	-	46	-
7	2	1	5.40	82	41	42	27	51	33
10	2	1	6.10	113	57	52	34	63	41
10	5	1	6.20	114	-	51	-	62	-
14.5	2	1	6.90	168	73	65	40	79	50
16	2	1	6.90	175	80	70	45	85	55
16	5	1	7.10	175	-	70	-	85	-
25	2	1.2	8.50	281	136	91	60	110	72
25	5	1.2	8.80	279	-	90	-	110	-
35	2	1.2	9.7	379	173	112	73	136	88
35	5	1.2	10.00	374	-	112	-	136	-
50	2	1.4	11.1	509	245	145	80	165	95
50	5	1.4	11.90	510	-	145	-	164	-
70	2	1.4	12.8	717	325	190	104	210	118
70	5	1.4	13.80	715	-	190	-	210	-
95	2	1.6	15.00	990	425	224	142	260	155
95	5	1.6	15.8	986	-	224	-	260	-
120	2	1.6	16.5	1217	545	250	154	305	168
120	5	1.6	17.5	1209	-	250	-	305	-
150	2	1.8	18.3	1510	660	290	196	330	211
150	5	1.8	19.6	1503	-	290	-	330	-
185	2	2	20.4	1882	815	340	228	375	241
185	5	2	21.8	1875	-	340	-	375	-
240	2	2.2	23.00	2443	1020	435	260	450	272
240	5	2.2	24.6	2432	-	435	-	450	-
300	2	2.4	25.80	3046	1300	525	295	603	312
400	2	2.6	29.00	4052	1710	635	382	660	408
500	2	2.8	32.10	5048	2095	760	458	795	480
630	2	2.8	35.70	6363	2540	855	522	895	550





PVC INSULATED, SINGLE CORE PVC SHEATHED GENERAL PURPOSE CABLES

Solid conductor : (Class-1) : H07V-U
 Stranded conductor : (Class-2) : H07V-R **BYM**
 Flexible conductor : (Class-5) : H07V-K

BS 6004:2004/BDS-900
 VOLTAGE GRADE: 450/750V
 Temp. Range: -20°C to +70°C

APPLICATION: Used for fixed installation for the purpose of lighting in residential and commercial buildings, inside appliances, switchgear and control gear.

CONSTRUCTION: Annealed copper/Aluminium conductor as per IEC-228, (of class-1 solid; class-2 stranded, class-5 flexible) and PVC insulated as per BS-6746, Colour coded and PVC sheathed.



Nominal area of Conductor	Class of Conductor	Insulation thickness	sheath thickness	Approx. O.D.	Approx. Weight of Cable		Enclosed in conduit @ 35°C		Clipped to a surface or on a cable tray @ 35°C	
					Cu	AL	Cu	AL	Cu	AL
mm ²		mm	mm	mm	kg/km	kg/km	amps	amps	amps	amps
1.0	1	0.6	0.8	3.93	25	—	13	—	16	—
1.3	2	0.7	0.8	4.60	34	26	15	10	19	12
1.5	1	0.7	0.8	4.38	32	—	16	—	20	—
1.5	2	0.7	0.8	4.73	33	27	16	11	20	13
1.5	5	0.7	0.8	4.50	33	—	16	—	20	—
2.0	2	0.7	0.8	4.97	44	32	20	13	25	15
2.5	1	0.8	0.8	4.98	45	—	22	—	28	—
2.5	2	0.8	0.8	5.45	46	36	22	15	28	18
2.5	5	0.8	0.8	5.21	46	—	22	—	28	—
3.0	2	0.8	0.8	5.42	60	41	26	17	31	20
4.0	2	0.8	0.9	5.95	73	48	30	20	37	24
4.5	2	0.8	0.9	6.13	81	52	32	21	39	25
6.0	2	0.8	0.9	6.52	96	59	38	25	47	31
7.0	2	0.8	0.9	6.76	107	64	42	27	51	33
10	2	1.0	0.9	7.85	147	84	52	34	63	41
14.5	2	1.0	1.0	8.89	206	113	65	40	79	50
16	2	1.0	1.0	9.10	218	117	70	45	85	55
25	2	1.2	1.1	11.02	328	169	91	60	110	72
35	2	1.2	1.1	12.25	432	211	112	73	136	88

PVC INSULATED, TWO CORE PVC SHEATHED GENERAL PURPOSE CABLE

Solid conductor : (Class-1) : H07V-U
 Stranded conductor : (Class-2) : H07V-R **BYM**
 Temp. Range : -20°C to +70°C

BS 6004:2004/BDS-900
 VOLTAGE GRADE: 450/750V

APPLICATION: Used for fixed installation for the purpose of lighting in residential and commercial buildings, inside appliances, switchgear and control gear.

CONSTRUCTION: Annealed copper/Aluminium conductor as per IEC-228, (of class-1 solid; class-2 stranded) and PVC insulated as per BS-6746, Colour coded and PVC sheathed.



Nominal area of Conductor	Class of Conductor	Insulation thickness	sheath thickness	Approx. O.D.	Approx. Weight of Cable		Enclosed in conduit @ 35°C		Clipped to a surface or on a cable tray @ 35°C	
					Cu	AL	Cu	AL	Cu	AL
mm ²		mm	mm	mm	kg/km	kg/km	amps	amps	amps	amps
1.0	1	0.6	1.2	8.06	93	—	13	—	15	—
1.5	1	0.7	1.2	8.96	119	—	16	—	18	—
1.5	2	0.7	1.2	9.66	121	100	16	11	18	13
2.5	1	0.8	1.2	10.16	165	—	22	—	26	—
2.5	2	0.8	1.2	11.09	167	134	22	16	26	18
4.0	2	0.8	1.2	11.70	228	178	30	21	33	23
6.0	2	0.8	1.2	12.84	294	219	37	26	43	30
10	2	1.0	1.4	15.90	485	359	50	35	60	42
16	2	1.0	1.4	18.00	673	471	66	43	80	52
25	2	1.2	1.4	21.44	1004	685	75	49	88	57
35	2	1.2	1.6	24.30	1347	906	92	60	108	70





PVC INSULATED, THREE CORE PVC SHEATHED GENERAL PURPOSE CABLES

Solid conductor : (Class-1) : H07V-U BS 6004:2004/BDS-900
 Stranded conductor : (Class-2) : H07V-R **BYM** VOLTAGE GRADE: 450/750V
 Temp. Range: -20°C to +70°C

APPLICATION: Used for fixed installation for the purpose of lighting in residential and commercial buildings, inside appliances, switchgear and control gear.

CONSTRUCTION: Annealed copper/Aluminium conductor as per IEC-228, (of class-1 solid; class-2 stranded) and PVC insulated as per BS-6746, Colour coded and PVC sheathed.



Nominal area of Conductor	Class of Conductor	Insulation thickness	sheath thickness	Approx. O.D.	Approx. Weight of Cable		Enclosed in conduit @ 35°C		Clipped to a surface or on a cable tray @ 35°C	
					Cu kg/km	AL kg/km	Cu amps	AL amps	Cu amps	AL amps
1.0	1	0.6	1.2	8.43	106	—	11	—	12	—
1.5	1	0.7	1.2	9.40	139	—	15	—	16	—
1.5	2	0.7	1.2	10.16	142	111	15	10	16	11
2.5	1	0.8	1.2	10.70	195	—	20	—	22	—
2.5	2	0.8	1.2	11.70	198	149	20	14	22	15
4.0	2	0.8	1.2	12.36	268	193	27	19	30	21
6.0	2	0.8	1.4	13.99	386	273	33	23	37	26
10	2	1.0	1.4	16.87	590	400	46	32	51	36
16	2	1.0	1.4	19.14	856	553	58	38	67	44
25	2	1.2	1.6	23.25	1272	794	66	43	77	50
35	2	1.2	1.6	25.91	1685	1023	81	53	90	59

PVC INSULATED, FOUR CORE PVC SHEATHED GENERAL PURPOSE CABLE

Solid conductor : (Class-1): H07V-U BS 6004:2004/BDS-900
 Stranded conductor : (Class-2): H07V-R **BYM** VOLTAGE GRADE: 450/750V
 Temp. Range: -20°C to +70°C

APPLICATION: Used for fixed installation for the purpose of lighting in residential and commercial buildings, inside appliances, switchgear and control gear.

CONSTRUCTION: Annealed copper/Aluminium conductor as per IEC-228, (of class-1 solid; class-2 stranded) and PVC insulated as per BS-6746, Colour coded and PVC sheathed.



Nominal area of Conductor	Class of Conductor	Insulation thickness	sheath thickness	Approx. O.D.	Approx. Weight of Cable		Enclosed in conduit @ 35°C		Clipped to a surface or on a cable tray @ 35°C	
					Cu kg/km	AL kg/km	Cu amps	AL amps	Cu amps	AL amps
1.0	1	0.6	1.2	9.04	124	—	11	—	12	—
1.5	1	0.7	1.2	10.13	164	—	15	—	16	—
1.5	2	0.7	1.2	10.97	168	127	15	10	16	11
2.5	1	0.8	1.2	11.58	224	—	20	—	22	—
2.5	2	0.8	1.2	12.71	228	161	20	14	22	15
4.0	2	0.8	1.4	13.84	342	241	27	19	30	21
6.0	2	0.8	1.4	15.22	464	314	33	23	37	26
10	2	1.0	1.4	18.44	719	466	46	32	51	36
16	2	1.0	1.4	20.98	1051	647	58	38	67	44
25	2	1.2	1.6	25.54	1600	963	66	43	77	50
35	2	1.2	1.6	28.52	2085	1202	81	53	90	59





PVC INSULATED, PVC SHEATHED - SINGLE CORE, FLAT TWIN AND FLAT THREE CORE CABLES

BS - 6004:2004

BYFY

BDS-900

IEC: 227-03

APPLICATION: These cables are used in dry or damp locations for fixed installation. Can be used for fixing over walls, installation on boards and embedded in plaster.

CONSTRUCTION: Plain annealed copper conductor (as per class 2 of IEC-228), PVC insulated, two or three cores laid parallel and PVC sheathed (as per BS-6746), normally in GREY colour.

TECHNICAL DATA: Temperature range : -15°C to 70°C.
Voltage Grade : 300/500 volts. R.M.S.
Colour code : Twin core : Red & Black.
Three cores : Red, Yellow (centre) and Blue.



Sl. No.	Nominal area of conductor	Class of conductor	Insulation thickness	Sheath thickness	Approx. size	Approx. Weight	Current rating
	mm ²		mm	mm	mm	Kg/km	amps
1	1X1.0	1	0.6	0.8	4.10	27	16
2	1X1.5	1	0.7	0.8	4.55	35	20
3	1X1.5	2	0.7	0.8	4.70	37	21
4	1X2.5	1	0.8	0.8	5.20	50	25
5	1X2.5	2	0.8	0.8	5.40	52	26
6	1X4	2	0.8	0.9	6.15	74	36
7	1X6	2	0.8	0.9	6.70	97	45
8	1X10	2	1.0	0.9	8.10	150	61
9	1X16	2	1.0	1.0	9.3	219	82
10	1X25	2	1.2	1.1	11.20	331	107
11	1X35	2	1.2	1.1	11.9	425	133
12	2x1.0	1	0.6	0.9	6.7x4.25	56	15
13	2x1.5	1	0.7	0.9	7.6x4.75	75	19
14	2x1.5	2	0.7	0.9	7.9x4.9	79	20
15	2x 2.5	1	0.8	1.0	8.8x5.35	106	24
16	2x2.5	2	0.8	1.0	9.1x5.8	114	25
17	2x4	2	0.8	1.0	10.7x6.5	163	34
18	2x6	2	0.8	1.1	11.8x7.0	210	42
19	2x10	2	1.0	1.2	14.7x8.6	334	57
20	2x16	2	1.0	1.3	17.0x9.8	483	77
21	3x1.0	1	0.6	0.9	8.95x4.25	42	15
22	3x1.5	1	0.7	0.9	10.45x4.75	106	19
23	3x1.5	2	0.7	0.9	10.9x4.9	111	20
24	3x2.5	1	0.8	1.0	12.4x5.25	151	23
25	3x2.5	2	0.8	1.0	12.8x5.8	164	24
26	3x4	2	0.8	1.1	14.9x6.5	230	34
27	3x6	2	0.8	1.1	16.5x7.0	303	42
28	3x10	2	1.0	1.2	20.8x8.6	485	57
29	3x16	2	1.0	1.3	24.15x9.8	705	77





PVC INSULATED, PVC SHEATHED WITH CIRCUIT PROTECTIVE CONDUCTOR (CPC), 300/500V, SINGLE CORE, FLAT TWIN AND 3-CORE CABLES

BS-6004:2004

BYFYE

BDS-900

IEC-227-03

APPLICATION: These cables are used in dry or damp locations for fixed installation. Can be used for installation in walls, on boards or embedded in plaster.

CONSTRUCTION: Plain annealed copper conductor as per IEC-228, PVC insulated, two or three cores laid parallel and PVC sheathed as per BS-6746, normally in GREY colour.

TECHNICAL DATA : Temperature range: -15°C to 70°C.
: Voltage Grade : 300 / 500V R.M.S.
Colour code: Twin core : Brown & Blue, with centrally placed protective conductor.
Three cores : brown, black & grey, with CPC between Black and Grey.



Nominal area of conductor	Class of conductor	Thickness of insulation	Thickness of sheath	Overall dimension	Circuit protective conductor	Approx. Weight	Current Rating
mm ²		mm	mm	mm	mm ²	Kg/km	amps
1X1.0	1	0.6	0.9	5.50x4.35	1.0	50	16
1X1.5	1	0.7	0.9	5.90x4.75	1.0	59	20
1X1.5	2	0.7	0.9	6.10x4.95	1.0	62	21
2X1.0	1	0.6	0.9	7.85x4.30	1.0	71	16
2X1.5	1	0.7	0.9	8.85x4.85	1.0	92	20
2X1.5	2	0.7	0.9	9.10x4.90	1.0	95	21
2X2.5	1	0.8	1.0	10.40x5.50	1.5	132	24
2X2.5	2	0.8	1.0	10.85x5.80	1.5	140	25
2X4	2	0.8	1.0	11.85x6.25	1.5	178	34
2X6	2	0.8	1.1	13.70x7.10	2.5	249	42
2X10	2	1.0	1.2	17.30x8.65	4*	396	57
2X16	2	1.0	1.3	20.20x9.90	6*	576	77
3X1.0	1	0.6	0.9	10.20x4.30	1.0	94	16
3X1.5	1	0.7	0.9	11.55x4.75	1.0	121	20
3X2.5	1	0.8	1.0	13.60x5.50	1.0	172	24
3X4	2	0.8	1.1	16.45x6.55	1.5	257	34
3X6	2	0.8	1.1	18.50x7.10	2.5	345	42
3X10	2	1.0	1.2	23.55x8.65	4*	551	57
3X16	2	1.0	1.3	27.40x9.90	6*	795	77

NOTE = *Indicates use class 2 construction only.





PVC INSULATED, NON-SHEATHED SINGLE CORE AND TWISTED TWIN CABLE FOR INTERNAL WIRING

BS 6004:2000

BDS-900

IEC-227-03

Solid Conductor : H05V-U

Stranded conductor : H05V-R

Flexible conductor : H05V-K

APPLICATION: For Internal wiring in domestic application

CONSTRUCTION: Annealed copper conductor (solid, stranded and flexible) PVC insulated, colour coded.

TECHNICAL DATA: Voltage Rating : 300/500V
 Temperature Rating : -15°C to +70°C
 Colour code : Green/Yellow, blue or any other colour.



No. of Cores	Nom. Area of conductor	Class of conductor	Thickness of insulation	Over all diameter	Approx. Weight of the Cable	Current Rating	
						Single Phase	Three Phase
No.	mm ²		mm	mm	Kg/km	amps	amps
Single core	0.5	1	0.6	2.10	8.70	4	4
	0.75	1	0.6	2.30	11.60	9	8
	1.0	1	0.6	2.45	14.30	17	16
	0.5	2	0.6	2.20	9.20	4	4
	0.75	2	0.6	2.40	12.20	9	8
	1.0	2	0.6	2.60	15.20	17	16
	0.5	5	0.6	2.25	9.50	4	4
	0.75	5	0.6	2.45	12.50	8	8
	1.0	5	0.6	2.65	15.60	17	16
Twisted Twin	0.5	5	0.6	4.5x2.25	17.4	3	3
	0.75	5	0.6	4.9x2.45	25.0	7	7
	1.0	5	0.6	5.3x2.65	31.2	16	15





FLEXIBLE PVC CABLES

Parallel Cords: H05VVH2-F
Circular Cords: H05VV-F

BDS 900 - BS-6500 & VDE-0250
NYMHY

BDS-IEC 227-2002

APPLICATION: These cables are useful for medium duties in domestic premises, Kitchens, offices. Can be used for connecting washing machines, refrigerators, cooking and heating appliances etc.,

CONSTRUCTION: Annealed flexible copper stranded conductor (as per class 5 of IEC 228), PVC insulated, colour coded, cores twisted and PVC outer sheathed (as per BS 6746), normally round cables in white colour and flat cables in Grey colour.

TECHNICAL DATA: Temperature range: -15°C to +70°C

Working voltage : 300/500 volts R.M.S.

Core identification : Two core : Blue & Brown

Three cores : Green/Yellow, Blue & Brown

Four cores : Green/yellow, Black, Blue & Brown

Five cores : Green/Yellow, Black, Blue, Brown & Grey



Sl. No.	Cores No.	Cable Size	Strands/dia.	Insulation Thickness	Sheath Thickness	Approx. O. D.	Approx. Weight	Current Rating	
								In conduit at 35°C	In open tray at 35°C
	No.	mm ²	No./mm	mm	mm	mm	Kg/km	amps.	amps.
1	2C	0.5	16/0.2	0.6	0.8	6.1	50	3	4
2	2C (Flat)	0.5	16/0.2	0.6	0.8	6.2x3.9	43	3	4
3	2C	0.75	24/0.2	0.6	0.8	6.5	61	6	7
4	2C (Flat)	0.75	24/0.2	0.6	0.8	6.6x4.1	50	6	7
5	2C	1.0	32/0.2	0.6	0.8	6.8	70	10	11
6	2C (Flat)	1.0	32/0.2	0.6	0.8	6.9x4.3	59	10	11
7	2C	1.5	30/0.25	0.7	0.8	7.7	91	15	16
8	2C	2.5	50/0.25	0.8	1.0	9.3	139	20	21
9	2C	4.0	56/0.3	0.8	1.1	10.5	192	25	26
10	3C	0.5	16/0.2	0.6	0.8	6.5	61	3	4
11	3C	0.75	24/0.2	0.6	0.8	6.9	73	6	7
12	3C	1.0	32/0.2	0.6	0.8	7.2	85	10	11
13	3C	1.5	30/0.25	0.7	0.9	8.4	114	16	16
14	3C	2.5	50/0.25	0.8	1.1	10	175	20	21
15	3C	4.0	56/0.3	0.8	1.2	11.4	244	25	26
16	4C	0.5	16/0.2	0.6	0.8	7.1	73	3	4
17	4C	0.75	24/0.2	0.6	0.8	7.6	91	6	7
18	4C	1.0	32/0.2	0.6	0.9	8.1	106	10	11
19	4C	1.5	30/0.25	0.7	1.0	9.3	142	16	16
20	4C	2.5	50/0.25	0.8	1.1	11.1	211	20	21
21	4C	4.0	56/0.3	0.8	1.2	12.5	297	25	26
22	5C	0.5	16/0.2	0.6	0.9	7.75	88	3	4
23	5C	0.75	24/0.2	0.6	0.9	8.30	112	6	7
24	5C	1.0	32/0.2	0.6	0.9	8.70	131	10	11
25	5C	1.5	30/0.25	0.7	1.1	10.35	181	16	16
26	5C	2.5	50/0.25	0.8	1.2	12.00	268	20	21
27	5C	4.0	56/0.3	0.8	1.4	13.95	383	25	26





HEAVY DUTY FLEXIBLE PVC CABLES

VDE-0281 & 0250

NYMHY

BDS-899

IEC 227-03

APPLICATION: These cables are suitable for all electrical installations in dry or humid locations, under industrial conditions. Applications include machine tool manufacture, power stations, heating and air conditioning installations etc.

CONSTRUCTION: Annealed plain copper as per class-5 of IEC-228, PVC insulated, colour coded, laid-up and PVC outer sheathed as per BS-6746, coloured normally in Black. other sheath colours also can be supplied on request.

TECHNICAL DATA: Temperature range : -15°C to +70°C
 Working Voltage : 450 / 750 V. R.M.S
 Core Identification: Two Cores : Blue & Brown
 three cores : Green/Yellow, Blue, & Brown.
 Four cores : Green/Yellow, Black, Blue & Brown



CoreSize No.xmm ²	Strands/dia. No.xmm	Insulation Thickness mm	Sheath thickness mm	Approx. O.D. mm	Approx. Weight Kg/km	Current Rating in Amps.	
						In Ground @ 30°C amps	In Air @ 35°C amps
2X6	84/0.3	0.8	1.4	12.5	272	46	48
2X10	76/0.4	1.0	1.4	15.2	444	65	66
2X16	122/0.4	1.0	1.8	18.1	617	87	90
2X25	190/0.4	1.2	1.8	21.6	913	118	121
2X35	266/0.4	1.2	1.8	23.8	1166	150	154
2X50	379/0.4	1.4	1.8	27.5	1625	185	190
2X70	343/0.4	1.4	1.9	31.3	2180	231	238
3X6	84/0.3	0.8	1.4	13.3	332	43	45
3X10	76/0.4	1.0	1.4	16.2	529	58	61
3X16	122/0.4	1.0	1.8	19.3	790	78	81
3X25	190/0.4	1.2	1.8	23.0	1176	103	106
3X35	266/0.4	1.2	1.8	25.4	1517	140	145
3X50	379/0.4	1.4	1.8	29.5	2112	171	175
3X70	343/0.4	1.4	1.9	33.5	2835	215	220
4X6	84/0.3	0.8	1.4	14.5	414	43	45
4X10	76/0.4	1.0	1.4	17.8	650	58	61
4X16	122/0.4	1.0	1.8	21.1	974	78	81
4X25	190/0.4	1.2	1.8	25.3	1458	103	106
4X35	266/0.4	1.2	1.8	28.0	1917	140	145
4X50	379/0.4	1.4	1.9	32.7	2681	171	175
4X70	343/0.4	1.4	2.0	35.2	3450	215	220
5X6	84/0.3	0.8	1.4	15.4	486	42	43
5X10	76/0.4	1.0	1.4	18.9	764	56	60
5X16	122/0.4	1.0	1.8	22.5	1155	76	79
5X25	190/0.4	1.2	1.8	27.0	1730	102	104
5X35	266/0.4	1.2	1.9	30.0	2297	138	141
5X50	379/0.4	1.4	2.0	33.2	3070	167	170
5X70	343/0.4	1.4	2.1	37.8	4158	211	215





LIGHT DUTY FLEXIBLE PVC CABLES

BDS 899

BS 6500 & BS 2004(old)

DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated cables

APPLICATION: Used for internal wiring in domestic application (Not to use in 440V circuits)

Voltage grade: 300/300V ;Temp. Range: -15°C to 70°C



I) Type: Flexible single core cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Overall diameter	App. Weight of cable	Current rating at 35°C ambient temp.	
						in metal conduit	In air
mm²	No./mm	No./mm	mm	mm	Kg/km	amps	amps
1x0.40	14/0.193	14/0.0076	0.635	2.2	8.0	2	3
1x0.65	23/0.193	23/0.0076	0.635	2.5	12.2	5	6
1x1.20	40/0.193	40/0.0076	0.635	2.8	17.8	11	13
1x2.00	70/0.193	70/0.0076	0.635	3.3	25	16	18
1x3.00	110/0.193	110/0.0076	0.635	3.6	36	26	28



DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated and twisted cables Not to be use in 440v circuits.

II) Type: Flexible Twisted Twin cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Overall diameter of each core	App. Weight of cable	Current rating at 35°C ambient temp.	
						in metal conduit	In air
mm²	No./mm	No./mm	mm	mm	Kg/km	amps	amps
2x0.40	14/0.193	14/0.0076	0.635	2.2	16	2	3
2x0.65	23/0.193	23/0.0076	0.635	2.5	24.5	5	6
2x1.20	40/0.193	40/0.0076	0.635	2.8	35.6	11	13
2x2.00	70/0.193	70/0.0076	0.635	3.3	50	16	18



DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated and PVC sheathed Flat cables. Not to be use in 440v circuits.

III) Type: Flexible Flat Twin Cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Thickness of sheath	Overall dimension of cable	App. Weight of cable	Current rating at 35°C ambient temp.	
							in metal conduit	In air
mm²	No./mm	No./mm	mm	mm	mm	Kg/km	amps	amps
2x0.40	14/0.193	14/0.0076	0.635	0.8	3.9x6.1	36	2	3
2x0.65	23/0.193	23/0.0076	0.635	0.8	4.0x6.4	45	5	6



DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated, laid up and PVC sheathed round cables. Not to be use in 440v circuits.

III) Type: Flexible Two core Cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Thickness of sheath	Overall diameter of cable	App. Weight of cable	Current rating at 35°C ambient temp.	
							in metal conduit	In air
mm ²	No./mm	No./inch	mm	mm	mm	Kg/km	amps	amps
2x0.40	14/0.193	14/0.0076	0.635	1.0	6.6	54	3	4
2x0.65	23/0.193	23/0.0076	0.635	1.0	7.1	67	6	8
2x1.20	40/0.193	40/0.0076	0.635	1.0	7.7	83	13	16
2x2.00	70/0.193	70/0.0076	0.635	1.3	9.1	119	18	20
2x3.00	110/0.193	110/0.0076	0.635	1.3	9.9	155	24	26

DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated, laid up and PVC sheathed round cables. Not to be use in 440v circuits.

IV) Type: Flexible Three core Cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Thickness of sheath	Overall diameter of cable	App. Weight of cable	Current rating at 35°C ambient temp.	
							in metal conduit	In air
mm ²	No./mm	No./inch	mm	mm	mm	Kg/km	amps	amps
3x0.40	14/0.193	14/0.0076	0.635	1.0	6.9	63	3	4
3x0.65	23/0.193	23/0.0076	0.635	1.0	7.5	77	6	8
3x1.20	40/0.193	40/0.0076	0.635	1.0	8.2	99	13	16
3x2.00	70/0.193	70/0.0076	0.635	1.3	9.6	142	18	20
3x3.00	110/0.193	110/0.0076	0.635	1.3	10.5	188	24	26

DESCRIPTION: Plain annealed flexible copper conductors, PVC insulated, laid up and PVC sheathed round cables. Not to be use in 440v circuits.

V) Type: Flexible Four core Cables

Cross sectional area of conductor	No. & size of wires	No. & size of wires	Nominal thickness of insulation	Thickness of sheath	Overall diameter of cable	App. Weight of cable	Current rating at 35°C ambient temp.	
							in metal conduit	In air
mm ²	No./mm	No./inch	mm	mm	mm	Kg/km	amps	amps
4x0.40	14/0.193	14/0.0076	0.635	1.0	7.3	70	3	4
4x0.65	23/0.193	23/0.0076	0.635	1.0	8.1	92	6	8
4x1.20	40/0.193	40/0.0076	0.635	1.3	9.3	129	13	16
4x2.00	70/0.193	70/0.0076	0.635	1.3	10.4	173	18	20
4x3.00	110/0.193	110/0.0076	0.635	1.3	11.4	218	24	26



SINGLE CORE : 600/1000 V PVC L.T. POWER CABLES

DESCRIPTION: Copper/Aluminum Conductor, PVC Insulated, Cores laid up, PVC inner sheathed, Unarmoured/AL. Round wire armoured/AL.Double Tape armoured & PVC Outer Sheathed cables.

STANDARD: **BDS-IEC-60502 (1)**

VDE-0271

BS- 6346

APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, Industrial plants, and in commercial buildings.

No. of cores = 1C

Temperature Range = -15°C to +70°C

Voltage Grade = 0.6/1(1.2)KV

Nom. size of conductor	Nom. thick of Insulation	UNARMOURED NYY / YV / AYY				AL ROUND WIRE ARMOURED NYBaY / YBaY / AYBaY				AL DOUBLE TAPE ARMOURED NYBaY / YBaY / AYBaY				CURRENT RATING					
		thick of outer sheath (min)	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour Tape	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air	
				CU	AL				kg/km	AL				CU	kg/km	CU	kg/km	CU	AL
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
1x1.5mm	0.8	1.4	6.2	56		1.25	1.8	10.5	155								27		22
1x2.5mm	0.8	1.4	6.6	70		1.25	1.8	11	175								36		30
1x4mm	1	1.4	7.6	97	72	1.25	1.8	11.9	214	190							47	37	39
1x6mm	1	1.4	8.1	121	85	1.25	1.8	12.5	246	209							59	48	50
1x10mm	1	1.4	8.8	165	103	1.25	1.8	13.2	299	237							78	60	69
1x16mm	1	1.4	9.8	231	132	1.25	1.8	14.2	378	279							100	78	94
1x25mm	1.2	1.4	11.5	337	183	1.25	1.8	15.8	505	350	0.5x20	1.8	14.6	430	300	130	101	125	97
1x35mm	1.2	1.4	12.6	442	226	1.25	1.8	16.9	624	407	0.5x20	1.8	15.7	530	320	155	120	160	124
1x50mm	1.4	1.4	14.1	600	291	1.25	1.8	18.4	801	492	0.5x20	1.8	17.2	702	350	185	144	195	152
1x70mm	1.4	1.4	15.7	804	371	1.25	1.8	20	1025	592	0.5x20	1.8	18.8	915	485	225	175	245	191
1x95mm	1.6	1.5	18.1	1084	496	1.25	1.8	22.2	1325	738	0.5x20	1.8	21.2	1208	698	270	210	300	233
1x120mm	1.6	1.5	19.7	1337	595	1.6	1.8	24.5	1652	910	0.5x30	1.8	22.6	1447	775	310	240	350	272
1x150mm	1.8	1.6	21.6	1654	726	1.6	1.8	26.2	1985	1057	0.5x30	1.8	34.8	1826	900	350	270	405	314
1x185mm	2	1.7	23.8	2025	880	1.6	1.9	28.6	2400	1255	0.5x30	1.8	27	2208	1068	390	302	460	458
1x240mm	2.2	1.8	26.6	2598	1112	1.6	2	31.4	3013	1528	0.5x30	1.8	29.8	2805	1318	450	349	555	431
1x300mm	2.4	1.9	29.6	3239	1383	1.6	2.1	34.5	3699	1843	0.5x30	1.9	31.2	3510	1615	515	386	640	448
1x400mm	2.6	2	33	4230	1755	2	2.2	38.7	4839	2364	0.5x40	2	36.6	4535	2060	585	439	770	540
1x500mm	2.8	2.1	37	5350	2135	2	2.3	42	5725	2270	0.5x40	2.1	40.6	5570	2235	680	510	900	630
1x630mm	2.8	2.2	40	6631	2620	2.5	2.5	46	7025	2760	0.5x40	2.2	43.7	6830	2690	800	600	1030	721
1x800mm	2.8	2.3	46	8341	3195	2.5	2.6	52	8920	3465	0.5x40	2.3	49.6	8610	3340	945	708	1160	812
1x1000mm	3	2.4	51	10362	3890	2.5	2.8	58	11020	4250	0.5x40	2.4	55	10691	3890	1090	821	1310	917





TWO CORE : 600/1000V PVC L.T. POWER CABLES

DESCRIPTION: Two core Copper/Aluminum Conductor, PVC Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables.

STANDARD: **BDS-IEC-60502 (1)**

VDE-0271

BS- 6346

APPLICATION: Can be used indoors or outdoors, in cable ducts or tray or under ground in power switching stations, in local distribution systems, Industrial plants, and commercial buildings.



No. of cores = 2C

Temperature Range = -15°C to +70°C

Voltage Grade = 0.6/1(1.2)KV

Nominal size of conductor	Nom. thick of Insulation	UNARMOURED NY / YY / AY				STEEL ROUND WIRE ARMOURED NYRGY / YRGY / A YRGY						FLAT STEEL WIRE ARMOURED NYFGGY / YFGGY / A YFGGY						CURRENT RATING							
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air							
				CU	AL				kg/km	kg/km				CU	AL	kg/km	kg/km	CU	AL	amps	amps	CU	AL	amps	amps
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	amps	amps	CU	AL	CU	AL	amps	amps
2x1.5mm	0.8	1.8	10.3	146		0.9	1.8	14.2	385									25		19					
2x2.5mm	0.8	1.8	11.1	184		0.9	1.8	15	444									34		27					
2x4mm	1	1.8	13.1	261	211	0.9	1.8	17.7	664	613								45	35	35	28				
2x6mm	1	1.8	14.2	327	251	1.25	1.8	18.8	762	686								56	45	45	37				
2x10mm	1	1.8	15.6	436	310	1.25	1.8	20.2	913	786								74	57	62	48				
2x16mm	1	1.8	19.6	697	426	1.25	1.8	22.9	1275	1073	0.8x4	1.8	21.9	1087				96	75	84	65				
2x25mm	1.2	1.8	23	996	680	1.6	1.8	26.1	1676	1360	0.8x4	1.8	25.1	1460	1144			125	97	110	86				
2x35mm	1.2	1.8	25.1	1271	830	1.6	1.9	25.5	2034	1593	0.8x4	1.8	27.3	1786	1344			149	117	140	109				
2x50mm	1.4	1.8	28.1	1689	1058	1.6	2	31.8	2565	1983	0.8x4	1.9	30.6	2288	1657			178	138	169	132				
2x70mm	1.4	2	31.7	2247	1363	2	2.1	36	3465	2582	0.8x4	2	34	2907	2023			216	168	213	166202				
2x95mm	1.6	2.1	36.3	2998	1799	2	2.3	40.8	4415	3216	0.8x4	2.2	39.2	3852	2653			259	201	261	236				
2x120mm	1.6	2.2	39.6	3673	2158	2	2.4	44.1	5217	3703	0.8x4	2.3	42.5	4607	3092			298	230	304	273				
2x150mm	1.8	2.3	43.4	4494	2601	2.5	2.6	49.1	6643	4750	0.8x4	2.4	46.3	5519	3626			336	259	352	330				
2x185mm	2	2.4	47.8	5502	3167	2.5	2.7	53.6	7869	5533	0.8x4	2.6	51	6661	4326			375	289	400	375				





THREE CORE : 600/1000V PVC L.T. POWER CABLES

DESCRIPTION: Three core Copper/Aluminum Conductor, PVC Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0271

BS- 6346

APPLICATION: Can be used indoors or outdoors, in cable ducts or tray or under ground in power switching stations, in local distribution systems, Industrial plants, and commercial buildings.

No. of cores =3C

Temperature Range = -15°C to +70°C

Voltage Grade = 0.6/1(1.2)KV

Nominal size of conductor	Nom. thick of insulation	UNARMOURED NY / YY / AY			ROUND STEEL WIRE ARMOURED NYRGY / YRGY / A YRGY				FLAT STEEL WIRE ARMOURED NYFGGY / YFGGY / AYFGGY				CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	30°C in ground	35°C in air	30°C in ground	35°C in air
mm ²	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km	amps	amps	amps	amps
3x1.5mm	0.8	1.8	108	168	0.9	1.8	14.7	490	0.8x4	1.8	23	1277	22	17	22	17
3x2.5mm	0.8	1.8	11.7	216	0.9	1.8	15.6	490	0.8x4	1.8	24	1486	30	24	30	24
3x4mm	1	1.8	13.8	311	1.25	1.8	18.4	736	0.8x4	1.8	25.8	1850	38	31	38	32
3x6mm	1	1.8	15	396	1.25	1.8	19.6	855	0.8x4	1.8	28.9	2492	48	39	48	41
3x10mm	1	1.8	16.5	541	1.25	1.8	21.1	1045	0.8x4	1.9	32.7	3202	64	51	64	56
3x16mm	1	1.8	20.7	862	1.6	1.8	24	1475	0.8x4	2	37.5	4183	83	66	83	75
3x25mm	1.2	1.8	21.7	1227	1.6	1.8	24.9	1692	0.8x4	2	40.3	5035	110	86	110	98
3x35mm	1.2	1.8	23.6	1601	1.6	1.8	26.8	2072	0.8x4	2	44.2	6192	130	101	130	120
3x50mm	1.4	1.8	26.5	2175	1.6	1.9	29.9	2668	0.8x4	2	48.9	7496	155	120	155	150
3x70mm	1.4	1.9	30	2946	2	2	34.1	3657	0.8x4	2	53.8	9290	190	148	190	148
3x95mm	1.6	2.1	35	4003	2	2.2	39.1	4793	0.8x4	2.1	59.2	11371	225	175	225	230
3x120mm	1.6	2.2	37.7	4990	2	2.3	41.9	5615	0.8x4	2.2	65.6	14629	260	202	260	270
3x150mm	1.8	2.3	41.3	6076	2.5	2.5	46.8	7171	0.8x4	2.3	70.94	17775	295	229	295	305
3x185mm	2	2.4	46	7504	2.5	2.6	51.5	8587	0.8x4	2.5	79.94	21371	330	257	330	350
3x240mm	2.2	2.6	51	9552	2.5	2.8	56.4	10564	0.8x4	2.6	86.02	25384	385	299	385	410
3x300mm	2.4	2.8	56.6	11890	2.5	2.9	61.8	12775	0.8x4	2.8	95.2	30352	425	329	425	470
3x400mm	2.6	3	62.8	15471	3.15	3.2	68.02	16178	0.8x4	3	105.5	35384	458	375	458	503



THREE AND HALF CORE : 600/1000 V PVC L.T. POWER CABLES

DESCRIPTION: Three and half core Copper/Aluminum Conductor, PVC Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0271

BS- 6346

APPLICATION: Can be used indoors or outdoors, in cable ducts or tray or under ground in power switching stations, in local distribution systems, Industrial plants, and commercial buildings.



No. of cores =3.5C

Temperature Range = -15°C to +70°C

Voltage Grade = 0.6/1(1.2)KV

Nominal size of conductor	Nom. thick of Insulation	UNARMOURED NY / Y / AYY				ROUND STEEL WIRE ARMOURED NYRGY / YRGY / AYRGY						FLAT STEEL WIRE ARMOURED NYFGGY / YFGGY / AYFGGY				CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air	
				CU	AL				kg/km	kg/km				CU	AL				
mm ²	mm																		
3.5x25sm	1.2	1.8	23	1234	659	1.6	1.8	26.2	1907	1333	0.8x4	1.8	25.2	1691	1116	110	86	98	76
3.5x35sm	1.2	1.8	25	1554	790	1.6	1.8	28.3	2290	1527	0.8x4	1.8	27.2	2056	1293	130	101	120	93
3.5x50sm	1.4	1.9	28.5	2156	1051	1.6	2	31.8	3003	1903	0.8x4	1.9	30.7	2731	1626	155	120	150	116
3.5x70sm	1.4	2	32.5	2917	1371	2	2.1	36.7	4148	2602	0.8x4	2	34.7	3578	2031	190	148	190	148
3.5x95sm	1.6	2.2	37.4	3928	1813	2	2.3	41.6	5339	3925	0.8x4	2.2	40	4764	2649	225	175	230	179
3.5x120sm	1.6	2.3	40.9	4928	2214	2.5	2.4	46.1	6878	4164	0.8x4	2.3	43.5	5843	3129	260	202	270	210
3.5x150sm	1.8	2.4	44.9	5910	2698	2.5	2.6	50.4	8074	4792	0.8x4	2.4	47.5	6919	3637	295	229	305	237
3.5x185sm	2	2.6	49.6	7070	2967	2.5	2.7	54.8	9418	5316	0.8x4	2.6	52.1	8181	4079	330	257	350	272
3.5x240sm	2.2	2.8	56.3	9388	4086	2.5	2.9	61.5	12048	6746	0.8x4	2.8	59.1	10682	5380	385	299	410	318
3.5x300sm	2.4	3	61.7	11719	5092	2.5	3.1	66.9	14695	7998	0.8x4	3	64.3	13104	6477	425	329	470	364
3.5x400sm	2.6	3.2	68.9	15245	6503	3.13	3.4	75.6	19407	10666	0.8x4	3.2	71.7	16828	8086	458	375	503	398



FOUR CORE : 600/1000 V PVC L.T. POWER CABLES

DESCRIPTION: Four core Copper/Aluminum Conductor, PVC Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel. wire armoured/Flat steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS- IEC 60502 (1)**

VDE-0271

BS- 6346

APPLICATION: Can be used indoors or outdoors, in cable ducts or tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.

No. of cores =4C

Temperature Range = -15°C to +70°C

Voltage Grade = 0.6/1 (1.2)KV

Nominal size of conductor	Nom. thick of Insulation	UNARMOURED NY / YY / AY				ROUND STEEL WIRE ARMoured NVRG / YVRG / AYVRG						FLAT STEEL WIRE ARMoured NVFGY / YVGY / AYVGY						CURRENT RATING					
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air					
				CU	AL				kg/km	kg/km				CU	AL	kg/km	kg/km	CU	AL	amps	amps	CU	AL
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm			
4x1.5mm	0.8	1.8	11.6	198		0.9	1.8	15.5	458								22		17				
4x2.5mm	0.8	1.8	12.7	258		1.25	1.8	17.3	629								30		24				
4x4mm	1	1.8	15	374	274	1.25	1.8	19.6	814	713							38	31	32				
4x6mm	1	1.8	16.3	481	330	1.25	1.8	20.9	960	809							48	39	41				
4x10mm	1	1.8	18	667	414	1.6	1.8	23.3	1321	1069	0.8X4	1.8	22.3	1161	909	64	51	56	43				
4x16mm	1	1.8	22.5	1058	654	1.6	1.8	25.7	1693	1289	0.8X4	1.8	24.7	1513	1109	83	66	75	58				
4x25mm	1.2	1.8	24.4	1363	732	1.6	1.8	27.6	2059	1428	0.8X4	1.8	26.6	1862	1231	110	86	98	76				
4x35mm	1.2	1.8	26.6	1780	896	1.6	1.9	30	2557	1673	0.8X4	1.9	29	2342	1459	130	101	120	93				
4x50mm	1.4	1.9	30.1	2438	1175	2	2	34.4	3599	2286	0.8X4	2	33	3140	1878	155	120	150	116				
4x70mm	1.4	2	34.2	3309	1541	2	2.2	38.6	4593	2826	0.8X4	2.1	37	4110	2343	190	148	190	148				
4x95mm	1.6	2.2	39.3	4427	2028	2	2.4	43.7	5905	3506	0.8X4	2.3	42.1	5350	2953	225	175	230	179				
4x120mm	1.6	2.3	43.5	5512	2482	2.5	2.5	48.9	7559	4529	0.8X4	2.4	46.3	6537	3507	260	202	270	210				
4x150mm	1.8	2.5	48.1	6833	3046	2.5	2.7	53.6	9097	5310	0.8X4	2.6	51	7968	4181	295	229	305	237				
4x185mm	2	2.7	53.3	8376	3706	2.5	2.8	58.5	852	6181	0.8X4	2.7	54.9	9606	4935	330	257	350	272				
4x240mm	2.2	2.9	59.7	10768	4710	2.5	3	64.9	13550	7490	0.8X4	2.9	62.3	12151	6092	385	299	410	318				
4x300mm	2.4	3.1	66	13328	5754	3.15	3.3	72.7	17248	9674	0.8X4	3.1	68.6	14860	7286	495	329	470	364				
4x400mm	2.6	3.3	73.7	17488	7389	3.15	3.6	80.6	21908	11810	0.8X4	3.4	76.5	19240	9141	458	375	503	398				



SINGLE CORE : 600/1000 V XLPE L.T. POWER CABLES

DESCRIPTION: Single core Copper/Aluminum Conductor, XLPE Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round AL. wire armoured/AL. Double Tape armoured and PVC outer sheathed cables

STANDARD: **BDS- IEC 60502 (1)**

VDE-0272

BS- 5467

APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.

No. of cores =1C

Temperature Range = -20°C to +90°C

Voltage Grade = 0.6/1(1.2)KV



Nominal size of conductor	Nom. thick of Insulation	UNARMOURED N2XY / 2XY / A2XY				AL ROUND WIRE ARMOUR N2XBay / 2XBay / A2XBay						AL DOUBLE TAPE ARMOUR N2XBay / 2XBay / A2XBay						CURRENT RATING			
		thick of outer sheath (min)	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour Tape	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air			
				CU	AL				kg/km	kg/km				CU	AL	kg/km	kg/km	CU	AL	amps	amps
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm		
1x1.5mm	0.7	1.4	6.1	50		1.25	1.8	10.3	146								36		30		
1x2.5mm	0.7	1.4	6.5	63		1.25	1.8	10.8	166								47		39		
1x4mm	0.7	1.4	7.3	82	57	1.25	1.8	11.3	191	166							59	47	50		
1x6mm	0.7	1.4	7.9	105	68	1.25	1.8	11.9	222	185							78	64	56		
1x10mm	0.7	1.4	8.8	147	85	1.25	1.8	12.6	272	210							100	77	72		
1x16mm	0.7	1.4	9.9	210	111	1.25	1.8	13.6	348	249							130	101	125		
1x25mm	0.9	1.4	11	309	155	1.25	1.8	15.2	469	314	0.5x20	1.8	14.5	390	235	155	120	160	125		
1x35mm	0.9	1.4	12.1	410	194	1.25	1.8	16.3	584	367	0.5x20	1.8	15.6	500	280	185	144	195	150		
1x50mm	1	1.4	13.6	557	248	1.25	1.8	17.6	747	438	0.5x20	1.8	17.1	650	343	225	175	245	190		
1x70mm	1.1	1.4	15.4	758	325	1.25	1.8	19.4	972	539	0.5x20	1.8	18.9	870	435	270	210	300	233		
1x95mm	1.1	1.5	17.1	1012	425	1.25	1.8	21.2	1241	653	0.5x20	1.8	20.6	1175	540	310	240	350	272		
1x120mm	1.2	1.5	18.8	1262	520	1.6	1.8	23.7	1565	823	0.5x30	1.8	22.3	1410	670	350	272	405	315		
1x150mm	1.4	1.6	21	1568	639	1.6	1.8	25.4	1886	958	0.5x30	1.8	24.5	1630	805	390	302	460	357		
1x185mm	1.6	1.6	23	1920	775	1.6	1.8	27.5	2269	1124	0.5x30	1.8	26.5	2025	945	450	350	555	430		
1x240mm	1.7	1.7	25.6	2462	978	1.6	1.9	30.2	2848	1363	0.5x30	1.8	29.1	2655	1200	515	400	640	498		
1x300mm	1.8	1.8	28.3	3078	1223	1.6	1.9	33	3490	1633	0.5x30	1.9	31.8	3283	1428	585	463	770	537		
1x400mm	2	1.9	32	4044	1570	2	2	37.2	4598	2123	0.5x40	2	36.5	4310	1850	680	509	900	626		
1x500mm	2.2	2	35.4	5055	1810	2	2.1	41	5509	2505	0.5x40	2.1	39.8	5230	2160	800	592	1030	731		
1x630mm	2.4	2.2	39.5	6320	2380	2	2.3	45.2	6809	3100	0.5x40	2.2	44	6560	2730	945	696	1160	837		
1x800mm	2.6	2.3	45	8015	2950	2.5	2.4	52	8695	3875	0.5x40	2.3	50	8355	3270	1095	821	1310	942		
1x1000mm	2.8	2.4	50	10005	3610	2.5	2.6	57.3	10754	4735	0.5x40	2.4	55.5	10375	4170	1270	952	1480	1064		

TWO CORE : 600/1000 V XLPE L.T. POWER CABLES

DESCRIPTION: Two core Copper/Aluminum Conductor, XLPE Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0272

BS- 5467

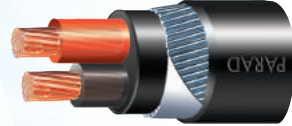
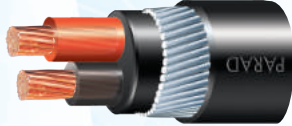
APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.

No. of cores = 2C

Temperature Range = -20°C to +90°C

Voltage Grade = 0.6/1 (1.2)KV

Nominal size of conductor	Nom. thick of insulation	UNARMoured N2XY / 2XY / A2XY				ROUND STEEL WIRE ARMoured N2XRGY / 2XRGY / A2XRGY					FLAT STEEL WIRE ARMoured N2XFGbY / 2XFGbY / A2XFGbY					CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	CU	AL	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Wt. of Cable	Size of armour Tape	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	30°C in ground		35°C in air			
mm²	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	CU	AL	CU	AL		
2x1.5mm	0.7	1.8	9.8	130		1.25	1.8	13.7	350							34	28		
2x2.5mm	0.7	1.8	10.7	166		1.25	1.8	14.6	338							44	36		
2x4mm	0.7	1.8	11.8	215	165	1.25	1.8	15.7	397	346						55	42		
2x6mm	0.7	1.8	12.9	276	200	1.25	1.8	17.5	554	478						74	53		
2x10mm	0.7	1.8	14.3	379	253	1.25	1.8	18.9	676	550						97	70		
2x16mm	0.7	1.8	16.3	539	337	1.25	1.8	20.9	1018	816	0.8x4	1.8	20.6	986	784	125	89		
2x25mm	0.9	1.8	19.6	802	487	1.6	1.8	24.9	1513	1197	0.8x4	1.8	23.9	1840	1024	150	110		
2x35mm	0.9	1.8	21.8	1056	614	1.6	1.8	27.1	1846	1404	0.8x4	1.8	26	1655	1213	180	126		
2x50mm	1	1.9	24.4	1420	789	1.6	1.9	29.9	2320	1689	0.8x4	1.9	28.9	2106	1475	212	154		
2x70mm	1.1	2	28.2	1947	1063	2	2.1	34.7	3225	2342	0.8x4	2	32.7	2738	1854	256	185		
2x95mm	1.1	2.1	32	2583	1384	2	2.2	38.5	4027	2828	0.8x4	2.2	37.1	3564	2365	293	214		
2x120mm	1.2	2.2	36	3259	1745	2	2.3	42.3	4848	3333	0.8x4	2.3	40.9	4334	2819	332	242		
2x150mm	1.4	2.4	40	4030	2137	2.5	2.5	47.2	6195	4301	0.8x4	2.4	44.6	5214	3321	366	271		
2x185mm	1.6	2.6	44.1	4970	2635	2.5	2.6	51.7	7372	5036	0.8x4	2.6	49.3	6310	3975	427	315		





THREE CORE : 600/1000 V XLPE L.T. POWER CABLES

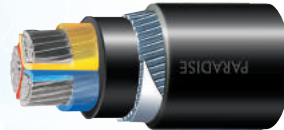
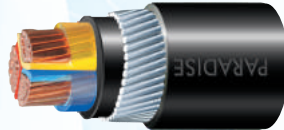
DESCRIPTION: Three core Copper/Aluminum Conductor, XLPE Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0272

BS- 5467

APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.



No. of cores =3C

Temperature Range = -20°C to +90°C

Voltage Grade = 0.6/1(1.2)KV

Nominal size of conductor	Nom. thick of Insulation	UNARMOURED N2XX / 2X / A2X				ROUND STEEL WIRE ARMOURED N2XRGY / 2XRGY / A2XRGY						FLAT STEEL WIRE ARMOURED N2XFGGY / 2XFGGY / A2XFGGY						CURRENT RATING					
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Wt. of Cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Wt. of Cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air					
				CU	AL				CU	AL				CU	AL	CU	AL	CU	AL	amps	amps	CU	AL
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	kg/km	kg/km	amps	amps	CU <td>AL<td>amps<td>amps</td></td></td>	AL <td>amps<td>amps</td></td>	amps <td>amps</td>	amps	
3x1.5mm	0.7	1.8	10.3	161		1.25	1.8	14.2	379								30					23	
3x2.5mm	0.7	1.8	11.3	210		1.25	1.8	15.2	446								38					32	
3x4mm	0.7	1.8	12.4	278	202	1.25	1.8	17	621	545							48	34		41	31		
3x6mm	0.7	1.8	13.6	363	249	1.25	1.8	18.2	734	621							64	40		56	40		
3x10mm	0.7	1.8	15.1	511	321	1.25	1.8	19.7	918	798							83	55		75	53		
3x16mm	0.7	1.8	19.4	776	473	1.6	1.8	22.6	1314	1011	0.8x4	1.8	21.6	1159	856		110	73		98	70		
3x25mm	0.9	1.8	20.3	992	518	1.6	1.8	23.5	1558	1085	0.8x4	1.8	22.5	1396	923		130	94		120	96		
3x35mm	0.9	1.8	22.2	1304	641	1.6	1.8	25.4	1931	1269	0.8x4	1.8	24.5	1753	1090		155	114		150	117		
3x50mm	1	1.8	24.6	1774	827	1.6	1.9	27.9	2476	1530	0.8x4	1.8	26.9	2278	1331		190	133		190	142		
3x70mm	1.1	1.9	28.5	2409	1083	1.6	2	32	3245	1919	0.8x4	1.9	30.8	2998	1673		225	164		230	179		
3x95mm	1.1	2	32.4	3230	1430	2	2.1	36.7	4425	2626	0.8x4	2	34.6	3904	2106		260	196		270	221		
3x120sm	1.2	2.1	35.7	4005	1733	2	2.2	39.9	5323	3051	0.8x4	2.1	38.3	4821	2549		295	223		305	257		
3x150sm	1.4	2.2	39.4	4949	2109	2	2.4	43.8	6430	3590	0.8x4	2.3	42.2	5875	3034		330	249		350	292		
3x185sm	1.6	2.4	44.2	6120	2617	2.5	2.5	49.5	8175	4672	0.8x4	2.4	46.9	7139	3636		385	282		410	337		
3x240sm	1.7	2.5	48.5	7791	3247	2.5	2.7	54	10074	5529	0.8x4	2.6	51.3	5936	4392		425	327		470	400		
3x300sm	1.8	2.7	53.6	9700	4020	2.5	2.9	59.1	12227	6546	0.8x4	2.7	56.3	10941	5261		478	368		564	455		
3x400sm	2	2.9	59.9	12712	5138	2.5	3.1	65.3	15533	7959	0.8x4	2.9	62.5	14099	6525		566	436		626	515		



THREE AND HALF CORE : 600/1000 V XLPE L.T. POWER CABLES

DESCRIPTION: Three and Half core Copper/Aluminum Conductor, XLPE Insulated, Cores laid up, PVC inner sheathed, Unarmoured/ Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0272

BS- 5467

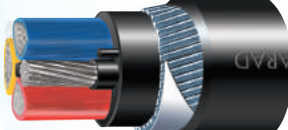
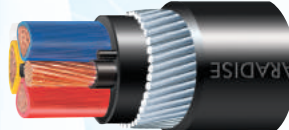
APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.

No. of cores =3.5C

Temperature Range = -20°C to +90°C

Voltage Grade = 0.6/1 (1.2)KV

Nominal size of conductor	Nom. thick of insulation	UNARMoured N2XX / 2X / A2X				ROUND STEEL WIRE ARMoured N2XRGY / 2XRGY / A2XRGY						FLAT STEEL WIRE ARMoured N2XFGbY / 2XFGbY / A2XFGbY				CURRENT RATING							
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable									
				CU	AL				kg/km	kg/km				mm	mm	mm	mm	kg/km	kg/km	CU	AL	amps	amps
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	amps	amps	amps	amps
3.5x25sm	0.9	1.8	21.6	1161	587	1.6	1.8	24.8	1768	1193	0.8x4	1.8	23.8	1595	1021	130	94	120	96				
3.5x35sm	0.9	1.8	23.6	1483	720	1.6	1.8	26.8	2144	1380	0.8x4	1.8	25.8	1954	1190	155	114	150	117				
3.5x50sm	1	1.8	26.3	2045	941	1.6	0.9	29.7	2805	1700	0.8x4	1.8	28.5	2577	1472	190	133	190	142				
3.5x70sm	1.1	1.9	30.8	2799	1253	2	2.1	35.2	3893	2347	0.8x4	2	33.2	3353	1898	225	164	230	179				
3.5x95sm	1.1	2.1	34.8	3760	1646	2	2.2	39	5028	2913	0.8x4	2.1	37.4	4539	2424	260	196	270	221				
3.5x120sm	1.2	2.2	38.8	4725	2010	2	2.4	43.2	6230	3512	0.8x4	2.2	41.4	5613	2899	295	223	305	257				
3.5x150sm	1.4	2.3	42.8	5707	2425	2.5	2.5	48.2	7777	4495	0.8x4	2.5	45.7	6693	3411	330	249	350	292				
3.5x185sm	1.6	2.5	47.4	6918	2815	2.5	2.6	52.6	9172	5070	0.8x4	2.5	50	7983	3881	385	282	410	337				
3.5x240sm	1.7	2.7	53.7	9089	3787	2.5	2.8	58.9	11632	6330	0.8x4	2.7	56.3	10296	4994	425	327	470	400				
3.5x300sm	1.8	2.8	58.4	11283	4656	2.5	3	639	14080	7453	0.8x4	2.9	61.3	12630	6003	478	368	564	455				
3.5x400sm	2	3.1	65.5	14645	5904	2.5	3.2	71	17857	9116	0.8x4	3.1	68.5	16238	7497	566	436	686	515				



FOUR CORE : 600/1000 V XLPE L.T. POWER CABLES

DESCRIPTION: Four core Copper/Aluminum Conductor, XLPE Insulated, Cores laid up, PVC inner sheathed, Unarmoured/Round Steel wire armoured/Flat Steel wire armoured and PVC outer sheathed cables

STANDARD: **BDS-IEC 60502 (1)**

VDE-0272

BS- 5467

APPLICATION: Can be used indoors or outdoors, in cable ducts or Tray or under ground in power switching stations, in local distribution systems, in Industrial plants, and commercial buildings.

No. of cores =4C

Temperature Range = -20°C to +90°C

Voltage Grade = 0.6/1(1.2)KV

Nominal size of conductor	Nom. thick of insulation	UNARMoured N2XY / 2XY / A2XY			ROUND STEEL WIRE ARMoured N2XRGY / 2XRGY / A2XRGY			FLAT STEEL WIRE ARMoured N2XFGbY / 2XFGbY / A2XFGbY			CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	CU	AL	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	CU	AL	30°C in ground	35°C in air	CU	AL
mm ²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	amps	amps	amps	amps
4x1.5mm	0.7	1.8	11.1	173		1.95	1.8	15.7	255		30	23		
4x2.5mm	0.7	1.8	12.1	229		1.95	1.8	16.7	347		38	32		
4x4mm	0.7	1.8	13.5	308	207	1.95	1.8	18.1	433	332	48	41	31	
4x6mm	0.7	1.8	14.8	407	255	1.95	1.8	19.4	538	387	64	40	56	40
4x10mm	0.7	1.8	16.5	584	331	1.95	1.8	21.1	723	471	83	55	75	53
4x16mm	0.7	1.8	21	953	549	1.6	1.8	24.2	1573	1169	110	73	98	70
4x25mm	0.9	1.8	22.3	1274	643	1.6	1.8	25.5	1935	1304	130	94	120	96
4x35mm	0.9	1.8	24.7	1684	801	1.6	1.8	27.9	2419	1536	155	114	150	117
4x50mm	1	1.8	27.7	2302	1040	1.6	1.9	31.1	3149	1887	190	133	190	142
4x70mm	1.1	1.9	31.1	3142	1374	2	2	35	4995	2528	225	164	230	179
4x95mm	1.1	2	36	4199	1801	2	2.2	40.5	5609	3211	260	196	270	221
4x120mm	1.2	2.2	40.4	5275	2245	2	2.4	44.9	6848	3819	295	223	305	257
4x150mm	1.4	2.4	45.1	6550	2763	2.5	2.6	50.5	8748	4961	330	249	350	292
4x185mm	1.6	2.5	49.5	8005	3334	2.5	2.7	55	10417	5747	385	282	410	337
4x240mm	1.7	2.7	56	10321	4262	2.5	2.9	61.4	13042	6983	425	327	470	400
4x300mm	1.8	2.8	60.9	12743	5169	2.5	3.1	66.6	15736	8132	478	368	564	455
4x400mm	2	3.1	68.6	16767	6669	3.15	3.4	75.6	21011	10913	566	436	626	515





CONCENTRIC NEUTRAL CONDUCTOR 600/1000V PVC INSULATED CABLES

BDS- IEC 60502-1

YCY/AYCY

APPLICATION: Suitable for indoors, outdoors, underground and in water for continuous service of highest system voltage 1.2KV where multi-grounding distribution or frequency conversion is needed.

CONSTRUCTION: Shaped or compacted Plain copper/Aluminum conductor (as per class-2 of IEC 228), PVC Insulated, Three cores laid up, PVC inner sheathed, Concentric Conductor of copper round wires with counter Helix taped and PVC sheathed cable.

TECHNICAL DATA: Voltage grade: - 0.6/1(1.2) KV TEMP. RANGE: - 15°C to 70°C
B. R: - 15XCABLE DIA.

Manufacturing Data:



Cross sectional area mm²	Concentric copper conductor stranded or Braided No./mm	Nominal thickness of insulation mm	Nominal thickness of sheath mm	Approx. cable dia. mm	Approx. weight of cable Kg/km		Current rating at 30°C in Ground Amps		Current rating at 35°C in Air Amps	
					Cu Kg/km	AL Kg/km	Cu Amps	AL Amps	Cu Amps	AL Amps
3X2.5rm/1.5	80/0.15	0.8	1.8	14.00	320	-	30	-	23	-
3X4rm/2.5	76/0.20	1.0	1.8	16.30	437	313	38	30	32	25
3X6rm/4	80/0.25	1.0	1.8	17.70	575	414	48	39	41	34
3X10rm/6	80/0.30	1.0	1.8	19.90	755	490	64	49	56	43
3X16rm/10	78/0.40	1.0	1.8	21.10	1098	640	83	64	75	58
3X25sm/16	80/0.50	1.2	1.8	24.5	1284	890	110	86	98	76
3X35sm/16	80/0.50	1.2	1.8	26.4	1598	1060	130	101	120	93
3C50sm/25	50/0.80	1.4	1.9	30.5	2218	1380	155	120	150	116
3X70sm/35	70/0.80	1.4	2.0	33.8	2988	1770	190	148	190	148
3X95sm/50	60/1.02	1.6	2.1	38.5	3956	2310	225	175	230	179
3X120sm/70	70/1.12	1.6	2.3	42.3	5058	2660	260	202	270	210
3X150sm/70	70/1.012	1.8	2.5	45.5	5920	2980	295	229	305	237
3X185sm/95	67/1.35	2.0	2.7	50.1	7499	3645	330	257	350	272
3X240sm/120	67/1.53	2.2	2.9	55.6	9626	4675	385	299	410	318
3X300sm/150	80/1.56	2.4	3.1	61.0	12050	6340	425	329	470	364
3X400sm/185	74/1.78	2.6	3.3	65.2	15785	7456	458	375	503	398





CONCENTRIC NEUTRAL CONDUCTOR 600/1000V XLPE INSULATED CABLES

BDS- IEC 60502-1

2XCY/A2XCY

APPLICATION: Suitable for indoors, outdoors, underground and in water for continuous service of highest system voltage 1.2KV where multi-grounding distribution or frequency conversion is needed.

CONSTRUCTION: Shaped or compacted Plain copper/Aluminum conductor (as per class-2 of IEC 228), XLPE Insulated, Three cores laid up, PVC inner sheathed, Concentric Conductor of copper round wires with counter Helix taped and PVC sheathed cable.

TECHNICAL DATA: Voltage grade: - 0.6/1(1.2) KV TEMP. RANGE: - -20°C to 90°C
B. R: - 15X CABLE DIA.

Manufacturing Data:

Cross sectional area	Concentric copper conductor stranded or Braided	Nominal thickness of insulation	Nominal thickness of sheath	Approx. cable dia.	Approx. weight of cable		Current rating at 30°C in Ground		Current rating at 35°C in Air	
					Cu	AL	Cu	AL	Cu	AL
mm²	No./mm	mm	mm	mm	Kg/km	Kg/km	Amps	Amps	Amps	Amps
3X2.5m/1.5	80/0.15	0.7	1.8	13.7	303	-	38	-	32	-
3X4rm/2.5	76/0.20	0.7	1.8	15.1	388	280	48	34	41	31
3X6rm/4	80/0.25	0.7	1.8	16.6	507	324	64	40	56	40
3X10rm/6	80/0.30	0.7	1.8	18.0	687	435	83	55	75	53
3X16rm/10	78/0.40	0.7	1.8	20.2	1033	620	110	73	98	70
3X25sm/16	80/0.50	0.9	1.8	23.75	1240	790	130	94	120	96
3X35sm/16	80/0.50	0.9	1.8	24.1	1520	910	155	114	150	117
3C50sm/25	50/0.80	1.0	1.8	28.7	2162	1203	190	133	190	142
3X70sm/35	70/0.80	1.1	1.8	32.4	2820	1550	225	164	230	179
3X95sm/50	60/1.02	1.1	1.9	37.7	3831	1955	260	196	270	221
3X120sm/70	70/1.12	1.2	2.0	40.0	4810	2170	295	223	305	257
3X150sm/70	70/1.12	1.4	2.2	43.7	5840	2880	330	249	350	292
3X185sm/95	67/1.35	1.6	2.4	48.0	7300	3425	385	282	410	337
3X240sm/120	67/1.53	1.7	2.6	53.8	9260	4232	425	327	470	400
3X300sm/150	80/1.56	1.8	2.8	59.3	11540	5356	478	368	564	455
3X400sm/185	74/1.78	2.0	3.0	63.2	15190	6869	520	425	565	460





CO-AXIAL CABLES - RG

IS -11967: 1998

BELDEN SERIES

APPLICATION: Used as Aerial down leads in local and fringe reception areas at both Very High Frequency and Ultra High Frequency applications.

CONSTRUCTION: Plain annealed Copper conductor as per IEC 228, Polyethylene insulated, AMT shielded, Plain copper wire Braided and PVC sheathed in Black colour as per BS 6746.

TECHNICAL DATA: AS PER BELDEN SPECIFICATION

	RG - 59/U	RG - 6/U	RG - 11/U
Nom. Capacitance(pF/m)	53.1	53.1	53.1
Nominal Impedence (Ω)	75	75	75
Max. Attenuation (DB/100Mtr.)			
1 MHz	2.0	1.6	1.0
10 MHz	3.3	3.0	2.0
20 MHz	5.9	4.9	3.0
50 MHz	8.2	6.6	3.9
100 MHz	11.5	9.2	5.6
200 MHz	16.1	13.1	7.9
400 MHz	21.3	17.4	11.5
700 MHz	25.9	21.3	13.1



MANUFACTURING DATA:

Cable Code	Wire gauge	Strand dia.	Dia. Of core with dielectric	AMT & Screen Braid resistance	Sheath thick	Nom. O.D.	Approx. weight
	AWG	mm	mm	ohm/km	mm	mm	Kg/km
RG-59/U	20	0.81	3.40	100%AMT and 40% plain CU. Braid 55.8	0.9	5.80	55
RG-59/C	19	0.90	4.2	-do- 38.1	1.0	6.6	60
RG-6/U	18	1.02	4.30	-do- 38.1	1.0	6.70	64
RG-6/C	16	1.25	5.45	-do- 33.3	1.1	7.95	95
RG-11/U	14	1.63	6.20	-do- 17.4	1.2	9.10	110





LOW CAPACITANCE TELEPHONE/DATA CABLE - NEC TYPE CM - TC (PE)

(UL - 444)

APPLICATION: PE Insulated cable can be used as a service and installation cable in data transmission applications in Computer, telephone, telegraph and other electronic equipments.

CONSTRUCTION: Solid annealed copper (0.5 or 0.6mm) wire, PE insulated, colour coded, Cores twisted into pairs, and pairs are stranded into units of 5 or 10 or 20 pairs and units are cabled together. The assembly is covered with a non-hygroscopic tape. An Aluminum Mylar tape along with drain wire (0.3mm) is applied as Screen. Finally Grey coloured PVC with a Nylon rip cord under the Outer sheath is provided for easy stripping.

TECHNICAL DATA:

Specification	UL - 444 (PE)	
Temperature range	-20°C to +80°C	
Conductor Dia. (mm)	0.5	0.6
Test Voltage KV (DC)	2.0/2 sec	2.0
Mutual capacitance at 1 KHz (nF/Km)	52	Max.
Capacitance unbalance between pair to pair at 1KHz (pF/500 Mtr)	150	Max.

CORE COLOUR CODE:

Pair No.	a-wire	b-wire	Pair No.	a-wire	b-wire
1	White	Blue	11	Black	Blue
2	White	Orange	12	Black	Orange
3	White	Green	13	Black	Green
4	White	Brown	14	Black	Brown
5	White	Grey	15	Black	Grey
6	Red	Blue	16	Yellow	Blue
7	Red	Orange	17	Yellow	Orange
8	Red	Green	18	Yellow	Green
9	Red	Brown	19	Yellow	Brown
10	Red	Grey	20	Yellow	Grey

BINDER COLOUR CODE

Unit No.	Binding colour
1	Blue
2	Orange
3	Green
4	Brown
5	Grey
6	White
7	Red
8	Black
9	Yellow
10	violet

MANUFACTURING DATA:

Pair No.	Inns. Thick mm	Strand dia. 0.5 mm		
		Sh. thick mm	App. O.D. mm	App. Wt. Kg/km
2	0.25	0.6	4.8	24
4	0.25	0.6	5.4	34
6	0.25	0.6	6.0	50
10	0.25	0.6	7.1	74
15	0.25	0.6	8.0	104
20	0.25	0.8	9.2	134
25	0.25	0.8	11.1	160
30	0.25	0.8	12.5	177
40	0.25	0.8	13.8	236
50	0.25	0.8	15.4	295
60	0.25	0.8	16.6	336
75	0.25	1.1	18.4	420
100	0.25	1.1	21.7	580
150	0.25	1.1	26	835
200	0.25	1.1	29.7	1080

Strand dia. 0.6 mm		
Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km
0.6	5.1	28
0.6	5.8	44
0.6	7.4	75
0.6	11.9	112
0.8	12.7	160
0.8	13.4	210
0.8	14.2	268
0.8	16.4	310
1.1	18.2	406
1.1	20.0	495
1.1	21.8	585
1.1	24.0	700
1.1	27.3	910
1.4	33.5	1355
1.4	38.2	1765





FIRE ALARM SIGNALLING CIRCUIT CABLES (SHIELDED & UNSHIELDED)

UL - 1424

APPLICATION: Can be used as a fixed wiring within building and also as a power limited circuit cable.

CONSTRUCTION: Solid Annealed conductor (as per ASTM B3), Extruded solid FR PVC Color coded cores are assembled and shielded with AMT and drain wire. Red color PVC jacket is provided.

TECHNICAL DATA: Voltage Grade: 300/500V; Temperature Range: -20°C to +90°C
B. R. = 12XCable Ø

Colour code:

No. of Conductors	Colour	No. of Conductors	Colour
1	Black	4	Blue
2	Red	5	Brown
3	Yellow	6	Orange



UNSHIELDED CABLES:

Sl. No.	Size AWG	Cores	Strand x dia.	Insulation thickness	Sheath thickness	Approx. O. D.	Approx. weight
		No.	mm	mm	mm	mm	Kg/km
1	18	2	1x 1.02	0.38	0.9	5.7	42
2	16	2	1x 1.29	0.38	0.9	6.2	55
3	14	2	1x 1.63	0.51	1.0	7.7	84
4	12	2	1x 2.05	0.51	1.0	8.6	113

SHIELDED CABLES:

Sl. No.	Size AWG	Cores	Strand x dia.	Insulation thickness	Sheath thickness	Approx. O. D.	Approx. weight
		No.	mm	mm	mm	mm	Kg/km
1	18	2	1x 1.02	0.38	0.9	6.1	53
2	16	2	1x 1.29	0.38	0.9	6.6	66
3	14	2	1x 1.63	0.51	1.0	8.1	106
4	12	2	1x 2.05	0.51	1.0	9.0	136
5	18	4	1x 1.02	0.38	0.9	6.8	78
6	16	4	1x 1.29	0.38	0.9	7.7	107
7	14	4	1x 1.63	0.51	1.0	9.3	163
8	12	4	1x 2.05	0.51	1.0	10.8	233





Control Cables





View of Extrusion Line



View of High Voltage Test Equipment from USA





0.6/1KV PVC NON-SHIELD CONTROL CABLES

APPLICATION: To be used for remote/auto control of electrical facilities.

STANDARD: **BDS-IEC 60502-1** **VDE: 0271** **BS: 6346**

CONSTRUCTION: plain stranded copper conductor (class 2 of IEC-228), PVC insulated (Type A of IEC 502), Colour coded (1C- Black; 2C-Red & Black; 3C-Red, Yellow & Blue; 4C-Red, Yellow, Blue & Black; 5C & Above - White cores with number printing), Extruded/Taped inner sheath (as per requirement), G. I. wire armoured and PVC sheathed cables.



Size	Nom. Insu. thick	Core Dia.	UNARMoured YY			ROUND WIRE ARMoured YRY				FLAT WIRE ARMoured YFGY			
			Nom. sheath Thick	Cable O. D.	App Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm ²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0mm	0.8	2.9	1.8	9.5	117	0.9	1.8	13.3	323				
1.5mm	0.8	3.2	1.8	10.2	141	0.9	1.8	14.1	390				
2.5mm	0.8	3.65	1.8	11	170	0.9	1.8	14.9	445				
4.0mm	1	4.55	1.8	13	230	1.25	1.8	16.2	520				
3CX1.0mm	0.8	2.9	1.8	9.95	140	0.9	1.8	13.85	359				
1.5mm	0.8	3.2	1.8	10.7	165	0.9	1.8	14.6	424				
2.5mm	0.8	3.65	1.8	11.6	204	0.9	1.8	15.5	485				
4.0mm	1	4.55	1.8	13.6	298	1.25	1.8	17.6	610				
4CX1.0mm	0.8	2.9	1.8	10.7	161	0.9	1.8	14.6	391				
1.5mm	0.8	3.2	1.8	11.5	194	0.9	1.8	15.4	475				
2.5mm	0.8	3.65	1.8	12.5	242	1.25	1.8	17.1	545				
4.0mm	1	4.55	1.8	14.7	350	1.25	1.8	18.8	705				
5CX1.0mm	0.8	2.9	1.8	11.2	176	0.9	1.8	15.1	425				
1.5mm	0.8	3.2	1.8	12.1	233	1.25	1.8	16.5	520				
2.5mm	0.8	3.65	1.8	13.2	291	1.25	1.8	17.8	615				
4.0mm	1	4.55	1.8	16.2	425	1.25	1.8	20.1	800				
7CX1.0mm	0.8	2.9	1.8	12.4	230	1.25	1.8	17	457				
1.5mm	0.8	3.2	1.8	13.4	286	1.25	1.8	18	610				
2.5mm	0.8	3.65	1.8	14.6	363	1.25	1.8	19.2	730				
4.0mm	1	4.55	1.8	17.6	530	1.6	1.8	2.7	1150				
10CX1.0mm	0.8	2.9	1.8	15.3	296	1.25	1.8	19.9	731				
1.5mm	0.8	3.2	1.8	16.5	388	1.25	1.8	20.7	850	0.8x4	1.8	20.4	740
2.5mm	0.8	3.65	1.8	18.3	500	1.6	1.8	23.6	1075	0.8x4	1.8	22	850
4.0mm	1	4.55	1.8	22.2	750	1.6	1.8	27.6	1605	0.8x4	1.8	25.5	1187
12CX1.0mm	0.8	2.9	1.8	15.8	334	1.25	1.8	20.4	784	0.8x4	0	0	0
1.5mm	0.8	3.2	1.8	17.2	441	1.6	1.8	22.5	980	0.8x4	1.8	20.9	790
2.5mm	0.8	3.65	1.8	18.9	577	1.6	1.8	24.2	1180	0.8x4	1.8	22.6	980
14CX1.0mm	0.8	2.9	1.8	16.5	378	1.25	1.8	21	842	0.8x4	0	0	0
1.5mm	0.8	3.2	1.8	18.2	510	1.6	1.8	23.3	1065	0.8x4	1.8	21.7	875
2.5mm	0.8	3.65	1.8	19.8	675	1.6	1.8	25.1	1425	0.8x4	1.8	23.5	1190
19CX1.0mm	0.8	2.9	1.8	18.2	498	1.6	1.8	23.4	1130	0.8x4	1.8	21.8	878
1.5mm	0.8	3.2	1.8	19.9	635	1.6	1.8	25.2	1410	0.8x4	1.8	23.6	1180
2.5mm	0.8	3.65	1.8	21.9	840	1.6	1.8	27.2	1700	0.8x4	1.8	25.6	1470
24CX1.0mm	0.8	2.9	1.8	21.1	580	1.6	1.8	26.3	1339	0.8x4	1.8	24.7	1058
1.5mm	0.8	3.2	1.8	22.9	780	1.6	1.9	28.7	1680	0.8x4	1.8	26.9	1140
2.5mm	0.8	3.65	1.8	25.6	1038	1.6	1.9	31.1	2060	0.8x4	1.9	29.5	1760
30CX1.0mm	0.8	2.9	1.8	22.3	695	1.6	1.8	27.6	1513	0.8x4	1.8	26	1209
1.5mm	0.8	3.2	1.8	24.5	940	1.6	1.9	30	1880	0.8x4	1.9	28.4	1575
2.5mm	0.8	3.65	1.8	27.1	1250	2	2	33.6	2320	0.8x4	1.9	31	1800
37CX1.0mm	0.8	2.9	1.8	24.1	837	1.6	1.9	29.5	1713	0.8x4	1.8	27.7	1400
1.5mm	0.8	3.2	1.8	26.4	1120	1.6	2	32.2	2150	0.8x4	1.9	31.1	1840
2.5mm	0.8	3.65	1.8	29.2	1508	2	2.1	36.3	2700	0.8x4	2	33.7	2150
48CX1.0mm	0.8	2.9	1.9	27.4	1066	2	2	33.9	2286	0.8x4	2	31.5	1721
1.5mm	0.8	3.2	1.9	30.3	1425	2	2.2	37.5	2750	0.8x4	2.1	34.9	2190
2.5mm	0.8	3.65	2	33.8	1935	2	2.3	41	3640	0.8x4	2.2	38.3	3050
61CX1.0mm	0.8	2.9	1.9	30.1	1335	2	2.1	36.9	2720	0.8x4	2.1	34.4	1770
1.5mm	0.8	3.2	2	33.3	1775	2	2.2	40	3400	0.8x4	2.2	37.8	2750
2.5mm	0.8	3.65	2.1	37.1	2415	2	2.4	42.5	4400	0.8x4	2.3	41.6	3650





0.6/1KV PVC (CU. BRAID) SHIELD CONTROL CABLES

APPLICATION: To be used for control circuits of facilities where electrostatic shielding and winding is required.

STANDARD: **BDS- IEC 60502-1** **VDE: 0271** **BS: 6346**

CONSTRUCTION: plain stranded copper conductor (class 2 of IEC-228), PVC insulated (Type A of IEC 502), Colour coded (1C- Black; 2C-Red & Black; 3C-Red, Yellow & Blue; 4C-Red, Yellow, Blue & Black; 5C & Above - White cores with number printing), Extruded/Taped inner sheath (as per requirement), G. I. wire armoured and PVC sheathed cables.

Size	Nom. Insu. thick	Core Dia.	UNARMoured Y(Cb)Y			ROUND WIRE ARMoured Y(Cb)RY				FLAT WIRE ARMoured Y(Cb)FGY			
			Nom. sheath Thick	Cable O. D.	App. Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm ²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0mm	0.8	2.9	1.8	9.9	133	0.9	1.8	13.7	344				
1.5mm	0.8	3.2	1.8	10.6	158	0.9	1.8	14.5	413				
2.5mm	0.8	3.65	1.8	11.4	190	0.9	1.8	15.3	470				
4.0mm	1	4.55	1.8	13.4	255	1.25	1.8	16.6	550				
3CX1.0mm	0.8	2.9	1.8	10.3	155	0.9	1.8	14.2	380				
1.5mm	0.8	3.2	1.8	11.1	185	0.9	1.8	14.9	450				
2.5mm	0.8	3.65	1.8	11.9	225	0.9	1.8	15.9	515				
4.0mm	1	4.55	1.8	13.9	320	1.25	1.8	17.9	640				
4CX1.0mm	0.8	2.9	1.8	11.1	180	0.9	1.8	15	665				
1.5mm	0.8	3.2	1.8	11.8	215	0.9	1.8	15.9	500				
2.5mm	0.8	3.65	1.8	12.9	268	1.25	1.8	17.5	575				
4.0mm	1	4.55	1.8	15.1	375	1.25	1.8	19.2	750				
5CX1.0mm	0.8	2.9	1.8	11.5	198	0.9	1.8	15.4	450				
1.5mm	0.8	3.2	1.8	12.5	255	1.25	1.8	17	550				
2.5mm	0.8	3.65	1.8	13.6	225	1.25	1.8	18.2	645				
4.0mm	1	4.55	1.8	16.6	450	1.25	1.8	20.5	850				
7CX1.0mm	0.8	2.9	1.8	12.8	255	1.25	1.8	17.4	485				
1.5mm	0.8	3.2	1.8	13.8	310	1.25	1.8	18.4	640				
2.5mm	0.8	3.65	1.8	15	385	1.25	1.8	19.6	760				
4.0mm	1	4.55	1.8	18	555	1.6	1.8	23.7	1180				
10CX1.0mm	0.8	2.9	1.8	15.7	320	1.25	1.8	20.3	760				
1.5mm	0.8	3.2	1.8	16.9	415	1.25	1.8	21.7	880	0.8x4	1.8	21.2	800
2.5mm	0.8	3.65	1.8	18.7	528	1.6	1.8	24	1110	0.8x4	1.8	22.4	890
4.0mm	1	4.55	1.8	22.6	780	1.6	1.8	28	1645	0.8x4	1.8	25.9	1230
12CX1.0mm	0.8	2.9	1.8	16.3	380	1.25	1.8	20.9	835	0.8x4	1.8	0	0
1.5mm	0.8	3.2	1.8	17.6	475	1.6	1.8	22.9	1020	0.8x4	1.8	21.4	840
2.5mm	0.8	3.65	1.8	19.4	610	1.6	1.8	24.7	1230	0.8x4	1.8	23.1	1040
14CX1.0mm	0.8	2.9	1.8	17	420	1.25	1.8	21.5	905	0.8x4	1.8	0	0
1.5mm	0.8	3.2	1.8	18.7	555	1.6	1.8	23.8	1110	0.8x4	1.8	22.1	925
2.5mm	0.8	3.65	1.8	20.3	720	1.6	1.8	25.6	1470	0.8x4	1.8	23.9	1240
19CX1.0mm	0.8	2.9	1.8	18.7	540	1.6	1.8	23.9	1180	0.8x4	1.8	22.3	923
1.5mm	0.8	3.2	1.8	20.5	675	1.6	1.8	25.7	1460	0.8x4	1.8	23.9	1230
2.5mm	0.8	3.65	1.8	22.4	890	1.6	1.8	27.7	1760	0.8x4	1.8	26	1520
24CX1.0mm	0.8	2.9	1.8	21.6	660	1.6	1.8	26.8	1400	0.8x4	1.8	25.2	1110
1.5mm	0.8	3.2	1.8	23.4	830	1.6	1.9	29.3	1740	0.8x4	1.8	27.4	1195
2.5mm	0.8	3.65	1.8	26.1	1088	1.6	1.9	31.6	2120	0.8x4	1.9	30.4	1810
30CX1.0mm	0.8	2.9	1.8	22.8	745	1.6	1.8	28.2	1573	0.8x4	1.8	26.6	1265
1.5mm	0.8	3.2	1.8	25.1	990	1.6	1.9	30.5	1930	0.8x4	1.9	28.9	1630
2.5mm	0.8	3.65	1.8	27.6	1300	2	2	34.2	2380	0.8x4	1.9	31.6	1860
37CX1.0mm	0.8	2.9	1.8	24.6	887	1.6	1.9	30.1	1770	0.8x4	1.8	28.2	1460
1.5mm	0.8	3.2	1.8	27	1185	1.6	2	32.8	2210	0.8x4	1.9	31.6	1900
2.5mm	0.8	3.65	1.8	29.8	1565	2	2.1	36.9	2760	0.8x4	2	33.7	2210
48CX1.0mm	0.8	2.9	1.9	28	1490	2	2.2	38.1	2810	0.8x4	2	3.1	1780
1.5mm	0.8	3.2	1.9	30.3	1425	2	2.2	37.5	2750	0.8x4	2.1	34.9	2190
2.5mm	0.8	3.65	2	33.8	1935	2	2.3	41	3640	0.8x4	2.2	38.3	3050
61CX1.0mm	0.8	2.9	2	30.7	1400	2	2.1	37.5	2790	0.8x4	2.1	35	1850
1.5mm	0.8	3.2	2	33.9	1830	2	2.2	40.6	3470	0.8x4	2.2	38.4	2820
2.5mm	0.8	3.65	2.1	37.7	2480	2	2.4	43.1	4480	0.8x4	2.3	42.2	3725





0.6/1KV PVC (CU.TAPE) SHIELD CONTROL CABLES

APPLICATION: To be used for control of electrical facilities where electrostatic shielding is required.

STANDARD: **BDS- IEC 60502-1** **VDE: 0271** **BS: 6346**

CONSTRUCTION: plain stranded copper conductor(class 2 of IEC-228), PVC insulated (Type A of IEC 502), Colour coded (1C- Black; 2C-Red & Black; 3C-Red, Yellow & Blue; 4C-Red, Yellow, Blue & Black; 5C & Above - White cores with number printing), Wrapped with Polyester Tape, CU. Tape Shielded, Inner sheath (as per requirement), G. I. wire armoured and PVC outer sheathed cables.

TECHNICAL DATA: Voltage Grade = 0.6/1KV; Temperature range= -20°C to 70°; B. R. = 10 Times x CableØ

Size	Nom. Insu. thick	Core Dia.	UNARMoured Y(G)Y			ROUND WIRE ARMoured Y(G)RY				FLAT WIRE ARMoured Y(G)FGY			
			Nom. sheath Thick	Cable O. D.	App. Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm ²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0rm	0.8	2.9	1.8	9.7	127	0.9	1.8	13.6	334				
1.5rm	0.8	3.2	1.8	11.2	164	0.9	1.8	14.3	404				
2.5rm	0.8	3.65	1.8	12.3	204	0.9	1.8	115.1	459				
4.0rm	1	4.55	1.8	14.3	268	1.25	1.8	16.5	540				
3CX1.0rm	0.8	2.9	1.8	10.2	148	0.9	1.8	14.1	370				
1.5rm	0.8	3.2	1.8	10.9	178	0.9	1.8	14.7	438				
2.5rm	0.8	3.65	1.8	11.8	217	0.9	1.8	15.7	498				
4.0rm	1	4.55	1.8	13.9	316	1.25	1.8	17.9	630				
4CX1.0rm	0.8	2.9	1.8	11	173	0.9	1.8	14.8	404				
1.5rm	0.8	3.2	1.8	11.7	208	0.9	1.8	15.7	490				
2.5rm	0.8	3.65	1.8	12.8	257	1.25	1.8	17.3	562				
4.0rm	1	4.55	1.8	15	369	1.25	1.8	19.1	725				
5CX1.0rm	0.8	2.9	1.8	11.4	190	0.9	1.8	15.3	443				
1.5rm	0.8	3.2	1.8	12.4	250	1.25	1.8	16.8	538				
2.5rm	0.8	3.65	1.8	13.5	311	1.25	1.8	18	635				
4.0rm	1	4.55	1.8	16.5	445	1.25	1.8	20.3	820				
7CX1.0rm	0.8	2.9	1.8	12.6	250	1.25	1.8	17.3	477				
1.5rm	0.8	3.2	1.8	13.6	305	1.25	1.8	18.3	631				
2.5rm	0.8	3.65	1.8	14.8	385	1.25	1.8	19.4	755				
4.0rm	1	4.55	1.8	17.8	560	1.25	1.8	22.7	1160				
10CX1.0rm	0.8	2.9	1.8	15.5	312	1.25	1.8	21.2	750				
1.5rm	0.8	3.2	1.8	16.8	406	1.6	1.8	21.5	938	0.8x4	1.8	20.6	760
2.5rm	0.8	3.65	1.8	18.6	521	1.6	1.8	23.8	1098	0.8x4	1.8	22.3	870
4.0rm	1	4.55	1.8	22.5	775	1.6	1.8	27.9	1630	0.8x4	1.8	25.9	1210
12CX1.0rm	0.8	2.9	1.8	16.1	354	1.25	1.8	20.7	804	0.8x4	0	0	0
1.5rm	0.8	3.2	1.8	17.5	464	1.6	1.8	22.7	1003	0.8x4	1.8	21.2	813
2.5rm	0.8	3.65	1.8	19.2	602	1.6	1.8	24.7	1205	0.8x4	1.8	22.9	1005
14CX1.0rm	0.8	2.9	1.8	16.8	400	1.25	1.8	21.3	865	0.8x4	0	0	0
1.5rm	0.8	3.2	1.8	18.5	535	1.6	1.8	23.6	1090	0.8x4	1.8	21.9	900
2.5rm	0.8	3.65	1.8	20	705	1.6	1.8	25.4	1455	0.8x4	1.8	23.7	1218
19CX1.0rm	0.8	2.9	1.8	18.5	523	1.6	1.8	23.7	1155	0.8x4	1.8	22	905
1.5rm	0.8	3.2	1.8	20.2	663	1.6	1.8	25.5	1435	0.8x4	1.8	23.8	1208
2.5rm	0.8	3.65	1.8	22.2	870	1.6	1.8	27.5	1735	0.8x4	1.8	25.8	1500
24CX1.0rm	0.8	2.9	1.8	21.5	609	1.6	1.8	26.6	1369	0.8x4	1.8	24.9	1088
1.5rm	0.8	3.2	1.8	23.2	812	1.6	1.9	29	1712	0.8x4	1.8	27.2	1172
2.5rm	0.8	3.65	1.8	25.9	1076	1.6	1.9	31.4	2098	0.8x4	1.9	29.8	1800
30CX1.0rm	0.8	2.9	1.8	22.5	725	1.6	1.8	27.9	1543	0.8x4	1.8	26.3	1243
1.5rm	0.8	3.2	1.8	24.8	975	1.6	1.9	30.3	1915	0.8x4	1.9	28.7	1610
2.5rm	0.8	3.65	1.8	27.4	1290	2	2	34	2360	0.8x4	1.9	31.3	1840
37CX1.0rm	0.8	2.9	1.8	24.4	872	1.6	1.9	29.8	1748	0.8x4	1.8	28	1435
1.5rm	0.8	3.2	1.8	26.7	1160	1.6	2	32.5	2190	0.8x4	1.9	31.4	1880
2.5rm	0.8	3.65	1.8	29.6	1556	2	2.1	36.6	2745	0.8x4	2	34	2195
48CX1.0rm	0.8	2.9	1.9	27.8	1106	2	2	34.3	2326	0.8x4	2	31.8	1760
1.5rm	0.8	3.2	1.9	30.7	1470	2	2.2	37.8	2795	0.8x4	2.1	35.2	2235
2.5rm	0.8	3.65	2	34	1985	2	2.3	41.3	3690	0.8x4	2.2	38.6	3100
61CX1.0rm	0.8	2.9	2	30.5	1385	2	2.1	37	2770	0.8x4	2.1	34.7	1820
1.5rm	0.8	3.2	2	33.7	1830	2	2.2	40.4	3455	0.8x4	2.2	38.1	2805
2.5rm	0.8	3.65	2.1	37.5	2475	2	2.4	42.9	4460	0.8x4	2.3	41.9	3710





0.6/1KV XLPE NON-SHIELD CONTROL CABLES

APPLICATION: To be used for remote/auto control of electrical facilities at power plant or factory etc.

STANDARD: **BDS- IEC 60502-1** **VDE: 0272** **BS: 5467**

CONSTRUCTION: plain stranded copper conductor (class 2 of IEC-228), XLPE insulated (Type A of IEC 502), Colour coded (1C- Black; 2C-Red & Black; 3C-Red, Yellow & Blue; 4C- Red, Yellow, Blue & Black; 5C & Above - Black cores with number printing), Extruded/Taped inner sheath (as per requirement), G. I. wire armoured and PVC sheathed cables.

TECHNICAL DATA: Voltage Grade = 0.6/1KV; Temperature range= -20°C to +90° B. R. = 10 Times x CableØ



Size	Nom. Insu. thick	Core Dia.	UNARMoured 2XY			ROUND WIRE ARMoured 2XRY				FLAT WIRE ARMoured 2XFGY			
			Nom. sheath Thick	Cable O. D.	App. Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0rm	0.7	2.7	1.8	9.1	108	0.9	1.8	13	320				
1.5rm	0.7	3	1.8	9.7	125	0.9	1.8	13.6	370				
2.5rm	0.7	3.45	1.8	10.6	160	0.9	1.8	14.5	420				
4.0rm	0.7	4	1.8	11.9	210	0.9	1.8	15.9	500				
3CX1.0rm	0.7	2.7	1.8	9.6	127	0.9	1.8	13.5	340				
1.5rm	0.7	3	1.8	10.2	145	0.9	1.8	14.1	400				
2.5rm	0.7	3.45	1.8	11.1	187	0.9	1.8	15	465				
4.0rm	0.7	4	1.8	12.5	250	1.25	1.8	17.2	615				
4CX1.0rm	0.7	2.7	1.8	10.2	144	0.9	1.8	14	360				
1.5rm	0.7	3	1.8	11	171	0.9	1.8	14.9	440				
2.5rm	0.7	3.45	1.8	12	227	1.25	1.8	15.9	515				
4.0rm	0.7	4	1.8	13.5	305	1.25	1.8	18.2	720				
5CX1.0rm	0.7	2.7	1.8	10.7	157	0.9	1.8	14.6	387				
1.5rm	0.7	3	1.8	11.5	210	1.25	1.8	15.4	485				
2.5rm	0.7	3.45	1.8	12.7	270	1.25	1.8	16.6	575				
4.0rm	0.7	4	1.8	14.9	365	1.25	1.8	18.6	795				
7CX1.0rm	0.7	2.7	1.8	11.8	205	1.25	1.8	16.3	540				
1.5rm	0.7	3	1.8	12.7	255	1.25	1.8	16.6	570				
2.5rm	0.7	3.45	1.8	14.1	330	1.25	1.8	18	675				
4.0rm	0.7	4	1.8	16.1	460	1.25	1.8	20.8	955				
10CX1.0rm	0.7	2.7	1.8	14.5	259	1.25	1.8	19	674				
1.5rm	0.7	3	1.8	15.7	345	1.25	1.8	19.6	725				
2.5rm	0.7	3.45	1.8	17.5	455	1.6	1.8	21.4	1015	0.8x4	1.8	22	810
4.0rm	0.7	4	1.8	20	630	1.6	1.8	25.4	1400	0.8x4	1.8	23.6	1190
12CX1.0rm	0.7	2.7	1.8	15.2	289	1.25	1.8	19.7	714	0.8x4	0	0	0
1.5rm	0.7	3	1.8	16.2	390	1.25	1.8	20.1	900	0.8x4	1.8	20.9	725
2.5rm	0.7	3.45	1.8	18	520	1.6	1.8	21.9	1090	0.8x4	1.8	22.6	880
14CX1.0rm	0.7	2.7	1.8	15.6	325	1.25	1.8	20.2	770	0.8x4	0	0	0
1.5rm	0.7	3	1.8	16.9	510	1.6	1.8	20.8	980	0.8x4	1.8	21.7	800
2.5rm	0.7	3.45	1.8	18.9	675	1.6	1.8	22.8	1190	0.8x4	1.8	23.5	990
19CX1.0rm	0.7	2.7	1.8	17.2	430	1.6	1.8	22.5	1015	0.8x4	1.8	20.9	785
1.5rm	0.7	3	1.8	17.7	555	1.6	1.8	21.6	1150	0.8x4	1.8	23.6	950
2.5rm	0.7	3.45	1.8	21	760	1.6	1.8	24.9	1580	0.8x4	1.8	25.6	1311
24CX1.0rm	0.7	2.7	1.8	19.9	497	1.6	1.8	25.2	1260	0.8x4	1.8	23.6	937
1.5rm	0.7	3	1.8	21.7	680	1.6	1.8	25.6	1525	0.8x4	1.8	26.9	1281
2.5rm	0.7	3.45	1.8	24.4	935	1.6	1.9	28.3	1880	0.8x4	1.9	29.5	1560
30CX1.0rm	0.7	2.7	1.8	21	596	1.6	1.8	26.3	1390	0.8x4	1.8	24.7	1074
1.5rm	0.7	3	1.8	22.9	810	1.6	1.8	26.7	1715	0.8x4	1.9	28.4	1440
2.5rm	0.7	3.45	1.8	25.8	1125	2	1.9	29.7	2150	0.8x4	1.9	31	1680
37CX1.0rm	0.7	2.7	1.8	22.6	710	1.6	1.8	27.9	1545	0.8x4	1.8	26.3	1235
1.5rm	0.7	3	1.8	24.7	965	1.6	1.9	28.6	1940	0.8x4	1.9	31.1	1630
2.5rm	0.7	3.45	1.8	27.9	1350	2	2	31.8	2445	0.8x4	2	33.7	1790
48CX1.0rm	0.7	2.7	1.8	25.7	923	1.6	2	31.4	2046	0.8x4	1.8	29.8	1503
1.5rm	0.7	3	1.9	28.4	1225	2	2.1	32.3	2350	0.8x4	1.9	34.9	1975
2.5rm	0.7	3.45	2	32.2	1715	2	2.2	36.1	3315	0.8x4	2	38.3	2450
61CX1.0rm	0.7	2.7	1.9	28.2	1140	2	2.1	34.7	2420	0.8x4	2	33.5	1820
1.5rm	0.7	3	2	30.9	1505	2	2.1	34.8	3050	0.8x4	2.1	37.8	2300
2.5rm	0.7	3.45	2.1	35.4	2130	2	2.3	39.3	3870	0.8x4	2.2	41.6	2825





0.6/1KV XLPE (CU. BRAID) SHIELD CONTROL CABLES

APPLICATION: To be used for control circuits of facilities where electrostatic shielding and winding is required

STANDARD: BDS- IEC 60502-1

VDE: 0272

BS: 5467

CONSTRUCTION: Plain stranded copper conductor (class 2 of IEC-228), XLPE insulated (Type A of IEC 502), Colour coded (1C- Black; 2C-Red & Black; 3C-Red, Yellow & Blue; 4C-Red, Yellow, Blue & Black; 5C & Above - Black cores with number printing), Extruded/Taped inner sheath (as per requirement), G. I. wire armoured and PVC sheathed cables.

TECHNICAL DATA: Voltage Grade = 0.6/1KV; Temperature range= -20°C to +90° B. R. = 10 Times x CableØ

Size	Nom. Insu. thick	Core Dia.	UNARMoured Y(Cb)Y			ROUND WIRE ARMoured Y(Cb)RY				FLAT WIRE ARMoured Y(Cb)FGY			
			Nom. sheath Thick	Cable O. D.	App Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0mm	0.7	2.7	1.8	9.4	128	0.9	1.8	13.4	345				
1.5mm	0.7	3	1.8	10	148	0.9	1.8	13.9	395				
2.5mm	0.7	3.45	1.8	10.9	180	0.9	1.8	14.7	445				
4.0mm	0.7	4	1.8	12.2	235	0.9	1.8	16.2	530				
3CX1.0mm	0.7	2.7	1.8	9.9	157	0.9	1.8	13.8	370				
1.5mm	0.7	3	1.8	10.5	165	0.9	1.8	14.4	430				
2.5mm	0.7	3.45	1.8	11.4	205	0.9	1.8	15.3	490				
4.0mm	0.7	4	1.8	12.9	280	1.25	1.8	17.6	640				
4CX1.0mm	0.7	2.7	1.8	10.6	168	0.9	1.8	14.4	385				
1.5mm	0.7	3	1.8	11.4	195	0.9	1.8	15.3	470				
2.5mm	0.7	3.45	1.8	12.4	250	1.25	1.8	16.3	540				
4.0mm	0.7	4	1.8	13.9	330	1.25	1.8	18.6	750				
5CX1.0mm	0.7	2.7	1.8	11.1	180	0.9	1.8	15	425				
1.5mm	0.7	3	1.8	11.9	235	1.25	1.8	15.9	515				
2.5mm	0.7	3.45	1.8	13.1	295	1.25	1.8	17.1	610				
4.0mm	0.7	4	1.8	15.4	390	1.25	1.8	19	825				
7CX1.0mm	0.7	2.7	1.8	12.3	230	1.25	1.8	16.8	580				
1.5mm	0.7	3	1.8	13.1	285	1.25	1.8	17.1	610				
2.5mm	0.7	3.45	1.8	14.5	360	1.25	1.8	18.5	720				
4.0mm	0.7	4	1.8	16.6	490	1.25	1.8	21.2	1000				
10CX1.0mm	0.7	2.7	1.8	15	290	1.25	1.8	19.5	725				
1.5mm	0.7	3	1.8	16.2	375	1.25	1.8	20.1	770				
2.5mm	0.7	3.45	1.8	18	500	1.6	1.8	21.9	1060	0.8x4	1.8	22.5	860
4.0mm	0.7	4	1.8	20.5	680	1.6	1.8	25.9	1460	0.8x4	1.8	24.1	1250
12CX1.0mm	0.7	2.7	1.8	15.7	325	1.25	1.8	20.2	760	0.8x4	1.8	0	0
1.5mm	0.7	3	1.8	16.2	390	1.25	1.8	20.1	900	0.8x4	1.8	20.9	725
2.5mm	0.7	3.45	1.8	18	520	1.6	1.8	21.9	1090	0.8x4	1.8	22.6	880
14CX1.0mm	0.7	2.7	1.8	16.1	355	1.25	1.8	20.7	820	0.8x4	1.8	0	0
1.5mm	0.7	3	1.8	16.9	510	1.6	1.8	20.8	980	0.8x4	1.8	21.7	800
2.5mm	0.7	3.45	1.8	18.9	675	1.6	1.8	22.8	1190	0.8x4	1.8	23.5	990
19CX1.0mm	0.7	2.7	1.8	17.8	480	1.6	1.8	23	1050	0.8x4	1.8	21.4	835
1.5mm	0.7	3	1.8	18.2	590	1.6	1.8	22.1	1200	0.8x4	1.8	24.1	1000
2.5mm	0.7	3.45	1.8	21.5	795	1.6	1.8	25.4	1630	0.8x4	1.8	26.1	1360
24CX1.0mm	0.7	2.7	1.8	20.4	530	1.6	1.8	25.7	1310	0.8x4	1.8	24.1	980
1.5mm	0.7	3	1.8	22.5	720	1.6	1.8	26.1	1580	0.8x4	1.8	27.4	1330
2.5mm	0.7	3.45	1.8	24.9	980	1.6	1.9	28.8	1940	0.8x4	1.9	30.1	1610
30CX1.0mm	0.7	2.7	1.8	21.6	635	1.6	1.8	26.9	1450	0.8x4	1.8	25.2	1120
1.5mm	0.7	3	1.8	23.5	860	1.6	1.8	27.2	1775	0.8x4	1.9	28.9	1495
2.5mm	0.7	3.45	1.8	26.4	1180	2	1.9	30.3	2210	0.8x4	1.9	31.6	1740
37CX1.0mm	0.7	2.7	1.8	23.2	760	1.6	1.8	28.5	1600	0.8x4	1.8	26.9	1285
1.5mm	0.7	3	1.8	25.3	1015	1.6	1.9	29.2	2000	0.8x4	1.9	31.6	1690
2.5mm	0.7	3.45	1.8	28.5	1400	2	2	32.5	2500	0.8x4	2	34.3	1850
48CX1.0mm	0.7	2.7	1.9	26.3	985	1.6	2	32	2100	0.8x4	1.8	30.4	1560
1.5mm	0.7	3	1.9	29	1280	2	2.1	32.9	2420	0.8x4	2.1	35.5	2040
2.5mm	0.7	3.45	2	32.8	1770	2	2.2	36.7	3380	0.8x4	2.2	38.9	2520
61CX1.0mm	0.7	2.7	2	29	1200	2	2.1	35.5	2500	0.8x4	2	34.1	1900
1.5mm	0.7	3	2	31.5	1560	2	2.1	35.4	3120	0.8x4	2.1	38.4	2375
2.5mm	0.7	3.45	2.1	36	2200	2	2.3	39.9	3950	0.8x4	2.3	42.2	2890





0.6/1KV XLPE (CU. TAPE) SHIELD CONTROL CABLES

APPLICATION: To be used for control circuits of electrical facilities where electrostatic shielding is required

STANDARD:

BDS-IEC 60502-1

VDE: 0272

BS: 5467

CONSTRUCTION: Plain stranded copper conductor(class 2 of IEC-228), XLPE insulated (Type A of IEC 502), Colour coded (1C- Black; 2C- Red & Black; 3C-Red, Yellow & Blue; 4C-Red, Yellow, Blue & Black; 5C & Above - Black cores with number printing), Extruded/Taped inner sheath (as per requirement), G. I. wire armoured and PVC sheathed cables.

TECHNICAL DATA: Voltage Grade = 0.6/1KV; Temperature range= -20°C to +90° B. R. = 10 Times x CableØ

Size	Nom. Insu. thick	Core Dia.	UNARMoured 2X(Ct)Y			ROUND WIRE ARMoured 2X(Ct)YR				FLAT WIRE ARMoured 2X(Ct)FGY			
			Nom. sheath Thick	Cable O. D.	App. Wt.	Round Armour wirewire	Nom. Sheath Thick of sheath	Cable O. D.	App. Wt.	Flat Armour wirewire	Nom. Sheath Thick of Sheath	Cable O. D.	App. Wt.
mm ²	mm	mm	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	mm	kg/km
2CX1.0mm	0.8	2.9	1.8	9.2	120	0.9	1.8	13.2	335				
1.5mm	0.8	3.2	1.8	9.9	140	0.9	1.8	13.8	390				
2.5mm	0.8	3.65	1.8	10.8	175	0.9	1.8	14.7	440				
4.0mm	1	4.55	1.8	12.1	225	0.9	1.8	16.1	525				
3CX1.0mm	0.8	2.9	1.8	9.8	140	0.9	1.8	13.7	360				
1.5mm	0.8	3.2	1.8	10.4	152	0.9	1.8	14.3	440				
2.5mm	0.8	3.65	1.8	11.3	200	0.9	1.8	15.3	490				
4.0mm	1	4.55	1.8	12.8	270	1.25	1.8	17.4	640				
4CX1.0mm	0.8	2.9	1.8	10.4	162	0.9	1.8	14.3	380				
1.5mm	0.8	3.2	1.8	11.2	190	0.9	1.8	15.2	458				
2.5mm	0.8	3.65	1.8	12.2	240	1.25	1.8	16.2	540				
4.0mm	1	4.55	1.8	13.8	322	1.25	1.8	18.5	740				
5CX1.0mm	0.8	2.9	1.8	11	175	0.9	1.8	14.9	405				
1.5mm	0.8	3.2	1.8	11.8	225	1.25	1.8	15.7	505				
2.5mm	0.8	3.65	1.8	13	288	1.25	1.8	16.9	595				
4.0mm	1	4.55	1.8	15.2	385	1.25	1.8	18.9	820				
7CX1.0mm	0.8	2.9	1.8	21.1	225	1.25	1.8	16.6	560				
1.5mm	0.8	3.2	1.8	13	265	1.25	1.8	16.9	595				
2.5mm	0.8	3.65	1.8	14.4	350	1.25	1.8	18.4	698				
4.0mm	1	4.55	1.8	16.5	485	1.25	1.8	21.2	980				
10CX1.0mm	0.8	2.9	1.8	14.8	280	1.25	1.8	19.4	700				
1.5mm	0.8	3.2	1.8	16	370	1.25	1.8	19.9	810				
2.5mm	0.8	3.65	1.8	17.9	480	1.6	1.8	21.8	1040	0.8x4	1.8	22	810
4.0mm	1	4.55	1.8	20.4	650	1.6	1.8	25.8	1430	0.8x4	1.8	23.9	1225
12CX1.0mm	0.8	2.9	1.8	15.6	310	1.25	1.8	20.1	740	0.8x4	1.8	0	0
1.5mm	0.8	3.2	1.8	16.6	415	1.25	1.8	20.5	930	0.8x4	1.8	21.3	750
2.5mm	0.8	3.65	1.8	18.4	545	1.6	1.8	21.9	1120	0.8x4	1.8	22.9	910
14CX1.0mm	0.8	2.9	1.8	15.9	350	1.25	1.8	20.6	795	0.8x4	0	0	0
1.5mm	0.8	3.2	1.8	17.3	530	1.6	1.8	21.2	1010	0.8x4	1.8	22.1	830
2.5mm	0.8	3.65	1.8	19.3	705	1.6	1.8	23.1	1220	0.8x4	1.8	23.9	1020
19CX1.0mm	0.8	2.9	1.8	17.5	455	1.6	1.8	22.9	1040	0.8x4	1.8	21.3	815
1.5mm	0.8	3.2	1.8	18.1	580	1.6	1.8	22	1185	0.8x4	1.8	23.6	990
2.5mm	0.8	3.65	1.8	21.4	790	1.6	1.8	25.3	1615	0.8x4	1.8	26	1345
24CX1.0mm	0.8	2.9	1.8	20.4	530	1.6	1.8	25.6	1300	0.8x4	1.8	24	970
1.5mm	0.8	3.2	1.8	22.1	710	1.6	1.8	26	1560	0.8x4	1.8	27.4	1310
2.5mm	0.8	3.65	1.8	24.8	965	1.6	1.9	28.7	1920	0.8x4	1.9	30	1600
30CX1.0mm	0.8	2.9	1.8	21.4	625	1.6	1.8	26.7	1425	0.8x4	1.8	25.1	1110
1.5mm	0.8	3.2	1.8	23.3	840	1.6	1.8	27.1	1755	0.8x4	1.9	28.8	1490
2.5mm	0.8	3.65	1.8	26.2	1150	2	1.9	30.1	2185	0.8x4	1.9	31.4	1720
37CX1.0mm	0.8	2.9	1.8	25.4	1160	1.6	1.8	28.3	1585	0.8x4	1.8	26.7	1275
1.5mm	0.8	3.2	1.8	25.1	1000	1.6	1.9	29.2	1975	0.8x4	1.9	31.5	1675
2.5mm	0.8	3.65	1.8	28.3	1390	2	2	32.2	2495	0.8x4	2	34.1	1840
48CX1.0mm	0.8	2.9	1.9	26.1	980	1.6	2	31.9	2100	0.8x4	1.8	30.2	1550
1.5mm	0.8	3.2	1.9	28.8	1265	2	2.1	32.7	2400	0.8x4	2.1	35.3	2025
2.5mm	0.8	3.65	2	32.6	1760	2	2.2	36.5	3365	0.8x4	2.2	38.7	2500
61CX1.0mm	0.8	2.9	2	26.6	1200	2	2.1	35.2	2500	0.8x4	2	34	1880
1.5mm	0.8	3.2	2	31.4	1565	2	2.1	35.3	3110	0.8x4	2.2	38.3	2360
2.5mm	0.8	3.65	2.1	35.9	2200	2	2.3	39.9	3950	0.8x4	2.3	42.1	2900





FLEXIBLE CONNECTION & CONTROL CABLES

VDE 0250 & BDS-IEC 227-03 & BS 6004

APPLICATION: These cables are especially suitable for control purposes in machine tool manufacturing, production lines, industrial plants, air conditioning installations and steel plants.

CONSTRUCTION: Plain copper bunched conductor (class 5 of IEC-228), PVC (VDE 0207) insulated Black cores with white numbers and one green/yellow core. Cores twisted in layers, Black coloured sheath (IEC 332-1) is provided for outer coating.

TECHNICAL DATA: Working Voltage: 300/500V; Temperature range: -20°C to +80°C
Insulation Resistance = 20MΩm - km; Test voltage = 2000V. for 5 Minutes; B. R. = 12 X Cable Ø



Cable size = 0.5 mm ² (16/0.2)					0.75 mm ² (24/0.2)			
Cores No.	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	APP. Wt.	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	APP. Wt.
2	0.6	0.8	6.1	45	0.6	0.8	6.6	70
3	0.6	0.8	6.5	50	0.6	0.8	7.8	90
4	0.6	0.8	7.0	60	0.6	0.9	8.8	115
5	0.6	0.9	7.7	75	0.6	0.9	9.4	135
7	0.6	1.0	8.7	100	0.6	1.1	10.2	160
10	0.6	1.2	11.2	145	0.6	1.2	12.9	230
12	0.6	1.2	11.7	160	0.6	1.2	13.5	275
14	0.6	1.2	12.1	200	0.6	1.3	14.1	305
19	0.6	1.3	13.3	255	0.6	1.4	15.5	380
24	0.6	1.5	16.1	330	0.6	1.5	19.1	520
30	0.6	1.6	17.0	385	0.6	1.6	20.1	605
37	0.6	1.7	19.0	480	0.6	1.7	21.5	705
48	0.6	1.8	21.4	600	0.6	1.8	24.9	910

Cable Size = 1.0 mm ² (3/0.2)					1.5 mm ² (30/0.25)			
Cores No.	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	APP. Wt.
2	0.6	0.8	6.8	75	0.7	0.8	8.5	95
3	0.6	0.8	7.5	110	0.7	0.9	9.1	130
4	0.6	0.9	9.2	130	0.7	1.0	9.8	155
5	0.6	0.9	9.9	155	0.7	1.1	11.1	195
7	0.6	1.1	11.1	195	0.7	1.2	11.9	240
10	0.6	1.2	13.6	265	0.7	1.2	14.8	330
12	0.6	1.2	14.3	315	0.7	1.2	15.4	390
14	0.6	1.3	14.9	355	0.7	1.4	16.7	460
19	0.6	1.5	17.0	465	0.7	1.5	19.0	605
24	0.6	1.6	20.2	600	0.7	1.6	21.8	745
30	0.6	1.7	21.2	705	0.7	1.7	23.0	880
37	0.6	1.8	22.7	830	0.7	1.9	25.3	1080
48	0.6	1.9	26.3	1070	0.7	1.9	28.8	1380

Cable Size = 2.5 mm ² (50/0.25)					4.0 mm ² (56/0.3)			
Cores No.	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km	Ins. Thick mm	Sh. Thick mm	App. O.D. mm	APP. Wt.
2	0.8	1.0	9.7	150	0.8	1.1	11.0	200
3	0.8	1.1	11.0	185	0.8	1.2	11.6	236
4	0.8	1.1	11.8	230	0.8	1.2	12.6	288
5	0.8	1.2	12.9	275	0.8	1.4	13.8	359
7	0.8	1.2	13.9	345	0.8	1.4	15.5	477
10	0.8	1.3	18.0	500	0.8	1.5	19.9	681
12	0.8	1.4	19.4	615	0.8	1.6	20.75	789
14	0.8	1.5	20.2	690	0.8	1.6	21.85	898
19	0.8	1.6	22.3	880	0.8	1.7	24.5	1175
24	0.8	1.7	26.4	1125				
30	0.8	1.8	27.8	1335				
37	0.8	2.0	30.7	1665				





FLEXIBLE SCREENED CONTROL CABLES - VDE 0250 & BDS-900 IEC 227-03 & BS 6004

APPLICATION: These cables are especially suitable for control purposes in machine tool manufacturing, conveyor and assembly lines requires electrostatic shielding, subject to medium mechanical stresses.

CONSTRUCTION: Plain copper bunched conductor (class 5 of IEC-228), PVC (VDE 0207) insulated Black cores with white numbers and one green/yellow core. Cores twisted in layers, PVC inner sheathed and Braided with plain copper wires. Grey coloured sheath (IEC 332-1) is provided for outer coating.

TECHNICAL DATA: Working Voltage: 300/500V; Temperature range: -20°C to +80°C Insulation Resistance = 20MΩm - km; Test voltage = 2000V for 5 Minutes; B. R. = 12 X Cable Ø



Cable size = 0.5 mm ² (16/0.2)						0.75 mm ² (24/0.2)				
Cores No.	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km
2	0.6	0.7	0.9	8.6	95	0.6	0.7	0.9	9.0	110
3	0.6	0.7	0.9	9.1	110	0.6	0.7	0.9	9.6	130
4	0.6	0.7	0.9	9.9	130	0.6	0.7	1.0	10.7	160
5	0.6	0.7	1.0	10.9	160	0.6	0.7	1.1	11.4	180
7	0.6	0.7	1.1	11.6	175	0.6	0.7	1.2	12.1	200
10	0.6	0.7	1.1	14.1	255	0.6	0.7	1.2	14.7	295
12	0.6	0.8	1.3	14.5	275	0.6	0.8	1.3	15.2	325
14	0.6	0.8	1.3	15.0	305	0.6	0.8	1.3	16.7	390
19	0.6	0.8	1.3	17.3	400	0.6	0.8	1.5	18.6	500
24	0.6	0.8	1.6	19.8	510	0.6	0.8	1.6	21.1	600
30	0.6	0.8	1.6	20.8	590	0.6	0.9	1.7	22.5	710
37	0.6	0.9	1.7	22.4	700	0.6	1.0	1.8	24.4	865
48	0.6	0.9	1.9	25.5	900	0.6	1.0	2.1	27.5	1085

1.0 mm ² (32/0.2)						Cable size = 1.5 mm ² (30/0.25)				
Cores No.	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km
2	0.6	0.7	0.9	9.5	130	0.7	0.7	1.0	10.4	145
3	0.6	0.7	1.0	10.2	150	0.7	0.7	1.0	11	170
4	0.6	0.7	1.0	11.2	175	0.7	0.7	1.1	11.7	200
5	0.6	0.7	1.1	11.9	200	0.7	0.8	1.2	12.5	230
7	0.6	0.8	1.1	12.6	240	0.7	0.8	1.2	13.4	260
10	0.6	0.8	1.2	16.5	275	0.7	0.8	1.3	17.4	425
12	0.6	0.8	1.4	17.0	415	0.7	0.8	1.5	17.8	470
14	0.6	0.8	1.5	17.5	450	0.7	0.8	1.6	19.1	550
19	0.6	0.8	1.5	19.8	580	0.7	0.8	1.7	20.6	670
24	0.6	0.9	1.6	22.6	720	0.7	0.9	1.9	24.5	875
30	0.6	0.9	1.7	24.2	860	0.7	0.9	2.1	25.6	1010
37	0.6	1.0	1.9	25.6	1000	0.7	1.0	2.2	27.2	1160
48	0.6	1.0	2.1	30.0	1310	0.7	1.1	2.4	31.6	1560

2.5 mm ² (50/0.25)						4.0 mm ² (56/0.3)				
Cores No.	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km	Ins. Thick mm	Inner sh. mm	Sh. Thick mm	App. O.D. mm	App. Wt. Kg/km
2	0.8	0.7	1.1	11.8	209	0.8	0.8	1.1	11.8	228
3	0.8	0.7	1.1	12.5	230	0.8	0.8	1.2	12.4	270
4	0.8	0.8	1.2	13.5	280	0.8	0.8	1.3	13.5	333
5	0.8	0.8	1.3	14.5	320	0.8	0.8	1.4	14.8	407
7	0.8	0.8	1.5	15.9	390	0.8	0.8	1.5	16.5	537
10	0.8	0.8	1.6	20.6	615	0.8	0.9	1.8	20.9	756
12	0.8	0.9	1.7	21.1	690	0.8	1.0	1.8	21.8	874
14	0.8	0.9	1.8	22.3	780	0.8	1.0	1.9	22.9	993
19	0.8	0.9	1.9	25.1	1010	0.8	1.0	2.0	25.9	1295
24	0.8	1.0	2.1	28.8	1255					
30	0.8	1.0	2.3	30.8	1510					
37	0.8	1.1	2.4	32.8	1765					



Medium Voltage (H.T) Cables





View of Triple Extrusion Line with SIKORA of Germany



View of Impulse Test Machine from Germany





MEDIUM VOLTAGE CABLES - CONSTRUCTION

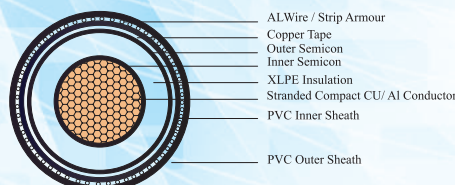
Cross Linked Polyethylene Cable i.e. XLPE cable was developed in late 1970 to overcome the susceptibility of PILC Cables to ingress of moisture. There after XLPE has replaced all other materials in almost all voltage applications particularly from 3.3KV to 500KV category.

The excellent thermal properties of XLPE Cable permit maximum continuous conductor operating temperature of 90°C and short circuit temperature of 250°C. Moreover, it has low dielectric loss, which does not vary much over the entire operating range. These characteristics, along with the low dielectric constant, make XLPE compound, particularly suitable for high voltage cable applications.

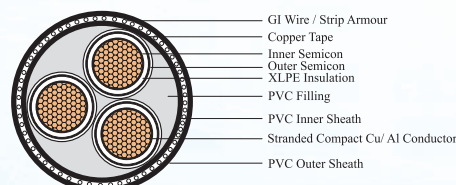
APPLICATIONS:

Extensively used for power Transmission where overhead lines to be discouraged, in Power generating plants, in Industrial plants, suitable to use where power /load/temperature fluctuations are more and in most difficult cable route conditions such as city distribution net work etc.

SINGLE CORE HT XLPE CABLE:



THREE CORE HT XLPE CABLE:



CONDUCTOR

Normally, Round Compact Smooth Conductors are used for High voltage cables to ensure minimum stress development on the surface of the conductor which are made of Copper or Aluminum of sizes between 25 to 630mm².

TRIPLE EXTRUSION

Extrusion is done in a closed triple crosshead. Inner semiconducting compound, XLPE insulating compound and outer semiconducting compound are fed into respective extruders in a contamination-free closed circuit system through preheater and dehumidifier. The quantum and the size of microvoid formation is to be restricted much below specified level by careful process control, and choice of quality compounds. The Line is operated with X-RAY 8000 (SIKORA) Scanner; display the on-line product parameters, offers following functions: Measurement of:

- ✓ Outer diameter and ovality
- ✓ Wall thickness of outer semiconductor, insulation, and inner semiconductor
- ✓ Eccentricity of outer semiconductor, insulation, inner semiconductor
- ✓ Core diameter and ovality
- ✓ Total wall thickness
- ✓ Graphic and numerical display of measuring values about wall thickness and diameter
- ✓ Measuring value control
- ✓ Comparison of measuring values wall thickness and diameter to nominal values and tolerance limits
- ✓ Statistical information and graphical display of selectable measuring values
- ✓ Graphical display of scan intensity level
- ✓ Serial interface to RS 422

CURING

Curing under oxygen-free nitrogen gas pressure is carried out in Catenary Continuous Vulcanization (CCV) line as per the recommended practice. Longer cooling length under pressure restrict the size of voids to be below micron level while the quantum are further minimized to ensure minimum Partial discharge level, thus guaranteeing longer performance and life of the product.





MEDIUM VOLTAGE CABLES - CONSTRUCTION

METALLIC SCREENING

Screening with copper tape along with suitable overlap ensures a uniform radial stress distribution around the axis of the cable core, thus ensuring stable performance. As per the customer requirements, suitable screen structure can be designed.

ASSEMBLING

Assembly of cores in a precisely controlled laying up machine with an anti torsion device, so as to avoid any stress formation on the cores and applied screen. Interstices between cores are filled with suitable non-hygroscopic fillers.

INNER SHEATH

Extruded PVC inner sheath is applied over the assembly of the cores. This coating should be free from any pin holes and is impervious to moisture

ARMOURING

Galvanized steel round wire, flat wire or tapes are used to armour the cable with suitable layer and so ensuring required armour resistance value for diverting fault current as per specific requirement. Single core armoured cables are provided with non-magnetic armour consisting of hard drawn round wire or flat tape of aluminum will be provided.

OUTER SHEATH

A tough outer sheath of Heat Resisting PVC compound (Type ST2) or Polyethylene is extruded over the armouring in case of armoured cables or over inner sheath in case of unarmoured cables or over non-magnetic metallic part of insulation screening in case of unarmoured single core cables. It protects the cable from the influence of surrounding affluent like Acids, Alkalis, Salts, emulsions and Organic substances. This is always in RED colour for easy identification.

CORE IDENTIFICATION

In case of multi core cables, core identification is done by providing the coloured (Red, Yellow, Blue) tapes below metallic core screen

TESTING AND QUALITY ASSURANCE

During every stage of production process, quality control are personally checked to ensure that the cables are produced as per standard norms. No deviations are allowed at any stage during the process.

All cables are produced under advanced manufacturing and testing facilities. The cables are Routine, Acceptance and Type tested in accordance with all relevant specifications.

In order to achieve consistency in quality, in addition to normal tests, rigorous internal quality control measures are taken at every stage of production. Accordingly every batch of raw materials, PVC/XLPE compounds and process cables are tested to check for their physical and electrical properties.

TEST VOLTAGES

The following voltage is applied between conductor and screen / armour

3.6/6 (7.2) KV (E)	12.5 KV (RMS) for 5 minutes
6/10 (12) KV (E)	21 KV (RMS) for 5 minutes
8.7 / 15 (17.5) KV (E)	30.5 KV (RMS) for 5 minutes
12/20 (24) KV (E)	42 KV (RMS) for 5 minutes
18/30 (36) KV (E)	63 KV (RMS) for 5 minutes





SINGLE CORE : 3.6/6 (7.2) KV XLPE H.T. POWER CABLES

DESCRIPTION: Single core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ AL. wire armoured / AL Double Tape armoured, and PVC outer sheathed cable

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMOURED 2XHSH/A2XHSHV				ROUND WIRE(Al) ARMORED 2XHSHRaY/A2XHSHRaY				DOUBLE TAPE(Al)ARMOURED 2XHSHRaY/A2XHSHRaY						CURRENT RATING								
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air						
				CU	AL				CU	AL				CU	AL	CU	AL	amps	CU	amps	CU	AL	amps	CU
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	CU	AL	CU	AL	amps	CU	AL	amps
10	2.5	1.8	15.2	324	261	1.6	1.8	20.5	583	520	0.5X30	1.8	21.0	696	564	56	39	65	42					
16	2.5	1.8	16.1	400	299	1.6	1.8	21.5	672	572	0.5X30	1.8	21.9	717	617	90	62	104	68					
25	2.5	1.8	17.4	518	364	1.6	1.8	22.7	823	668	0.5X30	1.8	23.2	875	720	140	97	163	106					
35	2.5	1.8	18.5	635	418	1.6	1.8	23.8	957	740	0.5X30	1.8	24.3	1011	794	166	118	198	130					
50	2.5	1.8	19.6	796	418	1.6	1.8	24.9	1135	825	0.5X30	1.8	25.4	1191	882	196	136	238	156					
70	2.5	1.8	21.2	1013	580	2	1.8	26.5	1378	945	0.5X30	1.8	27	1438	1005	239	166	296	196					
95	2.5	1.8	23	1281	693	2	1.8	28.3	1675	1087	0.5X30	1.9	29	1753	1165	285	197	361	239					
120	2.5	1.8	24.6	1542	800	2	1.9	30.1	1976	1234	0.5X30	1.9	30.5	2043	1300	323	224	417	277					
150	2.5	1.8	26	1843	915	2	2	32	2351	1423	0.5X30	2	32	2385	1457	361	252	473	318					
185	2.5	1.8	27.6	2198	1053	2	2.1	34.8	2838	1693	0.5X30	2	33.8	2772	1627	406	284	543	368					
240	2.6	1.9	30.7	2798	1313	2.5	2.2	37.8	3503	2018	0.5X40	2.1	36.8	3430	1944	469	329	641	440					
300	2.8	2	33.7	3440	1583	2.5	2.3	40.9	4209	2352	0.5X40	2.3	40.3	4170	2314	526	372	735	509					
400	3	2.1	37.1	4456	1981	2.5	2.4	45.7	5485	3009	0.5X40	2.4	43.7	5255	2779	590	427	845	602					
500	3.2	2.2	40.5	5478	2384	2.5	2.6	49	6591	3497	0.5X40	2.5	47	6342	3248	669	485	958	699					
630	3.2	2.3	44.2	6769	2871	2.5	2.7	52.8	7978	4079	0.5X40	2.6	51	7734	3836	760	551	1089	790					



THREE CORE : 3.6/6 (7.2) KV XLPE H.T. POWER CABLES

DESCRIPTION: Three core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ Steel wire armoured / steel strip armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMoured ØXSEY/ADXSEY				ROUND STEEL WIRE ARMoured ØXSEYRGV/ADXSEYRGV						FLAT STEEL WIRE ARMoured ØXSEYFGbY/ADXSEYFGbY				CURRENT RATING						
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable	CU	AL	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	CU	AL	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	CU	AL	30°C in ground	35°C in air		
mm²	mm	mm	mm	kg/km	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	amps	amps	amps	amps
3X10	2.5	1.9	31.0	1243	1053	2	2	2.1	35.3	2345	2155	0.8X4	2.0	33.7	1910	1721	52	38	56	40		
3X16	2.5	2.0	33.5	1558	1255	2	2	2.2	38.0	2758	2455	0.8X4	2.1	36.2	2287	1984	83	60	92	64		
3X25	2.5	2.1	36.4	2030	1556	2	2	2.3	40.9	3402	2928	0.8X4	2.2	39.3	2886	2413	129	94	143	100		
3X35	2.5	2.2	39	2470	1806	2	2	2.4	43.4	3934	3276	0.8X4	2.3	41.8	3387	2725	154	111	172	121		
3X50	2.5	2.3	41.6	3052	2105	2.5	2.5	2.5	47	5010	4063	0.8X4	2.4	44.4	4032	3085	181	130	205	145		
3X70	2.5	2.4	45.7	3898	2572	2.5	2.5	2.6	51.1	6053	4727	0.8X4	2.5	48.5	4977	3652	220	160	253	181		
3X95	2.5	2.6	50	4909	3110	2.5	2.5	2.7	55.2	7236	5437	0.8X4	2.6	52.6	6063	4265	263	191	307	221		
3X120	2.5	2.7	53.6	5872	3599	2.5	2.5	2.8	58.8	8367	6095	0.8X4	2.8	56.4	7140	4868	298	217	352	254		
3X150	2.5	2.8	57.1	7005	4165	2.5	2.5	3	62.5	9700	6860	0.8X4	2.9	59.9	8359	5518	332	243	397	290		
3X185	2.5	3	61.2	8326	4823	2.5	2.5	3.1	66.4	11178	7674	0.8X4	3	63.8	9743	6240	374	274	453	330		
3X240	2.6	3.1	67.5	10466	5922	3.15	3.15	3.3	74.2	14488	9944	0.8X4	3.2	70.9	12271	7727	431	317	529	390		
3X300	2.8	3.4	74.7	12908	7927	3.15	3.15	3.5	81.4	17349	11669	0.8X4	3.5	78.1	14903	9222	482	358	599	450		
3X400	3	3.6	82	16483	8909	3.15	3.15	3.6	88.3	21276	13702	0.8X4	3.7	85.5	18678	11105	541	408	683	525		

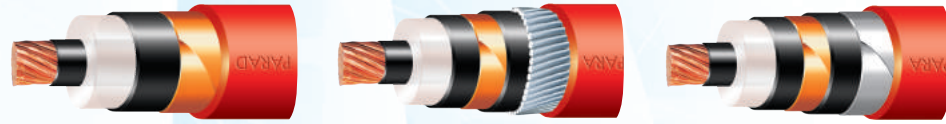
SINGLE CORE : 6/10 (12) KV XLPE H.T. POWER CABLES

DESCRIPTION: Single core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ AL: wire armoured / AL: Double Tape armoured, and PVC outer sheathed cable.

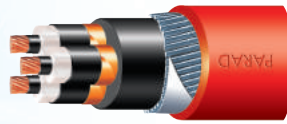
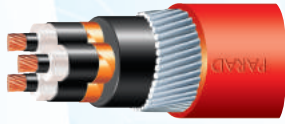
STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMoured 2XHSY/A2XHSY				ROUND WIRE(Al) ARMoured 2XHSYRa/A2XHSYRaY				DOUBLE TAPE(Al) ARMoured 2XHSYBaY/A2XHSYBaY				CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
mm ²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	amps	amps	amps	amps
16	3.4	1.8	18.0	457	357	1.6	1.8	23.3	688	588	0.5X30	1.8	23.7	826	726	118	84
25	3.4	1.8	19.3	613	458	1.6	1.8	24.6	947	793	0.5X30	1.8	25	1092	867	141	99
35	3.4	1.8	20.4	702	485	1.6	1.8	25.7	1054	837	0.5X30	1.8	26.1	1131	915	170	115
50	3.4	1.8	21.5	866	556	1.6	1.8	26.8	1235	926	0.5X30	1.8	27.2	1316	1006	205	140
70	3.4	1.8	23.1	1088	655	1.6	1.9	28.6	1498	1065	0.5X30	1.8	28.8	1568	1135	254	170
95	3.4	1.8	24.9	1361	773	1.6	1.9	30.4	1801	1213	0.5X30	1.9	30.8	1891	1303	301	200
120	3.4	1.8	26.5	1627	884	1.6	2	32.2	2109	1367	0.5X30	2	32.6	2204	1416	343	230
150	3.4	1.8	27.8	1932	1004	2	2.1	34.6	2538	1610	0.5X30	2	33.9	2536	1608	386	255
185	3.4	1.9	29.7	2307	1162	2	2.1	36.7	2972	1827	0.5X30	2.1	35.8	2948	1803	435	290
240	3.4	2	32.6	2906	1421	2	2.2	39.5	3630	2145	0.5X40	2.1	38.5	3582	2097	503	330
300	3.4	2.1	35.2	3532	1676	2	2.3	42.1	4309	2453	0.5X40	2.2	41.1	4258	2402	568	375
400	3.4	2.2	38.2	4530	2055	2.5	2.5	46.3	5534	3059	0.5X40	2.3	44.3	5337	2862	650	425
500	3.4	2.3	41.1	5528	2434	2.5	2.5	49.5	6631	3538	0.5X40	2.4	47.2	6392	3298	719	485
630	3.4	2.4	44.8	6824	2926	2.5	2.7	53.4	8048	4149	0.5X40	2.6	51.4	7815	3916	820	540



THREE CORE : 6/10 (12) KV XLPE H.T. POWER CABLES

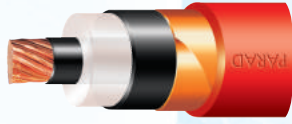
DESCRIPTION: Three core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ Steel wire armoured / steel strip armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C

Nominal size of conductor	Nom. thick of insulation	UNARMoured 2XSEY/A2XSEY				ROUND STEEL WIRE ARMoured 2XSEYRG/A2XSEYRGV						FLAT STEEL WIRE ARMoured 2XSEYFGG/A2XSEYFGGv				CURRENT RATING			
		Approx. Overall diameter		Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground		35°C in air	
		mm	mm	kg/km	kg/km				CU	AL				kg/km	kg/km				
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
3X16	3.4	2.2	38.0	1874	1570	2.5	2.3	43.1	3547	3244	0.8x4	2.2	40.5	2689	2386	112	80	116	86
3X25	3.4	2.3	40.9	2381	1907	2.5	2.4	46.1	4281	3808	0.8x4	2.3	43.5	3321	2848	134	95	141	105
3X35	3.4	2.4	43.9	2886	2223	2.5	2.5	49.1	4927	4265	0.8x4	2.4	46.5	3897	3234	169	110	175	125
3X50	3.4	2.5	46.5	3493	2546	2.5	2.6	51.7	5655	4708	0.8x4	2.5	49.1	4565	3618	202	130	210	150
3X70	3.4	2.6	50.2	4328	3002	2.5	2.7	55.4	6664	5339	0.8x4	2.6	52.8	5487	4161	249	160	260	190
3X95	3.4	2.7	54.7	5402	3603	2.5	2.9	60.1	7986	6187	0.8x4	2.8	57.5	6700	4901	300	190	320	230
3X120	3.4	2.8	58.3	6396	4124	2.5	3	63.7	9151	6878	0.8x4	2.9	61	7780	5508	335	220	363	260
3X150	3.4	2.9	61.4	7500	4660	2.5	3.1	66.8	10404	7564	0.8x4	3	64.2	8960	6120	381	245	418	285
3X185	3.4	3.1	65.5	8855	5362	2.5	3.2	70.7	11911	8408	0.8x4	3.1	68	10375	6872	421	273	483	335
3X240	3.4	3.3	72	11092	6547	3.15	3.5	78.7	15375	10830	0.8x4	3.3	74.6	12766	8921	488	315	557	395
3X300	3.4	3.4	77.3	13302	7692	3.15	3.7	84.3	17958	12278	0.8x4	3.5	80.8	15374	9694	525	357	586	450
3X400	3.4	3.7	84	16812	9238	3.15	3.9	90.8	21815	14241	0.8x4	3.7	87.3	19015	11441	600	400	710	520



SINGLE CORE : 8.7/15 (17.5) KV XLPE H.T. POWER CABLES

DESCRIPTION: Single core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ AL. wire armoured /AL. Double Tape armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C

Nominal size of conductor	Nom. thick of Insulation	UNARMOURED 2XH5Y/A2XH5Y				ROUND WIRE(AL) ARMORED 2XH5YRa/A2XH5YRaY				DOUBLE TAPE(AL)ARMORED 2XH5YBaY/A2XH5YBaY				CURRENT RATING														
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. diameter	Approx. Weight of cable		30°C in ground		35°C in air										
				CU	AL				CU	AL				CU	AL	CU	AL	CU	AL	amps	CU	amps	CU	AL	amps			
mm²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	mm	amps <td>amps<td>amps<td>amps<td>amps<td>amps<td>amps<td>amps</td></td></td></td></td></td></td>	amps <td>amps<td>amps<td>amps<td>amps<td>amps<td>amps</td></td></td></td></td></td>	amps <td>amps<td>amps<td>amps<td>amps<td>amps</td></td></td></td></td>	amps <td>amps<td>amps<td>amps<td>amps</td></td></td></td>	amps <td>amps<td>amps<td>amps</td></td></td>	amps <td>amps<td>amps</td></td>	amps <td>amps</td>	amps
25	4.5	1.8	21.6	668	514	1.6	1.8	26.9	1040	885	0.5X30	1.8	27.3	1100	945	867	140	99	163	115	140	99	163	115	140	99	163	115
35	4.5	1.8	22.7	792	575	1.6	1.8	28	1180	964	0.5X30	1.8	28.7	1258	1041	1041	166	115	198	140	166	115	198	140	166	115	198	140
50	4.5	1.8	23.8	959	650	1.6	1.9	29.3	1381	1072	0.5X30	1.9	29.7	1446	1136	1136	196	140	238	170	196	140	238	170	196	140	238	170
70	4.5	1.8	25.4	1187	754	1.6	1.9	31	1636	1203	0.5X30	2	31.2	1720	1287	1287	239	170	296	210	239	170	296	210	239	170	296	210
95	4.5	1.8	27.2	1466	878	2	2	33.8	2043	1456	0.5X30	2	33.4	2033	1445	1445	285	200	361	255	285	200	361	255	285	200	361	255
120	4.5	1.9	29	1753	1010	2	2.1	35.5	2364	1621	0.5X30	2.1	35.1	2352	1610	1610	323	230	417	295	323	230	417	295	323	230	417	295
150	4.5	1.9	30.3	2064	1135	2	2.1	37.3	2741	1813	0.5X30	2.1	36.5	2688	1760	1760	361	255	473	335	361	255	473	335	361	255	473	335
185	4.5	2	32.3	2447	1302	2	2.2	39.2	3164	2019	0.5X30	2.2	38.4	3107	1962	1962	406	290	543	385	406	290	543	385	406	290	543	385
240	4.5	2.1	35	3058	1573	2	2.3	42	3834	2349	0.5X40	2.3	41.2	3772	2287	2287	469	330	641	455	469	330	641	455	469	330	641	455
300	4.5	2.2	37.7	3696	1839	2.5	2.4	45.6	4664	2807	0.5X40	2.4	44	4481	2625	2625	526	375	735	520	526	375	735	520	526	375	735	520
400	4.5	2.3	40.7	4706	2231	2.5	2.5	49	5799	3324	0.5X40	2.5	47	5549	3074	3074	590	425	845	610	590	425	845	610	590	425	845	610
500	4.5	2.4	43.6	5716	2622	2.5	2.6	52	6882	3788	0.5X40	2.6	50	6616	3522	3522	669	485	958	720	669	485	958	720	669	485	958	720
630	4.5	2.5	47.3	7028	3129	2.5	2.8	55.9	8315	4417	0.5X40	2.8	54	8055	4157	4157	750	540	1089	830	750	540	1089	830	750	540	1089	830





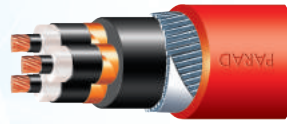
THREE CORE : 8.7/15 (17.5) KV XLPE H.T. POWER CABLES

DESCRIPTION: Three core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ Steel wire armoured / steel strip armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMOURED ØXSEY//A2XSEY				ROUND STEEL WIRE ARMOURED ØXSEYRG//A2XSEYRG				FLAT STEEL WIRE ARMOURED ØXSEYFGG//A2XSEYFGG				CURRENT RATING				
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable	Size of Overall armour wire	Size of wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	30°C in ground		35°C in air		
mm²	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	CU	AL	CU	AL	
3X25	4.5	2.4	46.6	2873	2400	2.5	52	5071	4598	0.5X30	2.5	49.4	3975	3502	129	95	143	105
3X35	4.5	2.5	49.1	3362	2699	2.5	54.6	5682	5020	0.5X30	2.6	52	4526	3863	154	110	172	125
3X50	4.5	2.6	52	3994	3048	2.5	57.1	6436	5490	0.5X30	2.7	54.5	5220	4273	181	130	205	150
3X70	4.5	2.7	56	4920	3594	2.5	61.2	7559	6233	0.5X30	2.8	58.6	6245	4919	220	160	253	190
3X95	4.5	2.8	60	5983	4184	2.5	65.5	8853	7055	0.5X30	3	62.9	7441	5642	263	190	307	230
3X120	4.5	2.9	63.4	7011	4738	2.5	69.1	10054	7782	0.5X30	3.1	66.5	8557	6985	298	220	352	260
3X150	4.5	3.1	66.8	8179	5339	2.5	72.2	11338	8498	0.5X30	3.2	69.6	9768	6928	332	245	397	285
3X185	4.5	3.3	71.3	9646	6144	3.15	78	13887	10385	0.5X30	3.3	73.9	11304	7801	374	273	453	335
3X240	4.5	3.4	77.2	11840	7995	3.15	84.1	16484	11940	0.5X40	3.6	80.8	13949	9404	431	315	529	395
3X300	4.5	3.6	82.8	14144	8464	3.15	89.7	19124	13444	0.5X40	3.7	86.2	16362	10681	482	357	599	450
3X400	4.5	3.8	89.2	17676	10102	3.15	96.2	23046	15472	0.5X40	3.9	92.7	20068	12494	541	400	683	520



SINGLE CORE : 12/20 (24) KV XLPE H.T. POWER CABLES

DESCRIPTION: Single core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/AL. wire armoured /AL. Double Tape armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMoured 2XHSY/A2XHSY				ROUND WIRE(Al) ARMoured 2XHSYRa/A2XHSYRaY					DOUBLE TAPE(Al)ARMoured 2XHSYBaY/A2XHSYBaY					CURRENT RATING				
		Nom. thick of outer sheath		Approx. Overall diameter		Approx. Weight of cable		Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable		30°C in ground	35°C in air	
		mm	mm	kg/km	kg/km	mm	mm				kg/km	kg/km				mm	mm		kg/km	kg/km
35	5.5	1.8	24.8	880	663	1.6	1.9	30.3	1319	1102	0.5X30	1.9	30.8	1385	1168	166	118	198	198	146
50	5.5	1.8	25.9	1051	742	1.6	2	31.7	1525	1215	0.5X30	1.9	31.8	1577	1267	196	140	238	174	
70	5.5	1.8	27.5	1284	851	2	2.1	34.3	1885	1452	0.5X30	2	33.7	1857	1424	239	169	296	216	
95	5.5	1.9	29.5	1585	997	2	2.1	36.5	2246	1658	0.5X30	2.1	35.7	2194	1607	285	202	361	264	
120	5.5	1.9	31.1	1862	1119	2	2.2	38.2	2575	1833	0.5X30	2.1	37.2	2501	1759	323	228	417	303	
150	5.5	2	32.7	2194	1266	2	2.3	39.8	2940	2012	0.5X30	2.2	38.3	2862	1933	361	254	473	342	
185	5.5	2.1	34.6	2585	1440	2	2.3	41.5	3349	2204	0.5X30	2.2	40.5	3267	2192	406	286	543	392	
240	5.5	2.2	37.4	3208	1793	2.5	2.4	45.3	4169	2683	0.5X40	2.3	43.5	3965	2480	469	328	641	462	
300	5.5	2.3	40	3855	1998	2.5	2.5	48.4	4930	3074	0.5X40	2.4	46.1	4661	2804	526	367	735	526	
400	5.5	2.4	43	4877	2402	2.5	2.6	51.4	6027	3552	0.5X40	2.5	49.1	5739	3264	590	413	845	606	
500	5.5	2.5	45.9	5899	2805	2.5	2.7	54.3	7192	4028	0.5X40	2.6	52.2	6843	3749	667	452	956	684	
630	5.5	2.6	49.6	7224	3326	2.5	2.9	58.2	8571	4672	0.5X40	2.8	56.2	8269	4371	756	505	1083	780	



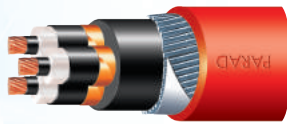
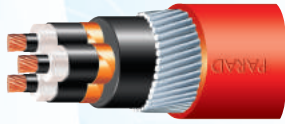
THREE CORE : 12/20 (24) KV XLPE H.T. POWER CABLES

DESCRIPTION: Three core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ Steel wire armoured / steel strip armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation of	UNARMoured 2XSEY/A2XSEY				ROUND STEEL WIRE ARMoured 2XSEYRG/A2XSEYRG				FLAT STEEL WIRE ARMoured 2XSEYFGb/A2XSEYFGb				CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	CU	AL	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	CU	AL	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	CU	AL	30°C in ground	35°C in air
mm ²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km	mm	mm	mm	amps	amps	amps	amps
3X35	5.5	2.7	54.5	3923	3260	2.5	2.9	60	6497	5834	0.5X40	2.8	57.3	5215	4552	154	172
3X50	5.5	2.8	57.1	4582	3635	2.5	3	62.5	7277	6331	0.5X40	2.9	59.9	5936	4989	181	205
3X70	5.5	2.9	60.8	5489	4164	2.5	3.1	66.2	8361	7035	0.5X40	3	63.6	6932	5607	220	253
3X95	5.5	3	64.9	6590	4791	2.5	3.2	70.3	9659	7861	0.5X40	3.1	67.9	8169	6370	263	307
3X120	5.5	3.1	68.4	7651	5379	3.15	3.4	75.4	11768	9496	0.5X40	3.2	71.2	9281	7009	298	352
3X150	5.5	3.3	72.2	8923	6082	3.15	3.5	78.9	13218	10378	0.5X40	3.3	74.8	10602	7761	332	397
3X185	5.5	3.4	76.1	10392	6819	3.15	3.6	82.8	14852	11249	0.5X50	3.5	79.3	12315	8812	374	453
3X240	5.5	3.6	82.1	12609	8065	3.15	3.8	88.9	17502	12958	0.5X50	3.7	85.5	14808	10264	431	529
3X300	5.5	3.8	87.5	14966	9285	3.15	4	94.5	20191	14511	0.5X50	3.8	91	17268	11588	482	599
3X400	5.5	4	94.6	18651	11077	3.15	4.2	101.4	24290	16716	0.5X50	4	97.8	21137	13563	541	683
																402	522



SINGLE CORE : 18/30 (36) KV XLPE H.T. POWER CABLES

DESCRIPTION: Single core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ AL. wire armoured /AL. Double Tape armoured, and PVC outer sheathed cable.

STANDARD:

BDS - IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMoured 2XH5Y/A2XH5Y				ROUND WIRE(Al) ARMoured 2XH5YRaY/A2XH5YRaY				DOUBLE TAPE(Al)ARMoured 2XH5YBaY/A2XH5YBaY				CURRENT RATING					
		Nom. thick of outer sheath	Approx. Overall diameter	Approx. Weight of cable	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	Approx. Weight of cable	30°C in ground		35°C in air				
mm²	mm	mm	kg/km	CU	AL	mm	mm	kg/km	CU	AL	mm	kg/km	CU	AL	amps	CU	amps	CU	amps
50	8	2	32.2	1384	1075	2	2.2	39.2	2101	1792	0.5X40	2.1	38.1	2054	1745	211	140	222	174
70	8	2	33.8	1634	1201	2	2.3	41	2406	1972	0.5X40	2.2	40	2356	1923	261	169	276	216
95	8	2.1	35.8	1957	1369	2	2.3	42.8	2748	2160	0.5X40	2.3	42	2717	2199	309	202	339	264
120	8	2.2	37.6	2270	1527	2	2.4	44.5	3097	2354	0.5X40	2.3	43.5	3041	2299	352	228	396	303
150	8	2.2	39	2594	1671	2.5	2.5	47.1	3623	2695	0.5X40	2.4	44.9	3398	2469	395	254	452	342
185	8	2.3	40.9	3011	1866	2.5	2.5	49.2	4108	2964	0.5X40	2.4	47.2	3896	2451	446	286	523	392
240	8	2.3	43	3605	2120	2.5	2.6	51.6	4784	3299	0.5X50	2.5	49.6	4560	3075	515	328	617	462
300	8	2.4	45.7	4277	2420	2.5	2.7	54.2	5523	3666	0.5X50	2.6	52.2	5286	3429	581	367	705	526
400	8	2.5	48.7	5327	2852	2.5	2.8	57.2	6650	4175	0.5X50	2.7	55.2	6398	3923	665	413	793	606
500	8	2.6	51.6	6376	3282	2.5	2.9	60.6	7838	4733	0.5X50	2.8	58.6	7569	4476	735	452	941	684
630	8	2.7	55.3	7736	3838	2.5	3	64.3	9297	5398	0.5X50	2.9	62.3	9010	5112	837	502	1085	780

THREE CORE : 18/30 (36) KV XLPE H.T. POWER CABLES

DESCRIPTION: Three core, Copper/Aluminum Conductor, Screened, XLPE Insulated, Screened, Copper taped, PVC inner sheathed, Un-armoured/ Steel wire armoured / steel strip armoured, and PVC outer sheathed cable.

STANDARD:

BDS-IEC 60502 (2)

APPLICATION: Can be used in Cable ducts or Tray or underground in power switching station, in Industrial plants, in Commercial buildings and local distribution systems. Temp. Range = -20°C to +90°C



Nominal size of conductor	Nom. thick of Insulation	UNARMOURED 9XSEYY/ADXSEYY				ROUND STEEL WIRE ARMoured 9XSEYRG/ADXSEYRGV				FLAT STEEL WIRE ARMoured 9XSEYFGb/ADXSEYFGbV				CURRENT RATING			
		Nom. thick of outer sheath	Approx. Overall diameter	CU	AL	Size of armour wire	Nom. thick of outer sheath	Approx. overall diameter	CU	AL	Size of armour strip	Nom. thick of outer sheath	Approx. overall diameter	CU	AL	30°C in ground	35°C in air
mm ²	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km	mm	mm	mm	amps	amps	amps	amps
3X50	8	3.2	71	6378	5431	0.8X4	3.5	77.6	10586	9639	0.8X4	3.3	73.9	8953	8007	206	130
3X70	8	3.3	74.7	7384	6058	0.8X4	3.6	81.3	11809	10484	0.8X4	3.4	77.5	10131	8806	254	158
3X95	8	3.5	79	8636	6837	0.8X4	3.7	85.4	13964	11466	0.8X4	3.6	82.4	11642	9843	305	168
3X120	8	3.6	82.6	9794	7522	0.8X4	3.8	88.9	14631	12354	0.8X4	3.7	86	12978	10705	341	214
3X150	8	3.7	85.7	11043	8203	0.8X4	3.9	92	16062	13222	0.8X4	3.8	89.1	14391	11551	356	239
3X185	8	3.9	89.8	12589	9086	0.8X4	4.1	96.1	17837	14334	0.8X4	3.9	93	16088	12585	428	270
3X240	8	4	95.2	14899	10354	0.8X4	4.2	101.5	20467	15923	0.8X4	4.1	98.6	18761	14917	494	311
3X300	8	4.2	100.8	17316	11715	0.8X4	4.4	107	23986	17605	0.8X4	4.3	104.2	21586	15906	532	351
3X400	8	4.4	107.3	21148	13574	0.8X4	4.6	113	27413	19839	0.8X4	4.5	110.7	25716	18143	610	402
																790	522

Special Cables





View of Test Equipments





INSTRUMENTATION AND PROCESS CONTROL CABLES, PVC/XLPE INSULATED, MULTI-CONDUCTOR UNSHIELDED/SHIELDED CABLES

BDS-IEC 60502-I

UL-1277/44

IEC 60092 - 353

APPLICATION: Used for industrial signalling and process circuit control in dry and wet locations also suitable for ship board application.

CONSTRUCTION: Plain stranded copper (as per class 2 of IEC-228) conductor, FR PVC/XLPE Insulated in White colour with numbers, cores laid up with polyester binder, covered with or without AMT and plain/tinned copper drain wire and Extruded black ST2 PVC outer sheathed cable.

TECHNICAL DATA: Voltage grade = 600/1000V Temperature range = -20°C to +90°C
B. R. = 12X Cable Ø



Cable size	PVC UNSHIELED				PVC OVERALL SHIELED			XLPE UNSHIELED				XLPE OVERALL SHIELED		
	Core dia	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.	Core dia.	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.
mm ²	mm	mm	mm	kg/km	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	kg/km
1.0X 2C	2.7	1.1	8.2	85	1.1	8.5	90	2.5	1.1	7.5	65	1.1	7.8	70
(7/0.42) 3C	2.7	1.1	8.6	100	1.1	8.9	105	2.5	1.1	7.9	75	1.1	8.2	80
4C	2.7	1.1	9	120	1.1	9.3	125	2.5	1.1	8.5	90	1.1	8.8	95
5C	2.7	1.1	9.6	130	1.1	9.9	135	2.5	1.1	9.1	105	1.1	9.4	115
7C	2.7	1.1	10.5	165	1.1	10.8	170	2.5	1.1	10	135	1.1	10.4	145
10C	2.7	1.1	13.5	220	1.1	13.8	230	2.5	1.1	12.5	185	1.1	12.9	195
14C	2.7	1.2	15	300	1.2	15.3	310	2.5	1.2	13.7	245	1.2	14.1	260
19C	2.7	1.3	16.5	405	1.3	16.9	415	2.5	1.3	15.4	325	1.3	15.8	350
24C	2.7	1.4	19.7	505	1.4	20	515	2.5	1.4	18.2	420	1.4	18.6	440
1.5X 2C	3.2	1.1	8.9	90	1.1	9.1	95	3	1.1	8.6	85	1.1	8.8	90
(7/0.52) 3C	3.2	1.1	9.4	120	1.1	9.6	125	3	1.1	9	100	1.1	9.3	105
4C	3.2	1.1	10.2	140	1.1	10.4	148	3	1.1	9.8	125	1.1	10.1	130
5C	3.2	1.1	10.8	165	1.1	11.1	175	3	1.1	10.5	150	1.1	10.8	155
7C	3.2	1.1	12.2	220	1.1	12.4	228	3	1.1	11.5	200	1.1	11.8	210
10C	3.2	1.2	15.8	300	1.2	16.2	310	3	1.2	14.7	265	1.2	15	275
14C	3.2	1.2	17.5	400	1.2	17.8	415	3	1.2	16	370	1.2	16.4	380
19C	3.2	1.3	18.9	540	1.3	19.2	555	3	1.3	18	470	1.3	18.4	485
24C	3.2	1.4	23	680	1.4	23.3	698	3	1.4	21.1	590	1.4	21.5	605
2.5X 2C	3.7	1.1	10	145	1.1	11.3	150	3.5	1.1	9.5	110	1.1	9.8	115
(7/0.67) 3C	3.7	1.1	10.6	175	1.1	11.9	180	3.5	1.1	10.1	138	1.1	10.4	145
4C	3.7	1.1	11.1	215	1.1	13	225	3.5	1.1	11	170	1.1	11.3	175
5C	3.7	1.1	12.3	255	1.1	15	275	3.5	1.1	11.8	210	1.1	12.1	218
7C	3.7	1.2	14	335	1.2	16.3	355	3.5	1.2	13.2	280	1.2	13.5	290
10C	3.7	1.2	17.6	460	1.2	20.5	475	3.5	1.2	16.8	395	1.2	17.2	405
14C	3.7	1.3	19.4	615	1.3	24	625	3.5	1.3	18.5	525	1.3	18.9	535
19C	3.7	1.4	21.8	810	1.4	25.8	825	3.5	1.4	20.7	705	1.4	21.1	720





INSTRUMENTATION AND PROCESS CONTROL CABLE- PVC/XLPE INSULATED, MULTI - PAIR, UNSHIELDED/OVERALL SHIELDED CABLES

BDS-IEC 60502-I

UL-1277/44

IEC 60092-353

APPLICATION: Used for industrial signalling and process circuit control in dry and wet locations also suitable for ship board application.

CONSTRUCTION: Plain stranded copper (as per class 2 of IEC-9228) conductor, FR PVC/XLPE Insulated in colour code of white and Black with pair number on white core, all pairs are twisted to counter electromagnetic noise, and twisted pairs are assembled with polyester tape and with or without AMT with plain/tinned copper drain wire and Extruded black ST2 PVC outer sheathed cable

TECHNICAL DATA: Voltage grade = 600/1000V Temperature range = -20°C To +90°C
B. R. = 12X Cable Ø



Cable size	Core dia	PVC UNSHIELED			PVC OVERALL SHIELED			XLPE UNSHIELED				XLPE OVERALL SHIELED		
		Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.	Core dia.	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.
mm ²	mm	mm	mm	kg/km	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	kg/km
1.0X 1P	2.7	1.1	8.3	85	1.1	8.4	93	2.5	1.1	7.8	70	1.1	8	78
(7/0.42) 2P	2.7	1.1	12.8	125	1.1	12.9	135	2.5	1.1	11.9	95	1.1	12	108
3P	2.7	1.1	13.9	155	1.1	14	165	2.5	1.1	13.1	125	1.1	13	135
4P	2.7	1.1	15.7	180	1.1	15.9	190	2.5	1.1	14.9	150	1.1	14.9	160
6P	2.7	1.1	18.2	265	1.1	18.5	275	2.5	1.1	17.1	220	1.1	17.1	230
10P	2.7	1.2	21.6	445	1.2	21.9	460	2.5	1.1	20.2	355	1.1	20.4	365
14P	2.7	1.2	25.9	600	1.2	26.3	615	2.5	1.1	23.2	500	1.2	23.5	510
20P	2.7	1.2	29.3	815	1.2	29.8	830	2.5	1.2	27.5	670	1.2	27.8	680
24P	2.7	1.3	31.7	970	1.3	31.7	985	2.5	1.3	30.2	875	1.4	29.6	890
1.5X1P	3.2	1.1	8.9	95	1.1	8.9	103	3	1.1	8.4	90	1.1	8.4	98
(7/0.52) 2P	3.2	1.1	14.6	130	1.1	14.7	140	3	1.1	13.1	135	1.1	13	132
3P	3.2	1.1	15.8	155	1.1	15.9	165	3	1.1	14.8	180	1.1	14.1	190
4P	3.2	1.1	17	180	1.1	17	190	3	1.1	16.4	230	1.1	16	240
6P	3.2	1.1	19.8	355	1.1	20	365	3	1.1	18.8	315	1.1	18.5	325
10P	3.2	1.2	23.3	565	1.2	23.8	575	3	1.1	22.3	490	1.2	22.3	505
14P	3.2	1.2	27.6	830	1.2	28	840	3	1.2	26.2	720	1.2	25.8	735
20P	3.2	1.3	32	1140	1.3	32.3	1155	3	1.3	29.9	980	1.4	23.9	995
24P	3.2	1.4	34.6	1360	1.4	34.9	1375	3	1.4	33.1	1155	1.5	32.4	1170
2.5X1P	3.7	1.1	11.2	150	1.1	11.2	158	3.5	1.1	9.8	115	1.1	9.7	123
(7/0.67) 2P	3.7	1.1	18.7	220	1.1	18.7	230	3.5	1.1	16.2	175	1.1	16	188
3P	3.7	1.1	20.4	300	1.1	19.7	310	3.5	1.1	17.6	250	1.1	17.4	260
4P	3.7	1.1	23.1	380	1.1	23.1	390	3.5	1.1	18.9	310	1.2	18.8	320
6P	3.7	1.2	26.9	540	1.2	26.9	555	3.5	1.2	23	465	1.2	22.9	475
10P	3.7	1.2	31.6	910	1.2	32.1	925	3.5	1.2	26.4	810	1.3	26.8	825
14P	3.7	1.2	36.3	1135	1.3	36.3	1140	3.5	1.3	30.6	1050	1.3	30.6	1065





INSTRUMENTATION AND PROCESS CONTROL CABLE- PVC/XLPE INSULATED, MULTI-TRIAD UNSHIELDED/OVERALL SHIELDED CABLES

BDS-IEC 60502-I

UL-1277/44

IEC 60092-353

APPLICATION: Used for industrial signalling and process circuit control in dry and wet locations also suitable for ship board application.

CONSTRUCTION: Plain stranded copper (as per class 2 of IEC-928) conductor, FR PVC/XLPE Insulated, colour code of white, Black and Red with triad number on white core, all Triples are twisted to counter electromagnetic noise, and twisted Triples are assembled with polyester tape and with or without AMT with plain/tinned copper drain wire and Extruded black ST2 PVC outer sheathed cable

TECHNICAL DATA: Voltage grade = 600/1000V Temperature range = -20°C To +90°C

B. R. = 12X Cable Ø



Cable size	Core dia	PVC UNSHIELDED			PVC OVERALL SHEILED			XLPE UNSHIELDED				XLPE OVERALL SHEILED		
		Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.	Core dia.	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.
mm ²	mm	mm	mm	kg/km	mm	mm	kg/km	mm	mm	mm	kg/km	mm	mm	kg/km
1.0X 1T	2.7	1.1	8.8	105	1.1	8.9	115	2.5	1.1	8.2	80	1.1	8.3	90
(7/0.42) 2T	2.7	1.1	15.5	150	1.1	15.7	165	2.5	1.1	14.5	125	1.1	14.6	135
3T	2.7	1.1	16.5	210	1.1	16.7	225	2.5	1.1	15.3	180	1.1	15.5	190
4T	2.7	1.1	17.9	280	1.1	18.1	330	2.5	1.1	16.7	235	1.1	16.9	245
6T	2.7	1.1	22.8	405	1.1	23.2	425	2.5	1.1	20.3	320	1.1	20.6	335
10T	2.7	1.2	26.6	645	1.2	26.9	670	2.5	1.1	24.8	535	1.1	25.1	550
14T	2.7	1.2	30.2	875	1.2	30.5	900	2.5	1.1	28.3	705	1.2	28.5	720
20T	2.7	1.2	35.5	1240	1.2	38.9	1265	2.5	1.2	32.8	970	1.2	33.1	990
24T	2.7	1.3	38.5	1480	1.3	38.7	1500	2.5	1.3	35.5	1220	1.4	35.8	1240
1.5X 1T	3.2	1.1	9.4	125	1.1	9.5	135	3	1.1	8.9	110	1.1	8.9	120
(7/0.52) 2T	3.2	1.1	16.8	155	1.1	16.9	165	3	1.1	15.8	190	1.1	15.9	200
3T	3.2	1.1	17.9	290	1.1	18.1	265	3	1.1	16.7	250	1.1	16.9	260
4T	3.2	1.1	19.5	365	1.1	19.7	380	3	1.1	18.2	310	1.1	18.4	325
6T	3.2	1.1	24.9	540	1.1	25.1	555	3	1.1	23.3	455	1.1	23.5	470
10T	3.2	1.2	29.1	905	1.2	29.3	920	3	1.1	27.3	770	1.2	27.5	790
14T	3.2	1.2	33.3	1250	1.2	33.6	1265	3	1.2	31.3	1050	1.2	31.5	1070
20T	3.2	1.3	38.9	1710	1.3	39.2	1730	3	1.3	36.2	1460	1.4	36.5	1485
24T	3.2	1.4	42.2	2020	1.4	42.4	2040	3	1.4	39.2	1730	1.5	40.2	1755
2.5X 1T	3.7	1.1	11.9	185	1.1	11.9	195	3.5	1.1	10.3	145	1.1	10.4	155
(7/0.67) 2T	3.7	1.1	22.8	320	1.1	22.9	330	3.5	1.1	18.5	260	1.1	18.6	270
3T	3.7	1.1	24.2	430	1.1	24.4	440	3.5	1.1	19.7	390	1.1	19.9	405
4T	3.7	1.1	26.4	565	1.1	26.8	580	3.5	1.1	22.5	510	1.2	22.8	525
6T	3.7	1.2	32.5	815	1.2	32.8	830	3.5	1.2	27.4	700	1.2	27.8	715
10T	3.7	1.2	37.6	1260	1.2	37.9	1285	3.5	1.2	32.6	1160	1.3	32.9	1180
14T	3.7	1.2	44.2	1750	1.3	44.5	1770	3.5	1.3	36.8	1550	1.3	37.1	1570





INSTRUMENTATION AND PROCESS CONTROL CABLE-PVC/XLPE INSULATED, MULTI-PAIR/TRIAD, INDIVIDUAL & OVERALL SHIELDED

IEC 60502-I

UL-1277/44

IEC 60092-353

APPLICATION: Used for industrial signalling and process circuit control in dry and wet locations also suitable for ship board application.

CONSTRUCTION: Plain stranded copper (as per class 2 of IEC-228) conductor, FR PVC/XLPE Insulated, colour code of white, Black and Red with triad number on white core, all Triples are twisted to counter electromagnetic noise, and twisted Triples are assembled with polyester tape and with or without AMT with plain/tinned copper drain wire and Extruded black ST2 PVC outer sheathed cable.

TECHNICAL DATA: Voltage grade = 600/1000V Temperature range = -20°C To +90°C
B. R. = 12X Cable Ø



Cable size	PVC PAIR/TRIAD INDIVIDUAL AND OVERALL SHIELDED								XLPE PAIR/TRIAD INDIVIDUAL AND OVERALL SHIELDED							
	PAIRS				TRIPLES				PAIRS				TRIPLES			
	Core dia.	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.		Core dia.	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.	
mm ²	mm	mm	mm	kg/km	mm	mm	kg/km		mm	mm	mm	kg/km	mm	mm	kg/km	
2X1.0P/T	2.7	1.1	13.3	140	1.1	16.1	160		2.5	1.1	12.4	115	1.1	15.1	145	
3X1.0P/T	2.7	1.1	15.2	175	1.1	17.1	230		2.5	1.1	13.5	145	1.1	16.5	200	
4X1.0P/T	2.7	1.1	16.4	205	1.2	18.6	300		2.5	1.1	15.3	175	1.2	17.6	260	
6X1.0P/T	2.7	1.2	19.1	295	1.2	23.8	440		2.5	1.2	17.7	245	1.2	22.2	350	
10X1.0P/T	2.7	1.2	22.1	590	1.3	27.8	695		2.5	1.2	22.1	385	1.3	25.6	580	
14X1.0P/T	2.7	1.2	26.5	870	1.3	32.1	930		2.5	1.2	24.3	530	1.3	29.3	750	
20X1.0P/T	2.7	1.3	30.7	1190	1.4	37.1	1295		2.5	1.3	28.5	700	1.4	34.4	1020	
24X1.0P/T	2.7	1.4	33.2	1425	1.5	40.2	1540		2.5	1.4	30.6	930	1.5	37.2	1280	
2X1.5P/T	3.2	1.1	14.4	145	1.1	17.4	180		3	1.1	13.5	120	1.1	16.4	210	
3X1.5P/T	3.2	1.1	16.4	185	1.1	18.5	280		3	1.1	15.5	150	1.1	17.4	275	
4X1.5P/T	3.2	1.1	17.7	210	1.2	20.2	395		3	1.1	16.7	180	1.2	18.9	340	
6X1.5P/T	3.2	1.2	20.6	370	1.2	25.8	570		3	1.2	19.3	335	1.2	24.2	490	
10X1.5P/T	3.2	1.2	24.4	595	1.3	30.1	950		3	1.2	23.1	525	1.3	28.1	820	
14X1.5P/T	3.2	1.3	28.6	870	1.3	34.5	1290		3	1.3	28.2	760	1.3	32.6	1110	
20X1.5P/T	3.2	1.3	33.4	1220	1.4	40.4	1770		3	1.3	31.2	1025	1.4	37.8	1520	
24X1.5P/T	3.2	1.4	36.1	1420	1.5	47.2	2075		3	1.4	33.8	1220	1.5	40.6	1800	
2X2.5P/T	3.7	1.1	18.3	245	1.1	23.4	340		3.5	1.1	16.6	210	1.1	19.1	295	
3X2.5P/T	3.7	1.1	19.8	320	1.1	24.9	450		3.5	1.1	18.1	285	1.1	20.4	430	
4X2.5P/T	3.7	1.1	22.6	415	1.2	27.2	620		3.5	1.1	19.5	355	1.2	23.2	560	
6X2.5P/T	3.7	1.2	27.6	580	1.3	33.4	865		3.5	1.2	23.8	515	1.3	28.4	760	
10X2.5P/T	3.7	1.3	32.8	945	1.4	39.2	1320		3.5	1.3	27.3	885	1.4	33.1	1250	
14X2.5P/T	3.7	1.4	37.6	1175	1.5	43.3	1810		3.5	1.4	32.1	1155	1.5	38.1	1670	





LOW CAPACITANCE INSTRUMENTATION CABLES - LCIC

VDE - 0815

APPLICATION: Suitable for data processing and process control. The individual shielding of pairs results in high crosstalk attenuation. Over-all copper braid protects screened pairs from outer electrostatic noise. Low level of attenuation and low mutual capacitance enable long transmission distances. Cable can be used for fixed installation in dry and wet locations.

CONSTRUCTION: Stranded plain copper (as per class 2 of IEC-228) conductor, PE insulated in black and white colour cores twisted into pairs. Each pair is shielded with AMT and tinned copper drain wire by providing numbered tape for pair identification. Shield pairs are cabled with fillers (if necessary) covered with polyester tape and braided with plain copper wires, and grey colour FR (as per IEC 332-1) outer sheathed.

TECHNICAL DATA:

Working Voltage (max)	300V
Temperature range	-20°C to +80°C
Mutual Capacitance(pF/km)	85 nF/km
Inductance	0.75mH/km
Test voltage	1000V core/core and core/screen
Insulation resistance	5 G ohm-km
Attenuation	1.1 dB/km at 800Hz and 3.0 dB/km at 10 KHz
Minimum bending radius	7.5 X Cable diameter



MANUFACTURING DATA:

Pairs	Strand x dia.	Insulation thick	Sheath thick	Approx. O.D	Approx. Wt.
	No x mm	mm	mm	mm	Kg/km
2	7x0.3	0.3	1.0	9.8	120
4	7x0.3	0.3	1.0	10.5	160
8	7x0.3	0.3	1.2	14.4	280
12	7x0.3	0.3	1.2	16.1	370
16	7x0.3	0.3	1.6	18.9	490
20	7x0.3	0.3	1.6	20.6	585
24	7x0.3	0.3	1.6	22.1	675
32	7x0.3	0.3	1.6	24.8	850
36	7x0.3	0.3	1.6	26.1	935
40	7x0.3	0.3	1.6	27.2	1020
48	7x0.3	0.3	1.8	29.8	1215





DATA TRANSMISSION CABLES - DTC

VDE - 0250

APPLICATION: These cables are used as signal cables in the field of electronics, computer systems and various control systems such as tool making and machine industries. Copper wire screen provides interference-free signal transmission. The absence of inner sheath has the advantage of lower cable diameter and reduced bending radius.

CONSTRUCTION: Plain copper conductor (class 5 of IEC-228), PVC (VDE 0207) insulated Black cores with white numbers and one green/yellow core. Cores twisted in layers, wrapped with polyester binder and braided with plain copper wires with 60% coverage. Black FR sheath (VDE 0207/IEC 332-1) is provided for outer coating.

TECHNICAL DATA: Working Voltage: 300/500V Temperature range: -20°C to +80°C Mutual Cap.= core/core 150nF/km and core/screen 280nF/km; Inductance = 0.7mH/km; Insulation Resistance= 20MΩm - km; Test voltage = 2000V. for 5Minutes.

MANUFACTURING DATA:



Cable size = 0.75 mm ² (24/0.2)					1.0 mm ² (32/0.2)			
cores	Ins. Thick	Sh. Thick	App. O.D.	APP.	Ins. Thick	Sh. Thick	App.O.D.	App.Wt.
No.	mm	mm	mm	Wt.	mm	mm	mm	kg/km
3	0.6	0.8	7.8	90	0.6	1.0	8.5	110
4	0.6	1.0	8.8	115	0.6	1.0	9.2	130
5	0.6	1.0	9.4	135	0.6	1.0	9.9	155
6	0.6	1.0	10.2	155	0.6	1.2	11.1	190
7	0.6	1.0	10.2	160	0.6	1.2	11.1	195
10	0.6	1.2	12.9	230	0.6	1.2	13.6	265
12	0.6	1.2	13.5	275	0.6	1.2	14.3	315
14	0.6	1.2	14.1	305	0.6	1.5	14.9	355
19	0.6	1.2	15.5	380	0.6	1.5	17.0	465
24	0.6	1.8	19.1	520	0.6	1.8	20.2	600
27	0.6	1.8	19.5	560	0.6	1.8	20.6	650
30	0.6	1.8	20.1	605	0.6	1.8	21.2	705
37	0.6	1.8	21.5	705	0.6	1.8	22.7	830
48	0.6	2.1	24.9	910	0.6	2.1	26.3	1070

Cable size = 1.5 mm ² (30/0.25)					2.5 mm ² (50/0.25)			
cores	Ins. Thick	Sh. Thick	App. O.D.	APP.	Ins. Thick	Sh. Thick	App.O.D.	App.Wt.
No.	mm	mm	mm	Wt.	mm	mm	mm	kg/km
3	0.6	1.0	9.1	130	0.7	1.2	11.0	185
4	0.6	1.0	9.8	155	0.7	1.2	11.8	230
5	0.6	1.2	11.1	195	0.7	1.2	12.9	275
6	0.6	1.2	11.9	230	0.7	1.2	13.9	325
7	0.6	1.2	11.9	240	0.7	1.2	13.9	345
10	0.6	1.2	14.8	330	0.7	1.5	18.0	500
12	0.6	1.2	15.4	390	0.7	1.8	19.4	615
14	0.6	1.5	16.7	460	0.7	1.8	20.2	690
19	0.6	1.8	19.0	605	0.7	1.8	22.3	880
24	0.6	1.8	21.8	745	0.7	2.1	26.4	1125
27	0.6	1.8	22.3	810	0.7	2.1	27.0	1225
30	0.6	1.8	23.0	880	0.7	2.1	27.8	1335
37	0.6	2.1	25.3	1080	0.7	2.4	30.7	1665
48	0.6	2.1	28.8	1380	0.7	2.4	34.8	2090





INDUSTRIAL ELECTRONIC CABLES - IEC

VDE - 0815

APPLICATION: Suitable for measurement and control in the field of electronics, and for DATA Transmission in computers. Cable can be used for fixed installation in dry and humid conditions.

CONSTRUCTION: Stranded plain copper (class 2 of IEC 228), PVC insulated, colour coded, two cores twisted into pairs, then four pairs into units and units cabled, covered with polyester tape and Braided with plain copper wires or shielded with AMT(+DW) and Blue colour PVC outer sheathed.

TECHNICAL DATA: Working Voltage: 300V Temperature Range: -20°C to 70°C
Pair Colour Code

Pair	A-wire	B-wire	Pair	A-wire	B-wire
1	Blue	Red	3	Green	Brown
2	Grey	Yellow	4	White	Black

PERFORMANCE SPECIFICATION AS PER UL-444: (EIA/TIA 568)

	Overall Cu. Braid cable	AMT shield cable	AMT shield
Working Voltage (max)	300V		
Temperature range	-20°C to +70°C		
Mutual Capacitance(pF/km)	100 (cables up to 4 pairs the value can exceed by 20%)		
Capacitance unbalance(max)	200 pF/100m		
Test voltage	500V core/core and 1000V core/screen		
Insulation resistance	100 M ohm-km		
Attenuation	1.1 dB/km at 800Hz and 3.0 dB/km at 10 KHz		
Minimum bending radius	7.5 X Cable diameter		

MANUFACTURING DATA:

			Overall CU. Braid			AMT Shield			AMT Shield with solid 0.8 Conductor		
pairs	Wire Dia.	Ins. thick	Sh. thick	App. O.D.	App. Wt.	Sh. thick	App. O.D.	App. Wt.	Sheath thick	App. O.D.	App. Wt.
2	7/0.3	0.3	1	7.2	90	1	6.2	60	1	5.9	60
4	7/0.3	0.3	1	9.9	145	1	8.8	105	1	8.4	95
8	7/0.3	0.3	1.2	13.6	245	1.2	12.5	190	1	11.4	160
12	7/0.3	0.3	1.2	15.1	320	1.2	14.1	255	1.2	13.3	230
16	7/0.3	0.3	1.2	16.9	400	1.2	15.8	325	1.2	15.0	295
20	7/0.3	0.3	1.4	18.8	485	1.2	17.3	390	1.2	16.4	355
24	7/0.3	0.3	1.4	20.2	565	1.6	19.6	495	1.6	18.6	455
32	7/0.3	0.3	1.4	22.7	700	1.6	22.1	630	1.6	20.9	560
36	7/0.3	0.3	1.6	24.3	800	1.6	23.2	695	1.6	22.0	640
40	7/0.3	0.3	1.6	25.3	865	1.6	24.3	760	1.6	23.0	675
48	7/0.3	0.3	1.6	27.4	1005	1.6	26.2	885	1.8	24.9	845





LOCAL AREA NETWORK CABLES - LAN

EIA / TIA - 568 & UL - 444

APPLICATION: These cables are used for Data Transmission in Computer Net Work systems. Category -3 cables used up to 16MB/S, Category -4 cables used up to 20MB/S and Category-5 cables used up to 100MB/S.

CONSTRUCTION: Solid copper conductor, Polyethylene insulated, Colour coded, Cores twisted into pairs and cabled together and PVC Outer sheathed normally in Grey colour.

TECHNICAL DATA: Operating Voltage: 300V

Temperature Range: -20°C to 80°C

Pair	A-wire	B-wire	Pair	A-wire	B-wire
1	White	Blue	3	White	Green
2	White	Orange	4	White	Brown

PERFORMANCE SPECIFICATION AS PER UL-444: (EIA/TIA 568)

		Cat - 3	Cat - 4	Cat - 5
Impedance (Ω)		100 $\pm$ 15	100 $\pm$ 15	100 $\pm$ 15
		(1 - 16 MHz)	(1 - 20 MHz)	(1 - 100 MHz)
Nom. Capacitance(pF/m)		52.5	51.5	49.2
Dielectric Strength		500V for 1 minute		
Max. Attenuation	1 MHz	2.6	2.1	2.1
(dB/100Mtr.)	4 MHz	5.6	4.3	4.3
	10 MHz	9.8	7.2	6.6
	16 MHz	13.1	8.9	8.2
	20 MHz	--	10.2	9.2
	31.5 MHz	--	--	11.8
	100 MHz	--	--	22.0
Min. Crosstalk	1 MHz	41	56	62
(dB/100Mtr)	4 MHz	32	47	53
N.E.X.T.	10 MHz	26	41	47
	16 MHz	23	38	44
	20 MHz	--	36	42
	31.5 MHz	--	--	39
	100 MHz	--	--	32



MANUFACTURING DATA:

Category Code	Cond. Dia.	Insulation Thickness	Sheath thickness	Nom. O.D.	Standard length	Approx. weight
	mm	mm	mm	mm	mtrs	Kg.
Cat - 3	0.51	0.17	0.6	5.0	305	9.1
Cat - 4	0.51	0.20	0.6	5.3	305	9.8
Cat - 5	0.51	0.23	0.6	5.7	305	10.3





COMPUTER CABLES - CC

LOW CAPACITANCE, FOR EIA RS-232/RS-422 APPLICATIONS (UL - 2919)

APPLICATION: External Inter-connection of computer and electronic equipment where high levels of noise interference is anticipated. Also used for precision audio, pulse or R.F. signal transmission where low distortion and high speed data rates are required.

CONSTRUCTION: Stranded tinned copper, colour coded, PE (Polyethylene) insulated, and pairs twisted with staggered lay scheme are cabled and covered with non-hygroscopic tape. An AMT (Aluminum Mylar Tape) is applied with tinned copper Drain wire (7/0.2), and coated with Grey coloured PVC as outer sheath.

TECHNICAL DATA: Temperature Range= -20°C To +80°C Operating Voltage = 300V
Nom. Mutual Capacitance = 50.8 pF/m; Nom. Cond./Shield Capacitance = 90.2 pF/m
Nom. Impedance = 100(Ω); Dielectric Strength: 1000V for 1 minute.



COLOUR CODE:

No. of pairs	a-wire	b-wire	No. of pairs	a-wire	b-wire	No. of pairs	a-wire	b-wire
1	White	Blue	9	Red	Brown	17	Yellow	
2	White	Orange	10	Red	Grey	18	Yellow	Green
3	White	Green	11	Black	Blue	19	Yellow	Brown
4	White	Brown	12	Black	Orange	20	Yellow	Grey
5	White	Grey	13	Black	Green	21	Purple	Blue
6	Red	Blue	14	Black	Brown	22	Purple	Orange
7	Red	Orange	15	Black	Grey	23	Purple	Green
8	Red	Green	16	Yellow	Blue	24	Purple	Brown
						25	Purple	Grey

MANUFACTURING DATA:

Pair Nos.	No's x dia. No.xmm	Ins. Thick	AMT Shield cable (EIA RS-232)			AMT and BRAID cable (EIA RS-422)		
			Sh.Thick	App .O.D.	App. Wt.	Sh.thick	App. OD.	App. Wt.
2	7x0.2	0.25	0.9	5.9	40	0.9	7.4	61
3	7X0.2	0.25	0.9	6.4	49	0.9	7.7	69
4	7X0.2	0.25	0.9	7.1	58	0.9	7.9	77
5	7x0.2	0.25	0.9	7.6	65	0.9	8.5	88
6	7X0.2	0.25	0.9	8.2	75	0.9	9.5	102
7	7X0.2	0.25	0.9	8.7	84	0.9	9.5	108
9	7X0.2	0.25	0.9	9.5	100	0.9	10.4	127
10	7x0.2	0.25	0.9	9.9	112	0.9	10.8	136
12	7X0.2	0.25	0.9	10.6	124	0.9	11.6	154
18	7X0.2	0.25	0.9	12.5	168	0.9	13.5	205
25	7X0.2	0.25	1.1	14.9	237	1.1	15.9	280





SUBMERSIBLE PUMP CABLES

BS 6360

BDS - IEC 60502 (Part-1)

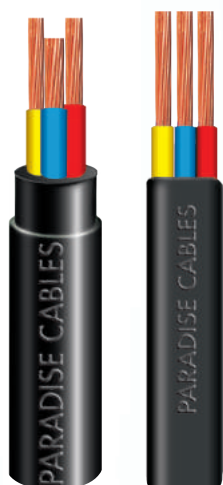
APPLICATION: 3 core flat submersible cables are ideal for usage in submersible pumps in deep wells for irrigation, drinking water supply, industries, mines, fountains. Whereas Heavy duty 3 core round submersible cables are best suited for application like sewage, slurry, offshore drilling rigs, sea water handling, mine dewatering etc.

CONSTRUCTION: Plain Copper Flexible conductor (as per class -V of IEC 60228), PVC insulated(BS-6743), cores laid flat or twisted, PVC inner sheathed (in round cables above 10mm²) and PVC Black outer sheathed cables.

TECHNICAL DATA: Voltage grade: - 0.6/1(1.2) KV TEMP. RANGE: - -15°C to 70°C
B. R: 8 x CABLE DIA.

CORE IDENTIFICATION: Red, Yellow, Blue

MANUFACTURING DATA



Cable Size	No. / Dia. of wire	Nom. Thick of Insulation	Round Submersible cable			Flat Submersible Cable			Current Rating At 35°C
			Nom. Thick of Sheath	App. Overall Dia. of cable	App. Weight of cable	Nom. Thick of Sheath	App. Overall size of cable	App. Weight of cable	
mm ²	mm	mm	mm	mm	Kg/km	mm	mm	Kg/km	amps
3CX1.5	20/0.3	0.8	1.4	9.8	144	1.2	5.8x12.3	134	16
3CX2.5	32/0.3	0.8	1.4	10.8	189	1.2	6.4x14.0	180	20
3CX4	50/0.3	1.0	1.6	13.0	272	1.4	7.2x16.3	252	26
3CX6	80/0.3	1.0	1.6	14.6	361	1.4	8.1x18.7	345	34
3CX10	72/0.4	1.0	1.8	17.6	567	1.6	9.5x22.5	520	46
3CX16	118/0.4	1.0	1.8	20.8	828	1.6	11.4x27.4	785	63
3CX25	185/0.4	1.2	2.0	25.7	1270	1.8	14.3x34.5	1205	80
3CX35	260/0.4	1.2	2.0	28.0	1639	1.8	15.5x38.1	1580	99
3CX50	370/0.4	1.4	2.2	33.4	2279	2.0	18.0x45.4	2195	126
3CX70	335/0.495	1.4	2.2	37.7	3030	2.0	19.9x50.5	2910	157
3CX95	455/0.495	1.6	2.4	43.5	4060	2.2	23.0x59.0	3920	180





PVC Insulated Drop Wire

ITD S/WS-118D

DROP WIRE

TWIN CORE

Number of core	Number and size of wires	Thickness of insulation	Approximate overall diameter	Approximate weight
	mm	mm	mm	kg/km
2 core (1 pair)	1/0.60	0.787	4.11 x 2.31	19.0
2 core (1 pair)	1/0.90	1.05	6.3 x 3.0	31.5

PE Insulated Drop Wire

ITD S/WS-118D

DROP WIRE

TWIN CORE

Number of core	Number and size of wires	Thickness of insulation	Approximate overall diameter	Approximate weight
	mm	mm	mm	kg/km
2 core (1 pair)	1/0.60	0.787	4.11 x 2.31	12.00
2 core (1 pair)	1/0.90	1.05	6.3 x 3.0	25.00



PVC Insulated and PVC Sheathed Cables

TELEPHONE CORD ITD Spec. No. S/WS-114D 1995

MULTICORE

Number of core	Nominal cross sectional area	Number and size of wires	Thickness of insulation	Thickness of sheath	Approximate overall diameter	Approximate weight
	mm ²	mm	mm	mm	mm	kg/km
2 core (1 pair)	0.123	9/0.132	0.381	0.915	4.11	21.55
4 core (2 pair)	0.123	9/0.132	0.381	0.915	4.21	24.04
6 core (3 pair)	0.123	9/0.132	0.381	0.915	4.75	31.80



PVC Insulated Twisted Jumper Wire

ITD S/WJ-1D1C 1994

TYPE: JUMPER WIRE

TEMP. RANGE: -15°C TO 70°C

MULTICORE CABLES

Number of Core	Nominal Cross Sectional area	Number and size of wire	Thickness of insulation	Approximate overall diameter	Approximate Weight
	mm ²	No./mm	mm	mm	kg/km
2 core (1 pair)	0.123	9/0.132	0.20	2.30	6
4 core (2 pair)	0.123	9/0.132	0.20	2.80	12
6 core (3 pair)	0.123	9/0.132	0.20	3.50	18
8 core (4 pair)	0.123	9/0.132	0.20	3.65	24
10 core (5 pair)	0.123	9/0.132	0.20	4.00	30





SERVICE DROP CABLES

DUPLEX CABLES:

DESCRIPTION: Copper / Aluminum conductor, PVC insulated, two cores laid up. In case of copper conductor one core shall be hard drawn.

APPLICATION: Suitable for use as a service drop cable for single phase connection.

Voltage Grade: 600 / 1000V Temp. Range: -15°C to 70°C

Cross sectional area mm ²	No. and diameter of wires No./mm	Nom. Thickness of insulation mm	App. Cable diameter mm	App. Weight of cable		Current rating at 35°C	
				Cu	Al	in metal conduit Cu	In air Al
2.5re / 2.5re	1.78 / 1.78	1.60	10.0	93	-	27	-
4rm / 4re	7x0.85 / 2.26	1.60	11.6	132	-	35	-
6rm / 6re	7x1.04 / 2.77	1.60	12.8	178	-	45	-
6rm / 6rm	7x1.04 / 7x1.04	1.60	12.9	180	105	45	37
10rm / 10rm	7x1.35 / 7x1.35	1.60	14.6	262	136	62	47
16rm / 16rm	7x1.70 / 7x1.70	1.60	16.6	382	180	84	65
25rm / 25rm	7x2.14 / 7x2.14	1.60	19.2	563	244	110	85

QUADRUPLUX CABLES:

DESCRIPTION: Copper / Aluminum conductor, PVC insulated, four cores laid up. In case of copper conductor one core shall be hard drawn.

APPLICATION: Suitable for use as a service drop cable for Three phase connection.

Voltage Grade: 600 / 1000V Temp. Range: -15°C to 70°C



Cross sectional area mm ²	No. and diameter of wires No./mm	Nom. Thickness of insulation mm	App. Cable diameter mm	App. Weight of cable		Current rating at 35°C	
				Cu	Al	in metal conduit Cu	In air Al
3x4rm / 4re	7x0.85 / 2.26	1.60	14.0	264	-	32	-
3x6rm / 6re	7x1.04 / 2.77	1.60	15.4	352	-	41	-
3x6rm / 6rm	7x1.04 / 7x1.04	1.60	15.5	356	2.5	41	34
3x10rm / 10rm	7x1.35 / 7x1.35	1.60	17.6	524	270	56	43
3x16rm / 16rm	7x1.70 / 7x1.70	1.60	20.0	765	360	75	58
3x25rm / 25rm	7x2.14 / 7x2.14	1.60	23.1	1127	488	98	76





FIRE SURVIVAL CABLES FOR POWER AND CONTROL APPLICATION

STANDARD: BDS-IEC 60502(1)

BS 6004

VDE 0250

APPLICATION: These cables are required to function even under fire conditions for a reasonable length of time to enable safe evacuation of people and to extend emergency services. Especially suitable for smoke detection, alarm system, and installation of cables in crowded buildings, hospitals, hotels, underground railways, airports etc.

CONSTRUCTION: Annealed plain copper conductor as per IEC-928, FRLS PVC insulated over Flame barrier Mica Tape, laid up and FRLS PVC outer sheathed in RED colour.

TECHNICAL DATA:

Temperature Range : -20°C to 90°C	Fire Resistant Property
Working Voltage : 300/500 V	750°C for three hours to IEC-331
Test Voltage : 1000 V for 1 min.	Flame retardant to IEC- 332-1
Colour Code : Red, yellow, blue & black	Flame retardant to IEC-332-3
	Passes Low Smoke Test to IEC-1034



SINGLE CORE CABLES FOR INSTALLATION IN BUILDINGS, POWER PLANTS & REFINERIES

Nom. Area of conductor	Class of conductor	Thickness of insulation	Overall diameter	App. Weight of cable	Current Rating
mm ²	As per IEC	mm	mm	Kg/km	amps
1.5	5	1.1	3.5	23	26
2.5	5	1.1	4.1	35	35
4.0	5	1.1	4.7	50	46
6.0	5	1.1	5.3	70	58
10.0	5	1.3	6.6	114	79

MULTI CORE POWER AND CONTROL CABLES

Nom. Area of conductor	Class of conductor	No. of cores	Thickness of insulation	Thickness of sheath	Overall diameter	App. Weight of cable	Current Rating
mm ²	As per IEC	No.	mm	mm	mm	Kg/km	amps
1.5	2	2	1.1	1.8	11.2	163	24
		3		1.8	11.9	190	23
		4		1.8	12.7	222	23
2.5	2	2	1.1	1.8	12.1	197	34
		3		1.8	12.8	234	32
		4		1.8	13.8	276	32
4.0	2	2	1.1	2.0	14.1	276	42
		3		2.0	14.9	330	41
		4		2.0	16.2	393	41
6.0	2	2	1.1	2.1	15.2	339	58
		3		2.1	16.1	413	56
		4		2.1	17.5	498	56
10.0	2	2	1.1	2.1	17.1	464	77
		3		2.1	18.1	573	75
		4		2.1	19.8	703	75





SPECIAL FLEXIBLE FLAT CABLES

BDS-IEC 60502(1)

APPLICATION: These cables are suitable for all electrical installations in dry and humid locations, under industrial conditions. Applications include steel mills, machine tool manufacture and similarly where cable is required to work under moving conditions.

CONSTRUCTION: Annealed plain copper conductor as per class-5 of IEC-228, PVC insulated, colour coded, cores laid flat and PVC outer sheathed as per BS-6746 with colour normally in Black.

TECHNICAL DATA:

Temperature Range : -15°C to 70°C

Working Voltage : 450 / 750 V

Core identification : One core Yellow-Green and balance all numbered with black colour insulation



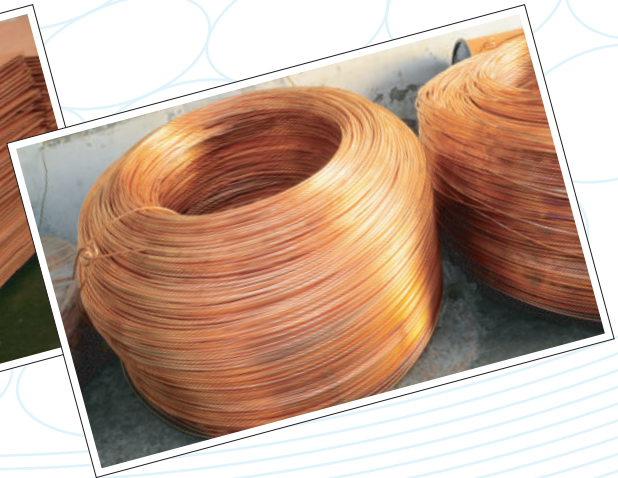
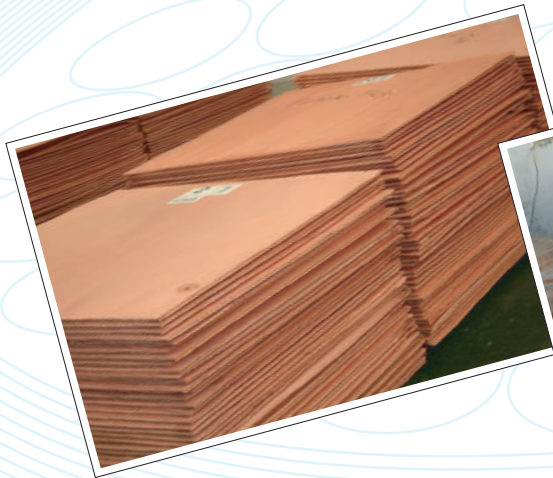
Cable Size	No./Dia. Of wire	Nom. Thick of insulation	Nom. Thick of sheath	App. Overall size of size of cable	App. Weight of cable	Current Rating
mm ²	mm	mm	mm	mm	Kg/km	amps
4CX1.5	20/0.3	0.8	1.8	16.9 x 7.0	216	16
8CX1.5	20/0.3	0.8	1.9	30.3 x 7.0	395	15
12CX1.5	20/0.3	0.8	2.3	44.2 x 7.0	580	14
4CX2.5	32/0.3	0.8	1.8	18.5 x 7.4	273	20
8CX2.5	32/0.3	0.8	2.0	33.6 x 7.4	505	19
12CX2.5	32/0.3	0.8	2.4	49.2 x 7.4	660	18
4CX4.0	50/0.3	1.0	1.8	21.7 x 8.2	375	26
8CX4.0	50/0.3	1.0	2.2	40.4 x 8.2	714	25
12CX4.0	50/0.3	1.0	2.8	59.6 x 8.2	1060	24

Note: Other Sizes and combination of different cores also can be supplied on demand.



Aluminium and Copper Over Head Conductors





Our World Class Raw Materials



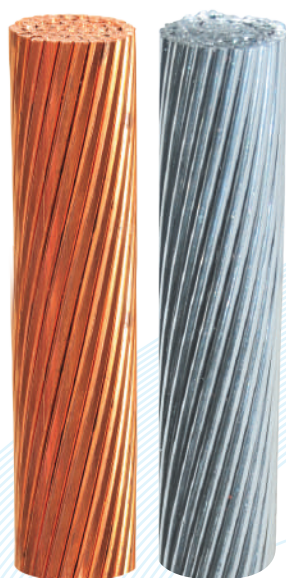
Technical Catalogue

Paradise Cables Limited

BARE COPPER AND ALUMINIUM CONDUCTOR

Weight of Bare Copper and Aluminium Conductor Stranded Multi Wires

Nominal Conductor Area	No. and Diameter of wires	Maximum Conductor Resistance at 20°C		Nominal Weight of Conductor	
		Copper	Aluminium	Copper	Aluminium
mm ²	No./mm	ohm/km	ohm/km	amps	amps
1	1/1.13	18.10	-	8.90	-
1	7/0.40	18.10	-	9.00	-
1.5	1/1.38	12.10	18.10	13.30	-
1.5	3/0.80	12.10	18.10	13.60	4.10
1.5	7/0.52	12.10	18.10	13.50	-
2.5	1/1.78	7.41	12.10	22.20	-
2.5	3/1.03	7.41	12.10	22.60	6.86
2.5	7/0.67	7.41	12.10	22.40	-
4	1/2.25	4.61	7.41	35.40	10.77
4	7/0.85	4.61	7.41	36.10	10.98
6	1/2.76	3.08	4.61	53.20	16.19
6	7/1.04	3.08	4.61	54.00	16.43
10	1/3.57	1.83	3.08	89.00	27.50
10	7/1.35	1.83	3.08	90.80	27.63
16	7/1.70	1.15	1.91	144.0	43.21
35	19/1.53	0.524	0.868	317.0	96.00
50	19/1.83	0.387	0.641	453.0	131.0
70	19/2.14	0.268	0.443	620.0	189.0
95	19/2.52	0.193	0.320	860.0	262.0
120	37/2.03	0.153	0.253	1086.0	330.0
150	37/2.27	0.124	0.206	1354.0	412.0
185	37/2.52	0.0991	0.164	1673.0	509.0
240	61/2.25	0.0754	0.125	2199.0	669.0
300	61/2.52	0.0601	0.100	2758.0	839.0
400	61/2.89	0.0470	0.0778	3628.0	1103.0
500	61/3.23	0.0366	0.0605	4532.0	1378.0
630	127/2.52	0.0283	0.0469	5744.0	1748.0
800	127/2.85	0.0221	0.0367	7346.0	2235.0
1000	127/3.20	0.0176	0.0291	9260.0	2818.0





ALL ALUMINIUM STRANDED CONDUCTORS (AAC)

BDS 1036, Part 1/83

BS 215, Part-1

IEC 207

TYPE: AAC

PHYSICAL DATA & ELECTRICAL DATA



Code Name	Nominal Aluminium Area	Equivalent Copper Area	No. and Diameter of AL Wire	Overall Diameter of Conductor	Nominal Breaking Load	Max. DC resistance at 20°C	Approx. Weight	Current Rating
	mm ²	mm ²	No./inch	mm	kgf	ohm/km	kg/km	amps
MIDGE	22	14.20	7/2.06	6.18	408	1.227	64	114
APHIS	25	16.10	3/3.35	7.20	419	1.081	73	139
GNAT	25	16.10	7/2.21	6.60	468	1.068	74	124
WEEVIL	30	19.40	3/3.66	7.80	496	0.9082	87	144
MOSQUITO	35	22.60	7/2.59	7.80	617	0.7731	102	147
LADYBIRD	40	25.80	7/2.79	8.40	701	0.6694	118	159
ANT	50	32.30	7/3.10	9.30	846	0.5419	145	181
FLY	60	38.70	7/3.40	10.20	1010	0.4505	174	199
BLUEBOTTLE	70	45.20	7/3.66	11.00	1156	0.3884	203	219
EARWIG	75	48.40	7/3.78	11.40	1218	0.3645	216	227
GRASSHOPPER	80	51.60	7/3.91	11.70	1303	0.3405	232	238
CLEGG	90	58.10	7/4.17	12.50	1484	0.2994	264	256
WASP	100	64.50	7/4.39	13.20	1632	0.2702	292	271
BETTER	100	64.50	19/2.67	13.40	1776	0.2699	293	274
BEE	125	80.60	7/4.90	14.70	2033	0.2169	364	308
CRICKET	150	96.80	7/5.36	16.10	2432	0.1814	436	342
HORNET	150	96.80	19/3.25	16.30	2519	0.1825	435	346
CATERPILLER	175	113	19/3.53	17.70	2920	0.1547	513	380
CHAFER	200	129	19/3.78	18.90	3304	0.1349	588	414
SPIDER	225	145	19/3.99	20.00	3672	0.1214	655	439
COCKROACH	250	161	19/4.22	21.10	4120	0.1083	733	470
BUTTERFLY	300	194	19/4.65	23.30	4966	0.08916	890	528
MOTH	350	226	19/5.00	25.00	5748	0.07709	1029	527
DRONE	350	226	19/3.58	25.10	5858	0.07723	1029	572
LOCUST	400	258	19/5.36	26.80	6601	0.06714	1182	626
CENTPEDE	400	258	37/3.78	26.50	6434	0.06944	1145	619
MAYBUG	450	290	37/4.09	28.60	7547	0.05921	1340	676
SCORPION	500	323	37/4.27	29.90	8156	0.05445	1461	710
CICADA	600	387	37/4.65	32.60	9682	0.04587	1732.4	784
TARANTULA	750	484	37/5.23	36.60	12247	0.03628	2191.5	899





ALL ALUMINIUM STRANDED CONDUCTORS (AAC)

BDS 1036, Part 1/83

ASTM B 231 (Class-A & Class-AA)

IEC 207

TYPE: AAC

PHYSICAL DATA & ELECTRICAL DATA

Code Name	Nominal Aluminium Area		No. and Diameter of AL Wire	Overall Diameter of Conductor	Nominal Breaking Load	Max. DC resistance at 20°C	Approx. Weight	Current Rating
	AWG or MCM	mm ²	No./inch	mm	kgf	ohm/km	kg/km	amps
ROSE	4	21.12	7/1.96	5.88	399	1.3610	58	104
IRIS	2	33.54	7/2.47	7.41	611	0.8568	92	136
POPPY	1/0	53.52	7/3.12	9.36	903	0.5369	148	180
ASTER	2/0	67.35	7/3.50	10.50	1136	0.4267	186	207
PHLOX	3/0	84.91	7/3.93	11.79	1375	0.3384	234	237
OXLIP	4/0	107.40	7/4.42	13.26	1740	0.2676	296	273
VALERIAN	250.00	126.40	19/2.91	14.55	2107	0.2273	348	305
DAISY	266.80	135.30	7/4.96	14.88	2191	0.2124	373	313
PEONY	300.00	151.90	19/3.19	15.95	2482	0.1892	419	340
TULIP	336.40	170.50	19/3.38	16.90	2787	0.1685	470	364
DAFFODIL	350.00	177.60	19/3.45	17.25	2903	0.1618	490	373
GOLDENTUFT	450.00	228.10	19/3.91	19.55	3580	0.1260	629	432
COSMOS	477.00	241.20	19/4.02	20.10	3784	0.1191	665	447
ZINNIA	500.00	253.30	19/4.12	20.60	3975	0.1134	698	459
DAHLIA	556.50	282.40	19/4.35	21.75	4431	0.1018	779	489



PVC Insulated All Aluminium Stranded Conductors (AAC-INS.)

BS 215, Part-1

BS 6485

TYPE: AAC-INS

PHYSICAL DATA & ELECTRICAL DATA

Code Name	Cross Sectional Area of AL.	No. and Diameter of AL Wire	Diameter of Bare Conductor	Minimum Thickness of Insulation	Approx. Overall Diameter	Nominal Breaking Load	Max. DC resistance at 20°C	Approx. Weight	Current Rating
	mm ²	No./inch	mm	mm	mm	kgf	ohm/km	kg/km	amps
MIDGE	23.30	7/2.06	6.18	0.80	8.20	408	1.227	95	106
GNAT	26.90	7/2.21	6.60	0.80	8.60	468	1.068	110	115
MOSQUITO	36.90	7/2.59	7.80	0.80	9.80	617	0.7731	143	134
ANT	52.80	7/3.10	9.30	0.80	11.30	846	0.5419	215	172
FLY	63.60	7/3.40	10.20	0.80	12.20	1010	0.4505	230	191
BLUE	73.60	7/3.66	11.00	0.80	13.00	1156	0.3884	261	210
EARWIG	78.60	7/3.78	11.40	0.80	13.40	1218	0.3645	292	218
GROSSHOPPER	84.10	7/3.91	11.70	0.80	13.80	1303	0.3405	315	228
CLEGG	95.60	7/4.17	12.50	0.80	14.60	1482	0.2994	330	245
WASP	106.0	7/4.39	13.20	0.80	15.60	1632	0.2702	389	260



Medium Hard Drawn XLPE Insulated Copper Conductor

ASTM B 2 & B 8

ICEA-S-66-524 (NEMA WC7)

PHYSICAL DATA & ELECTRICAL DATA

Metric Unit Equivalents

REB Item No.	Conductor Size	Number of Strands and Wire Diameter	Insulation Thickness	Overall Diameter	Nominal Length		Approx. Weight	
		No./mm	mils	mils	meter	feet	kgs	pounds
D - 16	3 AWG	3/3.36	60	405	304.80	1000	88	194
D - 17	1/0 AWG	7/3.12	62	481	804.70	2640	436	961
D - 18	4/0 AWG	7/4.42	62	630	536.40	1760	563	1242
D - 19	1000 MCM	61/3.25	94	1306	228.60	750	1108	2442



ALUMINIUM CONDUCTOR STEEL REINFORCED (ACSR)

BDS 1037, Part 1/83

BS 215, Part-2

IEC 209

TYPE: ACSR

PHYSICAL DATA & ELECTRICAL DATA

Code Name	Cross Sectional Area		No. and Dia. of Wire		Overall Diameter of Conductor	Calculated Breaking Load	Max. DC resistance at 20°C	Approx. Weight of Conductor			Current Rating
	Conductor	AL.	AL.	Steel				Conductor	AL.	Steel	
	mm2	mm2	No./inch					mm	kgf	ohm/km	
SQUIRREL	24.46	20.97	6/2.11	1/2.11	6.33	806	1.370	85	58	27	109
GOPHER	30.60	26.23	6/2.36	1/2.36	7.08	979	1.093	106	72	34	126
WEASEL	36.86	31.60	6/2.59	1/2.59	7.77	1168	0.9077	108	73	35	134
FOX	42.79	36.66	6/2.79	1/2.79	8.37	1346	0.7827	149	101	48	147
FERRET	49.46	42.39	6/3.00	1/3.00	9.00	1550	0.6766	172	117	55	161
RABBIT	61.67	52.85	6/3.35	1/3.35	10.05	1876	0.5426	215	146	69	185
HORSE	116.16	73.36	12/2.79	7/2.79	13.95	6241	0.3936	538	202	336	268
RACCOON	91.92	78.79	6/4.10	1/4.10	12.30	2774	0.3623	321	218	103	231
CAT	110.78	94.96	6/4.50	1/4.50	13.50	3335	0.3008	387	263	124	248
HARE	122.42	104.93	6/4.72	1/4.72	14.16	3671	0.2733	425	289	136	273
DOG	118.53	104.98	6/4.72	7/1.57	14.15	3335	0.2733	395	106	289	273
TIGER	161.85	131.10	30/2.36	7/2.36	16.52	5914	0.2204	603	362	241	323
WOLF	194.94	158.06	30/2.59	7/2.59	18.13	7056	0.1828	726	436	290	355
DINGO	167.46	158.57	18/3.35	1/3.35	16.75	3640	0.1815	506	437	69	349
CARACAL	194.48	184.24	18/3.61	1/3.61	18.05	4181	0.1563	588	508	80	383
PANTHER	261.54	212.06	30/3.00	7/3.00	21.00	9402	0.1363	974	585	289	421
LION	293.87	238.27	30/3.18	7/3.18	22.26	10258	0.1212	1094	657	437	448
ELK	588.46	477.13	30/4.50	7/4.50	31.50	20211	0.06058	2190	1315	875	679



Aluminium Conductor Steel Reinforced (ACSR)

BDS 1037, Part 1/83

ASTM B 232

IEC 209

TYPE: ACSR

PHYSICAL DATA & ELECTRICAL DATA

Code Name	Cross Sectional Area		No. and Dia. of Wire		Overall Diameter of Conductor	Calculated Breaking Load	Max. DC resistance at 20°C	Approx. Weight of Conductor			Current Rating
	AWG or MCM	AL.	AL.	Steel				Conductor	AL.	Steel	
		mm2	No./inch					mm	kgf	ohm/km	
SWAN	4	21.15	6/2.12	1/2.12	6.36	846	1.356	85	58	27	105
SWALLOW	3	26.65	6/2.38	1/2.38	7.14	1040	1.076	108	73	35	121
SPARROW	2	33.58	6/2.67	1/2.67	8.01	1290	0.853	136	92	44	139
ROBIN	1	42.39	6/3.00	1/3.00	9.00	1620	0.6765	171	116	55	160
RAVEN	1/0	53.48	6/3.37	1/3.37	10.11	1990	0.5364	216	147	69	183
QUAIL	2/0	67.42	6/3.78	1/3.78	11.34	2400	0.4255	272	185	87	210
PIGEON	3/0	85.03	6/4.25	1/4.25	12.75	3010	0.3373	345	234	111	241
PENGUIN	4/0	107.23	6/4.77	1/4.77	14.31	3790	0.2676	433	294	139	286
WAXWING	266.8	135.16	18/3.09	1/3.09	15.45	3120	0.2133	430	372	58	319
OSTRICH	300	152	26/2.73	7/2.12	17.28	5760	0.1906	614	420	194	346
MERLIN	336.4	170.45	18/3.47	1/3.47	17.35	3940	0.1692	543	469	74	366
CHICKADEE	397.5	201.42	18/3.77	1/3.77	18.85	4510	0.1432	642	554	88	403
PELICAN	477	241.68	18/4.14	1/4.14	20.70	5330	0.1193	774	668	106	449
HAWK	477	241.68	26/3.44	7/2.68	21.80	8870	0.11682	977	667	310	455
HEN	477	241.68	30/3.20	7/3.20	22.40	10800	0.1202	1109	337	442	457
GROSBEAK	636	322.46	26/3.97	7/3.09	25.15	11400	0.08989	1302	893	409	538



BARE ACSR CONDUCTOR

BDS 1037, Part 11/83

ASTM B 232

IEC 209

PHYSICAL DATA & ELECTRICAL DATA

Metric Unit Equivalents

REB Item No.	Size	Code Name	Stranding and Wire Diameter		Overall Diameter	Ultimate Strength	Max. DC resistance at 20°C	Approx. Weight
			Steel	Al				
			n / cm	n / cm				
D-1	3 AWG	SWALLOW	1/0.23799	6/0.23799	0.7137	1014	1.073758	108
D-2	1/0 AWG	RAVEN	1/0.33705	6/0.33705	1.0109	1926	0.535015	216
D-3	4/0 AWG	PENGUIN	1/0.47701	6/0.47701	1.4300	3760	0.267196	433
D-28	477 MCM	HAWK	7/0.2674	26/0.3439	2.1793	8845	0.116820	977



Bare ACSR Conductor

BDS 1037, Part 11/83

ASTM B 232

IEC 209

TYPE: Bare ACSR Conductor

PHYSICAL DATA & ELECTRICAL DATA

English Unit Equivalents

REB Item No.	Size	Code Name	Stranding and Wire Diameter		Overall Diameter	Ultimate Strength	Max. DC resistance at 20°C	Approx. Weight
			Steel	Al				
			n / inches	n / inches				
D-1	3 AWG	SWALLOW	1/0.0937	6/0.0937	0.281	2235	1.728	381
D-2	1/0 AWG	RAVEN	1/0.1327	6/0.1327	0.398	4245	0.861	768
D-3	4/0 AWG	PENGUIN	1/0.1878	6/0.1878	0.563	8290	0.430	1537
D-28	477 MCM	HAWK	7/0.1053	26/0.1354	0.858	19500	0.188	3468



Bare Aluminium Wire

ASTM B 230, B 609, B 531, B 193 & B 233

PHYSICAL DATA & ELECTRICAL DATA

Description	REB Item No.	Size	Approximate Diameter of Wire	Approximate Conductor Diameter	Calculating Breaking Load	Max. DC resistance at 20°C	Approx. Weight
			No./mm	mm	kgf		
Hard drawn Aluminium	D-4	4 AWG	1/5.189	5.189	342	1.336	57.20
Grounding Wire							
Annealed Aluminium	D-5	4 AWG	1/5.189	5.189	167 (max)	1.325	57.20
Tie Wire							



Bare Aluminium Alloy Conductor

ASTM B 398-90 & B 399-97

PHYSICAL DATA & ELECTRICAL DATA

REB Item No.	Size	Code Name	Stranding and Wire Diameter		Overall Diameter		Ultimate Strength	Max. DC resistance at 20°C		Approx. Weight
	kcmils		No./inches	No./mm	inches	mm		ohm/miles	Ohm/km	
D-29	77.47	AMES	7/0.1052	7/2.67	0.316	8.01	1274	1.373	0.8532	107.50
D-30	123.2	AZUSA	7/0.1327	7/3.37	0.398	10.11	1937	0.861	0.5350	171.00
D-31	246.9	ALLIANCE	7/0.1878	7/4.77	0.563	14.31	3884	0.4308	0.2678	342.60
D-32	559.5	DARIEN	19/1.1716	19/4.36	0.858	21.80	8522	0.1900	0.1180	776.30



BARE COPPER CONDUCTOR AND WIRE

ASTM B 3 & ASTM B 3, ASTM B 193

PHYSICAL DATA & ELECTRICAL DATA



Description	REB Item No.	Size	Approximate Diameter of Wire	Approximate Conductor Diameter	Calculating Breaking Load	Max. DC resistance at 20°C	Approx. Weight
			No./mm	mm	kgf	ohm/km	kg/km
Annealed Copper Wire	D – 6	6 AWG	1/4.115	4.115	346 (max)	1.321	118
Medium hard drawn stranded copper Conductor	D – 7	3 AWG	3/3.36	7.254	1070	0.683	239
Medium hard drawn stranded copper Conductor	D – 8	1/0 AWG	7/3.119	9.347	2155	0.338	483
Medium hard drawn stranded copper Conductor	D – 9	4/0 AWG	7/4.42	13.259	3694	0.166	956
Medium hard drawn stranded copper Conductor	DS – 9	4/0 AWG	19/2.68	13.41	4371	0.173	970
Medium hard drawn stranded copper Conductor	DS – 10	2/0 AWG	7/3.502	10.50	2694	0.275	916
Medium hard drawn stranded copper Conductor	DS – 10	2/0 AWG	19/2.13	10.64	2162	0.271	613
Medium hard drawn stranded copper Conductor	DS – 37	350 MCM	37/2.47	17.30	5662	0.9898	1608
Medium hard drawn stranded copper Conductor	DS – 38	500 MCM	37/2.90	20.60	10231	0.070	2227

Pre-assembled Cross-Linked Polyethylene Insulated Aluminium Conductors With ACSR Messenger Wire

ASTM B 231, B 232

ICEA-S-66-524 (NEMA WC7)

TYPE: DUPLEX & QUADRUPLX CABLE

PHYSICAL DATA & ELECTRICAL DATA



REB Item No.	Conductor		Conductor Code Name		Number of Phase	Stranding and Wire Diameter			Insulation Thickness (XLPE)		Overall Diameter		Max. DC resistance at 20°C		Approx. Weight
	Phase		Phase	Neutral		Phase	Neutral				Insulated each Phase	Neutral	Phase	Neutral	
							AL	Steel							
							n/mm	n/mm	n/mm	mils					
D – 11	6	6	PEACHBELL	TURKEY	1	7/1.56	6/1.68	1/1.68	45	1.143	6.97	5.04	2.169	2.1526	114
D – 12	3	3	LILY	SWALLOW	1	7/2.20	6/2.38	1/2.38	45	1.143	8.89	7.41	1.0709	1.074	212
D – 14	3	3	LILY	SWALLOW	3	7/2.20	6/2.38	1/2.38	45	1.143	8.89	7.41	1.0709	1.074	420
D – 15	1/0	1/0	POPPY	RAVEN	3	7/3.12	6/3.37	1/3.37	60	1.524	12.41	10.11	0.5344	0.5344	835
D – 20	4	4	ROSE	SWAN	3	7/1.96	6/2.12	1/2.12	45	1.143	8.17	6.36	1.3551	1.3522	340
D – 24	4/0	4/0	OXLIP	PENGUIN	3	7/4.42	6/4.77	1/4.77	60	1.524	16.31	14.31	0.2667	0.2667	1580
D – 25	6	6	PEACHBELL	TURKEY	3	7/1.56	6/1.68	1/1.38	45	1.143	6.91	5.04	2.169	2.157	230

Technical Information







RATING FACTORS FOR VARIATION IN SITE CONDITIONS

I. Cables laid directly in the Ground

A. Variation in Soil Temperature in Ground and in Ducts

Ground Temp. °C	20	25	30	35	40	45	50	55
Rating factor	1.11	1.06	1.0	0.96	0.88	0.81	0.77	0.72

B. Variation in Depth of Laying

Voltage Grade	Upto 1.2KV				3.3KV to 11KV				Above 12KV Upto 36KV			
Depth of Laying	700	850	1000	1200	900	1050	1200	1500	1050	1200	1500	1800
Rating factor	1.0	0.99	0.97	0.96	1.0	0.99	0.97	0.95	1.0	0.98	0.96	0.94

C. Variation in Thermal Resistivity of Soil

Thermal resistivity (°C.cm/W)	80	100	120	150	200	250	300
Rating factor	1.1	1.0	0.94	0.84	0.75	0.68	0.62

D. Group rating Factors

No. of Cables / Circuits in Group	Multi core cables in horizontal formation with gap between cables				Multi core cables in Tier formation with gap between Tiers				Single core cables in Trefoil touching formation with gap between Trefoils			
	touch	15 cm	30 cm	45 cm	touch	15 cm	30 cm	45 cm	touch	15 cm	30 cm	45 cm
2	0.80	0.84	0.87	0.90	0.77	0.80	0.84	0.90	0.78	0.82	0.85	0.91
3	0.69	0.74	0.79	0.83	0.67	0.70	0.74	0.83	0.68	0.71	0.76	0.85
4	0.62	0.68	0.75	0.80	0.60	0.64	0.69	0.77	0.61	0.65	0.71	0.78
6	0.54	0.62	0.69	0.75	0.51	0.55	0.60	0.67	0.53	0.57	0.64	0.67

II. Cables laid in racks in Air

A. Variation in ambient air temperature

Ambient temp. °C	25	30	35	40	45	50
Rating factor	1.13	1.06	1.0	0.93	0.89	0.77

B. Group Rating factors

No. of Cables / Circuits in Group	Multi core cables in horizontal formation with gap between cables				Multi core cables in Tier formation with gap between Tiers				Single core cables in Trefoil touching formation with gap between Trefoils			
	Number of racks				Number of racks				Number of racks			
	1	2	3	6	1	2	3	6	1	2	3	6
1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
2	0.84	0.80	0.78	0.76	0.98	0.95	0.94	0.93	0.98	0.95	0.94	0.93
3	0.80	0.76	0.74	0.72	0.96	0.93	0.92	0.90	0.96	0.93	0.92	0.90
6	0.76	0.71	0.70	0.68	0.93	0.90	0.89	0.87	-	-	-	-

C. Group rating factors for multicore cables

No. of Cores	5	7	10	14	19	24	40	61
Factor in Ground	0.75	0.65	0.55	0.50	0.45	0.40	0.35	0.30
Factor in air	0.80	0.70	0.60	0.55	0.50	0.45	0.40	0.35



SOLID/STRANDED CONDUCTOR FOR INSULATED CABLES CONFORMING TO IEC: 60228: 2009

Nominal size of conductor mm ²	SOLID CONDUCTOR CLASS-1		STRANDED CONDUCTOR CLASS-2									
	Max. D.C. Resistance of conductor at 20°C Ω/Km		Minimum number of wires in the conductor						Max. D.C. Resistance of conductor at 20°C Ω/Km		App. A.C. resistance at 90°C Ω/km	
	Cu	Al	Circular round conductor		Circular Compacted conductor		Shaped conductor		Plain copper		Aluminum	
			Cu	Al	Cu	Al	Cu	Al	Cu	Al	Copper	Aluminum
0.5	36.0	-	7	-	-	-	-	-	36.0	-	-	-
0.75	24.5	-	7	-	-	-	-	-	24.5	-	-	-
1.0	18.1	-	7	-	-	-	-	-	18.1	-	-	-
1.5	12.1	18.1	7	-	6	-	-	-	12.1	-	15.43	-
2.5	7.41	12.1	7	-	6	-	-	-	7.41	-	9.45	-
4	4.61	7.41	7	-	6	-	-	-	4.61	-	5.88	-
6	3.08	4.61	7	-	6	-	-	-	3.08	-	3.93	-
10	-	3.08	7	7	6	6	-	-	1.83	3.08	2.33	-
16	-	-	7	7	6	6	-	-	1.15	1.91	1.47	-
25	-	-	7	7	6	6	6	6	0.727	1.20	0.927	1.54
35	-	-	7	7	6	6	6	6	0.524	0.868	0.669	1.113
50	-	-	19	19	6	6	6	6	0.387	0.641	0.494	0.822
70	-	-	19	19	12	12	12	12	0.268	0.443	0.343	0.568
95	-	-	19	19	15	15	15	15	0.193	0.320	0.248	0.411
120	-	-	37	37	18	15	18	15	0.153	0.253	0.197	0.325
150	-	-	37	37	18	15	18	15	0.124	0.206	0.160	0.265
185	-	-	37	37	30	30	30	30	0.0991	0.164	0.129	0.211
240	-	-	37	37	34	30	34	30	0.0754	0.125	0.010	0.161
300	-	-	61	61	34	30	34	30	0.0601	0.100	0.081	0.130
400	-	-	61	61	53	53	53	53	0.0470	0.0778	0.065	0.102
500	-	-	61	61	53	53	53	53	0.0366	0.0605	0.050	0.080
630	-	-	91	91	53	53	53	53	0.0283	0.0469	0.041	0.063
800	-	-	91	91	53	53	-	-	0.0221	0.0367	0.034	0.051
1000	-	-	91	91	53	53	-	-	0.0176	0.0291	0.029	0.042

Multiplying Factors for Resistance at various Temperatures:

Temperature °C	Multiplying factor	Temp. °F	Temperature °C	Multiplying factor	Temp. °F
20	1.000	68	65	1.176	149
25	1.019	77	70	1.196	158
30	1.039	86	75	1.216	167
35	1.059	95	80	1.236	176
40	1.079	104	85	1.255	185
45	1.098	113	90	1.275	194
50	1.118	122	95	1.294	203
55	1.137	131	100	1.314	212
60	1.157	140			



MAXIMUM SHORT CIRCUIT CURRENT RATING FOR L. T. POWER CABLES - IN KA/SEC.

Nominal area of cross section mm ²	Copper conductor		Aluminum conductor	
	Type of Insulation		Type of Insulation	
	PVC	XLPE	PVC	XLPE
1.5	0.14	0.21	-	-
2.5	0.28	0.36	-	-
4	0.45	0.57	0.30	0.38
6	0.68	0.85	0.46	0.56
10	1.13	1.43	0.76	0.94
16	1.81	2.29	1.22	1.50
25	2.83	3.57	1.90	2.35
35	3.96	5.01	2.66	3.29
50	5.65	7.15	3.80	4.70
70	7.91	10.01	5.32	6.58
95	10.74	13.58	7.22	8.93
120	13.56	17.16	9.12	11.28
150	16.95	21.45	11.40	14.10
185	20.91	26.45	14.06	17.39
240	27.12	34.32	18.24	22.56
300	33.90	42.90	22.80	28.20
400	45.20	57.20	30.40	37.60
500	56.50	71.50	38.00	47.00
630	71.19	90.09	47.88	59.22
800	90.40	114.40	60.80	75.20
1000	113.00	143.00	76.00	94.00

MAXIMUM SHORT CIRCUIT CURRENT RATING FOR M. V. POWER CABLES - IN KA/SEC.

Nominal area of cross section mm ²	Short circuit rating KA/Sec		Nominal area of cross section mm ²	Short circuit rating KA/Sec	
	Copper	Aluminum		Copper	Aluminum
25	3.58	2.35	150	21.50	14.10
35	5.01	3.29	185	26.50	17.40
50	7.15	4.70	240	34.30	22.60
70	10.01	6.58	300	42.90	28.20
95	13.60	8.93	400	57.20	37.60
120	17.20	11.28			

Short Circuit Rating of Conductors:

Maximum conductor temperature under normal temperature = 90°C

Maximum conductor temperature during short circuit = 250°C

Cond. Temperature at the beginning of short circuit(°C)	90	80	70	65	60	50
Short circuit current (A/mm ²)	143	149	154	157	159	165

The short circuit for any duration (up to 5 sec.) can be obtained from the following formulae:

$$I_{sc}(t) = \frac{I_{sc}(1)}{\sqrt{t}}$$

Where $I_{sc}(1)$ = short circuit current at 1 sec.
 t = duration of short circuit (sec.)





ESTIMATED VOLTAGE DROP IN LOW VOLTAGE POWER CABLES - IN Volts/km

Cable size mm ²	Copper				Aluminum			
	XLPE		PVC		XLPE cables		PVC	
	Single core	Multi core	Single core	Multi core	Single core	Multi core	Single core	Multi core
1.5	650	587	488	384	-	-	-	-
2.5	550	491	416	347	-	-	-	-
4	440	397	340	284	740	641	452	421
6	384	333	293	246	660	572	391	365
10	298	267	249	192	567	491	322	286
16	312	213	206	172	475	411	246	225
25	282	179	187	156	385	333	215	190
35	250	156	159	132	334	291	182	166
50	210	137	138	118	313	273	163	147
70	182	120	124	103	268	233	132	125
95	159	106	111	94	225	190	121	112
120	148	98	101	87	208	176	107	99
150	135	93	89	83	196	171	99	91
185	129	90	76	70	189	172	87	81
240	122	86	61	60	174	149	80	76
300	118	85	56	54	161	139	71	69
400	117	84	52	50	150	137	68	60
500	115	-	49	-	146	133	61	54
630	115	-	48	-	138	125	61	51

ESTIMATED VOLTAGE DROP IN XLPE/PVC CONTROL CABLES - IN Volts/km

Size of the cable	1.5mm		2.5mm	
No of cores	XLPE	PVC	XLPE	PVC
2	725	666	584	567
3	659	608	491	479
5	644	463	422	408
6	564	434	445	372
7	537	405	430	355
10	483	376	384	319
12	456	348	369	301
14	430	318	338	284
16	403	310	322	266
19	376	290	307	248
24	349	261	276	231
27	322	261	261	213
30	295	261	230	213
37	295	232	230	195
61	242	210	200	178





ESTIMATED VOLTAGE DROP IN M. V. POWER (H. T) CABLES - In Volts/Amps/km

Cond. area mm ²	Type	3.6/6.0(7.2) KV		6/10(12) KV		8.7/15(17.5) KV		12/20(24) KV		18/30(36) KV	
		CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
1X25	Un-Ar.	0.940	2.665	0.949	2.670	0.952	2.67	-	-	-	-
	Ar.	0.945	2.670	0.951	2.675	0.956	2.68	-	-	-	-
1X35	Un-Ar.	0.680	1.935	0.689	1.939	0.693	1.941	0.695	1.942	-	-
	Ar.	0.686	1.938	0.692	1.940	0.696	1.943	0.698	1.944	-	-
1X50	Un-Ar.	0.510	1.435	0.515	1.437	0.517	1.440	0.518	1.440	0.521	1.44
	Ar.	0.514	1.438	0.519	1.439	0.520	1.442	0.521	1.443	0.525	1.45
1X70	Un-Ar.	0.365	1.002	0.366	1.004	0.368	1.007	0.370	1.008	0.373	1.01
	Ar.	0.368	1.005	0.370	1.006	0.373	1.010	0.375	1.012	0.378	1.02
1X95	Un-Ar.	0.272	0.736	0.273	0.737	0.277	0.741	0.280	0.742	0.283	0.75
	Ar.	0.276	0.740	0.279	0.740	0.282	0.745	0.285	0.747	0.288	0.75
1X120	Un-Ar.	0.223	0.592	0.225	0.594	0.231	0.599	0.233	0.600	0.236	0.61
	Ar.	0.230	0.596	0.231	0.598	0.233	0.604	0.237	0.606	0.241	0.61
1X150	Un-Ar.	0.190	0.493	0.191	0.495	0.197	0.500	0.200	0.502	0.203	0.51
	Ar.	0.197	0.496	0.199	0.499	0.201	0.505	0.208	0.508	0.210	0.51
1X185	Un-Ar.	0.161	0.406	0.163	0.408	0.168	0.413	0.172	0.414	0.175	0.42
	Ar.	0.170	0.411	0.172	0.413	0.177	0.419	0.180	0.422	0.184	0.43
1X240	Un-Ar.	0.135	0.330	0.138	0.330	0.143	0.336	0.148	0.338	0.151	0.35
	Ar.	0.145	0.335	0.147	0.336	0.152	0.343	0.156	0.346	0.159	0.355
1X300	Un-Ar.	0.120	0.282	0.122	0.282	0.128	0.287	0.132	0.289	0.135	0.30
	Ar.	0.129	0.287	0.131	0.288	0.137	0.295	0.141	0.298	0.144	0.31
1X400	Un-Ar.	0.107	0.240	0.109	0.241	0.115	0.248	0.120	0.250	0.123	0.26
	Ar.	0.114	0.246	0.118	0.248	0.124	0.256	0.128	0.260	0.131	0.27
1X500	Un-Ar.	0.100	0.212	0.101	0.213	0.106	0.219	0.110	0.221	0.113	0.23
	Ar.	0.108	0.220	0.111	0.220	0.116	0.229	0.120	0.233	0.122	0.24
1X630	Un-Ar.	0.092	0.191	0.094	0.192	0.100	0.198	0.105	0.200	0.106	0.21
	Ar.	0.101	0.200	0.103	0.200	0.108	0.208	0.112	0.212	0.114	0.22

Cond. area mm ²	Type	3.6/6.0(7.2) KV		6/10(12) KV		8.7/15(17.5) KV		12/20(24) KV		18/30(36) KV	
		CU	AL	CU	AL	CU	AL	CU	AL	CU	AL
3X25	Ar.	0.945	2.670	0.948	2.680	0.950	2.680	-	-	-	-
3X35	Ar.	0.685	1.930	0.688	1.931	0.690	1.940	0.692	1.941	-	-
3X50	Ar.	0.508	1.428	0.512	1.430	0.515	1.441	0.516	1.440	0.519	1.440
3X70	Ar.	0.360	1.000	0.363	1.001	0.365	1.002	0.368	1.001	0.370	1.010
3X95	Ar.	0.266	0.727	0.270	0.730	0.273	0.741	0.277	0.741	0.279	0.740
3X120	Ar.	0.216	0.587	0.221	0.590	0.225	0.600	0.229	0.601	0.231	0.600
3X150	Ar.	0.181	0.490	0.186	0.492	0.191	0.441	0.195	0.500	0.198	0.501
3X185	Ar.	0.153	0.380	0.158	0.401	0.163	0.412	0.168	0.410	0.170	0.420
3X240	Ar.	0.128	0.320	0.132	0.322	0.137	0.332	0.143	0.330	0.145	0.341
3X300	Ar.	0.111	0.269	0.116	0.271	0.121	0.291	0.126	0.280	0.129	0.290
3X400	Ar.	0.100	0.228	0.105	0.231	0.105	0.240	0.110	0.240	0.112	0.245





CALCULATED VALUES OF REACTANCE, STAR CAPACITANCE & INDUCTANCE OF 1C H. T. CABLES

Cond. area mm ²	Electrical property	Unit	3.6/6.0 (7.2) KV		6/10 (12) KV		8.7/15 (17.5) KV		12/20 (24) KV		18/30 (36) KV	
			un Ar	Ar.	un Ar	Ar.	un Ar	Ar.	un Ar	Ar.	un Ar	Ar.
1X25	Reactance	Ω/km	0.139	0.148	0.139	1.470	0.150	0.158	-	-	-	-
	Capacitance	F/km	0.265	0.263	0.190	0.190	0.140	0.140	-	-	-	-
	Inductance	mH/km	0.420	0.420	0.44	0.470	0.480	0.500	-	-	-	-
1X35	Reactance	Ω/km	0.132	0.141	0.132	0.140	0.143	0.150	0.145	0.154	-	-
	Capacitance	F/km	0.293	0.292	0.210	0.210	0.160	0.160	0.150	0.150	-	-
	Inductance	mH/km	0.405	0.410	0.420	0.450	0.450	0.480	0.460	0.490	-	-
1X50	Reactance	Ω/km	0.125	0.134	0.126	0.133	0.136	0.144	0.138	0.147	0.151	0.158
	Capacitance	F/km	0.330	0.326	0.230	0.230	0.170	0.170	0.160	0.170	0.130	0.130
	Inductance	mH/km	0.400	0.400	0.400	0.420	0.430	0.460	0.440	0.470	0.480	0.500
1X70	Reactance	Ω/km	0.117	0.124	0.119	0.126	0.128	0.136	0.131	0.139	0.143	0.150
	Capacitance	F/km	0.382	0.371	0.270	0.270	0.200	0.200	0.180	0.190	0.145	0.145
	Inductance	mH/km	0.350	0.370	0.380	0.400	0.410	0.430	0.420	0.440	0.450	0.480
1X95	Reactance	Ω/km	0.111	0.118	0.114	0.120	0.122	0.130	0.125	0.134	0.136	0.143
	Capacitance	F/km	0.438	0.418	0.300	0.380	0.220	0.220	0.200	0.210	0.159	0.159
	Inductance	mH/km	0.320	0.350	0.360	0.380	0.390	0.420	0.400	0.430	0.430	0.450
1X120	Reactance	Ω/km	0.106	0.114	0.110	0.117	0.119	0.126	0.121	0.129	0.131	0.137
	Capacitance	F/km	0.484	0.460	0.330	0.370	0.240	0.240	0.220	0.220	0.174	0.174
	Inductance	mH/km	0.310	0.330	0.350	0.330	0.380	0.400	0.380	0.410	0.420	0.440
1X150	Reactance	Ω/km	0.104	0.111	0.107	0.113	0.115	0.122	0.117	0.125	0.126	0.133
	Capacitance	F/km	0.530	0.494	0.350	0.350	0.250	0.250	0.240	0.240	0.186	0.186
	Inductance	mH/km	0.320	0.330	0.340	0.360	0.370	0.390	0.370	0.400	0.400	0.420
1X185	Reactance	Ω/km	0.101	0.107	0.104	0.111	0.111	0.118	0.113	0.122	0.123	0.129
	Capacitance	F/km	0.592	0.550	0.390	0.390	0.280	0.280	0.260	0.260	0.200	0.200
	Inductance	mH/km	0.310	0.320	0.330	0.350	0.350	0.380	0.360	0.390	0.390	0.410
1X240	Reactance	Ω/km	0.098	0.105	0.101	0.107	0.107	0.114	0.108	0.117	0.118	0.124
	Capacitance	F/km	0.666	0.601	0.440	0.440	0.310	0.310	0.290	0.290	0.219	0.219
	Inductance	mH/km	0.306	0.310	0.320	0.340	0.340	0.360	0.340	0.370	0.370	0.390
1X300	Reactance	Ω/km	0.096	0.102	0.098	0.104	0.103	0.110	0.105	0.113	0.114	0.121
	Capacitance	F/km	0.741	0.617	0.480	0.480	0.330	0.330	0.310	0.320	0.237	0.237
	Inductance	mH/km	0.295	0.300	0.310	0.330	0.330	0.350	0.330	0.360	0.360	0.390
1X400	Reactance	Ω/km	0.094	0.098	0.095	0.101	0.100	0.107	0.102	0.110	0.110	0.117
	Capacitance	F/km	0.837	0.655	0.530	0.530	0.370	0.370	0.340	0.350	0.260	0.260
	Inductance	mH/km	0.290	0.295	0.300	0.320	0.320	0.340	0.320	0.350	0.350	0.370
1X500	Reactance	Ω/km	0.093	0.098	0.093	0.098	0.097	0.105	0.099	0.107	0.107	0.113
	Capacitance	F/km	0.900	0.686	0.590	0.590	0.410	0.410	0.380	0.390	0.285	0.285
	Inductance	mH/km	0.295	0.296	0.300	0.310	0.310	0.330	0.320	0.34	0.340	0.360
1X630	Reactance	Ω/km	0.090	0.095	0.090	0.095	0.094	0.101	0.096	0.104	0.103	0.109
	Capacitance	F/km	0.980	0.766	0.660	0.660	0.450	0.450	0.420	0.430	0.314	0.314
	Inductance	mH/km	0.280	0.290	0.290	0.300	0.300	0.320	0.300	0.330	0.330	0.350





CALCULATED VALUES OF REACTANCE, STAR CAPACITANCE & INDUCTANCE OF 3C H. T. CABLES

Cond. area mm ²	Electrical property	Unit	3.6/6.0(7.2) KV	6/10(12) KV	8.7/15(17.5) KV	12/20(24) KV	18/30(36) KV
			Armored	Armored	Armored	Armored	Armored
3X25	Reactance	Ω/km	0.098	0.126	0.142	-	-
	Capacitance	F/km	0.260	0.190	0.150	-	-
	Inductance	mH/km	0.350	0.400	0.450	-	-
3X35	Reactance	Ω/km	0.940	0.120	0.135	0.138	-
	Capacitance	F/km	0.293	0.210	0.160	0.150	-
	Inductance	mH/km	0.320	0.380	0.430	0.440	-
3X50	Reactance	Ω/km	0.086	0.114	0.129	0.132	0.145
	Capacitance	F/km	0.330	0.230	0.180	0.170	0.130
	Inductance	mH/km	0.320	0.360	0.410	0.420	0.460
3X70	Reactance	Ω/km	0.084	0.106	0.119	0.121	0.134
	Capacitance	F/km	0.382	0.270	0.200	0.190	0.140
	Inductance	mH/km	0.310	0.340	0.380	0.390	0.430
3X95	Reactance	Ω/km	0.081	0.101	0.113	0.115	0.127
	Capacitance	F/km	0.438	0.300	0.220	0.210	0.160
	Inductance	mH/km	0.290	0.320	0.360	0.370	0.400
3X120	Reactance	Ω/km	0.078	0.098	0.110	0.112	0.122
	Capacitance	F/km	0.484	0.330	0.240	0.230	0.170
	Inductance	mH/km	0.298	0.310	0.350	0.360	0.390
3X150	Reactance	Ω/km	0.076	0.095	0.106	0.109	0.119
	Capacitance	F/km	0.530	0.350	0.260	0.240	0.180
	Inductance	mH/km	0.296	0.300	0.340	0.350	0.380
3X185	Reactance	Ω/km	0.075	0.091	0.102	0.104	0.114
	Capacitance	F/km	0.592	0.390	0.280	0.260	0.200
	Inductance	mH/km	0.285	0.290	0.320	0.330	0.360
3X240	Reactance	Ω/km	0.073	0.089	0.098	0.100	0.110
	Capacitance	F/km	0.666	0.440	0.310	0.290	0.220
	Inductance	mH/km	0.265	0.280	0.310	0.320	0.350
3X300	Reactance	Ω/km	0.072	0.086	0.096	0.098	0.107
	Capacitance	F/km	0.741	0.480	0.340	0.320	0.230
	Inductance	mH/km	0.260	0.280	0.300	0.310	0.340
3X400	Reactance	Ω/km	0.071	0.084	0.092	0.094	0.102
	Capacitance	F/km	0.837	0.530	0.380	0.350	0.260
	Inductance	mH/km	0.250	0.267	0.293	0.298	0.326



MATERIAL PROPERTIES OF COPPER AND ALUMINIUM:

characteristics	unit	Copper		Aluminum	
		Hard-drawn	Annealed	Hard-drawn	Annealed
Tensile strength	Kg/mm ²	34-47	20-28	15-20	7-14
Electrical Resistivity at 20°C	Micro Ω -cm	1.777	1.724	2.873	2.820
Conductivity at 20°C	%IACS	97	100	60	61
Melting point	°C	1083		658	
Specific gravity	-	8.89		2.70	
Co-efficient of linear expansion	10 ⁻⁶ /°C	17		23	
Thermal Conductivity	W/°C.cm	3.86		2.39	
"	Cal/°C.S.cm	0.92		0.53	
Specific heat	J/°C.cm ³	3.40		2.4	
"	Cal/°C.g	0.092		0.21	

Comparison of Copper and Aluminium Conductors:

Particulars	Aluminum(annealed) Vs Annealed Copper	Annealed Copper Vs Aluminum(annealed)
For equal sectional area and length	%	%
Weight	30	329
Resistance	164	61
Breaking load (Approx.)	41	244
For equal weight and length		
Area	329	30
Diameter	180	55
Resistance	50	200
Breaking load (Approx.)	137	73
For equal Resistance		
Area	164	61
Diameter	128	78
Resistance	50	200
Breaking load (Approx.)	68	147
For equal current and temperature		
Weight	42	237
Diameter	119	84

IMPORTANT CONVERSIONS:

1 mil	= 0.001 inch
SWG	= Standard Wire gauge (British)
AWG	= American Wire Gauge or Brown & Sharpe Wire Gauge
Cm	= Area of a circle of 1 mil, diameter
1 cm	= $0.7854 \times 10^{-6} \text{ in}^2$
1 mcm	= Circular mils x 1000



COMPARISON OF XLPE VS OTHER INSULATING MATERIALS

PROPERTIES		XLPE	PVC	EPR	Impregnate paper
Rated temperature	Normal (°C)	90	70	90	65/80
	Emergency (°C)	130	95	130	110
	Short circuit (°C)	250	160	250	160
Mechanical strength	Tensile strength (N/mm ²)	15-19	13-15	5	-
	Elongation	300-500	250	300-800	3
Dielectric strength (KV/mm)		40	25	30	40
Dielectric constant		2.5	6	3	3.5
Loss Factor at 50-60 Hz, at 20°C		0.0005	0.07	0.003	0.003
Volume resistivity at 20°C (ohm-cm)		1x10 ¹⁶	1x10 ¹³	1x10 ¹⁶	1x10 ¹⁴
Deformation resistance at 150°C		Good	Poor	Excellent	Good
Solvent Resistance		Good	Poor	Poor	Fair
Ageing Resistance	At 100°C	Excellent	Good	Good	Good
	At 120°C	Good	Poor	Moderate	Moderate
	At 150°C	Good	poor	poor	poor

Further High performance Insulating materials:

PTFE	Poly Tetra fluoro ethylene (250°C)
ETFE	Ethylene Tetra fluoro ethylene (200°C)
FEP	Fluorinated Ethylene Propylene (150°C)
PUR	Polyurethane (150°C)

Metallic Armour Materials:

Lead	Extruded barrier sheath
Aluminum	Wire or tape armour or sheath
Copper	Sheath (Mineral Insulated Cables)
Copper	Wire, Strip, Braid or Tape
Galvanized Steel	Wire, Strip, Braid or Corrugated tape
Phosphorous Bronze	Wire

Protective Component Materials:

Elastomeric Compounds

EPR	Ethylene Propylene Rubber
XLPE	Cross Linked Polyethylene
HDPE	High Density Polyethylene
PCP	Polychloroprene
NR	Natural Rubber
CSP	Chlorosulphonated Polyethylene
CPE	Chlorinated Polyethylene
EVA	Ethylene Vinyl Acetate
EMA	Ethylene Methyl Acetate
CR	Conducting Rubber

Thermoplastic Compounds

PVC	Polyvinyl Chloride
LDPE	Low density Polyethylene
MDPE	Medium Density polyethylene
LSF	Low smoke and Fume



ELECTRICAL FORMULAE FOR LOAD CALCULATION

To Calculate	Known	D. C.	A C. Single phase	AC Three phase
Current (A)	KW	$A = 1000 \times KW / V$	$A = 1000 \times KW / (V \times p.f.)$	$A = 1000 \times KW / (1.73 \times V \times p.f.)$
Current (A)	KVA	--	$A = 1000 \times KVA / V$	$A = 1000 \times KVA / (1.73 \times V)$
Current (A)	HP	$A = 746 \times HP / (V \times \text{eff.})$	$A = 746 \times HP / (V \times \text{eff.} \times p.f.)$	$A = 746 \times HP / (1.73 \times V \times \text{eff.} \times p.f.)$
Power (KW)	VA	$KW = A \times V / 1000$	$KW = A \times V \times p.f. / 1000$	$KW = 1.73 \times VA \times p.f. / 1000$
Apparent (KVA)	VA	--	$KVA = A \times V / 1000$	$KVA = 1.73 \times VA / 1000$

RATED CURRENT OF ELECTRICAL CIRCUITS

1). Induction Motor Loads

Nom. Motor Rating		Single Phase		Three Phase		
		110V	230V	380V	415V	440V
HP	KW	Amp.	Amp.	Amp.	Amp.	Amp.
0.5	0.37	7.8	3.7	1.2	1.1	1.0
0.75	0.55	10.4	5.0	1.6	1.5	1.4
1.0	0.75	13.2	6.3	2.0	1.9	1.8
1.5	1.1	19.2	9.2	3.0	2.8	2.6
2.0	1.5	25	12.2	3.9	3.6	3.4
3.0	2.2	37	17.9	5.8	5.3	5.0
5.0	3.7	59	28	9.2	8.4	7.9
7.5	5.5	84	40	13.1	11.9	11.3
10	7.5	1.9	52	16.8	15.4	14.5
15	11	157	75	24	22	21
20	15			32	29	27
30	22			46	42	40
50	37			75	69	65
75	55			111	102	96
100	75			146	134	126

2). Pure Resistive Loads

Power	Single Phase		Three Phase		
	110V	230V	380V	415V	440V
KW	Amp.	Amp.	Amp.	Amp.	Amp.
1	9.1	4.3	1.5	1.4	1.3
2	18.2	8.7	3.0	2.8	2.6
3	27.3	13.0	4.6	4.2	3.9
4	36.4	17.4	6.1	5.6	5.3
5	45.5	21.7	7.6	7.0	6.6
6	54.6	26.1	9.1	8.4	7.9
7	63.6	30.4	10.6	9.7	9.2
8	72.7	34.8	12.2	11.1	10.5
9	81.8	39.1	13.7	12.5	11.8
10	91.0	43.5	15.2	13.9	13.1
20	182	87.0	30.4	27.9	26.3
40	364	170	60.8	55.7	52.5
60	545	261	91.3	83.6	78.8
80	727	348	122	111	105
100	909	435	152	139	131





GAUGE CONVERSION CHART

For Easy Conversion From Mcm/Awg/Swg To Metric Units

MCM Chart		AWG Chart			SWG Chart		
MCM No.	mm ²	AWG NO.	Area mm ²	Diameter Mm	SWG NO.	Area mm ²	Diameter mm
2000	994.0	6/0	170.40	14.73	7/0	126.68	12.70
1750	870.0	5/0	135.00	13.11	6/0	109.09	11.79
1500	745.0	4/0	107.20	11.68	5/0	94.56	10.97
1250	621.0	3/0	85.15	10.41	4/0	81.70	10.16
1000	506.0	2/0	67.50	9.27	3/0	70.12	9.45
900	457.4	1/0	53.50	8.26	2/0	61.36	8.84
800	405.7	1	42.30	7.34	1/0	53.19	8.23
750	381.0	2	33.90	6.55	1	45.60	7.62
700	354.5	3	26.60	5.82	2	38.60	7.01
650	328.9	4	21.10	5.182	3	32.18	6.40
600	303.2	5	16.80	4.623	4	27.27	5.89
550	279.3	6	13.30	4.115	5	22.77	5.385
500	252.9	7	10.50	3.658	6	18.68	4.877
450	227.8	8	8.30	3.251	7	15.70	4.470
400	203.2	9	6.60	2.896	8	12.97	4.065
350	177.6	10	5.27	2.591	9	10.51	3.658
300	151.8	11	4.19	2.311	10	8.30	3.251
250	126.4	12	3.32	2.057	11	6.82	2.948
		13	2.63	1.828	12	5.48	2.641
		14	2.08	1.626	13	4.28	2.337
		15	1.65	1.448	14	3.24	2.032
		16	1.32	1.295	15	2.63	1.828
		17	1.03	1.143	16	2.08	1.626
		18	0.81	1.016	17	1.59	1.422
		19	0.66	0.914	18	1.17	1.291
		20	0.52	0.813	19	0.81	1.016
		21	0.41	0.724	20	0.66	0.914
		22	0.32	0.643	21	0.52	0.813
		23	0.26	0.573	22	0.40	0.711
		24	0.21	0.511	23	0.29	0.610
		25	0.16	0.456	24	0.25	0.559
		26	0.13	0.464	25	0.20	0.508
		27	0.10	0.361	26	0.164	0.457
		28	0.08	0.321	27	0.136	0.417
		29	0.065	0.286	28	0.111	0.376
		30	0.051	0.254	29	0.094	0.345
		31	0.04	0.226	30	0.178	0.315
		32	0.032	0.202	31	0.058	0.295
		33	0.026	0.180	32	0.059	0.274
		34	0.020	0.160	33	0.051	0.254
		35	0.016	0.142	34	0.043	0.234
		36	0.013	0.127	35	0.035	0.213
		37	0.010	0.113	36	0.029	0.193
		38	0.008	0.102	37	0.0235	0.173
		39	0.006	0.089	38	0.0182	0.152
		40	0.005	0.079	39	0.0137	0.132
		41	0.004	0.071	40	0.0117	0.122
		42	0.003	0.064	41	0.0098	0.112
		43	0.0025	0.056	42	0.0081	0.102





PACKING, HANDLING, STORAGE AND INSTALLATION

PACKING:

Cables generally wound up on wooden drums, by keeping both the ends easily accessible for inspection and testing. However smaller length cables may be dispatched in coils with prior intimation to the customer. Both the ends of the cables are sealed with either plastic end caps or heat shrinkable caps for protection against moisture and rain water. The cable drums shall carry the complete information about the details of cables either stenciled or contained in a label attached to it.

HANDLING AT SITE:

- a) On receipt of cable drums visual inspection should be made to ensure the drum packing is original.
- b) The cable drums should not be dropped from trucks or wagons during unloading operation, as the shock may cause serious damage to the cable. The cables should be unloaded properly by using either Crane or a ramp inclination of about 1:4 with a sand bed at the foot of the ramp.
- c) Cable should not be dragged over the earth surface during laying.
- d) The arrow painted on the flange of the drum indicates the direction in which the drum should be rolled. Improper handling of cable reels often results in excess looseness inside may cause damage to the cable.

STORAGE:

Cable should be stored in a dry place to prevent exposure to climatic conditions and wear and tear of wooden drums preferably in covered concrete floor. However in extreme conditions cable drums can be stored in uncovered area, but the area should be free from corrosive agents like chemicals and fumes etc. by keeping the packing intact. Following precautions should be taken while storing the cables.

- Whenever cable length is cut for usage the balance should be recapped to avoid ingress of water.
- It is desirable for drums to stand on battens placed directly under the flanges.
- During storage for longer periods, drum should be rotated to an angle of 90° once in every 2 months. This will avoid collapsing of barrel or flange due to one directional load for longer periods.
- In no case, should the drum be stored "on the flat" as flange horizontal.
- If it is necessary to rewind a cable on to another drum, the barrel of drum should be same as the original drum.

INSTALLATION:

- 1). The insulation of the cables should be checked with megger as a preliminary check against any probable damage before laying.
- 2). Cable drum should always be rolled in the "direction of arrow for rolling", marked on the drum. In the absence of such mark, the drum should be rolled in the direction same as that of inside end of the cable.
- 3). When cables are unwound from the drum, it should be ensured that the drum is put on jacks and the cable is pulled with stocking or pulling eye.
Maximum safe pulling force (when pulled by pulling eye)
Copper conductor cables : 5.0 kg/mm²
Aluminum conductor cables : 3.0 kg/mm²
- 4). If the drum is kept on its flange, or lift one side flange and remove rings and lay the cable, there is likelihood of twists in the armour, this would cause deformation of cores and outer sheath. This process of deformation is called "bird caging" and is normally and wrongly perceived as manufacturing defect, whereas it is a handling defect.



- 5). Wherever Possible bending radius of 15 times the O. D. of the cable should be maintained, but in any case it should not be less than 10 times.
- 6). For laying of cables, power cables are to be placed at the bottom layers and control cables in top layers.
- 7). If cables are buried directly in the ground, generally laid 1000mm below the ground surface and at any point of cable run around 75mm thick sand cushioning is to be provided.
- 8). **TERMINATION AND JOINTS:**
The termination and joints are being the weakest points of the electrical transmission system, all necessary precautions should be taken while joining materials and accessories like conductor ferrules, lugs, solder, Insulating and protective tapes, filling compounds, joint boxes etc. of right quality and sizes should be procured. The jointing and terminations work should be done carefully and skillfully by following the work instructions of the material supplier.
- 9). **ARMoured Cables TERMINATIONS:**
All bonding clamps at the joints and terminations and the armor wires should be thoroughly cleaned. The clamps should be adequately tightened. This is necessary to ensure proper electrical contact, because armor is the only return path for the earth fault current.
Unarmored Cables: The additional external metallic earth connectors of adequate size should be used.
- 10). **MEDIUM VOLTAGE TEST AFTER INSTALLATION:**
Cables after jointing and terminations are subjected to D.C high voltage test. Each core should be tested at 4KV against other cores and armor. The voltage should be increased gradually to full value and maintained continuously for 15 minutes. No breakdown of insulation should occur during the test. The cable cores must be discharged after completion of D.C. high voltage test.
- 11). **TESTING INSULATION RESISTANCE MEASUREMENT OF CABLE:**
The voltage rating of insulation Resistance Tester (Megger) should be chosen as per the following table.

Voltage Grade of Cables	Rating of IR Tester	Voltage Grade of Cables	Rating of IR Tester
1.0 KV	500 V	10 KV	1000 V
3.2 KV	1000 V	20 KV	2500 V
6.2 KV	1000 V	30 KV	2500 V

All new cables shall be megger-tested before jointing/laying and after installation.

- 12). **JOINTING OF CABLE:**
The emphasis should be laid on quality and selection of proper cable accessories, proper jointing techniques and skill and workmanship of the working personnel. The quality of joint should be such that it does not add any resistance to the circuit. The materials and techniques employed should give adequate mechanical and electrical protection to the joints under all service conditions. The joint should further be resistant to corrosion and other chemical effects. Termination and jointing of power and control cables shall be done by means of compression methods using solder less tinned copper/Aluminum terminal lugs.





View of Power Cable Drum Packing Ready for Export



View of Domestic Cable Stock





View of CCV Line with
Online Nitrogen dry curing



Project No.	BASEC on behalf of Paradise Cables Ltd Aval Centre (12 th Floor) 34 Korail Ahsan Avenue Dhaka - 1213 Bangladesh	
BASEC Ref No.	PO 53821 dated 5 August 2010	
Form Issued	Combining of reports 243/7532782 and 243/7546412	
Specimen	BS 6064-2000 Including Amendments 14195 & 15046	
Results	As detailed within the report	
Tested by	I Telling	Technician
Authorized by	I McDermott	Laboratory Manager
Issue Date	8 September 2010	
 Prepared by: British Approvals Service for Calors 27 Tudor City Croydon Surrey-CR9 2UP Telephone No: 020 267 9900 Fax: 020 267 0200 Prepared by: DIP Newlands Avenue Hemel Hempstead Herts-Bucks. HP1 2SD Telephone No: 01492 810000 Fax: 01492 810001 		

	CABLES LABORATORY DIAGNOSTIC, CABLES & CAPACITORS DIVISION CENTRAL POWER RESEARCH INSTITUTE P. O. NO. 898, SAGARWAHAN ROAD P. O. PROF. SR. C. RAMANA RAU, BANGALORE - 560 006, INDIA. Phone : +91 (0)-2282443, Fax : +91 (0)-22841213	
CPRI	TEST REPORT	NABL Accredited Lab No. T-4010 Sheet 1 of 6
Test Report Number Name & Address of the Customer Name & Address of the Manufacturer	DOCD-11109 (dated: 07.02.2009) 185 Padma Cable Limited, Factory, Kumbhari Road, Harguppi, Bangalore Head Office: Jawahar, 12th Floor, 54 Koramangala Avenue, Bangalore Commercial Area, District - 1213, Bangalore. 115 Padma Cable Limited Factory, Kumbhari Road, Harguppi, Bangalore Head Office: Jawahar, 12th Floor, 54 Koramangala Avenue, Bangalore Commercial Area, District - 1213, Bangalore.	
Particulars of sample tested Condition of the sample on receipt Designation	1 X 1.5 in sq 45/70/7 PVC Cable Not 8/14, PVC Insulated, Non-weather Cable 1 X 1.5 in sq 45/70/7 PVC Insulated Not weathered 45/70/7 PVC Cable Exposures: FINANCIAL CABLES BANKALORE 1008-HOP- R, 79 C-45/70 VOLTS 1 X 1.5 SQ MM AS PER BS-6234	
Serial Number Number of Samples tested (Each) of (Each) CPRI Sample Code No(s) Particulars of test conducted Test in accordance with Standard Specification Sampling plan Customer's requirement Deviation if any	(Nil) One 11.09.20 at 21.10.2008 12CDD-04685200 Type Test As per BS 6234:2000 Not Applicable Nil Nil	
Name of the witnessing person Customer's representative Other than customer's representative	NA, A.M. Nuvula None.	
Test documented with address of the laboratory Subcommittee constituting the report Number of sheets Number of outgoings Number of graphs Number of photos Number of test circuit diagrams Number of test circuit diagrams Number of test circuit diagrams	(Nil) (No sheets) Nil Nil Nil Nil Nil Nil Nil	
Test Engineer	 A. Suresh Additional Director	
		
AUTHORIZED SIGNATORIES		

 DEKRA	
TESTREPORT IEC 89562-1	
Power cables with extruded insulation and their accessories for rated voltages from 1 kV up to 30 kV.	
Report reference No.:	2140148100 (DEKRA Certification ID)
Compiled by (= signature):	R. Roslog 
Approved by (= signature):	B. Vise 
	A.A. Mackenbach
Date of issue:	2013-04-13
Testing laboratory:	DEKRA Certification BV
Address:	Utrechtseweg 110, 6013 AB Arnhem, The Netherlands
Testing location:	as above
Applicant:	Paradise Cables Limited
Address:	Assat Centre 12th floor 24, Karmal Nakhla Avenue Sharjah City, U.A.E. 1213 Sharjah City
Standards:	IEC 60332-1/2004+A1:2009 IEC 60333 IEC 60840 dated 2009
Test Report Form No.:	IEC 60333
TPO* originator:	DEKRA
Master TPO:	dated 2009
Type of test object:	Cable
Treatment:	Paradise Cables Limited
Model/type reference:	CUMLEP/PE/CA/WAMP/1 x 900 mm²
Manufacturer:	Paradise Cables Limited
Rating:	0.8/1 kV
Promission test case verification	
- test case does not apply to the test object: ☐ (N/A)	
- test object does meet the requirements: ☒ (Pass)	
- test object does not meet the requirement: ☐ (Fail)	
Remarks:	

[illegible]

DEPARTMENT OF
ELECTRICAL AND ELECTRONIC ENGINEERING

TEST REPORT ON 2XRGYZ 4+2.5 mm² XRGYZ 4+4 mm² AND
2XRGYZ 16+2.5 mm² XLPE INSULATED
PE SHEATHED ARMORED R/LT CABLES MANUFACTURED
BY PARADISE CABLES LTD.

REF. NO.: BRTC/104/0901EEE/16-11
CLIENT'S REF. NO.: 581

Date: 24/11/2010



Bangladesh University of
Engineering and Technology, Dhaka

	
TESTREPORT IEC 60364-4-1	
Power cables with extruded insulation and their accessories for rated voltages from 11kV up to 35 kV.	
Report reference No.	2140143-02-DCC
Compiled by (= signature)	R. Rieck 
Approved by (= signature)	B. Vos 
	A.A. Madsenloech 
Date of issue	2012-02-03
Testing laboratory	DEKRA Certification B.V.
Address	Utrechtseweg 210, 6812 AR Arnhem, The Netherlands
Testing location	on site
Appl./client	Paradise Cable Limited
Address	Awar Centre (12th floor) 36, Karam Kitale Industrial Estate Bangani C/A, Kitale-0213 Kenya
Standards	IEC 60364-4:2004 + A1:2008
Test Report Form No.	IEC-90022
TYP signature	KEM
Issue: TYP	dated 2009
Type of test object	Cable
Testmedium	Paradise Cable Limited
Accessories reference	CABLES/PC/2008A/PVC 6 x 12 resp.
Manufacturer	Paradise Cable Limited
Rating	0.8/1 kV
Powerline test case version	
- test case does not apply to the test object (N/A) - test object does not meet the requirement (P0360) - test object does not meet the requirement (P0361)	
Remarks:	

Test Certification

Head Office:

34 Kemal Ataturk Avenue, Awal Center (9th-12th floor), Banani C/A, Dhaka-1213, Bangladesh

Phone : +88-02-9822216, 9821285-86, Fax: +88-02-9822033, 9821022

E-mail: mkt@paradisecables.com, paradise@paradisecables.com

Dubai Showroom:

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Phone: +9714324148, Fax: +97142324148, e-mail: dubai@paradisecables.com

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3. Noakhali : Kiron Imperial, 1460, Karimpur Road, Chowmohani, Noakhail, Tel: 01730001251
4. Comilla : 102/97, Rezia Manjil, Trunk Road, Chalk Bazar, Tel: 081-72192, 01713366985
5. Sylhet : Purbani Shopping Complax, (1st floor) East Zindabazar, Tel: 0821-723461, 01713367002
6. Moulvibazar : 172, M. Saifur Rahman Road, Choumuhona, Moulvibazar-3200, Tel: 0861-63689, 01713367004
7. Bogra : 164 Abdul Jabbar Road, Jaleshwaritala, Tel: 051-63270, 01713367000
8. Rajshahi : G-166 Sultanabad Station Road, Tel: 0721-774920, 01713367012
9. Rangpur : Central Road, Paira Chattar, Rangpur. Tel: 0521-67757, 01713366998
10. Dinajpur : 681/645/2, Munshipara, Dinajpur-5200, Tel: 0531-64922, 01755629801
11. Khulna : 116, Sir Iqbal Road, Khulna. Tel: 041-731523, 01713367010
12. Jessore : 7, M. M. Ali Road, Jessore Sadar, Tel: 0421-67083, 01713367009
13. Kustia : 165, N. S. Road, Thanapara, kushtia-7000, Tel: 0717-2225, 01713366952
14. Faridpur : Hasina Tower, Mujib Sarak, Moirapatli, Tel: 0631-65750, 01730339253
15. Barisal : Oviruchi Complex, Sadar Road, Barisal Tel: 0431-2176854, 01713330362
16. Mymensingh : 59/B, Rambabu Road, Natun Bazar, Mymensingh, Tel: 091-62978, 01713366986
17. Pabna : Front Side Of Joy Kalibari Mondir, Thana Road, Shalgaria, Pabna, Tel: 0731-63053, 01713367014
18. Chapainababganj : Holding No. 09, Godagari Road (Opposite D. C. Market), Chapainababgonj, Tel: 0781-51757, 01713367013
19. Tangail : Bindubashini girls school road, Tangail, Tel: 01977997730
20. Sirajganj : House no. 37, Munshi Meharullah Sarak, Sirajganj, Tel: 01977997728
21. Madaripur : House no. 1112, Sadu Plaza, Muchibari, Badamtala Sarak, Madaripur, Tel: 01917702930
22. Jhenidah : 91, Hasia Amir Plaza, Gitanzoli Sarak, Jhenidah, Tel: 01730088092
23. Chuadanga : Shop no. 23, Muktijoddha Market, Chuadanga, Tel: 01977997813
24. Brahmanbaria : 339/3, Sylhet Road, Paik Para, Brahmanbaria, Tel: 01713-366983, 01713142573
25. Naogaon : 433, Shorisha Haatmore, Main Road, Naogaon, Tel: 01713367001
26. Jamalpur : House No. 0935, Puratan Pouroshobha Gate, Station Road, Jamalpur, Tel: 01713366974
27. Feni : Osman Tower, 321 S S K Road, Feni, Tel: 01730791765, 01795035244
28. Gopalganj : Liakot Hossain Super Market, 129, College Masjid Road, Gopalganj. Tel: 0177799197
29. Habiganj : College Road, Rajnagar, Habiganj. Tel: 01755513570

Show Room:

- | | |
|---|--|
| 1. Paradise Electric: Tel: 7116020, 01713366963 | 15. Green Road : Tel: 9262020, 01713367045 |
| 2. Balaka Electric : Tel: 7119246, 01911347599 | 16. Bhulta : Tel: 01730328432 |
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| 9. Mirpur-10 : Tel: 9026542, 01713367065 | 23. Kaptan Bazar : Tel: 7122602, 01713366961 |
| 10. Mirpur-1 : Tel: 9014388, 01977997716 | 24. Savar : Tel: 01755629807, 01755629805 |
| 11. Narayanganj : Tel: 7649163, 01713367017 | 25. Jatrabari : Tel: 01977997741 |
| 12. Tongi : Tel: 9815688, 01730001256 | 26. Keranigonj : Tel: 04477970489, 01713367030 |
| 13. Sreepur : Tel: 01713371390 | 27. Narsingdi : Tel: 01713367031 |
| 14. Gazipur : Tel: 9262020, 01917702943 | |



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