PRODUCT CATALOGUE

KEI

Wires and Cables

The power behind the power™

KEI Industries Limited is a leading player in the power cable segment and is one of the most respected cable manufacturing companies in India. KEI manufactures high and low tension cables (EHV, HT & LT), control and instrumentation cables, house wires and stainless steel wires. It is one of the select companies in the country to manufacture speciality cables including braided cables, fire survival, Zero halogen cables, Shipwiring cables and Flexible mining cables.

Established in 1968, KEI has built up it's leadership position over a period of five decades with a customer-focused approach and a continous quest for world-class quality. Supported by an efficient marketing and distribution network KEI has a reputation for strong customer support. KEI also has a substantial international presence with a global spread of clients spreading across 35 countries.

An ISO 9001:2000 certified company; KEI carries out stringent quality control measures under surveillance of a competent team of technocrats and quality enablers. Continuous Product Innovations and cutting-edge R&D at KEI's in-house labs is what contributes towards constant evolution in our offerings and services. All KEIs cables and wires are of a superior quality, a reason why they have been accredited and certified by Testing Agencies across the globe.

Troester's CCV Line Chopanki

MANUFACTURING FACILITIES

A large infrastructure, spread over an area of 86,000 sq metres across three strategically located units, supported by state-of-the-art production line-ups, gives KEI the strength to meet the varied needs of it's wide client base. No wonder KEI caters to over 100 large Indian companies covering almost all the industrial sectors.

CABLES LABORATORY
DIAGNOSTIC, CABLES & CAPACITORS DIVISION
CENTRAL POWER RESEARCH INSTITUTE
P.B. No.8066, SADASIVANAGAR SUB P.O.
PROF. SIR C.V.RAMAN ROAD , BANGALORE - 560 080, INDIA
Phone : +91 (0) 80-23604435, Fax : +91 (0) 80 – 23601213

CPRI

NABL Accredited Laboratory
Cert. No. T-0010

Sheet 1 of 10

TEST REPORT

Test Report Number	: DCCD-9066 **Dated** : 26.06.2006
Name & Address of the Customer	: M/s KEI Industries Ltd., SP 920, RIICO Industrial Area, Phase –III, Bhiwadi -301019, Rajasthan.
Name & Address of the Manufacturer	: M/s KEI Industries Ltd., SP 920, RIICO Industrial Area, Phase –III, Bhiwadi -301019, Rajasthan.
Particulars of sample tested	: 3X 300 sq.mm, 19/33 kV, XLPE Cable
Condition of the sample on receipt	: New
Type	: A2XFY
Designation	: Conductor Material : Aluminum Size : 300 mm^2 Number of cores : Three Insulation : XLPE Armour : Galvanised Steel Strip Outer sheath: PVC Voltage Rating : 19/33 kV
Serial Number	: Nil
Number of Samples tested	: One
Date(s) of Test(s)	: 16.05.06 to 23.06.06
CPRI Sample Code no(s)	: DCCDCAB06S0424
Particulars of test conducted	: Type Test
Test in accordance with Standard /Specification	: As per IS 7098(Part-II)-1985 /Am I 1988
Sampling plan	: Not Applicable
Customer's requirement	: Nil
Deviation if any	: Nil
Name of the witnessing persons	
Customer's representatives	: None
Other than customer's representatives	: None
Test subcontracted with address of the laboratory	: Nil

Page 1 of 1

Lloyd's Register

Inspection Release Note

COPY

IRN number	Date	Office	Control number
01	09 March 2009	New Delhi	NWD 09\5018
Client: Bharat Heavy Electricals Limited, PEM Noida.		Project: Western Mountain GTPP Extn Unit 5 & 6	
Client reference: Request for Services signed by Client.		Co-ordinated contract reference: NWD 0825033	

Supplier: KEI Industries Limited	Main order number: PW/PE/MM/LBY/P-315/08 Dated 14.08.2008
Sub-supplier: –	Sub-order number: –
Period covered by this inspection release note: 20 February, 03 & 09 March 2009	Order status: Complete

The following was finally accepted:

Item number	Description	Quantity passed	Is item complete?
	Stranded un-tinned Copper Conductor, PVC Type Y13 Insulated cores, cores twisted to form pairs, pairs laid up, individual & overall shielded with Aluminium Mylar tape with ATC drain wire, Extruded PVC YM1 inner sheathed, Galvanised Steel round wire armoured & Extruded FRLS PVC YM-1 outer sheathed cable of grade 0.6 kV as per data sheet approved by BHEL & VDE-0815 & 0207 (part 4 & 5) /1986, PE-TS-291-507-E004 of following sizes:	Length in declared by As per drum details on page 2.	Metres as manufacturer.
A1	2PX0.5 Sqmm	1966 Metres.	Yes.
A2	4PX0.5 Sqmm	8834 Metres.	Yes.
	Inspection is carried out as per Approved Quality Assurance Plan No. PED-507-00-Q-004/01		
	Witnessed Acceptance, Type & Special test as per Final Inspection. Reviewed internal Routine & Type Test reports. All test reports & Details of Drums (01 page) are endorsed and enclosed.		
	Identification: Both ends of cables in each steel drum selected for Acceptance test are hot stamped with " " & rest all are hot stamped with " "		

Distribution: original	1st copy	2nd copy	3rd copy
Bharat Heavy Electricals	Bharat Heavy Electricals	KEI Industries Limited	LRA New Delhi.

SGS

NO. : R 032318
DATE : 24.02.2009

SGS India Private Limited.
Regd. & Corp. Office :
SGS House,
48, Adi Shankaracharya Marg,
Powai Road, Vikhroli (West),
Mumbai - 400 083.
Tel.: (022) 25798421 to 25798428
Fax: (022) 25798431 to 25798435

Executing Branch :
M/s. SGS India Private Limited,
250 Udyog Vihar, Phase-IV,
Gurgaon, Haryana
Phone: (91-124) 2399990 to 98, Fax (91-124) 2399763

FILE NO. : IN/GUR/IND/20090070

RELEASE NOTE IN/GUR/R032318/L&T/2009

Name & Address of the Client	:	M/s L & T Limited EPC-Power, L & T-Energy Centre Near Chhani Jakat Naka,Baroda-390002 Gujarat (India)
Name of the project (if any)	:	238.5 MW, IOCL PNCP Project.
Name & Address of the Vendor (Seller / Manufacturer)	:	M/s KEI Industries Limited 101, 102, Vastu Shilp Enclave, Jijamata Road, Andheri Pump House Mumbai – 400093, Maharashtra
Contract / Order No. & Date	:	PO No. EPC Power/45000-57089/ST, Dt. 05.12.2008
Date (s) & Place (s) of inspection:		At Bhiwadi Phase -III on Dt. 21.02.2009

Item No. as per Contract / Order	Brief Description of the Item	Quantity As per contract / order (Mtrs.)	Quantity Previously Passed (Mtrs.)	Quantity Offered (Mtrs.)	Quantity Now Passed (Mtrs.)	Quantity Rejected (Mtrs.)	Quantity Balance (Mtrs.)
04	CABLE SIGNAL, IS COPPER 12 PAIR 1.5 SQMM PVC, FRPVC, SOV CABLE, 12P x 1.5 SQMM IS INDIVIDUAL & OVERALL SHEILD (ICIS8A52IMFVDS)	18157	Nil	10189	10052	Nil	8105
06	CABLE CONTROL, IS COPPER 12 PAIR 1.5 SQMM PVC, FRPVC, CONTROL CABLE, 12P x 1/5 SQMM, IS OVERALL SHEILDED (ICIC8A52IMFVDS)	17917	Nil	5996	5994	Nil	11923

Industry & Facilities Division

Page: 1/1

☒ Completely
☒ Partially
☐ Balance

RELEASE NOTE Nr- DEL/KEI/IOC/005

BV Job nr: - IND.D.4.08.0202

PROJECT NAPTHA CRACKER PROJECT OF IOCL PANIPAT REFINERY	***Ref:***
BV Client: KEI INDUSTRIES LTD.	***P/o nr:*** (Client to BV)
Manufacturer: M/s KEI INDUSTRIES LTD.	***P/o nr6406/149/17786192 DATED 12.07.2008*** (IOCL TO KEI)
Inspection requested by:	***M/s KEI INDUSTRIES LTD.***

SUPPLY / SUBJECT OF INSPECTION	ITEM / TAG Nr	QTY
SIGNAL CABLES AS PER FINAL PACKING LIST	As per the packing list. (Anx-01 ,01 pages)	As per the packing list. (Anx-01, 01 pages)

CONCLUSIONS / REMARKS:

DATE OF INSPECTION: 10.02.2009

Refer details of inspection as per Inspection report no: - DEL/KEI/IOC/005 of dated 10.02.2009
CONCLUSION: Inspection is complete and the Items found satisfactory

PO STATUS: COMPLETE

The above items have been released in accordance with specifications and purchase order requirements on hand at the vendor's premises at the time of inspection.

This note is issued further to an inspection whose duration and scope were limited by the terms and conditions of the contract with BV principal. This note is NOT an indication that the item(s) is (are) fit for any specific purpose and does not release the manufacturer, supplier and any party from their respective duty, guarantee, obligation and/or indemnity relating to, without limitation, patents, workmanship, materials, safety, performance in operation and/or reliability.

Inspected by: RISHI RAJ ROY
Name:... Signature:...

Checked by: RISHI RAJ ROY
Name:... Signature:...

Date of issue: 10.02.2009...

Inspection centre: BV JAIPUR

Global Certification & Inspection Limited

GlobalCert

G-1, Lal Kuan,
New Delhi-110095 India
Ph: +91 11 4102 0350
Fax: +91 11 4607 9585
info@globalcertifire.com
www.globalcertifire.com

Date: 04.01.2008

To,
KEI Industries Ltd.
D-90, Okhla Industrial Area,
Phase-I, New Delhi-110020.

Kind Attn: Mr. SL Kakkar

Please find enclosed herewith original certificates of CE.

Sorry for the delay.

Thanking You.

Yours Sincerely,
For Global Certification & inspection Limited

Asst. Mgr. Admin.

CSA INTERNATIONAL

Certificate of Compliance

Certificate: [illegible] Master Contract: 24[illegible]

Project: [illegible] Date Issued: [illegible]

Issued to: KEI Industries Ltd
D-90, Okhla Industrial Area, Phase-I
New Delhi-110020
India
Attention: Mr. SL Kakkar

The products listed below are eligible to bear the CSA Mark shown

Issued by: [illegible]

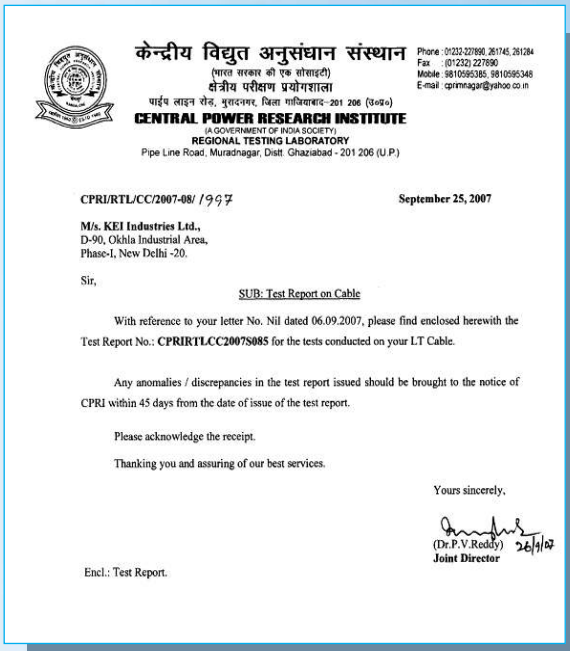
Authorized by: Nick Albu, Operations Manager

PRODUCTS

[illegible]

APPLICABLE REQUIREMENTS

CSA Standard C22.2 No. 2949 - Thermo-Plastic Insulated Cables



केन्द्रीय विद्युत अनुसंधान संस्थान
(भारत सरकार की एक सोसाइटी)
क्षेत्रीय परीक्षण प्रयोगशाला
पाईप लाइन रोड, मुरादनगर, जिला गाजियाबाद-201 206 (उ०प्र०)
Phone : 01232-227890, 261745, 261284
Fax : (01232) 227890
Mobile : 9810595385, 9810595348
E-mail : cprimnagar@yahoo.co.in

CENTRAL POWER RESEARCH INSTITUTE
(A GOVERNMENT OF INDIA SOCIETY)
REGIONAL TESTING LABORATORY
Pipe Line Road, Muradnagar, Distt. Ghaziabad - 201 206 (U.P.)

CPRI/RTL/CC/2007-08/ 1997 **September 25, 2007**

M/s. KEI Industries Ltd.,
D-90, Okhla Industrial Area,
Phase-I, New Delhi -20.

Sir,

SUB: Test Report on Cable

With reference to your letter No. Nil dated 06.09.2007, please find enclosed herewith the Test Report No.: **CPRIRTLCC2007S085** for the tests conducted on your LT Cable.

Any anomalies / discrepancies in the test report issued should be brought to the notice of CPRI within 45 days from the date of issue of the test report.

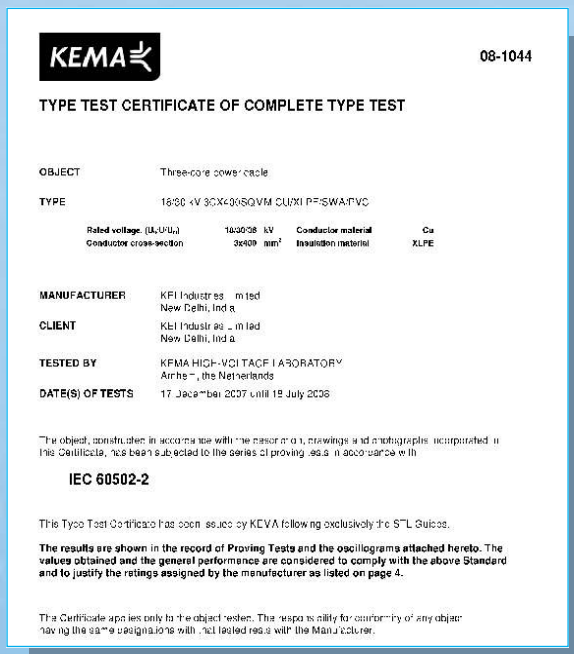
Please acknowledge the receipt.

Thanking you and assuring of our best services.

Yours sincerely,

(Dr.P.V.Reddy) 26/9/07
Joint Director

Encl.: Test Report.



KEMA

08-1044

TYPE TEST CERTIFICATE OF COMPLETE TYPE TEST

OBJECT	Three-core power cable
TYPE	18/30 kV 3CX400SQVM CU/XLPE/SWA/PVC
Rated voltage (U_0/U_n)	18/30(36) kV
Conductor material	Cu
Conductor cross-section	3x400 mm²
Insulation material	XLPE
MANUFACTURER	KEI Industries Limited New Delhi, India
CLIENT	KEI Industries Limited New Delhi, India
TESTED BY	KEMA HIGH-VOLTAGE LABORATORY Arnhem, the Netherlands
DATE(S) OF TESTS	17 December 2007 until 19 July 2008

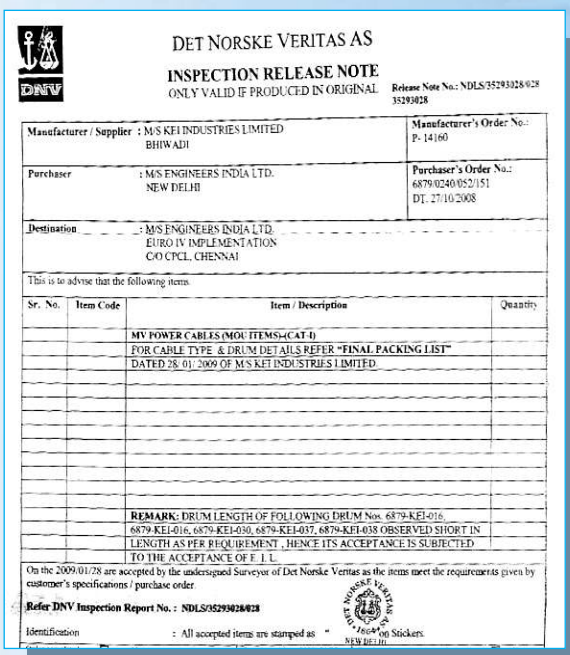
The object, constructed in accordance with the description, drawings and photographs incorporated in this Certificate, has been subjected to the series of proving tests in accordance with

IEC 60502-2

This Type Test Certificate has been issued by KEMA following exclusively the STL Guides.

The results are shown in the record of Proving Tests and the oscillograms attached hereto. The values obtained and the general performance are considered to comply with the above Standard and to justify the ratings assigned by the manufacturer as listed on page 4.

The Certificate applies only to the object tested. The responsibility for conformity of any object having the same designations with that tested rests with the Manufacturer.



DET NORSKE VERITAS AS

INSPECTION RELEASE NOTE
ONLY VALID IF PRODUCED IN ORIGINAL

Release Note No.: NDLS/35293028/028
35293028

Manufacturer / Supplier : M/S KEI INDUSTRIES LIMITED BHIWADI	Manufacturer's Order No.: P- 14160
Purchaser : M/S ENGINEERS INDIA LTD. NEW DELHI	Purchaser's Order No.: 6879/0240/052/151 DT. 27/10/2008
Destination : M/S ENGINEERS INDIA LTD. EURO IV IMPLEMENTATION C/O CPCL, CHENNAI	

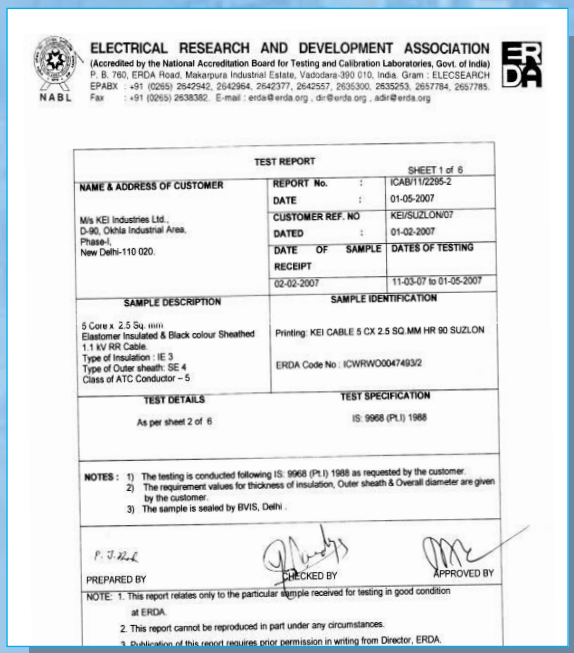
This is to advise that the following items.

Sr. No.	Item Code	Item / Description	Quantity
		MV POWER CABLES (MOU ITEMS)-(CAT-I)	
		FOR CABLE TYPE & DRUM DETAILS REFER "FINAL PACKING LIST"	
		DATED 28/01/2009 OF M/S KEI INDUSTRIES LIMITED.	
		REMARK: DRUM LENGTH OF FOLLOWING DRUM Nos. 6879-KEI-016,	
		6879-KEI-016, 6879-KEI-030, 6879-KEI-037, 6879-KEI-038 OBSERVED SHORT IN	
		LENGTH AS PER REQUIREMENT , HENCE ITS ACCEPTANCE IS SUBJECTED	
		TO THE ACCEPTANCE OF E. I. L.	

On the 2009/01/28 are accepted by the undersigned Surveyor of Det Norske Veritas as the items meet the requirements given by customer's specifications / purchase order

Refer DNV Inspection Report No. : NDLS/35293028/028

Identification : All accepted items are stamped as " " on Stickers.



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION
(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
P. B. 760, ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India. Gram : ELECSEARCH
EPABX : +91 (0265) 2642942, 2642964, 2642377, 2642557, 2635300, 2635253, 2657784, 2657785.
Fax : +91 (0265) 2638382. E-mail : erda@erda.org , dir@erda.org , adir@erda.org

NABL

TEST REPORT SHEET 1 of 6

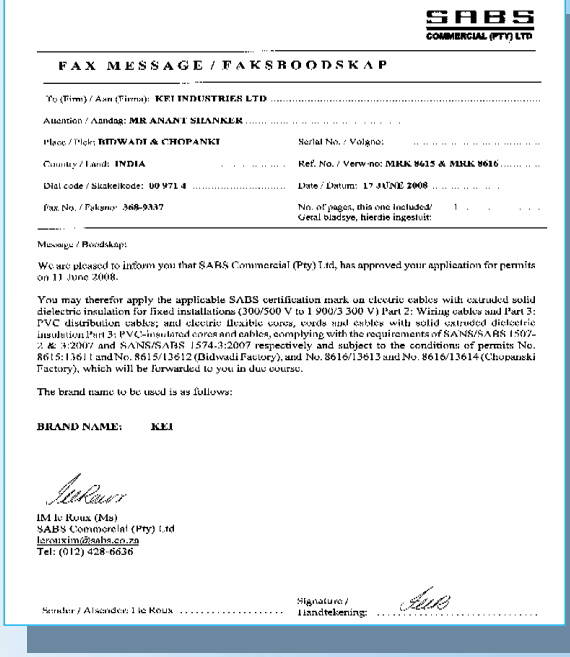
NAME & ADDRESS OF CUSTOMER		
M/s KEI Industries Ltd., D-90, Okhla Industrial Area, Phase-I, New Delhi-110 020.	REPORT No. :	ICAB/11/2295-2
	DATE :	01-05-2007
	CUSTOMER REF. NO. :	KEI/SUZLON/07
	DATED :	01-02-2007
	DATE OF SAMPLE RECEIPT	DATES OF TESTING
	02-02-2007	11-03-07 to 01-05-2007

SAMPLE DESCRIPTION	SAMPLE IDENTIFICATION
5 Core x 2.5 Sq. mm Elastomer Insulated & Black colour Sheathed 1.1 kV RR Cable. Type of Insulation : IE 3 Type of Outer sheath: SE 4 Class of ATC Conductor – 5	Printing: KEI CABLE 5 CX 2.5 SQ.MM HR 90 SUZLON ERDA Code No : ICWRWO0047493/2
TEST DETAILS	**TEST SPECIFICATION**
As per sheet 2 of 6	IS: 9968 (Pt.I) 1988

NOTES : 1) The testing is conducted following IS: 9968 (Pt.I) 1988 as requested by the customer.
2) The requirement values for thickness of insulation, Outer sheath & Overall diameter are given by the customer.
3) The sample is sealed by BVIS, Delhi .

PREPARED BY CHECKED BY APPROVED BY

NOTE: 1. This report relates only to the particular sample received for testing in good condition at ERDA.
2. This report cannot be reproduced in part under any circumstances.
3. Publication of this report requires prior permission in writing from Director, ERDA.



SABS
COMMERCIAL (PTY) LTD

FAX MESSAGE / FAKSBOODSKAP

To (Firm) / Aan (Firma): **KEI INDUSTRIES LTD**

Attention / Aandag: **MR ANANT SHANKER**

Place / Plek: **BIDWADI & CHOPANKI** Serial No. / Volgno:

Country / Land: **INDIA** Ref. No. / Verw-no: **MRK 8615 & MRK 8616**

Dial code / Skakelkode: **00 971 4** Date / Datum: **17 JUNE 2008**

Fax No. / Faksno: **368-9337** No. of pages, this one included/ Getal bladsye, hierdie ingesluit: 1

Message / Boodskap:

We are pleased to inform you that SABS Commercial (Pty) Ltd, has approved your application for permits on 11 June 2008.

You may therefor apply the applicable SABS certification mark on electric cables with extruded solid dielectric insulation for fixed installations (300/500 V to 1 900/3 300 V) Part 2: Wiring cables and Part 3: PVC distribution cables; and electric flexible cores, cords and cables with solid extruded dielectric insulation Part 3: PVC-insulated cores and cables, complying with the requirements of SANS/SABS 1507-2 & 3:2007 and SANS/SABS 1574-3:2007 respectively and subject to the conditions of permits No. 8615/13611 and No. 8615/12612 (Bidwadi Factory), and No. 8616/13613 and No. 8616/13614 (Chopanki Factory), which will be forwarded to you in due course.

The brand name to be used is as follows:

BRAND NAME: KEI

IM le Roux (Ms)
SABS Commercial (Pty) Ltd
lerouxim@sabs.co.za
Tel: (012) 428-6636

Sender / Afsender: I le Roux Signature / Handtekening:

STANDARDS ORGANISATION OF NIGERIA
SONCAP

Page: 1 of 6

Product Certificate

STANDARDS ORGANISATION OF NIGERIA CONFORMITY ASSESSMENT PROGRAMME

Product Certificate No.:	CONM009778
Issued to:	KEI INDUSTRIES LIMITED
Issue Date:	20 JULY 2007
Last Revised Date:	24 MARCH 2008
Remarks:	*** PLOT NO.2 - PLOT-A, 269/2&1/202, CHOPANKI (BIDWADI) DIST. ALWAR, RAJASTHAN * ARMOURED(ALUMINIUM AND COPPER) **UNARMOURED(ALUMINIUM AND COPPER)

Issued by: Victor Sequeira

SONCO,SM - Intertek India Private Limited

SONCO manager [Inactive]

CLIENTS AND SECTORS

MINING

- SECL
- WCL
- ECL
- Hindustan Zinc
- Marble Industries
- Birla Copper

FERTILIZERS

- National Fertilizers Ltd
- Indo Gulf Fertilizers
- Indian Farmers & Fertilizers Corporation
- Gujrat State Fertilizers Co-operative Corporation
- Chambal Fertilizers
- Deepak Fertilizers
- Zuari Agro
- Rashtriya Chemicals and Fertilizers
- Tata Chemicals
- Hindustan Fertilizers Co. Ltd.

TELECOMMUNICATION

- Bharat Sanchar Nigam
- Basic Operators and Telecom Networking Engineers
- Cyprus Telecommunication
- Spice Telecom
- Marconi
- Secure Meters
- Reliance Infocomm
- Defence

INTERNATIONAL EPCS

- ABB
- Mcdermott
- VA Tech Hydro and VA Tech Flowel
- SIEMENS
- Mitsui
- Doosan
- SAMSUNG
- Itochu
- Hyundai
- LG
- Punj Llyods
- EIL
- TOYO
- BHEL
- Bechtel
- TECHNIP
- Larsen and Toubro
- TICB
- PETROFAC
- Skanska
- Alstom / Areva
- Briggs and Burton

GLOBAL SUPPLIES

- Ireland Blyth Ltd., Mauritius
- 400 KV Switchyard Project Stage-1
- Industrial Pumps, Philippines
- Rey and Lenferna Ltd., Mauritius
- Baji Iraq
- BK Overseas, Ugande
- Bahri and Mazroei Trading Co., U.A.E
- Gulf Incon Doha, Qatar
- Joba Trading
- Abu Dhabi Commercial Corporation, U.A.E
- Oman Cable Industry, Muscat, Oman
- Min. of Electricity and Water, Bahrain
- Ministry of Finance, Dubai
- J Ray McDermott East Inc., Dubai
- Kuwait National Petroleum Corporation
- Cyprus Telecom. Authority, Nicosia, Cyprus
- Modern Electrical, Trinidad
- Kahrama, Qatar
- Al Hamas
- Innovative Technologies, Dubai
- Qatar Petroleum
- SEWA, Sharjah
- Systems Building, Mauritius
- Sohar Aluminium, Dubai
- FEWA
- PPC Ltd., Canada

PRIVATE PROJECTS

- IBM
- DELL
- Inox Multiplex
- Hotel Taj
- Biocon
- MICROSOFT
- ITC
- ICICI
- Asian Paints
- TCS
- CENTURY-DOMAIN
- Infosys software
- HSBC
- Jet Airways
- Balakrishna Tyres
- MOSER BAER
- Ranbaxy
- HDFC
- Sahara
- Godfrey Philips
- SAMTEL
- PVR Multiplex
- Citi Bank
- Mind Space
- Kala Academy

OIL AND GAS

- Oil and Natural Gas Commission
- Gas Authority of India
- Oil india Limited
- SHELL
- PETRONET

CEMENT

- ACC
- RAS Cement
- Gujrat Ambuja
- ARM
- Jai Prakash Industries
- TCIL - TORO
- Binani Cement
- TATA Cement
- Birla Corporation
- Lafarge
- Larsen and Toubro
- Jabel Ali Cement
- Nigeria Cement
- Benue Cement

FERROUS AND NON FERROUS METALS

- HINDALCO
- Hindustan Zinc
- Steel Authority of India Ltd.
- NALCO
- Essar
- BALCO
- Jindal
- Monnet Ispat
- TATA
- EBG India
- Sponge Iron Plants

REFINERIES AND PETROCHEMICALS

- Indian Oil Corporation Ltd
- Bongaigaon Refineries Ltd
- Bharat Petroleum Corporation Ltd.
- Haldia Petrochemicals Ltd
- Indian Petrochemicals Ltd.
- CPCL, Chennai
- Kochi Refineries Ltd.
- MRPL, Mangalore
- National Aluminium Co. Ltd.
- Carin Energy
- Hindustan Petroleum Co. Ltd.
- Reliance
- Numaligarh Refineries Ltd.

POWER AND TRANSMISSION /DOMESTIC

- TATA Power
- BSES Limited
- Gujarat State Energy Corporation
- Essar Power
- Nuclear Power Corporation
- National Thermal Power Co.
- Indian Railway
- State Electricity Boards
- Jindal Power
- DMRC
- CPWD/PWD
- CEB Mauritius
- Ahmedabad Electricity Co. Ltd.
- Crompton and Greaves
- Power Grid Corporation
- Surat Electricity Co.Ltd.
- JSPL
- ENRON
- Karnataka Power Co. Ltd.
- JVSL
- NDPL
- GEB
- BESCOM
- MSEB
- GOA Board

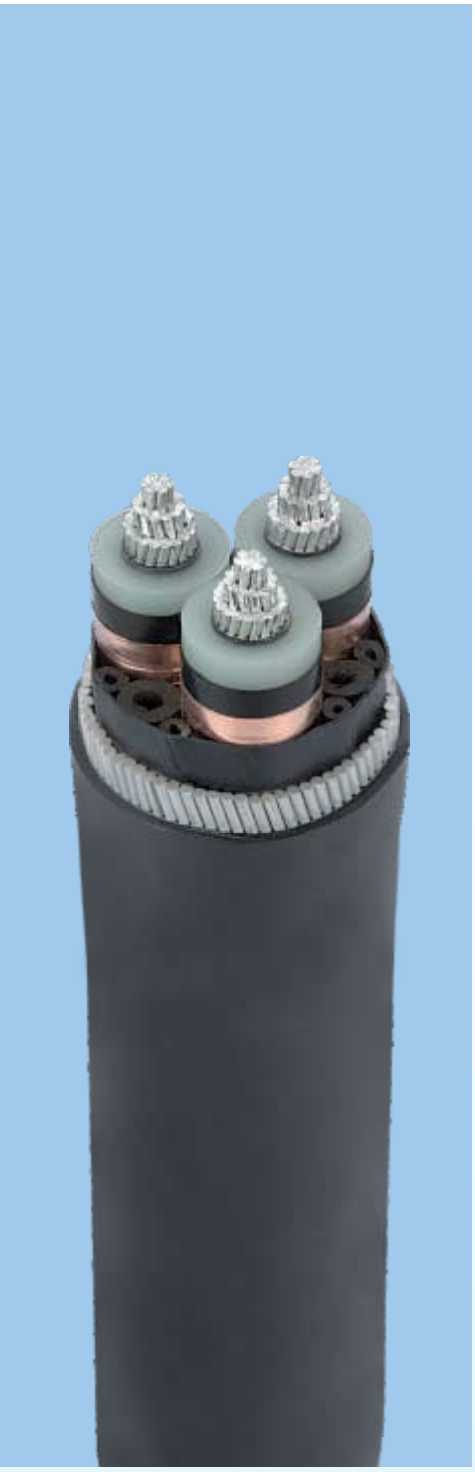
PRODUCT RANGE

KEI provides a very wide range of products to its customers. The company is perhaps one of the few to offer customers specialty cables such as fire survival cables, zero halogen cables and braided cables. All wires are manufactured as per global quality and customer specifications.

- **EHV Cable Range - upto & including 132 kv**
- **Low Voltage copper/aluminium Cables**
- **Low Voltage PVC and XPLE Control Cables**
- **Thermocouple Compensating & Extension Cables**
- **FRLS / FR / HR / HFFR / HOFR / Rubber / LDPE / LSOH Power Control & Instrumentation Cables**
- **Flexible (Single & Multicore) and Cords**
- **Housewires (FR / FRLS / HRPVC / LSOH')**
- **Fire Survival**
- **Welding Cables/Rubber Cables**
- **Flat Cable**
- **Mining Cable (UNDERGROUND & OPEN CAST)**
- **Ship Wiring Cables**
- **Aerial Bunched Cables (AB Cables)**
- **Bare Conductors**

& MORE AS PER CUSTOMER SPECIFICATIONS
IN BS, VDE, IEC, IS AND SABS STANDARDS
(UPTO AND INCLUDING 132KV)

MV XLPE INSULATED ARMOURED CABLES



Application

Power cables for medium voltage (upto 33KV) are used in – outdoor cable ducts, cable trays, conduits or underground locations under mechanical stresses in power and switching stations, local distribution systems and industrial plants

Standards.	BS 6622 & IEC 60502–2
Operating temperature	90°C
Short circuit temperature	250°C
Cable range manufactured	19/33 KV Screened Cables (33 KV Earth) 12.7/22 KV Screened Cables (22 KV Earth) 11/11 KV i.e. 11 KV (UE) Screened Cables 6.6/6.6 KV Screened Cables [6.6 KV (UE) & 11 KV (E)] 3.8/6.6 KV Screened Cables 3.3 KV (E) and (UE) Unscreened / Screened Cables
Sizes	50 Sq.mm to 1000 Sq.mm in Single Core Cables 25 Sq.mm to 400 Sq.mm in Multi Cores Cables

Test Voltage

Rated Voltage	Test Voltage (for 5 min.)
Uo KV	RMS
3.8	11
6.35	15
8.7	22
12.7	30
19	45

CONSTRUCTION

Conductor Aluminium / Annealed Plain Copper Stranded compacted circular conductor conform to BS 6360 and IEC 60228, class 2

Conductor Screening Semi-Conducting layer over conductor

Insulation Cross linked Polythylene to (XLPE)

Insulation Screening Semi-Conducting layer over insulation, in combination with Copper tape.

Core colour Single Core – Natural
Multi Core – Numbered or colour polyster tapes applied over Copper tapes

Bedding Extruded PVC

Armour Single Core - Non-magnetic (Aluminium) wire / Flat wire Multi core - Galvanised steel wire / Flat wire / Tape

Outer Sheath Extruded PVC / Special PVC compound such as Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Low Smoke Zero Halogen (LSOH) can be used for outer sheath to suit a variety of environment and fire risk conditions. Flamabillity test confirms to IEC 332. For installation where fire and associated problems such as emission of smoke and toxic fumes offer a serious potential threat, special LSF (Low smoke & fumes) compound can be provided. LSF compound is Halogen free (Flourine, Chlorine, Bromine) when tested as per BS 6425 (Pt 1) & IEC 60754 (Pt 1). The acid gas evolved during combustion is less than 0.5% by weight of material.

ISO 9001 COMPANY

ISO-9001 REGISTERED DNV DNV-Certification B.V. THE NETHERLANDS RvA C024

Note : Unarmoured cables construction details available upon request.

***Modification which serve to improve our products will be implemented without notice.**

Cables Constructions

IEC 60502-2 3/6.6 KV Single Core Alu. Wire Armoured

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. thickness of bedding **mm**	Nominal Alu. armour wire diameter **mm**	Nominal Thickness of PVC outer sheath **mm**	Approx. overall diameter **mm**	Approx. Cu. cable weight **Kg/Km**	Approx. Alu. cable weight **Kg/Km**
50	2.5	0.9	1.6	1.8	25	1020	717
70	2.5	0.9	1.6	1.8	27	1247	827
95	2.5	1.0	1.6	1.8	29	1530	974
120	2.5	1.0	1.6	1.9	31	1832	1119
150	2.5	1.0	1.6	1.9	32	2112	1214
185	2.5	1.1	1.6	2.0	34	2504	1408
240	2.6	1.1	2.0	2.1	38	3171	1751
300	2.8	1.2	2.0	2.2	41	3828	2054
400	3.0	1.2	2.0	2.3	44	4846	2443
500	3.2	1.3	2.5	2.5	49	6031	3064
630	3.2	1.4	2.5	2.6	53	7351	3653
800	3.2	1.5	2.5	2.8	58	9082	4397
1000	3.2	1.6	2.5	2.9	64	11095	5261

IEC 60502-2 6/10 KV Single Core Alu. Wire Armoured

50	3.4	1.0	1.6	1.8	27	1121	819
70	3.4	1.0	1.6	1.8	29	1348	928
95	3.4	1.0	1.6	1.9	31	1639	1084
120	3.4	1.0	1.6	1.9	33	1934	1221
150	3.4	1.1	1.6	2.0	35	2312	1413
185	3.4	1.1	2.0	2.0	37	2692	1596
240	3.4	1.1	2.0	2.1	39	3277	1858
300	3.4	1.2	2.0	2.2	42	3909	2135
400	3.4	1.2	2.0	2.3	45	4907	2504
500	3.4	1.3	2.5	2.5	49	6079	3112
630	3.4	1.4	2.5	2.6	53	7403	3705
800	3.4	1.5	2.5	2.8	58	9139	4454
1000	3.4	1.6	2.5	3.0	64	11188	5354

IEC 60502-2 8.7/15 KV Single Core Alu. Wire Armoured

50	4.5	1.0	1.6	1.8	30	1257	955
70	4.5	1.0	1.6	1.9	31	1495	1075
95	4.5	1.1	1.6	1.9	33	1796	1241
120	4.5	1.1	2.0	2.0	36	2107	1394
150	4.5	1.1	2.0	2.1	36	2412	1513
185	4.5	1.1	2.0	2.1	39	2809	1713
240	4.5	1.2	2.0	2.2	42	3473	2054
300	4.5	1.2	2.0	2.3	44	4115	2341
400	4.5	1.3	2.5	2.4	49	5299	2896
500	4.5	1.4	2.5	2.6	52	6366	3399
630	4.5	1.4	2.5	2.7	56	7688	3990
800	4.5	1.5	2.5	2.8	61	9421	4737
1000	4.5	1.6	2.5	3.0	67	11495	5661

CCV Line

Cables Constructions

IEC 60502-2 12/20 KV Single Core Alu. Wire Armoured

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. thickness of bedding **mm**	Nominal Alu. armour wire diameter **mm**	Nominal Thickness of PVC outer sheath **mm**	Approx. overall diameter **mm**	Approx. Cu cable weight **Kg/Km**	Approx. Alu. cable weight **Kg/Km**
50	5.5	1.0	1.6	1.9	32	1382	1080
70	5.5	1.1	1.6	2.0	35	1731	1312
95	5.5	1.1	2.0	2.0	36	2023	1468
120	5.5	1.1	2.0	2.1	39	2357	1643
150	5.5	1.2	2.0	2.1	40	2662	1764
185	5.5	1.2	2.0	2.2	42	3076	1980
240	5.5	1.2	2.0	2.3	44	3685	2266
300	5.5	1.3	2.0	2.3	48	4442	2668
400	5.5	1.3	2.5	2.5	51	5497	3095
500	5.5	1.4	2.5	2.6	54	6566	3598
630	5.5	1.5	2.5	2.8	59	7948	4250
800	5.5	1.6	2.5	2.9	63	9703	5018
1000	5.5	1.7	2.5	3.1	69	11785	5951

IEC 60502-2 18/30 KV Single Core Alu. Wire Armoured

50	8.0	1.1	2.0	2.1	39	1839	1536
70	8.0	1.2	2.0	2.2	41	2131	1711
95	8.0	1.2	2.0	2.2	43	2440	1885
120	8.0	1.2	2.0	2.3	45	2794	2080
150	8.0	1.3	2.0	2.3	47	3239	2340
185	8.0	1.3	2.5	2.4	49	3672	2576
240	8.0	1.3	2.5	2.5	51	4322	2902
300	8.0	1.4	2.5	2.6	54	5000	3226
400	8.0	1.4	2.5	2.7	57	6062	3659
500	8.0	1.5	2.5	2.8	60	7164	4197
630	8.0	1.6	2.5	2.9	65	8558	4859
800	8.0	1.7	2.5	3.1	69	10384	5699
1000	8.0	1.8	2.5	3.3	75	12522	6688


CCV Line


Medium Voltage Cable Testing

Cables Constructions

IEC 60502-2 3.6/6 KV Three Core Flat Strip Armoured

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. thickness of bedding **mm**	Nominal Dimension G.I.Flat Strip. **mm**	Nominal Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. Copper cable weight **Kg/Km**	Approx. Alu. cable weight **Kg/Km**
35	2.5	1.2	4 X 0.8	2.2	42	2790	2168
50	2.5	1.2	4 X 0.8	2.3	44	3365	2455
70	2.5	1.4	4 X 0.8	2.4	48	4108	2850
95	2.5	1.4	4 X 0.8	2.5	52	5049	3359
120	2.5	1.4	4 X 0.8	2.6	57	6037	3903
150	2.5	1.6	4 X 0.8	2.7	59	6984	4294
185	2.5	1.6	4 X 0.8	2.9	63	8230	4941
240	2.6	1.6	4 X 0.8	3.0	69	10237	5987
300	2.8	1.8	4 X 0.8	3.2	75	12361	7050
400	3.0	1.8	4 X 0.8	3.5	83	15632	8438

IEC 60502-2 6/10 KV Three Core Flat Strip Armoured

35	3.4	1.4	4 X 0.8	2.3	46	3186	2564
50	3.4	1.4	4 X 0.8	2.4	48	3709	2799
70	3.4	1.4	4 X 0.8	2.6	52	4526	3269
95	3.4	1.4	4 X 0.8	2.7	56	5495	3804
120	3.4	1.6	4 X 0.8	2.8	61	6566	4431
150	3.4	1.6	4 X 0.8	2.9	63	7451	4762
185	3.4	1.6	4 X 0.8	3.0	67	8720	5431
240	3.4	1.6	4 X 0.8	3.2	73	10632	6383
300	3.4	1.8	4 X 0.8	3.3	78	12646	7336
400	3.4	1.8	4 X 0.8	3.5	85	15951	8757

IEC 60502-2 8.7/15 KV Three Core Flat Strip Armoured

50	4.5	1.4	4 X 0.8	2.6	54	4184	3275
70	4.5	1.6	4 X 0.8	2.7	58	5080	3822
95	4.5	1.6	4 X 0.8	2.8	62	6058	4367
120	4.5	1.6	4 X 0.8	2.9	66	7134	5001
150	4.5	1.6	4 X 0.8	3.0	68	8027	5338
185	4.5	1.6	4 X 0.8	3.2	73	9362	6073
240	4.5	1.8	4 X 0.8	3.3	78	11348	7099
300	4.5	1.8	4 X 0.8	3.5	83	13369	8059
400	4.5	1.8	4 X 0.8	3.7	90	16707	9513

IEC 60502-2 12/20 KV Three Core Flat Strip Armoured

50	5.5	1.6	4 X 0.8	2.8	59	4717	3807
70	5.5	1.6	4 X 0.8	2.9	62	5593	4336
95	5.5	1.6	4 X 0.8	3.0	66	6601	4910
120	5.5	1.6	4 X 0.8	3.1	71	7711	5577
150	5.5	1.6	4 X 0.8	3.2	73	8614	5925
185	5.5	1.8	4 X 0.8	3.3	77	10016	6727
240	5.5	1.8	4 X 0.8	3.5	83	12011	7762
300	5.5	1.8	4 X 0.8	3.6	88	14028	8718
400	5.5	1.8	4 X 0.8	3.9	95	17457	10263

IEC 60502-2 18/30 KV Three Core Flat Strip Armoured

50	8.0	1.6	4 X 0.8	3.1	71	6181	5272
70	8.0	1.8	4 X 0.8	3.2	75	7176	5919
95	8.0	1.8	4 X 0.8	3.4	79	8322	6632
120	8.0	1.8	4 X 0.8	3.5	84	9501	7367
150	8.0	1.8	4 X 0.8	3.6	86	10433	7743
185	8.0	1.8	4 X 0.8	3.7	90	11852	8563
240	8.0	1.8	4 X 0.8	3.9	96	13952	9704
300	8.0	2.0	4 X 0.8	4.0	101	16145	10835
400	8.0	2.0	4 X 0.8	4.2	107	19534	12340

Cables Constructions

IEC 60502-2 3.6/6 KV Three Core RWA Cable

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. thickness of bedding **mm**	Nominal G.I. Armour wire diameter **mm**	Nominal Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. Copper cable weight **Kg/Km**	Approx. Alu. cable weight **Kg/Km**
35	2.5	1.2	2.0	2.3	45	3457	2835
50	2.5	1.2	2.5	2.4	48	4425	3515
70	2.5	1.4	2.5	2.5	52	5270	4013
95	2.5	1.4	2.5	2.7	56	6314	4624
120	2.5	1.4	2.5	2.8	60	7419	5285
150	2.5	1.6	2.5	2.9	63	8395	5706
185	2.5	1.6	2.5	3.0	67	9753	6464
240	2.6	1.6	2.5	3.2	73	11933	7685
300	2.8	1.8	3.15	3.4	80	14957	9647
400	3.0	1.8	3.15	3.7	88	18529	11336

IEC 60502-2 6/10 KV Three Core RWA Cable

35	3.4	1.4	2.5	2.4	49	4271	3649
50	3.4	1.4	2.5	2.5	51	4758	3849
70	3.4	1.4	2.5	2.7	55	5677	4419
95	3.4	1.4	2.5	2.8	59	6757	5067
120	3.4	1.6	2.5	2.9	64	7936	5801
150	3.4	1.6	2.5	3.0	66	8871	6181
185	3.4	1.6	2.5	3.1	70	10214	6925
240	3.4	1.6	3.15	3.3	77	13045	8797
300	3.4	1.8	3.15	3.5	82	15257	9946
400	3.4	1.8	3.15	3.7	89	18796	11603

IEC 60502-8.7/15 KV Three Core RWA Cable

50	4.5	1.4	2.5	2.7	57	5475	4565
70	4.5	1.6	2.5	2.8	61	6448	5190
95	4.5	1.6	2.5	3.0	65	7557	5866
120	4.5	1.6	2.5	3.1	70	8728	6594
150	4.5	1.6	2.5	3.2	72	9673	6983
185	4.5	1.6	3.15	3.3	77	11852	8563
240	4.5	1.8	3.15	3.5	84	14074	9825
300	4.5	1.8	3.15	3.6	88	16225	10914
400	4.5	1.8	3.15	3.9	95	19864	12670

IEC 60502- 12/20 KV Three Core RWA Cable

50	5.5	1.6	2.5	2.9	62	6125	5215
70	5.5	1.6	2.5	3.0	66	7079	5821
95	5.5	1.6	2.5	3.1	70	8188	6497
120	5.5	1.6	2.5	3.2	75	9389	7254
150	5.5	1.6	3.15	3.4	78	11139	8449
185	5.5	1.8	3.15	3.5	83	12706	9417
240	5.5	1.8	3.15	3.6	88	14866	10618
300	5.5	1.8	3.15	3.8	93	17090	11780
400	5.5	1.8	3.15	4.0	100	20740	13545

IEC 60502- 18/30 KV Three Core RWA Cable

50	8.0	1.6	2.5	3.3	75	7892	6982
70	8.0	1.8	3.15	3.4	80	9795	8536
95	8.0	1.8	3.15	3.5	84	11071	9381
120	8.0	1.8	3.15	3.6	89	12416	10282
150	8.0	1.8	3.15	3.7	90	13384	10695
185	8.0	1.8	3.15	3.9	95	15011	11722
240	8.0	1.8	3.15	4.0	101	17212	12963
300	8.0	2.0	3.15	4.2	106	19675	14364
400	8.0	2.0	3.15	4.4	113	23302	16109

Cables Constructions

BS6622 3.8/6.6 KV Single Core CU/ XLPE/Alu. Wire / PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Minimum thickness of bedding **mm**	Nominal armour wire diameter **mm**	Min. Thickness of PVC outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max.DC Resistance at 20°C **Ohm/Km**
50	2.5	0.76	1.6	1.24	24.2	1090	0.387
70	2.5	0.76	1.6	1.24	25.8	1340	0.268
95	2.5	0.76	1.6	1.32	27.7	1660	0.193
120	2.5	0.76	1.6	1.32	29.8	1970	0.153
150	2.5	0.76	1.6	1.40	30.7	2260	0.124
185	2.5	0.76	2.0	1.40	33.4	2760	0.0991
240	2.6	0.76	2.0	1.48	36.4	3430	0.0754
300	2.8	0.76	2.0	1.56	39.0	4130	0.0601
400	3.0	0.76	2.0	1.64	42.6	5080	0.0470
500	3.2	0.84	2.5	1.80	47.7	6490	0.0366
630	3.2	0.92	2.5	1.88	51.5	8030	0.0283
800	3.2	0.92	2.5	1.96	56.1	9930	0.0221
1000	3.2	1.00	2.5	2.12	61.9	12200	0.0176

6.35/11KV Single Core CU/ XLPE/Alu. Wire / PVC

50	3.4	0.76	1.6	1.24	26.2	1200	0.387
70	3.4	0.76	1.6	1.32	28.0	1470	0.268
95	3.4	0.76	1.6	1.32	29.7	1780	0.193
120	3.4	0.76	1.6	1.40	32.0	2110	0.153
150	3.4	0.76	2.0	1.48	33.7	2500	0.124
185	3.4	0.76	2.0	1.48	35.6	2920	0.0991
240	3.4	0.76	2.0	1.56	38.3	3580	0.0754
300	3.4	0.76	2.0	1.56	40.3	4230	0.0601
400	3.4	0.76	2.0	1.72	43.7	5180	0.0470
500	3.4	0.84	2.5	1.80	48.1	6530	0.0366
630	3.4	0.92	2.5	1.88	51.9	8080	0.0283
800	3.4	0.92	2.5	1.96	56.5	9970	0.0221
1000	3.4	1.0	2.5	2.12	62.3	12250	0.0176

8.7/15 KV Single Core CU/ XLPE/Alu. Wire / PVC

50	4.5	0.76	1.6	1.32	28.9	1360	0.387
70	4.5	0.76	1.6	1.32	30.5	1620	0.268
95	4.5	0.76	2.0	1.40	33.2	2050	0.193
120	4.5	0.76	2.0	1.48	35.5	2390	0.153
150	4.5	0.76	2.0	1.48	36.2	2680	0.124
185	4.5	0.76	2.0	1.56	38.3	3130	0.0991
240	4.5	0.76	2.0	1.64	41.0	3800	0.0754
300	4.5	0.76	2.0	1.64	43.0	4470	0.0601
400	4.5	0.84	2.5	1.80	47.6	5610	0.0470
500	4.5	0.84	2.5	1.88	50.6	6780	0.0366
630	4.5	0.92	2.5	1.96	54.6	8370	0.0283
800	4.5	1.00	2.5	2.04	59.4	10310	0.0221
1000	4.5	1.08	2.5	2.20	65.2	12630	0.0176

12.7/22 KV Single Core CU/ XLPE/Alu. Wire / PVC

50	5.5	0.76	1.60	1.40	32.1	1570	0.387
70	5.5	0.76	2.00	1.40	34.5	1940	0.268
95	5.5	0.76	2.00	1.48	36.4	2290	0.193
120	5.5	0.76	2.00	1.48	38.5	2630	0.153
150	5.5	0.76	2.00	1.56	39.4	2950	0.124
185	5.5	0.76	2.00	1.56	41.3	3390	0.0991
240	5.5	0.76	2.00	1.64	44.0	4070	0.0754
300	5.5	0.84	2.50	1.72	47.4	4940	0.0601
400	5.5	0.84	2.50	1.80	50.6	5920	0.0470
500	5.5	0.92	2.50	1.88	53.8	7130	0.0366
630	5.5	0.92	2.50	2.04	57.8	8740	0.0283
800	5.5	1.00	2.50	2.12	62.6	10720	0.0221
1000	5.5	1.08	2.50	2.20	68.2	13040	0.0176

MV XLPE Insulated Armoured Cables

19/33 KV Single Core CU/ XLPE/Alu. Wire / PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Minimum Thickness of bedding **mm**	Nominal armour wire diameter **mm**	Min. Thickness of PVC outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max.DC Resistance at 20°C **Ohm/Km**
50	8.0	0.76	2.0	1.56	38.7	2100	0.387
70	8.0	0.76	2.0	1.56	40.3	2390	0.268
95	8.0	0.76	2.0	1.64	42.2	2770	0.193
120	8.0	0.76	2.0	1.64	44.3	3130	0.153
150	8.0	0.84	2.5	1.72	46.4	3630	0.124
185	8.0	0.84	2.5	1.80	48.5	4110	0.0991
240	8.0	0.84	2.5	1.80	51.0	4810	0.0754
300	8.0	0.92	2.5	1.88	53.2	5540	0.0601
400	8.0	0.92	2.5	1.96	56.4	6560	0.0470
500	8.0	1.00	2.5	2.04	59.8	7830	0.0366
630	8.0	1.00	2.5	2.12	63.6	9460	0.0283
800	8.0	1.08	2.5	2.28	68.6	11520	0.0221
1000	8.0	1.16	2.5	2.36	74.2	13900	0.0176

3.8/6.6 KV THREE CORE CU/ XLPE/ SWA / PVC

25	2.5	0.76	2.0	1.56	40.2	3330	0.727
35	2.5	0.76	2.0	1.64	42.5	3850	0.524
50	2.5	0.84	2.5	1.80	46.5	4900	0.387
70	2.5	0.84	2.5	1.88	50.2	5880	0.268
95	2.5	0.92	2.5	1.96	54.2	7090	0.193
120	2.5	1.00	2.5	2.04	59.2	8360	0.153
150	2.5	1.00	2.5	2.12	60.9	9300	0.124
185	2.5	1.08	2.5	2.20	65.4	10900	0.0991
240	2.6	1.16	2.5	2.36	72.0	13430	0.0754
300	2.8	1.24	3.15	2.60	79.3	16950	0.0601
400	3.0	1.40	3.15	2.76	87.5	20480	0.0470

6.35/11 KV THREE CORE CU/ XLPE/ SWA / PVC

25	3.4	0.84	2.5	1.72	46.1	4330	0.727
35	3.4	0.84	2.5	1.80	48.4	4880	0.524
50	3.4	0.92	2.5	1.88	51.2	5540	0.387
70	3.4	0.92	2.5	1.96	54.9	6550	0.268
95	3.4	1.00	2.5	2.04	58.9	7800	0.193
120	3.4	1.08	2.5	2.20	64.1	9150	0.153
150	3.4	1.08	2.5	2.28	65.8	10100	0.124
185	3.4	1.16	2.5	2.36	70.3	11700	0.0991
240	3.4	1.24	3.15	2.52	77.6	15020	0.0754
300	3.4	1.32	3.15	2.68	82.5	17010	0.0601
400	3.4	1.40	3.15	2.84	89.6	21040	0.0470

8.7/15 KV THREE CORE CU/ XLPE/ SWA / PVC

25	4.5	0.92	2.5	1.88	52.1	5200	0.727
35	4.5	0.92	2.5	1.96	54.4	5690	0.524
50	4.5	1.00	2.5	2.04	57.2	6470	0.387
70	4.5	1.00	2.5	2.12	60.9	7420	0.268
95	4.5	1.08	2.5	2.20	64.9	8720	0.193
120	4.5	1.16	2.5	2.28	69.9	10080	0.153
150	4.5	1.16	2.5	2.36	71.6	11170	0.124
185	4.5	1.24	3.15	2.52	77.6	13660	0.0991
240	4.5	1.32	3.15	2.68	83.6	16360	0.0754
300	4.5	1.40	3.15	2.76	88.3	18870	0.0601
400	4.5	1.48	3.15	3.00	95.6	22290	0.0470

Cables Constructions

12.7/22 KV Three Core CU/ XLPE/SWA/ PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Minimum Thickness of bedding **mm**	Nominal armour wire diameter **mm**	Min. Thickness of PVC outer sheath **mm**	Approx. over all diameter **mm**	Approx. cable weight **Kg/Km**	Max.DC Resistance at 20°C **Ohm/Km**
35	5.5	1.00	2.50	2.04	60.9	6440	0.524
50	5.5	1.00	2.50	2.12	63.5	7150	0.387
70	5.5	1.08	2.50	2.20	67.3	8280	0.268
95	5.5	1.16	2.50	2.36	71.6	9630	0.193
120	5.5	1.16	3.15	2.44	77.6	11930	0.153
150	5.5	1.24	3.15	2.52	79.5	12930	0.124
185	5.5	1.32	3.15	2.68	84.2	14750	0.0991
240	5.5	1.40	3.15	2.76	90.0	17210	0.0754
300	5.5	1.40	3.15	2.92	94.8	19720	0.0601
400	5.5	1.56	3.15	3.08	102.0	23140	0.0470

19/33 KV Three Core CU/ XLPE/ SWA / PVC

50	8.0	1.24	3.15	2.52	78.5	10730	0.387
70	8.0	1.24	3.15	2.60	82.1	11870	0.268
95	8.0	1.32	3.15	2.68	86.2	13380	0.193
120	8.0	1.40	3.15	2.76	91.1	14940	0.153
150	8.0	1.40	3.15	2.84	92.8	16170	0.124
185	8.0	1.48	3.15	2.92	97.3	18050	0.0991
240	8.0	1.56	3.15	3.08	103.3	20810	0.0754
300	8.0	1.64	3.15	3.24	108.3	23480	0.0601
400	8.0	1.72	3.15	3.40	115.3	27150	0.0470

Impulse Testing Lab

Conductor Technical Data for single Core and Multicore cables conforming to IEC 60228 (Stranded-Class-2) Aluminium Conductors and annualed copper conductors, stranded circular, compacted circular or shaped

Nominal size of	Short Circuit Rating (ISC) for XLPE cables		Max. D.C. Resistance at 20°C		Max. A.C. Resistance at 90°C	
Conductor	Copper	Aluminium	Plain Copper	Aluminium	Plain Copper	Aluminium
mm^2	**KA/sec**	**KA/sec**	**Ω/Km**	**Ω/Km**	**Ω/Km**	**Ω/Km**
1.5	0.21	-	12.200	-	15.430	-
2.5	0.36	-	7.410	-	9.450	-
4.0	0.57	0.38	4.610	7.410	5.880	9.480
6.0	0.85	0.56	3.080	4.610	3.930	5.900
10	1.42	0.94	1.830	3.080	2.330	3.490
16	2.27	1.50	1.150	1.910	1.470	2.420
25	3.60	2.40	0.727	1.200	0.930	1.540
35	5.00	3.30	0.524	0.868	0.671	1.110
50	7.10	4.70	0.387	0.641	0.495	0.820
70	10.0	6.60	0.268	0.443	0.343	0.567
95	13.6	9.00	0.193	0.320	0.247	0.410
120	17.1	11.3	0.153	0.253	0.196	0.324
150	21.4	14.2	0.124	0.206	0.159	0.264
185	26.4	17.5	0.0991	0.164	0.127	0.210
240	34.3	22.6	0.0754	0.125	0.0965	0.160
300	42.9	28.3	0.0601	0.100	0.0769	0.130
400	57.1	37.7	0.0470	0.0778	0.0602	0.100
500	71.4	47.2	0.0366	0.0605	0.0468	0.0774
630	90.0	59.4	0.0283	0.0469	0.0362	0.0600
800	114.3	75.5	0.0221	0.0367	0.0283	0.0470
1000	142.9	94.3	0.0176	0.0291	0.0225	0.0372

Short Circuit Current Ratings for XLPE Cables

Short Circuit Rating for I second duration for Copper and Aluminium XLPE Cables (Isc Current in KAmps)

Ratings for any other duration :

1) Max. Initial Conductor Temperature during operation : 90°C

2) Max. Final Conductor Temperature during short circuit : 250°C

Formula relating short Circuit Rating with t second duration

$1t = 1sc/\sqrt{t}$

Where 1t = Short Circuit Rating for t seconds.

t = Duration in seconds.

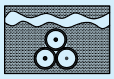
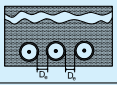
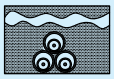
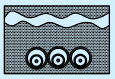
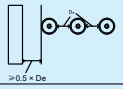
1sc = Short Circuit rating for 1 second.

Emergency overload : Cable may operate under overload conditions. Under such condition conductor temperature not to exceed 130°C for maximum 100 hours per year and not more that 500 hours during lifetime of cable. This is approximately 20% higher than specified rated current during the emergency period.

CCV Line

Current ratings for single core cable with XLPE insulation

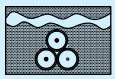
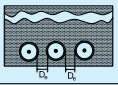
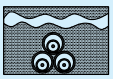
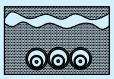
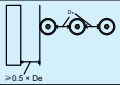
Rated Voltage 3.6/6 KV to 18/30 KV Copper Conductor

Nominal area of conductor	Buried direct in the ground 20°C		In single-way ducts 20°C		In Air 30°C		
	Trefoil	Flat spaced	Trefoil Ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
							
mm²	**A**	**A**	**A**	**A**	**A**	**A**	**A**
16	109	113	103	104	125	128	150
25	140	144	132	133	163	167	196
35	166	172	157	159	198	203	238
50	196	203	186	188	238	243	286
70	239	246	227	229	296	303	356
95	285	293	271	274	361	369	434
120	323	332	308	311	417	426	500
150	361	366	343	347	473	481	559
185	406	410	387	391	543	550	637
240	469	470	447	453	641	647	745
300	526	524	504	510	735	739	846
400	590	572	564	571	845	837	938
500	650	710	-	-	950	-	1090
630	730	790	-	-	1070	-	1260
800	820	910	-	-	1200	-	1410
1000	930	1030	-	-	1360	-	1610

Maximum conductor temperature	90°C
Ambient air temperature	30°C
Ground temperature	20°C
Depth of playing	0.8 m
Thermal resistivity of soil	1.5 K.m/W
Thermal resistivity of earthenware ducts	1.2 k.m/W

Screens bonded at both ends.

Current ratings for single-core cables with XLPE insulation-rated voltage 3.6/6 KV to 18/30 KV Aluminium conductor

Nominal area of conductor	Buried direct in the ground 20°C		In single-way ducts 20°C		In Air 30°C		
	Trefoil	Flat spaced	Trefoil Ducts	Flat touching ducts	Trefoil	Flat touching	Flat spaced
							
mm²	**A**	**A**	**A**	**A**	**A**	**A**	**A**
16	84	88	80	81	97	99	116
25	108	112	102	103	127	130	153
35	129	134	122	123	154	157	185
50	152	157	144	146	184	189	222
70	186	192	176	178	230	236	278
95	221	229	210	213	280	287	338
120	252	260	240	242	324	332	391
150	281	288	267	271	368	376	440
185	317	324	303	307	424	432	504
240	367	373	351	356	502	511	593
300	414	419	397	402	577	586	677
400	470	466	451	457	673	676	769
500	520	560	-	-	660	-	760
630	590	640	-	-	740	-	850
800	670	720	-	-	840	-	960
1000	750	800	-	-	950	-	1100

Maximum conductor temperature	90°C
Ambient air temperature	30°C
Ground temperature	20°C
Depth of playing	0.8 m
Thermal resistivity of soil	1.5 K.m/W
Thermal resistivity of earthenware ducts	1.2 k.m/W

Screens bonded at both ends.

Current ratings for three-core cables with XLPE insulation-rated voltage 3.6/6 KV to 18/30 KV Copper conductor Armoured and Unarmoured

Nominal area of conductor	Unarmoured			Armoured		
	Buried Direct in ground 20°C	In a Buried duct 20°C	In Air 30°C	Buried Direct in ground 20°C	In a Buried duct 20°C	In Air 30°C
						
mm²	**A**	**A**	**A**	**A**	**A**	**A**
16	101	87	109	101	88	110
25	129	112	142	129	112	143
35	153	133	170	154	134	172
50	181	158	204	181	158	205
70	221	193	253	220	194	253
95	262	231	304	263	232	307
120	298	264	351	298	264	352
150	334	297	398	332	296	397
185	377	336	455	374	335	453
240	434	390	531	431	387	529
300	489	441	606	482	435	599
400	553	501	696	541	492	683

Maximum conductor temperature	90°C
Ambient air temperature	30°C
Ground temperature	20°C
Depth of playing	0.8 m
Thermal resistivity of soil	1.5 K.m/W
Thermal resistivity of earthenware ducts	1.2 k.m/W

Screens bonded at both ends.

Current ratings for three core XLPE insulated cables rated voltage 3.6/6 KV. to 18/30 KV Aluminium conductor, Armoured and Unarmoured

Nominal area of conductor	Unarmoured			Armoured		
	Buried Direct in ground 20°C	In a Buried duct 20°C	In Air 30°C	Buried Direct in ground 20°C	In a Buried duct 20°C	In Air 30°C
						
mm²	**A**	**A**	**A**	**A**	**A**	**A**
16	78	67	84	78	68	85
25	100	87	110	100	87	111
35	119	103	132	119	104	133
50	140	122	158	140	123	159
70	171	150	196	171	150	196
95	203	179	236	204	180	238
120	232	205	273	232	206	274
150	260	231	309	259	231	309
185	294	262	355	293	262	354
240	340	305	415	338	304	415
300	384	346	475	380	343	472
400	438	398	552	432	393	545

Maximum conductor temperature	90°C
Ambient air temperature	30°C
Ground temperature	20°C
Depth of playing	0.8 m
Thermal resistivity of soil	1.5 K.m/W
Thermal resistivity of earthenware ducts	1.2 k.m/W

Screens bonded at both ends.

XLPE INSULATED ARMOURED CABLES

Application – Indoors or Outdoors in cable ducts, cable trays, conduits or underground locations under mechanical stresses in power and switching stations.
– Local distribution systems, Industrial and Commercial units for basic power & lighting purpose.

Standards	BS 5467, IEC 60502-1& VDE 0276
Operating Temperature	90° C
Short Circuit Temp.	250° C
Working Voltage	600 / 1000 Volts
Test Voltage	3.5 KV r m s for 5 minutes

CONSTRUCTION

Conductor Aluminium / Annealed plain copper solid* / stranded conductor conform to BS 6360 and IEC 60228 Class 2 (Circular / Sector shaped)

Insulation Cross linked polyethylene (XLPE)

Core Colour

Single core	Red or Black
2 Core	Red , Black
3 Core	Red , Yellow , Blue
4 Core	Red , Yellow, Blue, Black
5 Core	Red , Yellow, Blue, Black & Yellow - Green
6 Core & above	Black colour with number printing

Assembly Insulated conductors are laid up together, if necessary interstices may be filled with fillers.

Fillers Non-hygroscopic Poly propylene fillers are included between laid up cores wherever required.

A separator tape of non-hygroscopic poly propylene material is applied over laid up core wherever necessary.

Bedding Extruded PVC compatible with operating temperature

Armour For Single Core - Aluminium round wire / flat wire. For Multicore - Galvanised Steel round wire / flat wire / tape.

Outer Sheath Extruded PVC / Special PVC compound such as Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Low Smoke Zero Halogen (LSOH) can be used for outer sheath to suit a variety of environment and fire risk conditions. Flamabillity test confirms to IEC 332 & Swidish chimeny. For installation where fire and associated problems such as emission of smoke and toxic fumes offer a serious potential threat, special LSF (Low smoke & fumes) compound can be provided. LSF compound is Halogen free (Flourine, Chlorine, Bromine) when tested as per BS 6425 (Pt 1) & IEC 60754 (Pt 1). The acid gas evolved during combustion is less than 0.5% by weight of material.

Minimum Bending radius 12 times the cable diameter

Admissible Pulling Force Aluminium - 30N/mm^2 Copper - 50N/mm^2

ISO 9001 COMPANY

ISO-9001 REGISTERED DNV-Certification B.V. THE NETHERLANDS

Note : Unarmoured cables construction details available upon request.
*Aluminium - upto 10 mm^2 Copper - upto 6 mm^2

***Modification which serve to improve our products will be implemented without notice.**

Cables Constructions

IEC 60502-1 0.6/1.0 KV Single Core XLPE/PVC/RWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. Thickness of bedding **mm**	Nominal Alu. armour wire diameter **mm**	Nominal Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. Copper Cable weight **Kg/Km**	Approx. Alu. Cable weight **Ohm/Km**
25	0.90	1.0	0.8	1.8	15.5	447	300
35	0.90	1.0	0.8	1.8	16.5	553	346
50	1.00	1.0	1.25	1.8	19.0	757	454
70	1.10	1.0	1.25	1.8	21.0	978	558
95	1.10	1.0	1.25	1.8	22.5	1,233	677
120	1.20	1.0	1.6	1.8	25.5	1,559	846
150	1.40	1.0	1.6	1.8	26.5	1,854	955
185	1.60	1.0	1.6	1.8	29.0	2,226	1,130
240	1.70	1.0	1.6	1.9	32.0	2,791	1,372
300	1.80	1.0	1.6	1.9	34.0	3,378	1,604
400	2.00	1.2	2.0	2.1	39.0	4,502	2,099
500	2.20	1.2	2.0	2.2	43.0	5,506	2,539
630	2.40	1.2	2.0	2.3	47.0	6,796	3,098
800	2.60	1.4	2.5	2.5	53.5	8,757	4,072
1000	2.80	1.4	2.5	2.7	59.5	10,782	4,948

IEC 60502-1 0.6/1.0 KV Two Cores XLPE/PVC/RWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Approx. Thickness of bedding **mm**	Nominal G.I. armour wire diameter **mm**	Nominal Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. Copper Cable weight **Kg/Km**	Approx. Alu. Cable weight **Kg/Km**
1.5	0.7	1.0	0.8	1.8	14.0	325	298
2.5	0.7	1.0	0.8	1.8	15.0	372	328
4.0	0.7	1.0	0.8	1.8	16.0	444	397
6.0	0.7	1.0	0.8	1.8	17.0	520	446
10	0.7	1.0	1.25	1.8	20.0	802	680
16	0.7	1.0	1.25	1.8	22.0	995	807
25	0.90	1.0	1.60	1.8	21.0	1124	830
35	0.90	1.0	1.60	1.8	22.5	1367	952
50	1.00	1.0	1.60	1.8	24.5	1714	1107
70	1.10	1.0	1.60	2.0	27.5	2212	1374
95	1.10	1.2	2.00	2.1	31.5	2993	1865
120	1.20	1.2	2.00	2.2	34.5	3579	2155
150	1.40	1.2	2.00	2.3	37.0	4282	2490
185	1.60	1.4	2.50	2.5	42.0	5480	3287
240	1.70	1.4	2.50	2.7	46.0	6712	3880
300	1.80	1.6	2.50	2.8	50.0	8108	4568
400	2.00	1.6	2.50	3.1	55.0	10204	5408

XLPE/PVC/FSA/PVC

Nominal dimension G.I. Flat Strip **mm**	Nominal Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. copper cable weight **Kg/Km**	Approx. Alu. Cable weight **Kg/Km**
4 X 0.8	1.8	19.5	936	642
4 X 0.8	1.8	21.0	1158	742
4 X 0.8	1.8	23.0	1507	901
4 X 0.8	1.9	26.0	1964	1126
4 X 0.8	2.0	29.0	2500	1372
4 X 0.8	2.1	31.5	3059	1636
4 X 0.8	2.2	34.5	3713	1920
4 X 0.8	2.4	38.5	4546	2353
4 X 0.8	2.6	42.0	5670	2838
4 X 0.8	2.7	46.5	6947	3407
4 X 0.8	3.0	51.5	8958	4163

Testing Lab

Cables Constructions

IEC 60502-1 0.6/1.0 KV Three Cores XLPE/PVC/RWA/PVC

XLPE/PVC/FSA/PVC

Nominal cross sectional area mm²	Nominal thickness of insulation mm	Approx. Thickness of bedding mm	Nominal G.I. armour wire diameter mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km	Nominal dimension G.I. Flat Strip. mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km
1.5	0.7	1.0	0.8	1.8	14.5	353	314					
2.5	0.7	1.0	0.8	1.8	15.5	411	345					
4.0	0.7	1.0	0.8	1.8	16.5	497	427					
6.0	0.7	1.0	0.8	1.8	18.0	597	486					
10	0.7	1.0	1.25	1.8	21.0	922	738					
16	0.7	1.0	1.25	1.8	23.0	1172	890					
25	0.90	1.0	1.60	1.8	23.5	1474	1032	4 X 0.8	1.8	22.0	1258	817
35	0.90	1.0	1.60	1.8	25.0	1787	1165	4 X 0.8	1.8	23.5	1565	943
50	1.00	1.0	1.60	1.9	28.5	2348	1439	4 X 0.8	1.8	27.0	2069	1160
70	1.10	1.2	2.00	2.0	33.0	3252	1995	4 X 0.8	2.0	30.5	2774	1516
95	1.10	1.2	2.00	2.2	36.5	4092	2401	4 X 0.8	2.1	33.5	3548	1857
120	1.20	1.2	2.00	2.3	39.5	4934	2800	4 X 0.8	2.2	37.0	4340	2206
150	1.40	1.4	2.50	2.5	44.5	6367	3678	4 X 0.8	2.3	41.0	5348	2659
185	1.60	1.4	2.50	2.6	48.5	7608	4319	4 X 0.8	2.5	45.0	6465	3176
240	1.70	1.6	2.50	2.8	53.0	9378	5130	4 X 0.8	2.7	49.5	8152	3903
300	1.80	1.6	2.50	3.0	59.5	11434	6123	4 X 0.8	2.8	55.5	10009	4698
400	2.00	1.6	2.50	3.2	64.5	14456	7262	4 X 0.8	3.1	61.0	12960	5766

IEC 60502-1 0.6/1.0 KV Four Cores with reduced Neutral XLPE/PVC/RWA/PVC

XLPE/PVC/FSA/PVC

Nominal cross sectional area mm²	Nominal thickness of insulation mm	Approx. Thickness of bedding mm	Nominal G.I. armour wire diameter mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km	Nominal dimension G.I. Flat Strip. mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km
25	0.90	1.0	1.60	1.8	24.5	1652	1117	4 X 0.8	1.8	23.0	1446	910
35	0.90	1.0	1.60	1.8	26.0	1987	1270	4 X 0.8	1.8	24.5	1758	1042
50	1.00	1.0	1.60	1.9	29.5	2608	1552	4 X 0.8	1.9	27.5	2351	1295
70	1.10	1.2	2.00	2.1	34.5	3663	2197	4 X 0.8	2.1	32.0	3159	1694
95	1.10	1.2	2.00	2.2	38.0	4653	2660	4 X 0.8	2.2	35.5	4077	2083
120	1.20	1.2	2.00	2.4	41.5	5698	3145	4 X 0.8	2.3	39.0	5088	2535
150	1.40	1.4	2.50	2.5	46.5	7156	4049	4 X 0.8	2.5	43.0	6086	2978
185	1.60	1.4	2.50	2.7	51.5	8656	4804	4 X 0.8	2.7	48.0	7467	3614
240	1.70	1.6	2.50	2.9	57.5	10769	5808	4 X 0.8	2.9	54.0	9448	4487
300	1.80	1.6	2.50	3.0	61.5	12920	6713	4 X 0.8	3.1	58.5	11547	5339
400	2.00	1.6	3.15	3.3	69.0	17096	8806	4 X 0.8	3.4	65.0	14901	6611

IEC 60502-1 0.6/1.0 KV Four Cores XLPE/PVC/RWA/PVC

XLPE/PVC/FSA/PVC

Nominal cross sectional area mm²	Nominal thickness of insulation mm	Approx. Thickness of bedding mm	Nominal G.I. armour wire diameter mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km	Nominal dimension G.I. Flat Strip. mm	Nominal Thickness of outer sheath mm	Approx. overall diameter mm	Approx. Copper Cable weight Kg/Km	Approx. Alu. Cable weight Kg/Km
1.5	0.7	1.0	0.8	1.8	15.5	393.2	340.5					
2.5	0.7	1.0	0.8	1.8	16.5	465.8	378.6					
4.0	0.7	1.0	0.8	1.8	18.0	574.0	480.1					
6.0	0.7	1.0	1.25	1.8	20.0	828.7	680.6					
10	0.7	1.0	1.25	1.8	22.5	1076.1	832.1					
16	0.7	1.0	1.60	1.8	25.5	1525.3	1149.3					
25	0.90	1.0	1.60	1.8	25.0	1761.2	1172.2	4 X 0.8	1.8	23.5	1539.3	950.2
35	0.90	1.0	1.60	1.9	27.0	2201.1	1370.4	4 X 0.8	1.8	25.0	1944.8	1114.1
50	1.00	1.0	1.60	2.0	30.5	2893.0	1680.7	4 X 0.8	1.9	29.0	2615.4	1403.0
70	1.10	1.2	2.00	2.2	35.5	4033.8	2356.7	4 X 0.8	2.1	33.0	3490.0	1812.8
95	1.10	1.2	2.00	2.3	39.5	5141.9	2887.4	4 X 0.8	2.2	37.0	4523.5	2269.0
120	1.20	1.4	2.50	2.5	44.5	6630.8	3784.3	4 X 0.8	2.3	40.5	5587.7	2741.2
150	1.40	1.4	2.50	2.6	47.5	7952.6	4367.4	4 X 0.8	2.5	44.0	6847.2	3262.0
185	1.60	1.4	2.50	2.8	53.0	9565.0	5180.3	4 X 0.8	2.7	49.5	8338.3	3953.6
240	1.70	1.6	2.50	3.0	59.0	11941.3	6276.7	4 X 0.8	2.9	55.5	10580.0	4915.3
300	1.80	1.6	2.50	3.2	65.0	14495.5	7415.0	4 X 0.8	3.1	61.0	12999.4	5918.8
400	2.00	1.8	3.15	3.5	74.0	19476.0	9883.9	4 X 0.8	3.4	69.0	16990.5	7398.4

IEC 60502-1 0.6/1.0 KV Control Cables CU/XLPE/PVC/RWA/PVC

No. of cores	Nominal cross sectional area	Nominal thickness of insulation	Approx. Thickness of bedding	Nominal G.I. armour wire diameter	Nominal Thickness of outer sheath	Approx. overall diameter	Approx. Copper Cable weight	Nominal dimension G.I. Flat Strip.	Nominal Thickness of outer sheath	Approx. overall diameter	Approx. Copper Cable weight
mm²	**mm**	**mm**	**mm**	**mm**	**mm**	**Kg/Km**	**Kg/Km**	**mm**	**mm**	**mm**	**Kg/Km**
2	1.5	0.7	1.0	0.8	1.8	14.0	334				
3	1.5	0.7	1.0	0.8	1.8	14.5	360				
4	1.5	0.7	1.0	0.8	1.8	15.5	404				
5	1.5	0.7	1.0	0.8	1.8	16.5	452				
6	1.5	0.7	1.0	0.8	1.8	17.5	503				
7	1.5	0.7	1.0	0.8	1.8	17.5	511				
10	1.5	0.7	1.0	1.3	1.8	21.5	838				
12	1.5	0.7	1.0	1.25	1.8	22.0	885				
14	1.5	0.7	1.0	1.25	1.8	22.5	954	4 X 0.8	1.8	21.5	872
16	1.5	0.7	1.0	1.25	1.8	23.5	1031	4 X 0.8	1.8	22.5	930
19	1.5	0.7	1.0	1.25	1.8	24.5	1118	4 X 0.8	1.8	23.5	1023
24	1.5	0.7	1.0	1.6	1.8	28.0	1543	4 X 0.8	1.8	26.5	1277
27	1.5	0.7	1.0	1.6	1.8	28.5	1593	4 X 0.8	1.8	27.0	1352
30	1.5	0.7	1.0	1.6	1.8	29.5	1695	4 X 0.8	1.8	28.0	1423
37	1.5	0.7	1.0	1.6	1.8	31.5	1910	4 X 0.8	1.8	29.5	1616
40	1.5	0.7	1.0	1.6	1.9	32.5	2046	4 X 0.8	1.8	31.0	1731
43	1.5	0.7	1.0	1.6	1.9	33.5	2172	4 X 0.8	1.8	32.0	1850
47	1.5	0.7	1.0	1.6	1.9	34.5	2307	4 X 0.8	1.9	33.0	1993

CU/XLPE/PVC/FSA/PVC

No. of cores	Nominal cross sectional area	Nominal thickness of insulation	Approx. Thickness of bedding	Nominal G.I. armour wire diameter	Nominal Thickness of outer sheath	Approx. overall diameter	Approx. Copper Cable weight	Nominal dimension G.I. Flat Strip.	Nominal Thickness of outer sheath	Approx. overall diameter	Approx. Copper Cable weight
mm²	**mm**	**mm**	**mm**	**mm**	**mm**	**Kg/Km**	**Kg/Km**	**mm**	**mm**	**mm**	**Kg/Km**
2	2.5	0.7	1.0	0.8	1.8	15.0	378				
3	2.5	0.7	1.0	0.8	1.8	15.5	418				
4	2.5	0.7	1.0	0.8	1.8	16.5	477				
5	2.5	0.7	1.0	0.8	1.8	17.5	537				
6	2.5	0.7	1.0	1.25	1.8	19.5	731				
7	2.5	0.7	1.0	1.25	1.8	19.5	746				
10	2.5	0.7	1.0	1.25	1.8	23.0	1003	4 X 0.8	1.8	22.0	922
12	2.5	0.7	1.0	1.25	1.8	23.5	1077	4 X 0.8	1.8	22.5	977
14	2.5	0.7	1.0	1.25	1.8	24.5	1167	4 X 0.8	1.8	23.5	1072
16	2.5	0.7	1.0	1.6	1.8	26.0	1406	4 X 0.8	1.8	24.5	1178
19	2.5	0.7	1.0	1.6	1.8	27.0	1536	4 X 0.8	1.8	25.5	1301
24	2.5	0.7	1.0	1.6	1.8	30.5	1905	4 X 0.8	1.8	29.0	1627
27	2.5	0.7	1.0	1.6	1.8	31.0	1997	4 X 0.8	1.8	29.5	1703
30	2.5	0.7	1.0	1.6	1.9	32.5	2129	4 X 0.8	1.8	30.5	1830
37	2.5	0.7	1.0	1.6	1.9	34.5	2434	4 X 0.8	1.9	32.5	2111
40	2.5	0.7	1.0	1.6	2.0	35.5	2608	4 X 0.8	1.9	34.0	2262
43	2.5	0.7	1.0	2.0	2.0	37.5	3009	4 X 0.8	1.9	35.0	2419
47	2.5	0.7	1.2	2.0	2.1	39.5	3254	4 X 0.8	2.0	37.0	2638

PVC Extrusion Extruder

Current ratings for 0.6/1.0 KV XLPE cables

Copper Conductor Cable

Conductor size	In ground 20°C				In air 30°C			
	Single-core		2-core	3-or-4 core	Single-core		2-core	3-or-4 core
	Trifoil	Flat 3 cables			Trifoil	Flat 3 cables		
Sq mm	**Amp**	**Amp**	**Amp**	**Amp**	**Amp**	**Amp**	**Amp**	**Amp**
1.5	28		34	29	27		29	24
2.5	38		44	37	37		39	33
4.0	49		58	49	44		52	45
6.0	62		72	61	56		67	56
10	82		96	81	78		90	78
16	108		125	106	105		115	99
25	140		159	132	139	141	152	131
35	166		191	158	174	176	188	162
50	197	206	225	189	222	288	228	197
70	239	249	273	229	285	358	291	251
95	287	295	328	275	346	425	354	304
120	325	333	373	313	402	485	410	353
150	363	366	418	350	463	549	472	406
185	404	402	466	390	529	618	539	463
240	465	454	539	451	625	715	636	546
300	519	498	603	505	720	810	732	628
400	573	528	677	565	815	848	847	728
500	634	571			918	923		
630	697	611			1027	992		
800	736	630			1119	1042		
1000	781	661			1214	1110		

Aluminium Conductor Cable

4.0	39		40	27	34		37	32
6.0	49		50	35	43		48	41
10	65		69	44	58		65	55
16	84		96	81	80		85	74
25	109		120	101	109	109	112	98
35	127		144	121	123	135	138	120
50	151	158	171	144	162	215	166	145
70	184	191	208	175	207	270	211	185
95	219	228	248	210	252	324	254	224
120	250	258	266	239	292	372	235	264
150	279	286	304	268	337	424	269	305
185	312	317	349	301	391	477	308	350
240	361	363	406	349	465	554	364	418
300	405	403	450	393	540	626	409	488
400	475		487	437	661		573	562
500	540				748			
630	610				846			
800	680				976			
1000	760				1063			

Ground temperature	20°C	Depth of laying	750 mm
Ground thermal resistivity	1.5 K.m/W	An ambient air temperature	30°C

Cables Constructions

BS 5467 0.6/1KV Single Core CU/XLPE/PVC/SWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Thickness of bedding **mm**	Nominal AL wire armour dia. **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
50	1.0	0.8	0.9	1.5	16.5	1135	0.387
70	1.1	0.8	1.25	1.5	19.0	1525	0.268
95	1.1	0.8	1.25	1.6	21.0	1916	0.193
120	1.2	0.8	1.25	1.6	23.0	2418	0.153
150	1.4	1.0	1.6	1.7	25.5	2985	0.124
185	1.6	1.0	1.6	1.8	27.5	3422	0.0991
240	1.7	1.0	1.6	1.8	30.0	4641	0.0754
300	1.8	1.0	1.6	1.9	32.5	5282	0.0601
400	2.0	1.2	2.0	2.0	37.0	7049	0.0470
500	2.2	1.2	2.0	2.1	40.5	7645	0.0366
630	2.4	1.2	2.0	2.2	44.5	9681	0.0283
800	2.6	1.4	2.5	2.4	51.5	12090	0.0221
1000	2.8	1.4	2.5	2.5	56.5	14257	0.0176

BS 5467 0.6/ 1 KV Two Core CU/XLPE/PVC/SWA/PVC

1.5	0.7	0.8	0.9	1.3	12.0	409	12.1
2.5	0.7	0.8	0.9	1.4	13.0	465	7.41
4.0	0.7	0.8	0.9	1.4	14.0	567	4.61
6.0	0.7	0.8	0.9	1.4	15.0	679	3.08
10	0.7	0.8	0.9	1.5	17.0	846	1.83
16	0.7	0.8	1.25	1.5	19.5	1190	1.15
25	0.9	0.8	1.25	1.6	20.0	1265	0.727
35	0.9	1.0	1.6	1.7	22.0	1646	0.524
50	1.0	1.0	1.6	1.8	24.5	2065	0.387
70	1.1	1.0	1.6	1.9	27.0	2604	0.268
95	1.1	1.2	2.0	2.0	30.5	3506	0.193
120	1.2	1.2	2.0	2.1	33.0	4287	0.153
150	1.4	1.2	2.0	2.2	36.0	5041	0.124
185	1.6	1.4	2.5	2.4	40.5	6296	0.0991
240	1.7	1.4	2.5	2.5	44.0	8156	0.0754
300	1.8	1.6	2.5	2.6	47.5	9514	0.0601
400	2.0	1.6	2.5	2.8	53.0	11960	0.0470

BS 5467 0.6/ 1 KV Three Core CU/XLPE/PVC/SWA/PVC

1.5	0.7	0.8	0.9	1.3	12.5	437	12.1
2.5	0.7	0.8	0.9	1.4	13.5	502	7.41
4.0	0.7	0.8	0.9	1.4	14.5	623	4.61
6.0	0.7	0.8	0.9	1.4	15.5	744	3.08
10	0.7	0.8	1.25	1.5	18.5	1070	1.83
16	0.7	0.8	1.25	1.6	20.0	1330	1.15
25	0.9	1.0	1.6	1.7	23.0	1721	0.727
35	0.9	1.0	1.6	1.8	25.0	2111	0.524
50	1.0	1.0	1.6	1.8	27.5	2632	0.387
70	1.1	1.0	1.6	1.9	31.0	3385	0.268
95	1.1	1.2	2.0	2.1	35.0	4585	0.193
120	1.2	1.2	2.0	2.2	37.5	5617	0.153
150	1.4	1.4	2.5	2.3	42.0	7040	0.124
185	1.6	1.4	2.5	2.4	46.0	8286	0.0991
240	1.7	1.4	2.5	2.6	50.5	10769	0.0754
300	1.8	1.6	2.5	2.7	56.0	12797	0.0601
400	2.0	1.6	2.5	2.9	62.0	16043	0.0470

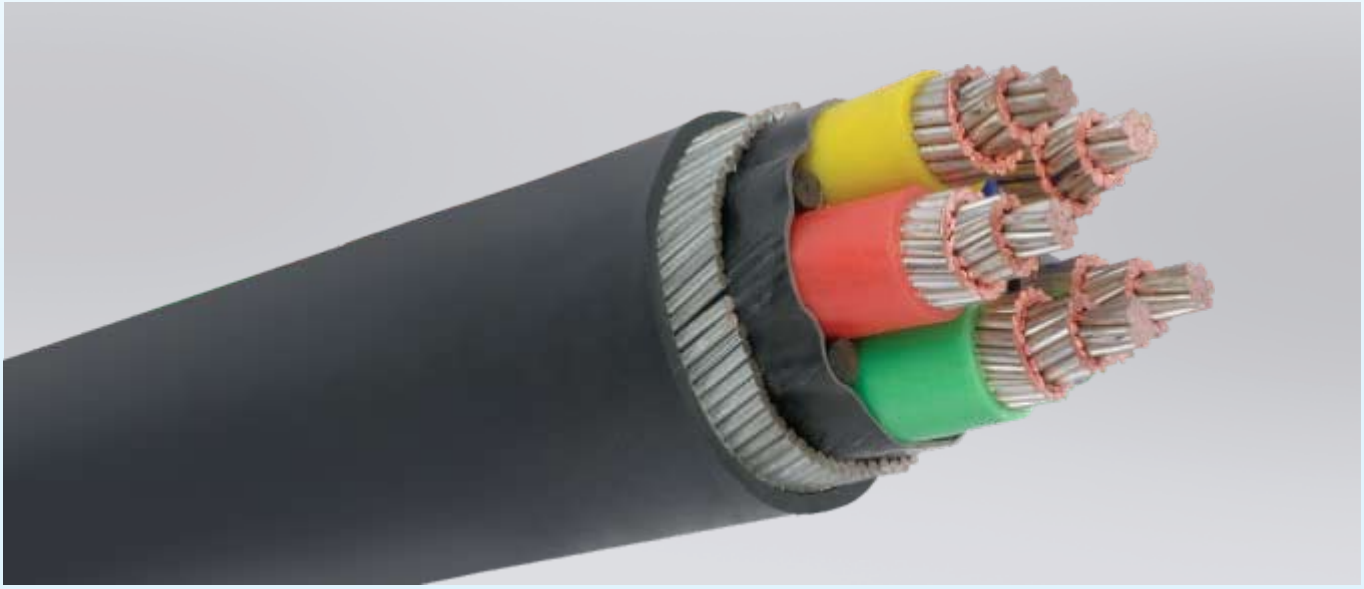
Cables Constructions

BS 5467 0.6/ 1 KV Four Core Cu/XLPE/PVC/SWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Thickness of bedding **mm**	Nominal armour wire **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
1.5	0.7	0.8	0.9	1.3	13.0	474	12.1
2.5	0.7	0.8	0.9	1.4	14.0	586	7.41
4.0	0.7	0.8	0.9	1.4	15.5	725	4.61
6.0	0.7	0.8	1.25	1.5	17.5	967	3.08
10	0.7	0.8	1.25	1.5	20.0	1265	1.83
16	0.7	0.8	1.25	1.6	22.0	1572	1.15
25	0.9	1.0	1.6	1.7	25.0	2074	0.727
35	0.9	1.0	1.6	1.8	27.0	2567	0.524
50	1.0	1.0	1.6	1.9	30.5	3236	0.387
70	1.1	1.2	2.0	2.1	35.0	4538	0.268
95	1.1	1.2	2.0	2.2	38.5	5859	0.193
120	1.2	1.4	2.5	2.3	43.5	7459	0.153
150	1.4	1.4	2.5	2.4	46.5	8835	0.124
185	1.6	1.4	2.5	2.6	51.5	10965	0.0991
240	1.7	1.6	2.5	2.7	57.5	13522	0.0754
300	1.8	1.6	2.5	2.9	62.5	16489	0.0601
400	2.0	1.8	3.15	3.2	71.5	21046	0.0470

BS 5467 0.6/ 1KV Four Core with Reduced Neutral Cu/XLPE/PVC/SWA/PVC

Nominal cross sec. area Phase **mm²**	Nominal cross sec. area Neutral **mm²**	Nominal thickness of insulation Phase **mm**	Nominal thickness of insulation Neutral **mm**	Thickness of bedding **mm**	Nominal armour wire dia. **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
25	16	0.9	0.7	1.0	1.6	1.7	24.5	1990	0.727
35	16	0.9	0.7	1.0	1.6	1.8	27.0	2399	0.524
50	25	1.0	0.9	1.0	1.6	1.9	29.0	2930	0.387
70	35	1.1	0.9	1.2	2.0	2.0	33.5	4157	0.268
95	50	1.1	1.0	1.2	2.0	2.1	37.0	5357	0.193
120	70	1.2	1.1	1.2	2.0	2.2	40.5	6473	0.153
150	70	1.4	1.1	1.4	2.5	2.4	45.5	7896	0.124
185	95	1.6	1.1	1.4	2.5	2.5	49.5	9932	0.0991
240	120	1.7	1.2	1.6	2.5	2.6	55.0	12155	0.0754
300	150	1.8	1.4	1.6	2.5	2.8	60.5	14982	0.0601
400	185	2.0	1.6	1.6	2.5	3.0	66.5	18116	0.0470



Cables Constructions

BS 5467 0.6/1 KV Control Cables Cu/XLPE/PVC/SWA/PVC

Nominal cross sectionalarea **mm²**	No. of cores	Nominal thickness ofinsulation **mm**	Thickness of bedding **mm**	Nominal armour wire diameter **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 200C **Ohm/Km**
1.5	7	0.7	0.8	0.9	1.4	15.2	430	12.1
1.5	12	0.7	0.8	1.25	1.5	19.4	720	12.1
1.5	19	0.7	0.8	1.25	1.6	22.2	945	12.1
1.5	27	0.7	1.0	1.6	1.7	26.7	1405	12.1
1.5	37	0.7	1.0	1.6	1.7	29.0	1685	12.1
1.5	48	0.7	1.0	1.6	1.8	32.7	2040	12.1
2.5	7	0.7	0.8	0.9	1.4	17.1	555	7.41
2.5	12	0.7	0.8	1.25	1.6	22.4	950	7.41
2.5	19	0.7	1.0	1.6	1.7	26.6	1440	7.41
2.5	27	0.7	1.0	1.6	1.8	30.7	1860	7.41
2.5	37	0.7	1.0	1.6	1.8	33.8	2270	7.41
2.5	48	0.7	1.2	2.0	2.0	39.3	3105	7.41
4.0	7	0.7	0.8	1.25	1.5	19.7	820	4.61
4.0	12	0.7	1.0	1.6	1.6	25.7	1365	4.61
4.0	19	0.7	1.0	1.6	1.7	29.3	1820	4.61
4.0	27	0.7	1.0	1.6	1.9	34.4	2405	4.61
4.0	37	0.7	1.2	2.0	2.0	39.2	3315	4.61
4.0	48	0.7	1.2	2.0	2.1	44.1	4040	4.61

Multiple Drum Twister

PVC INSULATED ARMOURED CABLES

Application – Indoors or Outdoors in cable ducts, cable trays, conduits or underground locations under mechanical stresses in power and switching stations.
– Local distribution systems, Industrial and Commercial units for basic power & lighting purpose.

Standards	BS 6346, IEC 60502-1 & VDE 0271
Operating Temperature	70° C
Short Circuit Temp.	160° C
Working Voltage	600 / 1000 Volts
Test Voltage	3.5 KV r m s for 5 minutes

CONSTRUCTION

Conductor Aluminium / Annealed plain copper solid* / stranded conductor conform to BS 6360 and IEC 60228, Class 2 (Circular / Sector shaped)

Insulation PVC type TI1 as per BS 7655: Section 3.1 and PVC type A as per IEC 60502-1

Single core	Red or Black
2 Core	Red , Black
3 Core	Red , Yellow , Blue
4 Core	Red , Yellow, Blue, Black
5 Core	Red , Yellow, Blue, Black & Yellow - Green
6 Core & above	Black colour with number printing

Assembly Insulated conductors are laid up together, if necessary interstices may be filled with fillers.

Fillers Non-hygroscopic Poly propylene fillers are included between laid up cores wherever required

A separator tape of non-hygroscopic poly propylene material is applied over laid up cores wherever necessary.

Bedding Extruded PVC compatible with operating temperature.

Armour For Single Core - Aluminium round wire / flat wire.
For Multicore - Galvanised Steel round wire / flat wire / tape.

Outer Sheath Extruded PVC / Special PVC compound such as Flame Retardant (FR), Flame Retardant Low Smoke (FRLS), Low Smoke Zero Halogen (LSOH) can be used for outer sheath to suit a variety of environment and fire risk conditions. Flamabillity test confirms to IEC 332 & Swidish chimeny. For installation where fire and associated problems such as emission of smoke and toxic fumes offer a serious potential threat, special LSF (Low smoke & fumes) compound can be provided. LSF compound is Halogen free (Flourine, Chlorine, Bromine) when tested as per BS 6425 (Pt 1) & IEC 60754 (Pt 1). The acid gas evolved during combustion is less than 0.5% by weight of material.

Minimum Bending radius :12 times the cable diameter

Admissible Pulling Force : Aluminium - 30N/mm^2

ISO 9001 COMPANY

ISO-9001 REGISTERED DNV C024 DNV-Certification B.V. THE NETHERLANDS

Note : Unarmoured cables construction details available upon request.
*Aluminium - upto 10 mm^2 Copper - upto 6 mm^2

Modification which serve to improve our products will be implemented without notice.

Cables Constructions

BS 6346 0.6/ 1 KV Single Core Cu/PVC/PVC/SWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Thickness of bedding **mm**	Nominal AL armour wire diameter **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
50	1.4	0.8	1.25	1.5	18.5	780	0.387
70	1.4	0.8	1.25	1.6	20.5	1005	0.268
95	1.6	0.8	1.25	1.6	22.5	1288	0.193
120	1.6	1.0	1.6	1.7	26.0	1654	0.153
150	1.8	1.0	1.6	1.7	27.0	1969	0.124
185	2.0	1.0	1.6	1.8	29.5	2375	0.0991
240	2.2	1.0	1.6	1.9	32.5	2983	0.754
300	2.4	1.0	1.6	1.9	35.0	3607	0.0601
400	2.6	1.2	2.0	2.1	40.0	4794	0.0470
500	2.8	1.2	2.0	2.1	43.5	5848	0.0366
630	2.8	1.2	2.0	2.2	47.5	7154	0.0283
800	2.8	1.4	2.5	2.4	53.5	9087	0.0221
1000	3.0	1.4	2.5	2.5	59.5	11162	0.0176

BS 6346 0.6/ 1 KV Two Core Cu/PVC/PVC/SWA/PVC

1.5	0.8	0.8	0.9	1.4	12.0	258	12.1
2.5	0.8	0.8	0.9	1.4	13.5	311	7.41
4.0	1.0	0.8	0.9	1.4	15.0	431	4.61
6.0	1.0	0.8	0.9	1.5	16.0	516	3.08
10	1.0	0.8	1.25	1.6	20.0	826	1.83
16	1.0	0.8	1.25	1.6	22.0	1021	1.15
25	1.2	1.0	1.6	1.7	22.0	1208	0.727
35	1.2	1.0	1.6	1.8	24.0	1467	0.524
50	1.4	1.0	1.6	1.9	26.5	1864	0.387
70	1.4	1.0	1.6	1.9	28.5	2319	0.268
95	1.6	1.2	2.0	2.1	33.0	3187	0.193
120	1.6	1.2	2.0	2.2	35.5	3758	0.153
150	1.8	1.2	2.0	2.3	38.5	4485	0.124
185	2.0	1.4	2.5	2.4	43.5	5709	0.0991
240	2.2	1.4	2.5	2.5	47.0	6998	0.0754
300	2.4	1.6	2.5	2.7	51.5	8437	0.0601
400	2.6	1.6	2.5	2.9	56.5	10592	0.0470

BS 6346 0.6/ 1 KV Three Core Cu/PVC/PVC/SWA/PVC

1.5	0.8	0.8	0.9	1.4	12.5	287	12.1
2.5	0.8	0.8	0.9	1.4	14.0	357	7.41
4.0	1.0	0.8	0.9	1.4	15.5	490	4.61
6.0	1.0	0.8	1.25	1.5	17.5	689	3.08
10	1.0	0.8	1.25	1.6	21.0	957	1.83
16	1.0	0.8	1.25	1.6	23.0	1212	1.15
25	1.2	1.0	1.6	1.7	25.0	1577	0.727
35	1.2	1.0	1.6	1.8	26.5	1911	0.524
50	1.4	1.0	1.6	1.9	30.5	2522	0.387
70	1.4	1.2	2.0	2.0	34.0	3410	0.288
95	1.6	1.2	2.0	2.1	38.0	4349	0.193
120	1.6	1.2	2.0	2.2	40.5	5149	0.153
150	1.8	1.4	2.5	2.4	46.0	6648	0.124
185	2.0	1.4	2.5	2.5	50.0	7893	0.0991
240	2.2	1.6	2.5	2.6	54.5	9768	0.0754
300	2.4	1.6	2.5	2.8	61.0	11906	0.0601
400	2.6	1.6	2.5	3.0	66.5	14996	0.0470

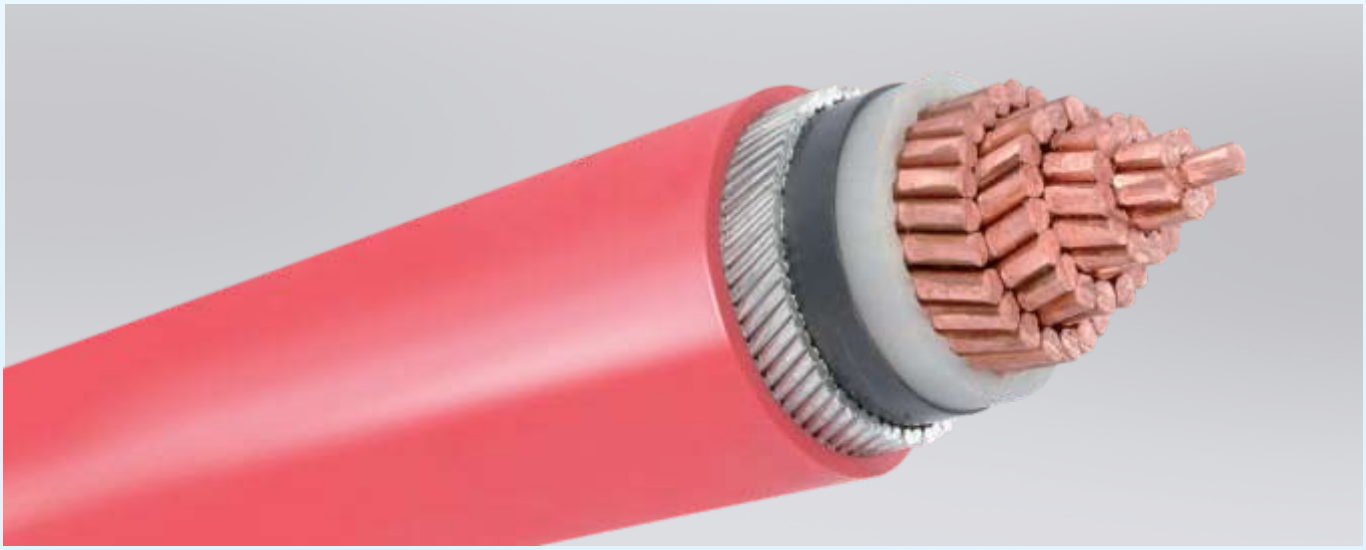
PVC Insulated Armoured Cables

BS 6346 0.6/ 1 KV Four Core Cu/PVC/PVC/SWA/PVC

Nominal cross sectional area **mm²**	Nominal thickness of insulation **mm**	Thickness of bedding **mm**	Nominal armour wire **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
1.5	0.8	0.8	0.9	1.4	13.5	329	12.1
2.5	0.8	0.8	0.9	1.4	15.0	411	7.41
4.0	1.0	0.8	1.25	1.5	18.0	670	4.61
6.0	1.0	0.8	1.25	1.5	19.0	806	3.08
10	1.0	0.8	1.25	1.6	22.5	1125	1.83
16	1.0	1.0	1.6	1.7	26.5	1623	1.15
25	1.2	1.0	1.6	1.8	27.0	1917	0.727
35	1.2	1.0	1.6	1.9	28.5	2364	0.524
50	1.4	1.2	2.0	2.0	34.0	3358	0.387
70	1.4	1.2	2.0	2.1	36.5	4238	0.268
95	1.6	1.2	2.0	2.2	41.5	5459	0.193
120	1.6	1.4	2.5	2.4	44.5	6545	0.153
150	1.8	1.4	2.5	2.5	49.5	8274	0.124
185	2.0	1.6	2.5	2.6	55.0	9989	0.0991
240	2.2	1.6	2.5	2.8	61.0	12436	0.0754
300	2.4	1.6	2.5	3.0	67.0	15141	0.0601
400	2.6	1.8	3.15	3.3	76.0	20181	0.0470

BS 6346 0.6/ 1 KV Four Core with Reduced Neutral Cu/PVC/PVC/SWA/PVC

Nominal cross sec. area Phase **mm²**	Nominal cross sec. area Neutral **mm²**	Nominal thickness of insulation Phase **mm**	Nominal thickness of insulation Neutral **mm**	Thickness of bedding **mm**	Nominal armour wire dia. **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
25	16	1.2	1.0	1.0	1.6	1.8	26.0	1799	0.727
35	16	1.2	1.0	1.0	1.6	1.8	27.5	2127	0.524
50	25	1.4	1.2	1.0	1.6	1.9	31.5	2807	0.387
70	35	1.4	1.2	1.2	2.0	2.0	35.5	3830	0.268
95	50	1.6	1.4	1.2	2.0	2.2	40.0	4966	0.193
120	70	1.6	1.4	1.4	2.5	2.3	44.0	6353	0.153
150	70	1.8	1.4	1.4	2.5	2.4	48.0	7445	0.124
185	95	2.0	1.6	1.4	2.5	2.5	52.5	8973	0.0991
240	120	2.2	1.6	1.6	2.5	2.7	59.0	11210	0.0754
300	150	2.4	1.8	1.6	2.5	2.9	64.0	13525	0.0601
400	185	2.6	2.0	1.8	3.15	3.1	71.5	17839	0.0470



Cables Constructions

0.6/1KV Auxilliary Cables Cu/PVC/PVC/SWA/PVC

Nominal cross sectional area **mm²**	No. of cores	Nominal thickness of insulation **mm**	Thickness of bedding **mm**	Nominal armour wire diameter **mm**	Thickness of outer sheath **mm**	Approx. overall diameter **mm**	Approx. cable weight **Kg/Km**	Max. DC Resistance at 20°C **Ohm/Km**
1.5	7	0.8	0.8	0.9	1.4	15.2	450	12.1
1.5	12	0.8	0.8	1.25	1.5	19.4	750	12.1
1.5	19	0.8	0.8	1.25	1.6	22.2	990	12.1
1.5	27	0.8	1.0	1.6	1.7	26.7	1470	12.1
1.5	37	0.8	1.0	1.6	1.8	29.2	1790	12.1
1.5	48	0.8	1.0	1.6	1.9	32.9	2170	12.1
2.5	7	0.8	0.8	1.25	1.5	18.0	680	7.41
2.5	12	0.8	0.8	1.25	1.6	22.4	995	7.41
2.5	19	0.8	1.0	1.6	1.7	26.6	1505	7.41
2.5	27	0.8	1.0	1.6	1.8	30.7	1985	7.41
2.5	37	0.8	1.0	1.6	1.9	34.0	2410	7.41
2.5	48	0.8	1.2	2.0	2.1	39.5	3290	7.41
4.0	7	1.0	0.8	1.25	1.6	20.5	890	4.61
4.0	12	1.0	1.0	1.6	1.7	26.8	1510	4.61
4.0	19	1.0	1.0	1.6	1.8	30.5	2015	4.61
4.0	27	1.0	1.2	2.0	2.0	37.1	2940	4.61
4.0	37	1.0	1.2	2.0	2.1	40.8	3660	4.61
4.0	48	1.0	1.2	2.0	2.2	46.0	4485	4.61

Current Ratings Copper Conductor PVC Insulated Armoured cable 600/1000 V

Conductor size	IN AIR				IN GROUND			
	Single Core		2-Core	3 or 4 Core	Single Core		2-Core	3 or 4 Core
	Trefoil	Flat			Trefoil	Flat		
mm²	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**	**(A)**
16	-	-	97	83	-	-	119	101
25	-	-	128	110	-	-	158	132
35	-	-	157	135	-	-	190	159
50	181	230	190	163	203	211	225	188
70	231	286	241	207	248	257	277	233
95	280	338	291	251	297	305	332	279
120	324	385	336	290	337	341	377	317
150	373	436	386	332	376	377	422	355
185	425	490	439	378	423	417	478	401
240	501	566	516	445	485	469	551	462
300	567	616	592	510	542	515	616	517
400	657	674	683	590	600	549	693	580

Testing Lab

INSULATED FIXED / FLEXIBLE CORDS & WIRES

Application Installation in surface mounted or embedded conduits or similar closed systems. indoors, building wires, power cords and domestic electrical wiring purpose.

Standards	BS 6004, IEC 60227-3, BS 6007, BS 7919, BS 7211, BS 6231, BS 6141, BS 4737, BS 6500, <HAR>
Operating Temperature	70°C, 90°C
Working Voltage	300/500, 450/750 Volts
Maximum Short Circuit Temperature	160°C

Test Voltage After immerse in water for 12 hours test voltage applied for 5 minutes Thickness of insulation upto and including

0.7 mm	1.5 KV a.c.
0.7 mm to 1.0 mm	2.0 KV a.c.
1.0 mm and above	2.5 KV a.c.

TYPE OF WIRES/CORDS 2491LSF, 6491X, 6491LSF, 6241Y, 6242Y, 6243Y, 6181Y, 6181XY, 6181LSF, 318Y, 309Y, 218Y, 318LSF, 638TQ, 318TRS, 318TQ, 318XY, 380TQ, 680TQ,

Conductor Solid (class 1), Stranded (class 2), flexible (class 5), annealed copper conductor conforming to BS 6360 or IEC 60228

Insulation Poly Vinyl Chloride (PVC), Heat resistant (HR) PVC, Fire Retardant (FR) PVC, Fire Retardant Low Smoke (FRLS) PVC, Zero Halogen (LSOH), Thermosetting (XLPE, Rubber etc.)

Colours Green/Yellow, Blue, Red, Black, Grey, White, any other colours on request

Sheath (Multicore) Poly Vinyl Chloride (PVC), Heat resistant (HR) PVC, Fire Retardant (FR) PVC, Fire Retardant Low Smoke (FRLS) PVC, Zero Halogen (LSOH)

Comparitive Properties

Feature	HR PVC	FR-PVC	FRLS-PVC	LSOH
Temperature Rating	85°C	70°C	70°C	105°C
Requirement of Oxygen to catch Fire (% in air)	>21	>30	>30	>35
Temperature required to catch Fire Temp (with 21% in Oxygen)	Room Temp.	>250°C	>250°C	>300°C
Visibility during cable burning (%)	<20	<35	>40	>80
Release of Halogen Gas during burning (% by weight)	<20	<20	<20	ZERO
Flame Retardancy	Good	Very Good	Very Good	Excellent

FLEXIBLE & FLAT (RHINOS) 2, 3, 4, 6, 10, 12, 14, 16, 19, 24 & 27
(Details available on request).

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Note : The number and diameter of conductor strands are for reference only and governed by conductor resistance. For other type of cords, wires, ECC, Flat, etc. the diamensions, parameters are available on request.

***Modification which serve to improve our products will be implemented without notice.**

Cables Constructions

6491x : Copper Conductor, PVC Insulated Unsheathed Wires

Nominal cross section area of conductor **mm²**	Number/Nominal dimeter of wires **No/mm**	Thickness of Insulation **mm**	Overall Diameter Max. **mm**	Current carrying capacity **Amps**	Resistance per Km at 20°C **Ohms**	Insulation resistance at 70°C **M ohm-km**
1.5	1/1.4	0.7	3.2	17.5	12.1	0.011
	7/0.53	0.7	3.3	17.5	12.1	0.010
	30/0.25	0.7	3.4	17.5	13.3	0.010
2.5	1/1.8	0.8	3.9	24	7.41	0.010
	7/0.67	0.8	4.0	24	7.41	0.009
	50/0.25	0.8	4.1	24	7.98	0.009
4.0	1/2.25	0.8	4.4	32	4.61	0.0085
	7/0.85	0.8	4.6	32	4.61	0.0077
	56/0.30	0.8	4.8	32	4.95	0.007
6.0	1/2.76	0.8	5.0	41	3.08	0.0070
	7/1.04	0.8	5.2	41	3.08	0.0065
	84/0.30	0.8	5.3	41	3.3	0.006
10	1/3.57	1.0	6.4	57	1.83	0.0070
	7/1.35	1.0	6.7	57	1.83	0.0065
	80/0.40	1.0	6.8	57	1.91	0.0056
16	7/170	1.0	7.8	76	1.15	0.0050
	126/0.40	1.0	8.1	76	1.21	0.0046
25	7/2.14	1.2	9.7	101	0.727	0.0050
	196/0.40	1.2	10.2	101	0.78	0.0044
35	7/2.58	1.2	10.9	125	0.524	0.0043
	276/0.40	1.2	11.7	125	0.554	0.0038
50	19/1.78	1.4	12.8	151	0.387	0.0043
	396/0.40	1.4	13.9	151	0.386	0.0037
70	19/2.14	1.4	14.6	192	0.268	0.0035
	360/0.50	1.4	16.0	192	0.272	0.0032
95	19/2.52	1.6	17.1	232	0.193	0.0035
	475/0.50	1.6	18.2	232	0.206	0.0032
120	37/2.03	1.6	18.8	269	0.153	0.0032
	608/0.50	1.6	20.2	269	0.161	0.0029
150	37/2.25	1.8	20.9	300	0.124	0.0032
	756/0.50	1.8	22.5	300	0.129	0.0029
185	37/2.52	2.0	23.3	341	0.099	0.0032
	925/0.50	2.0	24.9	341	0.106	0.0029
240	61/2.25	2.2	26.6	400	0.0754	0.0032
	1221/0.50	2.2	28.4	400	0.0801	0.0028
300	61/2.52	2.4	29.6	458	0.0601	0.0030
400	61/2.85	2.6	33.2	546	0.0470	0.0028

AERIAL BUNCHED CABLES

Application: Outdoor distribution in Rural or residential areas Offers cost effective safer and reliable cable for reticulation.

Range: LV Cables with XLPE, PVC or PE insulation MV cables with XLPE insulation

Standard:	**IS 14255, BS 7870-5, BS 625 HD 626,VDE 00276 P 626, IEC 60502 NF C 33-209**
Voltage:	600/1000V, 11KV, 22KV
Conductor:	Hard Drawn Aluminium, alluminium alloy or copper

Insulation: Specially formulated for exposure to sunlight and outdoor application. LV XLPE or PE is loaded with carbon black MV cable insulated and screened cores are PVC sheathed

Max Operating Temp: XLPE: Max 90°C

PVC or PE: Max 70°C

Construction: Insulated cores may be bundled together or laid up around high tensile insulated or bare messenger. If a messenger is provided; as the tension is taken by it, phase conductors can operate at maximum allowable conductor temperature.

Minimum Bending Radius: For LV 10 times & MV 15 times cable diameter

Solar Radiation: 1000 W/ sq m

ISO 9001 COMPANY

ISO-9001 REGISTERED DNV DNV-Certification B.V. THE NETHERLANDS

***Modification which serve to improve our products will be implemented without notice.

Cables Constructions

LV Cables

Conductor		Electrical Parameters			
		Current Rating In Air @ 30°C	Maximum DC Resistance @ 20°C	Reactance	Approx Breaking Load
Area (Sq. mm)	Strands	Amp	Ω/km	Ω/km	KN
16	7	87	1.91	0.091	2.84
25	7	107	1.20	0.087	4.17
35	7	132	0.868	0.085	5.78
50	7	165	0.641	0.083	8.45
70	19	205	0.443	0.0789	11.32
95	19	250	0.32	0.075	15.30
120	19	290	0.253	0.073	20.00
150	19	330	0206	0.072	25.00

Current rating for max cond temp 80°C and wind velocity 1 km/hr

91 Bobbin Stranding Machine

KEI RUBBER CABLES

In Keeping with the commpany's commitment to technological advancement, elastomer materials such as Ethylene Propylene Rubber "EPR", Polychloroprene "PCP", Chloro Sulphonated Polyethylene "CSP" Nitrile Rubber / PVC Blends, Ethylene Vivyl Acetate "EVA" and Silicone Rubber have been specially compounded to meet numerous heat oil and fire resisting requirements. In the recent years KEI has also developed special Elastomeric Fire Survival Cables for power, control and instrumentation wiring.

Elastomeric compounds for insulating and sheathing of cables are formulated to meet the requirement of BS 6899, IEC 60502 and IEC 60092 other international specification.

GENERAL CONSTRUCTION "Conforming to IS 9968 Part I"

Conductor	Annealed tinned Copper wires Solid "Class 1", Stranded "Class 2" flexible "Class 5" complying with the requirement of BS 6360/IE 60228
Seperator Tape Insulation	Suitable Material Seperator Tape may be applied over the conductor. General Service elastomer compound / Heat Resisting elastomer compound / Silicone rubber as per IEC 60092 "351", BS-7655, VDE-0207Pt.-20
Core Identification	Coloured insulation, Nos. Polyester tape, Coloured proofed tape, Nos. printing.
Fillers	Natural or synthetic fibers or elastomer suitable for the operating temperature and compatible with the insulating material.
Sheath	General Service elastomeric compound / Heavy Duty elastomeric compound as per IEC 60092 "359", BS-7655, VDE 0207Pt.-21

Working Temperature of Commonly Used Elastomeric Insulating and Sheathing Material

MATERIAL	Max. Cond. Temp. for continuous operation **Deg C.**	Max. Cond. Temp. for short circuit **Deg C.**	Min. Working Temp. **Deg C.**
Natural Rubber (VIR and TRS)	60	200	-55
Ethylene Propylene Rubber (EPR)	90	250	-50
Polychloroprene (PCP)	70	200	-40
Chlorosupphonated Polyethylene (CSP)	90	200	-35
Silicone Rubber	150 / 180	350	-55
HR Nautral Ruber (HR VIR)	75	200	-55
Styrene Butadience Rubber	60	200	-55
Butyl Rubber	85	220	-50

Control Room Impulse Testing & Heat Cycle Test etc.

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***Modification which serve to improve our products will be implemented without notice.*

Cables Constructions

Elastomeric Cables Range	Application
Cables up to 11 KV	Machine Trailling, Mining, Power
Flexible Trailing Cables	Reeling unreeling, Trailing, Festooning, Mobile Machines, Cranes, Coal Handling and Conveyors
Mining Cables	FT or Pliable Armoured or Landline type as per IS 14494, NCB, SABS specs for UG, Open cast, Coal or other mines and mining machines
Thermal Power Plants	For coal handling plants, flexible power and control application
Cables for steel plants	Flexible and high temp withstanding cables for furnace, melting shops, material handling
Wind energy	Flexible cables for power and control for Wind Mill generator connection
Fire Survival Cables	Fire Survival for 3 Hrs or 20 Min
Ship wiring	As per IEC specs and Naval specs DGS of DEFSTAN, NES
OFFSHORE and ONSHORE	For platforms and Ring as per IEC, BS and NEK Specs
Shore Supply & Generator Cables	For charging of ship batteries and supply from mobile generators
Motor Coil Leads	Elastomeric and Silicon as per IS, BS, or OEM Specs
High Temp Cables	Silicon insulated, glass fiber braided or unbraided
Pump Cables	For Water, submersible and sewerage pumps
Cables for Railway	Coach wiring, Metro railway
Wire	HFFR Low toxic emission under fire
Panel Wiring	For flexible, high power high temp zone, polluted or moist atmospheres
Battery Cables	For High current and long life
Low Temperature installations	Suitable for subzero temp installations and operations
Misc. Applications	outdoor high mast lighting, site power supply, white goods, oil or chemical resistant
Type	Power and Control cables up to 61 Crores Instrumentation Pairs 30 pairs, triads, quad Wires, flat cables
Voltage Grades	11KV, 6.6KV, 3.3KV, 1.1KV, 750V, 250V, 110V, 60V
Conductor Range	0.5 to 630 Sq. mm
Polymers Processed COMPOUNDS	EPR, EPDM, PCP, CSP, CPE, SILICONE, EVA HALOGEN FREE AND FIRE RESISTANT NON TOXIC COMPOUNDS
Braiding Offered	ATC, GI wire braid, Synthetics or Textile Yarn, Glass Fiber
Armouring	Pliable armour or steel/copper wires/Stainless steel

Mica Taping Machine

Braiding Machine

CABLES FOR INSTRUMENTATION

KEI manufactures a wide variety of cables suitable for process instrumentation, which plays a vital role in measurement, supervision and control of the process. Introduction of microprocessor based / computerized instrumentation has demanded stringent quality requirements along with special electrical parameters for instrumentation cables.

The cables used for instrumentation are designed and manufactured very meticulously. KEI maintains high quality standards and follow & stringent in-process quality control during manufacturing of instrumentation cables, meeting the design parameters of the customer

Conductor	0.5 Sq. mm to 2.5 Sq mm of solid/stranded Tinned/untinned copper conductors.
Insulation	PVC/Polyethylene/XLPE/LSOH as per requirement.
Elements / Core:	Pair/Triad/Quad, colour coded / number printed.
Screening	Aluminium Polyester screen over all (collective) screen (OAS), individual screen (IS), or both IS & OAS with ATC drain wire. Wire braiding can also be given as per customer requirement.
Element Laying	Concentric formation or unit & group formation as per requirement.
Armouring	Unarmoured / Galvanised steel wire / Flat wire armoured.
Sheathing	PVC, FR PVC, FRLS, LSOH as per requirement.
Specification	EIL-6-52-46. Rev.05, BS: 5308 Part 1 & Part 2, BSC 143-0.75 (24/0.2 mm) OAS, IEC 60092-375, 376, BS EN 50288, VDE 0815, VG 95218, NEK 606 and customers Specifications.)

French Machine for Pairing & Screening

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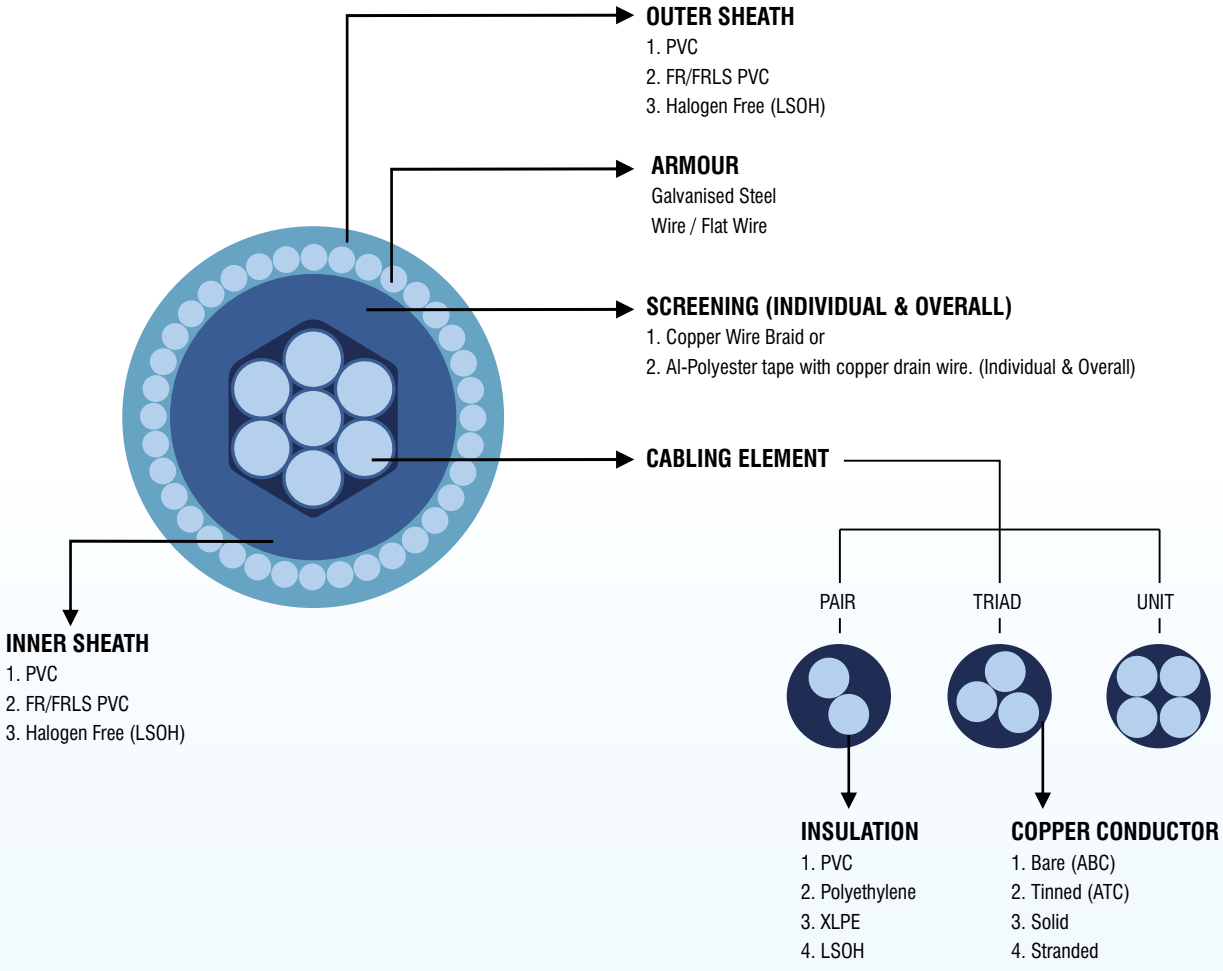
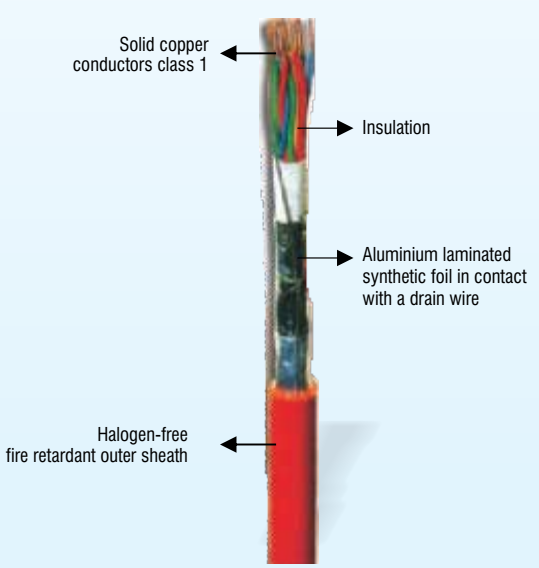
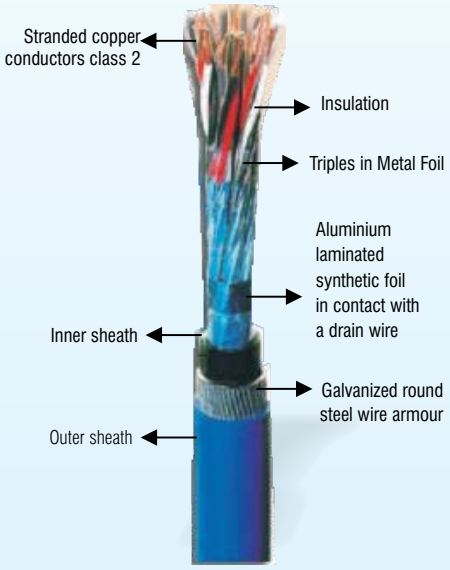
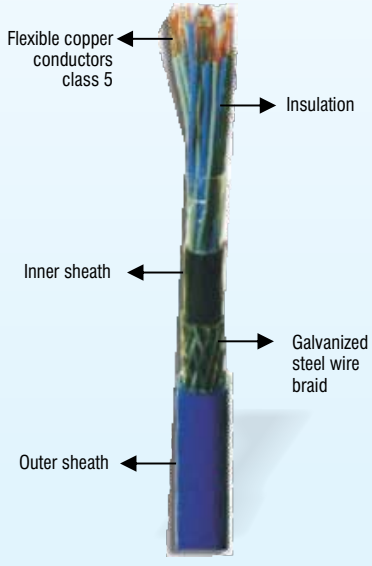
Cables Constructions

Typical Instrumentation Cable Constructions

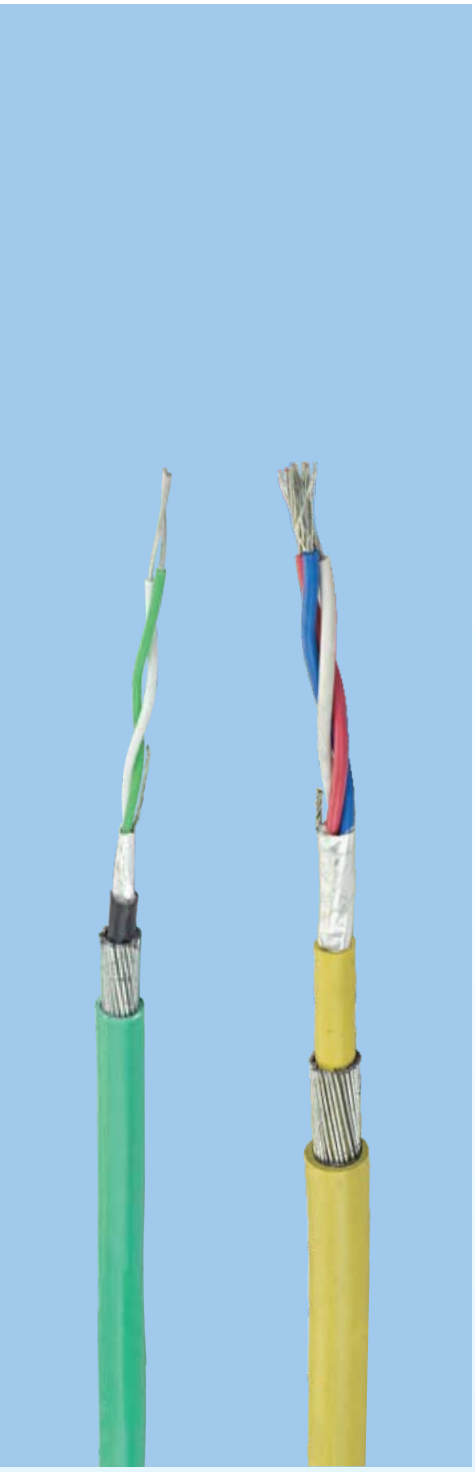








THERMOCOUPLE EXTENSION / COMPENSATING CABLES



Thermocouple extension and compensating cables are designed for interconnercion between thermocouple probes and control instrumentation. They are generally available in the following types:

Type (1)

Unarmoured cables with conductors insulated with PVC and twisted together in pairs, sheathed overall with PVC.

Type (2)

Armoured cables with conductors insulated with PVC and twisted together in pairs, PVC bedding, Galvanised steel wire armour and sheathed overall with PVC.

All of the above types of cables can be supplied unscreened or screened (individually, collectively or both) with an Aluminium Polyster tape screen incorporating tinned copper drain wire.

The construction is similar to paired instrumentation cable but the conductor material is different. Thermocouple are used in processes to sense temperature and is connected to the pyrometers for indication and control. The thermocouple and pyrometers are electrically connected by thermocouple extension/compensating cables. The conductors used for these cables are required to have similar thermo-electric (emf) properties as that of the thermocouple used for sensing the temperature.

Range of Instrumentation Cables:

Standard	ANSI MC 96.1, BS-1843, IEC 60584-3, ENI
Conductor	Solid type as per type & mentioned in the table
Insulation	PVC/Polyethylene/XLPE/LOSH as per requirement.
Elements	Pairs colour coded/number printed.
Screen	Aluminium Polyester tape screen with Copper drain wire or alternately with Tinned Copper wire braiding. Individual element or overall screening as specified.
Armouring	Galvanised steel round wire / Flat wire.
Sheathing	PVC, FR PVC, FRLS, LSOH as per requirement.

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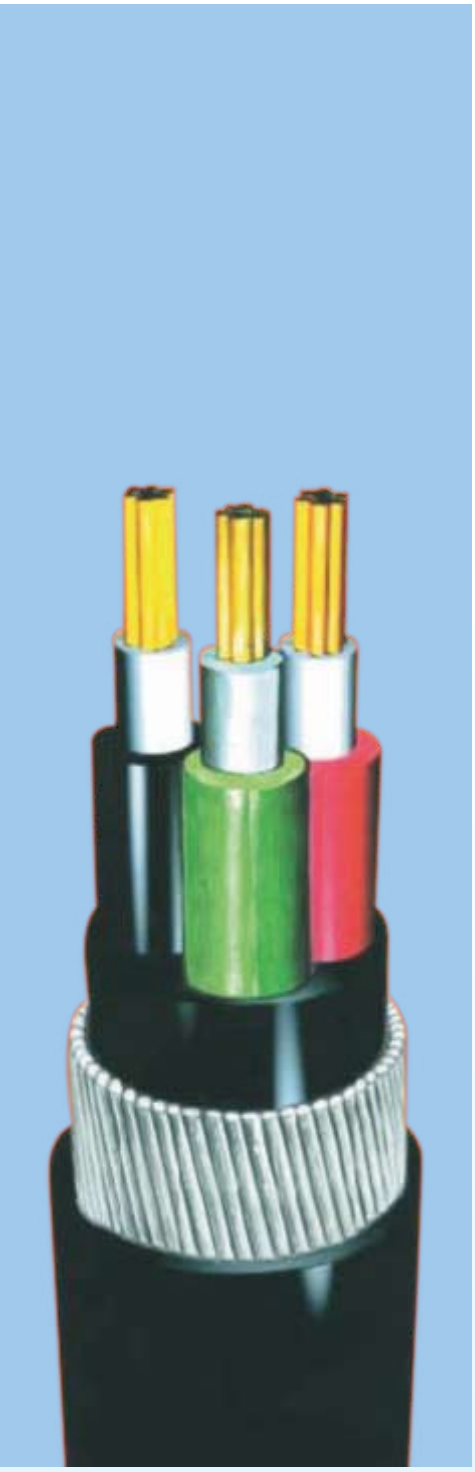
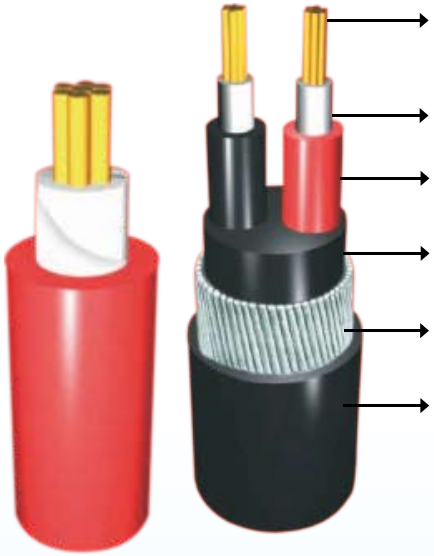
SINGLE / MULTI CORE FIRE RESISTANT CABLES





Conductor :
Plain annealed copper stranded (class 2) conductor for ease of handling.

Tape Insulation :
Mica fire resistant tape.

Insulation:
90°C cross-linked insulation.

Bedding :
Extruded LSOH bedding compound.

Armour :
Single layer of galvanised steel wires.

Sheath :
Robut LSOH sheath, Colour Black.
Other Colours as per specification of the Customer

Core Identification :

- Red Black
- Red Yellow Blue
- Black Red Yellow Blue
- 7- 37 Cores white with Printed numbers
- Other Core colors available as per customer specification

Cable Characteristics

TEMPERATURE	Range 25 to + 90°C
BENDING RADIUS	Circular conductor r=6D Shaped conductor r=8D
MECHANICAL IMPACT	Very Good
FIRE PERFORMANCE	BS 4066-1, BS4066-3
FLEXIBILITY	Rigid
HALOGEN FREE	BS6425-1
LOW SMOKE	Emissions BS 7622
FIRE RESISTANT	BS 6387

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Cables Constructions

Single Core Fire Resistant Cables Low Voltage - 450/750 Volts

Nominal cross sectional area **mm²**	Mean overall diameter **mm**	Approximate cable weight **kg/km**	Maximum conductor resistance at 20°C **ohms/km**	Short circuit rating **(1 sec) KA**	Current rating DC or single phase AC **Amps**	Current rating Three phase AC **Amps**	Volt drop DC **mV/A/m**	Volt drop Single phase AC **mV/A/m**	Volt drop Three phase AC **mV/A/m**
+1	3.7	20	18.1	0.1	17	15	46	46	40
1.5	3.9	26	12.1	0.15	22	19	31	31	27
2.5	4.7	38	7.41	0.25	30	26	19	19	16
4.0	5.3	54	4.61	0.4	40	35	12	12	10
6.0	5.9	75	3.08	0.6	51	45	7.9	7.9	6.8
10	7.3	122	1.83	1.0	71	63	4.7	4.7	4.0
16	8.5	185	1.15	1.6	95	85	2.9	2.9	2.5
25	11.3	300	0.727	2.5	126	111	1.85	1.9	1.65
35	12.5	390	0.524	3.5	156	138	1.35	1.35	1.15
50	14.5	525	0.387	5.0	189	168	0.99	1.05	0.9
70	16.5	730	0.268	7.0	240	214	0.68	0.75	0.65
95	18.5	1000	0.193	9.5	290	259	0.49	0.58	0.5
120	20.5	1230	0.153	12	336	299	0.39	0.48	0.42
150	22.5	1520	0.124	15	375	328	0.32	0.43	0.37
185	25	1890	0.0991	18	426	370	0.25	0.37	0.32
240	28	2440	0.0754	24	500	433	0.19	0.33	0.29
300	31	3045	0.0601	30	573	493	0.155	0.31	0.27
400	35	3870	0.047	40	683	584	0.12	0.29	0.25
500	38.5	4930	0.0366	50	783	666	0.093	0.28	0.24
630	42.5	6280	0.0283	63	900	764	0.072	0.27	0.23

Multi Core Fire Resistant Cables Low Voltage - 600/1000 Volts

Nominal cross sectional area **mm²**	Approximate overall diameter **mm**	Approximate diameter under armour **mm**	Nominal diameter of armour wires **mm**	Approximate cable weight **kg/km**	Maximum conductor resistance at 20°C **ohms/km**	Current rating DC or Single phase AC Clipped direct **Amps**	Current rating DC or Single phase AC Free Air **Amps**	Volt drop DC **mV/A/m**	Volt drop Single phase AC **mV/A/m**
Two core									
+1	12.2	7.8	0.9	280	18.1	18	21	47	47
1.5	12.9	8.3	0.9	310	12.1	27	29	31	31
2.5	14.1	9.6	0.9	380	7.41	36	39	19	19
4.0	15.2	10.6	0.9	450	4.61	49	52	12	12
6.0	16.4	12.0	0.9	530	3.08	62	66	7.9	7.9
10	18.6	14.0	0.9	630	1.83	85	90	4.7	4.7
16	21.4	15.9	0.9	920	1.15	110	115	2.9	2.9
25	22.0	16.3	1.25	1200	0.727	146	152	1.85	1.9
35	24.8	18.2	1.6	1600	0.524	180	188	1.35	1.35
50	28.0	21.2	1.6	2000	0.387	219	228	0.98	1.0
70	30.7	23.7	1.6	2400	0.268	279	291	0.67	0.69
95	35.3	27.3	2.0	3300	0.193	338	354	0.49	0.52
120	36.6	28.4	2.0	3800	0.153	392	410	0.39	0.42
150	39.3	30.9	2.0	4400	0.124	451	472	0.31	0.35
185	44.2	34.4	2.5	5700	0.0991	515	539	0.25	0.29
240	48.0	38.0	2.5	7200	0.0754	637	636	0.195	0.24
300	51.8	41.6	2.5	8300	0.0601	698	732	0.155	0.21
400	55.9	45.3	2.5	10500	0.047	787	847	0.12	0.19

Single / Multi Core Fire Resistant Cables

Three Core

Nominal cross sectional area **mm²**	Approximate overall diameter **mm**	Approximate diameter under armour **mm**	Nominal diameter of armour wires **mm**	Approximate cable weight **kg/km**	Maximum conductor resistance at 20°C **ohms/km**	Short circuit rating (1 sec) of Conductor **KA**	Current rating Three phase AC Clipped direct **Amps**	Current ratingThree Phase AC Free Air **Amps**	Volt drop Three phase AC **mV/A/m**
+1	12.7	8.3	0.9	310	18.1	0.14	17	18	40
1.5	13.4	8.8	0.9	340	12.1	0.20	23	25	27
2.5	14.8	10.2	0.9	430	7.41	0.35	31	33	16
4.0	16.1	11.5	0.9	510	4.61	0.57	42	44	10
6.0	17.4	12.8	0.9	620	3.08	0.86	53	56	6.8
10	20.3	14.8	1.25	930	1.83	1.4	73	78	4.0
16	22.8	17.1	1.25	1210	1.15	2.2	94	99	2.5
25	27.4	20.8	1.6	1800	0.727	3.6	124	131	1.65
35	29.2	22.4	1.6	2100	0.524	5.0	154	162	1.15
50	33.0	26.2	1.6	2600	0.387	7.1	187	197	0.87
70	37.0	30.0	1.6	3400	0.268	10.0	238	251	0.60
95	40.6	32.4	2.0	4500	0.193	13.6	389	304	0.45
120	43.8	35.4	2.0	5500	0.153	17.2	335	353	0.37
150	48.0	38.4	2.5	6900	0.124	21.4	386	406	0.30
185	52.0	42.2	2.5	8200	0.0991	26.5	441	463	0.26
240	57.1	46.9	2.5	10200	0.0754	34.3	520	546	0.21
300	63.0	52.6	2.5	12200	0.0601	42.9	599	628	0.185
400	69.5	58.7	2.5	15000	0.0470	57.2	673	728	0.165

Four core

Nominal cross sectional area **mm²**	Approximate overall diameter **mm**	Approximate diameter under armour **mm**	Nominal diameter of armour wires **mm**	Approximate cable weight **kg/km**	Maximum conductor resistance at 20°C **ohms/km**	Short circuit rating (1 sec) of Conductor **KA**	Current rating Three phase AC Clipped direct **Amps**	Current ratingThree Phase AC Free Air **Amps**	Volt drop Three phase AC **mV/A/m**
+1	13.5	9.1	0.9	350	18.1	0.14	17	18	40
1.5	14.3	9.7	0.9	390	12.1	0.20	23	25	27
2.5	16.0	11.4	0.9	490	7.41	0.35	31	33	16
4.0	17.3	12.7	0.9	590	4.61	0.57	42	44	10
6.0	19.6	14.1	1.25	830	3.08	0.86	53	56	6.8
10	21.8	16.3	1.25	1040	1.83	1.4	73	78	4.0
16	24.6	18.9	1.25	1370	1.15	2.2	94	99	2.5
25	29.1	22.5	1.6	2100	0.727	3.6	124	131	1.65
35	32.2	25.4	1.6	2500	0.524	5.0	154	162	1.15
50	35.0	28.0	1.6	3200	0.387	7.1	187	197	0.87
70	40.2	32.0	2.0	4500	0.268	10.0	238	251	0.60
95	44.0	35.6	2.0	5600	0.193	13.6	289	304	0.45
120	48.4	38.8	2.5	7200	0.153	17.2	335	353	0.37
150	52.5	42.7	2.5	8500	0.124	21.4	386	406	0.30
185	57.1	46.9	2.5	10300	0.0991	26.5	441	463	0.26
240	62.7	52.3	2.5	12800	0.0754	34.3	520	546	0.21
300	69.6	58.8	2.5	15600	0.0601	42.9	599	628	0.185
400	78.0	65.3	3.15	20400	0.0470	57.2	673	728	0.165

Circular conductor 1.0-16mm², Shaped conductor >= 25mm².

Cables Constructions

Nominal cross sectional area **mm²**	Approximate overall diameter **mm**	Approximate diameter under armour **mm**	Nominal diameter of armour wires **mm**	Approximate cable weight **kg/km**	Maximum conductor resistance at 20°C **ohms/km**	Current rating DC or Single phase AC Clipped direct **Amps**	Current rating DC or Single phase AC Free Air **Amps**	Volt drop DC **mV/A/m**	Volt drop Single phase AC **mV/A/m**
Seven core									
+1	15.6	11.0	0.9	450	18.1	18 *	21 *	47	47
1.5	16.4	11.8	0.9	500	12.1	27 *	29 *	31	31
2.5	18.3	13.7	0.9	640	7.41	36 *	39 *	19	19
4.0	20.8	15.3	1.25	910	4.61	49 *	52 *	12	12
Twelve core									
+1	20.1	14.6	1.25	750	18.1	18 *	21 *	47	47
1.5	21.2	15.7	1.25	850	12.1	27 *	29 *	31	31
2.5	24.0	18.3	1.25	1090	7.41	36 *	39 *	19	19
4.0	27.3	20.9	1.6	1550	4.61	49 *	52 *	12	12
Nineteen core									
+1	22.8	17.1	1.25	970	18.1	18 *	21 *	47	47
1.5	24.2	18.5	1.25	1120	12.1	27 *	29 *	31	31
2.5	28.6	22.0	1.6	1650	7.41	36 *	39 *	19	19
Twenty-seven core									
+1	27.7	21.1	1.6	1430	18.1	18 *	21 *	47	47
1.5	29.4	22.8	1.6	1650	12.1	27 *	29 *	31	31
2.5	33.4	26.6	1.6	2150	7.41	36 *	39 *	19	19
Thirty-seven core									
+1	30.6	23.7	1.6	1700	18.1	18 *	21 *	47	47
1.5	32.2	25.6	1.6	2000	12.1	27 *	29 *	31	31
2.5	36.7	29.9	1.6	2650	7.41	36 *	39 *	19	19

Circular conductor 1.0-16mm², Shaped conductor >= 25mm². Installation methods for current rating in accordance with BS7671/IEE Wiring Regulations *.

The tabulated rating is as a two core cable and may be used where the number of cores carrying current does not exceed the square root of the total number of cores. +Size not included in BS7846

Installation methods for current rating "Enclosed in conduit on a wall or in trunking" in accordance with BS7671/EE Wiring Regulations. The tabulated ratings are based upon a 30°C ambient temperature and 90° C operating temperature. For other ambient temperatures or where several circuits are grouped together, the following rating factor should be applied.

Temperature rating factors

Ambient Temperature °C	25	30	35	40	45	50	55	60
Rating factor	1.02	1.00	0.96	0.91	0.87	0.82	0.76	0.71

Correction factors for groupings

Number of circuits	2	3	4	5	6	7	8	9
Rating factor	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50

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