COMPLETE CABLE SOLUTIONS.
TRUSTED PERFORMANCE.

PRIME CABLE INDUSTRIES LTD.


PRIMECAB

PRIMECAB®
It's all about excellence

Renufo®
Wires & Cables

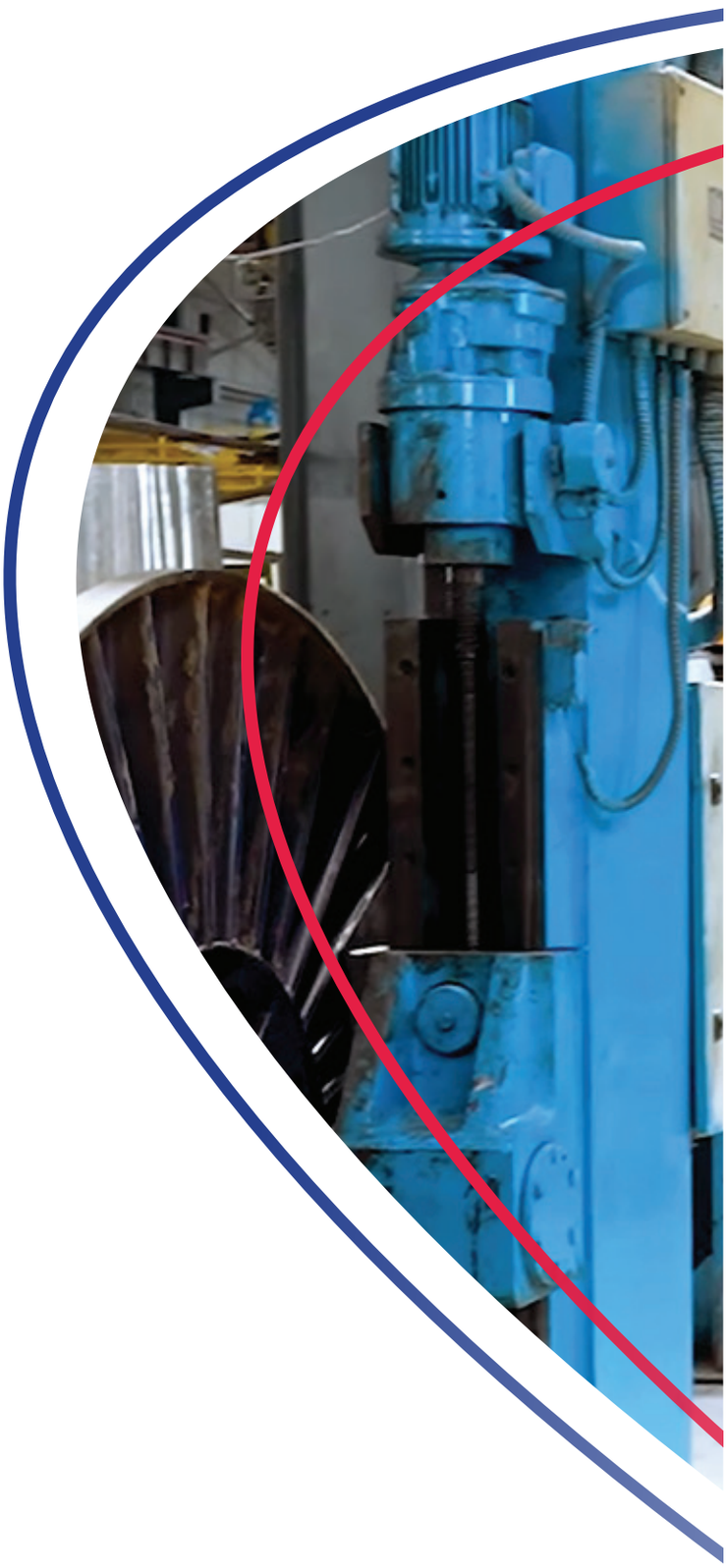
CONTENTS

COMPLETE CABLE SOLUTIONS. TRUSTED PERFORMANCE.

Prime Cables Industries Limited ('PCIL' or 'the Company') has steadily evolved into a trusted name in the wire and cable industry, delivering reliable connectivity solutions across diverse sectors. With a strong focus on quality, innovation, and customer satisfaction, the Company has built a reputation for manufacturing products that meet the highest industry standards.

Since its inception, Prime Cables has consistently expanded its capabilities by strengthening its manufacturing infrastructure, enhancing product quality, and adopting modern technologies. This commitment has enabled the Company to cater to the growing requirements of infrastructure, industrial, commercial, and residential applications.

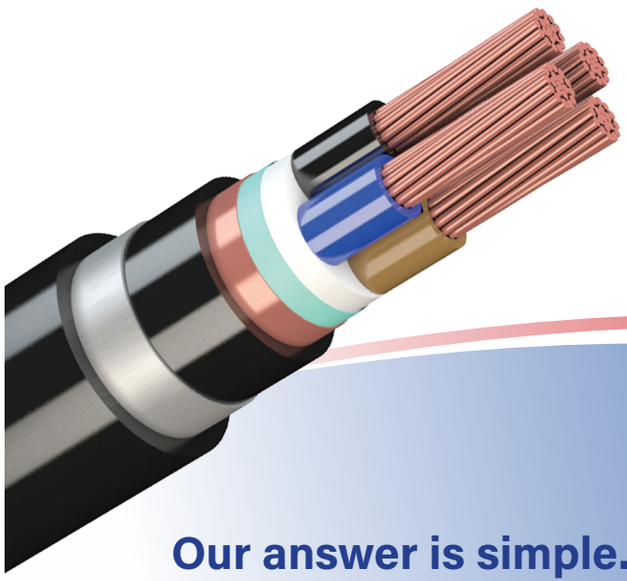
Driven by a vision to deliver dependable power and communication solutions, Prime Cables continues to broaden its product portfolio while maintaining stringent quality controls and operational efficiency. The Company's emphasis on engineering excellence and performance reliability has helped it build long-standing relationships with customers and partners across markets.

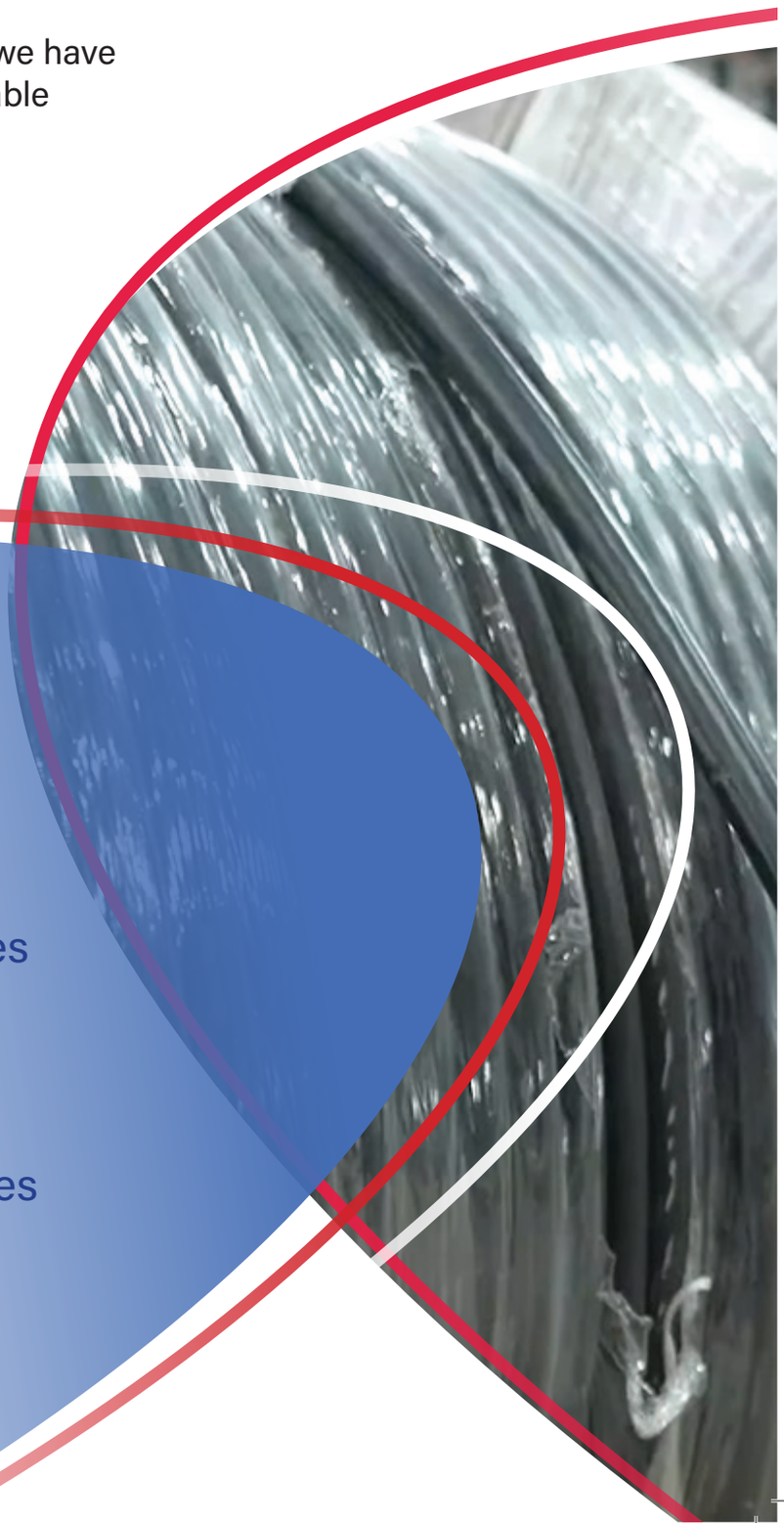


Today, Prime Cables Industries Limited stands as a dynamic and growing enterprise in the cable manufacturing sector, committed to powering progress through durable, safe, and high-performance cable solutions.

It has been more than three decades since Prime Cables Industries Limited embarked on its journey of powering connections across industries. Over the years, we have continually strengthened our capabilities, expanded our product portfolio, and invested in advanced manufacturing to meet the evolving needs of a growing nation.

A question we are often asked is how we have contributed to shaping the wire and cable landscape during this journey.





Our answer is simple.

We have strengthened the sector with reliable solutions.

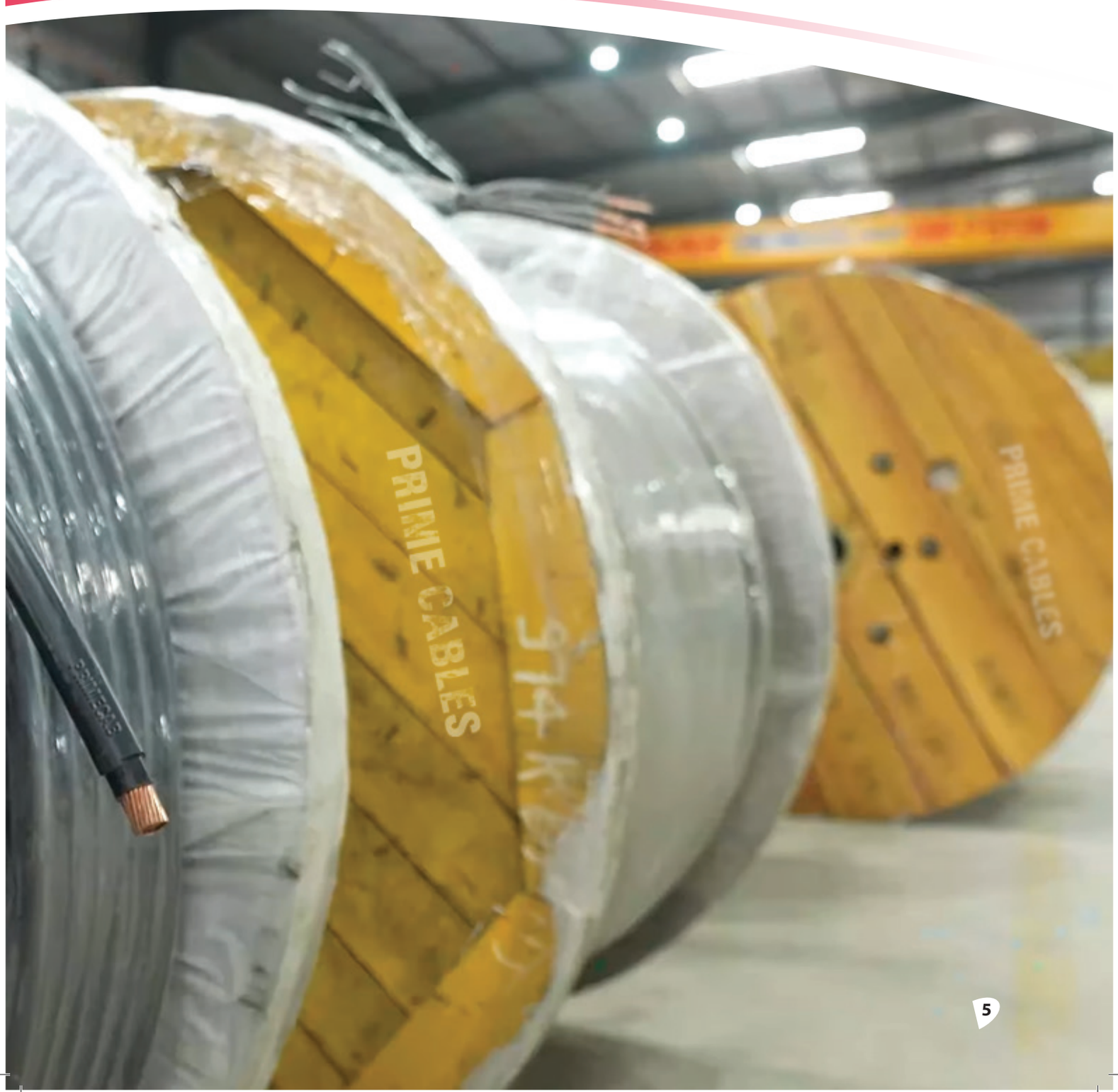
We have expanded possibilities through a diverse and high-performance product range.

We have enabled industries, infrastructure, and communities to stay connected with confidence.

But beyond manufacturing cables, we believe our role is larger, to deliver dependable connectivity that supports progress, powers infrastructure, and keeps businesses moving forward.

Reflected in something invaluable.

Connections that Power Progress.



WHO WE ARE?

With over three decades of enriching industry experience, Prime Cables Industries Limited has established itself as a trusted manufacturer and supplier of high-quality cable solutions.

The Company specialises in the production of premium low-voltage cables, including power and control cables, aerial bunch cables, instrumentation cables, building wires, and conductors. Expanding its capabilities in line with evolving industry requirements, Prime Cables has also extended its portfolio to include high-voltage cables up to 33 kV grade.

Over the years, the Company has emerged as a leading supplier of power and control cables to the power sector, serving a diverse customer base that includes EPC contractors, State Electricity Boards, Public Sector Undertakings, and major industries such as oil & gas, mining, steel, real estate, and electrical panel manufacturing.

Operating through a well-established network of direct orders, government vendor approvals, and tender-based engagements, Prime Cables continues to deliver reliable and performance-driven solutions under its trusted brands "PRIMECAB" and "RENUFO".

OUR VISION

To emerge as a leading national and global player in the cable industry by delivering technologically advanced, safe, and sustainable electrical solutions.

OUR MISSION

At Prime Cable Industries Limited, our mission is to:

- Deliver high-performance, certified, and reliable cable solutions that meet national and international standards.
- Continuously invest in technology, testing infrastructure, and process excellence to ensure uncompromised quality.
- Build long-term partnerships with government bodies, EPC contractors, and industrial clients through transparency and commitment.
- Empower our employees with skill development, accountability, and growth opportunities.
- Operate responsibly with a strong focus on safety, sustainability, and ethical business practices.

CORPORATE PHILOSOPHY

- Enduring commitment to enhance shareholder value
- Creating customer confidence
- Benchmarking products with the global standards

CORPORATE STRATEGY

- Achieving economies-of-scale
- Manufacturing quality products
- Enhancing production efficiency
- Focusing on business growth
- Emphasising on growing our customer count

NUMBERS THAT COMPLETE US

30+
years
Enriching industry experience

500+
PAN India clients

2
State-of-the-art manufacturing facilities

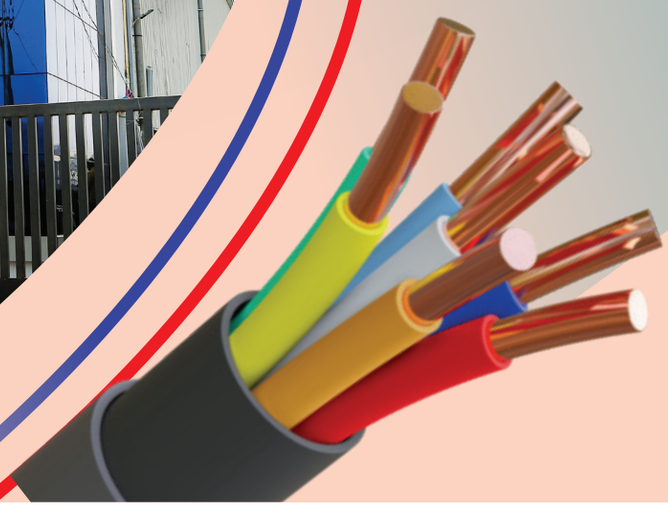
70,945
sq. ft. Total manufacturing space spread across two factories

27000
KM+ Annual cables manufacturing capacity of PCIL

60,000
sq. ft. New manufacturing capacity coming up

300+
Total team size

9
Core product categories



OUR ESTEEMED CLIENTELE

Prime Cables Industries Limited has earned the trust of a wide spectrum of clients, including government bodies, public sector undertakings, institutional organizations, and leading private sector companies. Our consistent focus on quality, reliability, and service excellence has enabled us to build long-standing relationships across diverse industries and infrastructure projects nationwide.

पावरग्रिड POWERGRID | एनटीपीसी NTPC | TATA POWER | adani | GE T&D India Limited | SIEMENS Ingenuity for life

ABB | इंडियनऑयल IndianOil | हिन्दुस्तान पेट्रोलियम HP | LARSEN & TOUBRO | Godrej | BSES BSES Yamuna Power Limited

ओएनजीसी ONGC | ReNew POWER | गेल GAIL | बीएचईएल BHEL | एनपीसीआईएल NPCIL | NIPPON STEEL

नालको NALCO | सेल SAIL | ArcelorMittal | AMARA RAJA Gotta be a better way | BAJAJ Bajaj Electricals Ltd. | Blue Star Limited BLUE STAR

TATA TATA PROJECTS LIMITED | SUZLON POWERING A GREENER TOMORROW | NCC | BGR ENERGY | Greenko | Prestige GROUP Add Prestige to your life

SOBHA | ASHOKA Ashoka Buildcon Ltd. | STERLING & WILSON | EIL A Navratna Company | JSW Energy | TATA TATA POWER SOLAR

भा प अ कें BARC | प ऊ वि DAE | vedanta transforming for good | Shapoorji Pallonji | STERLING & WILSON | KALPA TARU

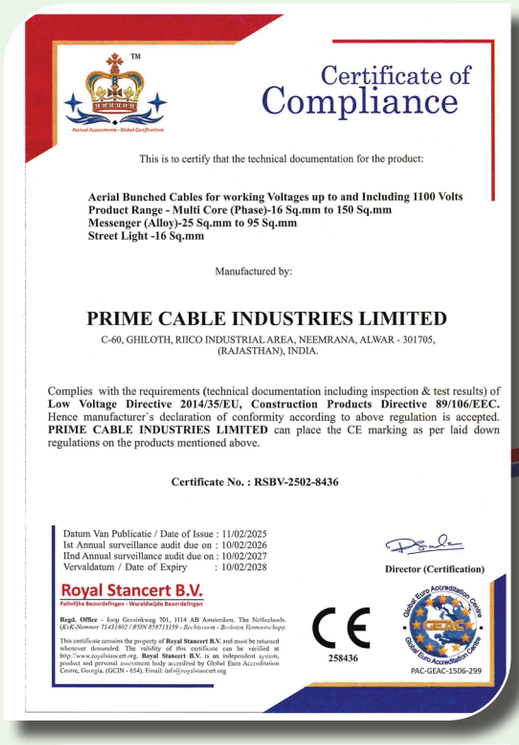
NIPPON STEEL | ArcelorMittal | HYOSUNG | HITACHI Inspire the Next | WAAREE One with the Sun

15+ State Electricity Transmission, Distribution and Generation Boards

OUR QUALITY ASSURANCE

Quality is a fundamental pillar of our operations. At Prime Cables Industries Limited, every stage of production — from raw material selection to final inspection — is governed by strict quality control measures.

Our testing processes ensure that each product meets the required electrical, mechanical, and safety parameters. Through rigorous inspection and adherence to industry standards, we guarantee that our cables deliver dependable performance in demanding environments.



Certificate of Compliance

This is to certify that the technical documentation for the product:

Aerial Bunched Cables for working Voltages up to and Including 1100 Volts
Product Range - Multi Core (Phase)-16 Sq.mm to 150 Sq.mm
Messenger (Alloy)-25 Sq.mm to 95 Sq.mm
Street Light -16 Sq.mm

Manufactured by:

PRIME CABLE INDUSTRIES LIMITED
C-60, GHILOTH, RIICO INDUSTRIAL AREA, NEEMRANA, ALWAR - 301705, (RAJASTHAN), INDIA.

Complies with the requirements (technical documentation including inspection & test results) of **Low Voltage Directive 2014/35/EU, Construction Products Directive 89/106/EEC.** Hence manufacturer's declaration of conformity according to above regulation is accepted. **PRIME CABLE INDUSTRIES LIMITED** can place the CE marking as per laid down regulations on the products mentioned above.

Certificate No. : RSBV-2502-8436

Datum Van Publicatie / Date of Issue : 11/02/2025
Ist Annual surveillance audit due on : 10/02/2026
IInd Annual surveillance audit due on : 10/02/2027
Vervaldatum / Date of Expiry : 10/02/2028

Director (Certification)

Royal Stancert B.V.
Volledige Beoordelingen - Wereldwijde Beoordelingen

Regd. Office - Joop Geesinkweg 701, 1114 AB Amsterdam, The Netherlands. (KvK-Nummer 71431802 / BSIN 858713159 - Belastingnummer - Besloten Vennootschap).

This certificate remains the property of **Royal Stancert B.V.** and must be returned whenever demanded. The validity of this certificate can be verified at http://www.royalstancert.org. **Royal Stancert B.V.** is an independent system, product and personal assessment body accredited by Global Euro Accreditation Centre, Georgia, (GCCN - 654). Email: info@royalstancert.org

CE 258436

Global Euro Accreditation Centre
PAC-GEAC-1506-299

Certificate of Compliance

UK GLOBAL

This is to certify that

Hereby Certifies Complete Conformance to The Requirements of REACH'S SVHC (Substance of Very High Concern), The European Community Regulation Standard About Chemicals and Their Safe Use (EC 1907/2006)

of

PRIME CABLE INDUSTRIES LIMITED

at

C-60, RIICO INDUSTRIAL AREA, GHILOTH, NEEMRANA, RAJASTHAN, INDIA

has been independently assessed and is compliant with the requirements of:

REACH

For the following scope of activities:

PRODUCT: WIRE AND CABLES (AS PER APPENDIX-I)

Comply with reach Regulation (EC) No. 1907/2006 about SVHC as it Currently Stands.

REMARKS:

We also declare that the products do not include substances listed in annex xiv & xvii and in the reach candidate list (last update from 2023, 17 JAN), except brass which contain lead (CAS 7439-92-1)

Certificate Number: UR-301025EV05

This certificate is issued under the following conditions:

1. Fulfilled are requirement as per implemented of suggested standards.
2. The certificate remains valid until the manufacturing conditions are changed.
3. The certificate validity is conditioned by positive results or surveillance audits.
4. After fulfilling the relevant Standard testing performance, the manufacturer shall affix to each device, of the referenced models.

The compliance as shown above can be used, under the responsibility of the manufacturer, after completion of a Declaration of conformity and compliance with all relevant Standard requirements. The statement is based on a single evaluation of one sample of above-mentioned product. It does not imply an assessment of the whole production.

Validity of this certificate can be verified at www.ukglobal.uk/Verify

Date of Certification	29th Sep. 2025
1 st Surveillance Audit	28th Sep. 2026
2 nd Surveillance Audit	28th Sep. 2027
Certificate Expiry (subject to the company maintaining its system to the required standard)	28th Sep. 2028

Authorised Signatory

This certificate is the property of UK Global Certification & Inspection limited and shall be returned immediately on request.
2nd Floor College House, 17 King Edwards Road, Ruislip, London, HA 47 AE, United Kingdom
Website:- www.ukglobal.uk, enquiries@ukglobal.uk
Company No. 12654562

Global Certification & Inspection Limited

UKcert Certification & Inspection

Certificate of Compliance

RoHS Directive (2011/65/EU) of the European Parliament and of the Council on the restriction of use of certain Hazardous Substances in Electrical and Electronic Equipment

Certificate No.: UC- 2025092725

Manufacturer
Name : **PRIME CABLE INDUSTRIES LIMITED**
Address : **C-60, GHILOTH, RIICO INDUSTRIAL AREA, NEEMRANA, ALWAR - 301706, (RAJASTHAN), INDIA**

Products : (MORE PRODUCTS AS PER APPENDIX-I)

This is to state that the above mentioned product is in compliance with RoHS Directive (2011/65/EU) of the European Parliament and Commission Decision 2005/618/EC on the restriction of use of certain Hazardous Substances [Lead (Pb), Mercury (Hg), Cadmium (Cd), Hexavalent Chromium (Cr6+), Polybrominated biphenyls (PBBs), Polybrominated Diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Benzyl Butyl Phthalate (BBP), Dibutyl Phthalate (DBP), and Diisobutyl Phthalate (DIBP)] in Automobiles, Home Appliances (Washing Machines, Refrigerators, RO Water Filters, Air Conditioners & others), Air Coolers (Commercial & Domestic), Pipes, Water Tanks, Agriculture, Electric & Electronics, Vegetable Crates, Pilots, Plastic Furniture, Plastic Hangers, Luggage and other plastic industries.

Statement:

This certificate declares that the product type / model described above complies with the mentioned above European Standard(s).

Remarks:

This certificate of complies is based on the evaluation of a sample of the above mentioned products. It does not imply and assessment of the mass-production of the product. This certificate holder may use this certificate in connection with the test report. The certification body should be informed (revision of technical file) for any modification or alterations made to the aforementioned product type(s), including design and manufacture and /or extension to the existing scope of application.

The certificate is valid for three years if the company applies the technical construction file which has been stored in UKCert office. This certificate includes declaration of manufacturer. Certificate remains property of UKCert (UK Certification and Inspection Ltd.) to whom it must be returned upon request. The certificate validity is conditioned by positive results or surveillance audits.

Validity of this certificate can be verified at www.ukcertifications.org.uk/verify

Date of Certification	27th September 2025
1st Surveillance Audit Due	26th September 2026
2nd Surveillance Audit Due	26th September 2027
Certificate Expiry (subject to the company maintaining its system to the required standard)	26th September 2028

Authorised Signatory

RoHS compliant

page 1 of 2

This certificate is the property of UK Certification & Inspection Limited and shall be returned immediately on request.
71-75 Shelton Street, Covent Garden, London, WC2H 9JQ, United Kingdom
Website:- www.ukcertifications.org.uk, email:- info@ukcertifications.org.uk
Company No. 11847851

CERTIFICATE

Registered CCPL

Registration Certificate

This is to certify that
The Management Systems of

PRIME CABLE INDUSTRIES LIMITED

Carried out at following site:

E-894, DSIIDC INDUSTRIAL AREA, NARELA, DELHI - 110040 (INDIA)

Has been found to conform to the environmental management system Standard:

ISO 14001:2015

This certificate is valid for the following Product or Service ranges:

DESIGN, DEVELOPMENT, MANUFACTURING, AND MARKETING OF LT CABLES (INCLUDING POWER CABLES, CONTROL CABLES, INSTRUMENTATION CABLES, SIGNALING CABLES, AND SOLAR CABLES), FLEXIBLE WIRES, LT AERIAL BUNCHED CABLES

IAF CODE – 19

CERTIFICATE NO. : CCPL/EMS/C1045
ISSUED ON : 19/04/2025 1ST SURVEILLANCE DUE ON: 19/03/2026
VALIDITY DATE : 18/04/2028 2ND SURVEILLANCE DUE ON: 19/03/2027

THE VALIDITY OF CERTIFICATE IS SUBJECT TO REGULAR SURVEILLANCE AUDIT ON OR BEFORE ABOVE MENTIONED DATES AND IT'S ONLY VALID AFTER SUCCESSFUL SURVEILLANCE WITH CONTINUATION LETTER ISSUED BY CCPL.

TO VERIFY THE STATUS OF THE CERTIFICATE, PLEASE VISIT IAF SEARCH CERT WEBSITE https://www.iafcertsearch.org/

CHAIRMAN

Care Certification Private Limited
134A, 2nd Floor, Taimoor Nagar,
New Friends Colony, New Delhi-110065 (India)
www.carecertification.com

EGAC Accredited CAB #012308

Registered CCPL

This is SINGLE site Certification

The certificate Remains the property of CCPL as Per Certification Audit Cr

CERTIFICATE

Registered CCPL

Registration Certificate

This is to certify that
The Quality Management Systems
Of

PRIME CABLE INDUSTRIES LIMITED

Carried out at following site:

E-894, DSIIDC INDUSTRIAL AREA, NARELA, DELHI - 110040 (INDIA)

Has been found to conform to the Quality Management System Standard:

ISO 9001:2015

This certificate is valid for the following Product or Service ranges:

DESIGN, DEVELOPMENT, MANUFACTURING, AND MARKETING OF LT CABLES (INCLUDING POWER CABLES, CONTROL CABLES, INSTRUMENTATION CABLES, SIGNALING CABLES, AND SOLAR CABLES), FLEXIBLE WIRES, LT AERIAL BUNCHED CABLES
IAF CODE – 19

CERTIFICATE NO. : CCPL/QMS/C1170
ISSUED ON : 19/04/2025 1ST SURVEILLANCE DUE ON: 19/03/2026
VALIDITY DATE : 18/04/2028 2ND SURVEILLANCE DUE ON: 19/03/2027

THE VALIDITY OF CERTIFICATE IS SUBJECT TO REGULAR SURVEILLANCE AUDIT ON OR BEFORE ABOVE MENTIONED DATES AND IT'S ONLY VALID AFTER SUCCESSFUL SURVEILLANCE WITH CONTINUATION LETTER ISSUED BY CCPL

TO VERIFY THE STATUS OF THE CERTIFICATE, PLEASE VISIT IAF SEARCH CERT WEBSITE https://www.iafcertsearch.org/

CHAIRMAN

IAF | EGAC Accredited CAB #012308 | Registered CCPL

Care Certification Private Limited
134A, 2nd Floor, Taimoor Nagar,
New Friends Colony, New Delhi-110065 (India)
www.carecertification.com

This is SINGLE site Certification

The certificate Remains the property of CCPL as Per Certification Audit Co...

CERTIFICATE

Registered CCPL

Registration Certificate

This is to certify that
The Management Systems of

PRIME CABLE INDUSTRIES LIMITED

Carried out at following site:

E-894, DSIIDC INDUSTRIAL AREA, NARELA, DELHI - 110040 (INDIA)

Has been found to conform to the occupational health and safety management systems Standard:

ISO 45001:2018

This certificate is valid for the following Product or Service ranges:

DESIGN, DEVELOPMENT, MANUFACTURING, AND MARKETING OF LT CABLES (INCLUDING POWER CABLES, CONTROL CABLES, INSTRUMENTATION CABLES, SIGNALING CABLES, AND SOLAR CABLES), FLEXIBLE WIRES, LT AERIAL BUNCHED CABLES
IAF CODE – 19

CERTIFICATE NO. : CCPL/OH&S/C1032
ISSUED ON : 19/04/2025 1ST SURVEILLANCE DUE ON: 19/03/2026
VALIDITY DATE : 18/04/2028 2ND SURVEILLANCE DUE ON: 19/03/2027

THE VALIDITY OF CERTIFICATE IS SUBJECT TO REGULAR SURVEILLANCE AUDIT ON OR BEFORE ABOVE MENTIONED DATES AND IT'S ONLY VALID AFTER SUCCESSFUL SURVEILLANCE WITH CONTINUATION LETTER ISSUED BY CCPL

TO VERIFY THE STATUS OF THE CERTIFICATE, PLEASE VISIT IAFSEARCH CERT WEBSITE https://www.iafcertsearch.org/

CHAIRMAN

IAF | EGAC Accredited CAB #012308 | Registered CCPL

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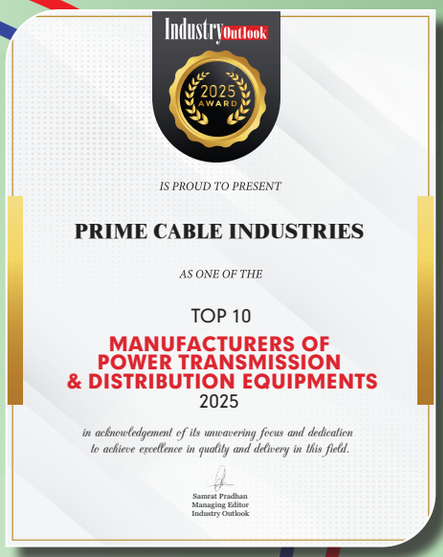


Industry Outlook 2025 AWARD

IS PROUD TO PRESENT

PRIME CABLE INDUSTRIES

AS ONE OF THE

TOP 10

MANUFACTURERS OF POWER TRANSMISSION & DISTRIBUTION EQUIPMENTS

2025

in acknowledgement of its unwavering focus and dedication to achieve excellence in quality and delivery in this field.

Samrat Pradhan
Managing Editor
Industry Outlook

Great Place To Work. Certified JAN 2026-JAN 2027 INDIA

This is to certify that Prime Cable Industries Limited has successfully completed the assessment conducted by Great Place To Work®, India, and is certified as a great workplace.
Category: Mid-Size Organizations

This certificate is valid from January 2026 till January 2027.

Balbir Singh
Chief Executive Officer
Great Place To Work®, India

Note: The certificate is valid subject to the terms and conditions agreed to by the Organisation.

National Accreditation Board for Testing and Calibration Laboratories

CERTIFICATE OF ACCREDITATION

QUALITY ASSURANCE LABORATORY OF PRIME CABLE INDUSTRIES LIMITED

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2017

"General Requirements for the Competence of Testing & Calibration Laboratories"

for its facilities at

C-60, RIICO INDUSTRIAL AREA, GHILOTH, NEEMRANA, RAJASTHAN, INDIA

in the field of

TESTING

Certificate Number: TC-16164

Issue Date: 29/05/2025 Valid Until: 04/08/2026

This certificate supersedes the Certificate No.TC-14203 with issue date 05/08/2024 in view of change in legal entity of the laboratory.

This certificate remains valid for the Scope of Accreditation as specified in the annexure subject to continued satisfactory compliance to the above standard & the relevant requirements of NABL.
(To see the scope of accreditation of thislaboratory, you may also visit NABL website www.nabl-india.org)

Name of Legal Entity: PRIME CABLE INDUSTRIES LIMITED

Signed for and on behalf of NABL

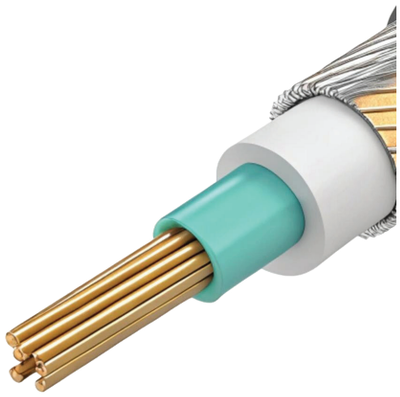
Anuja Anand
Director

N. Venkateswaran
Chief Executive Officer

ISO 14001:2015 COMPANY | ISO 9001:2015 COMPANY | ISO 45001:2018 COMPANY | MSME सूक्ष्म, लघु एवं मध्यम उद्यम MICRO, SMALL & MEDIUM ENTERPRISES | MAKE IN INDIA | CPRI | NABL

IS:398-VI | IS : 694 | IS :7098 | IS :1554 | IS :14255 | IS:7098-II | IS:398-IV

Great Place To Work. Certified FEB 2024-FEB 2025 INDIA | ilac-MRA | CE | RoHS compliant | REACH COMPLIANT | ERDA | INTERNATIONAL ACCREDITATION FORUM



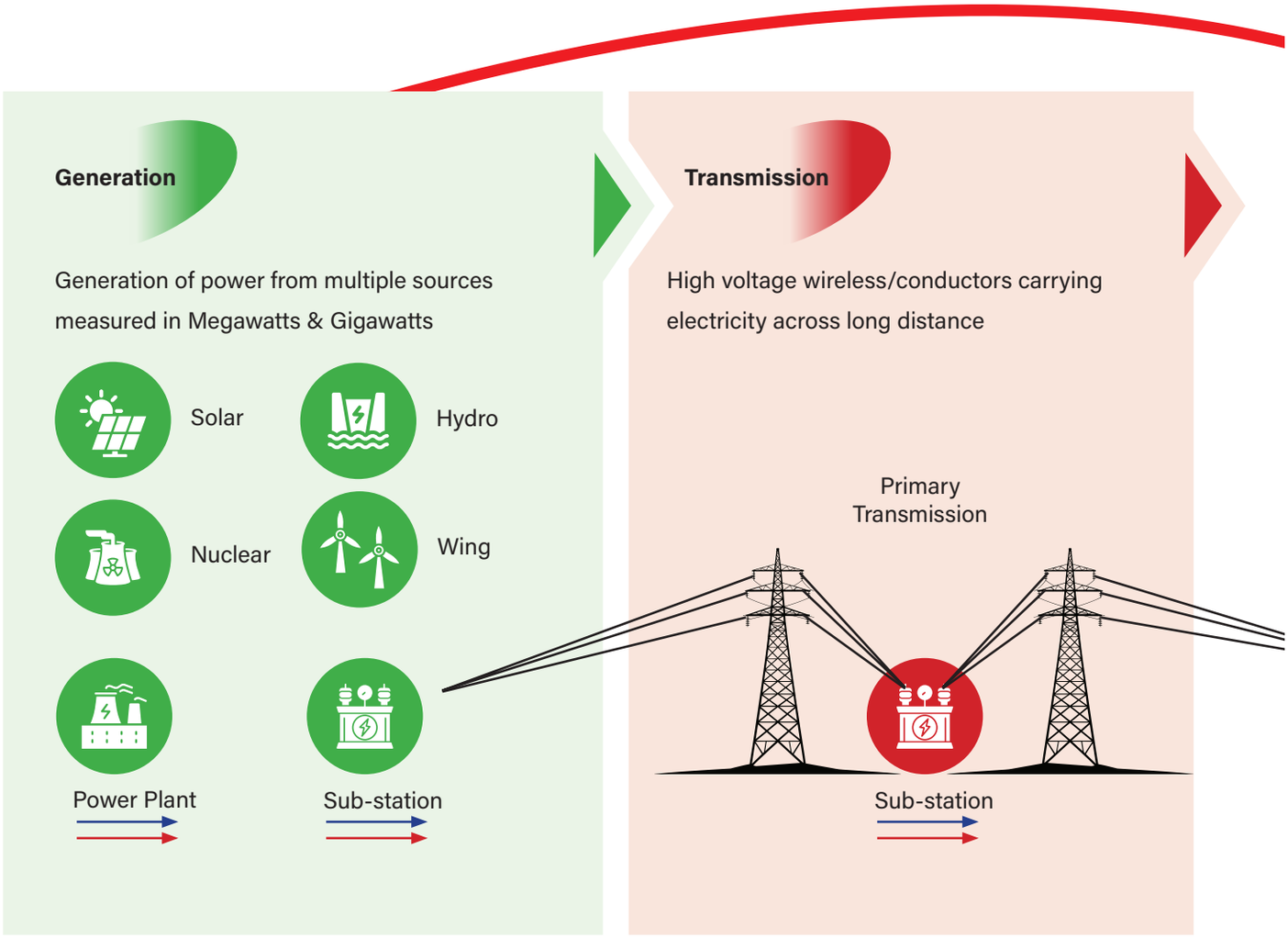
PROVIDING COMPLETE CABLE SOLUTIONS THROUGH INNOVATION, EXPERIENCE AND VISION

Creating enviable credentials

At Prime Cables Industries Limited, innovation, engineering excellence, and a strong research-driven approach form the foundation of our operations. By integrating advanced technology with stringent quality control processes, we deliver high-performance cable solutions that meet global standards. This commitment enables us to consistently enhance product reliability, efficiency, and durability while setting new benchmarks for quality in the cable industry.

Building Trust on Technology

Prime Cables Industries Limited combines advanced manufacturing technology with stringent quality control to deliver reliable wire and cable

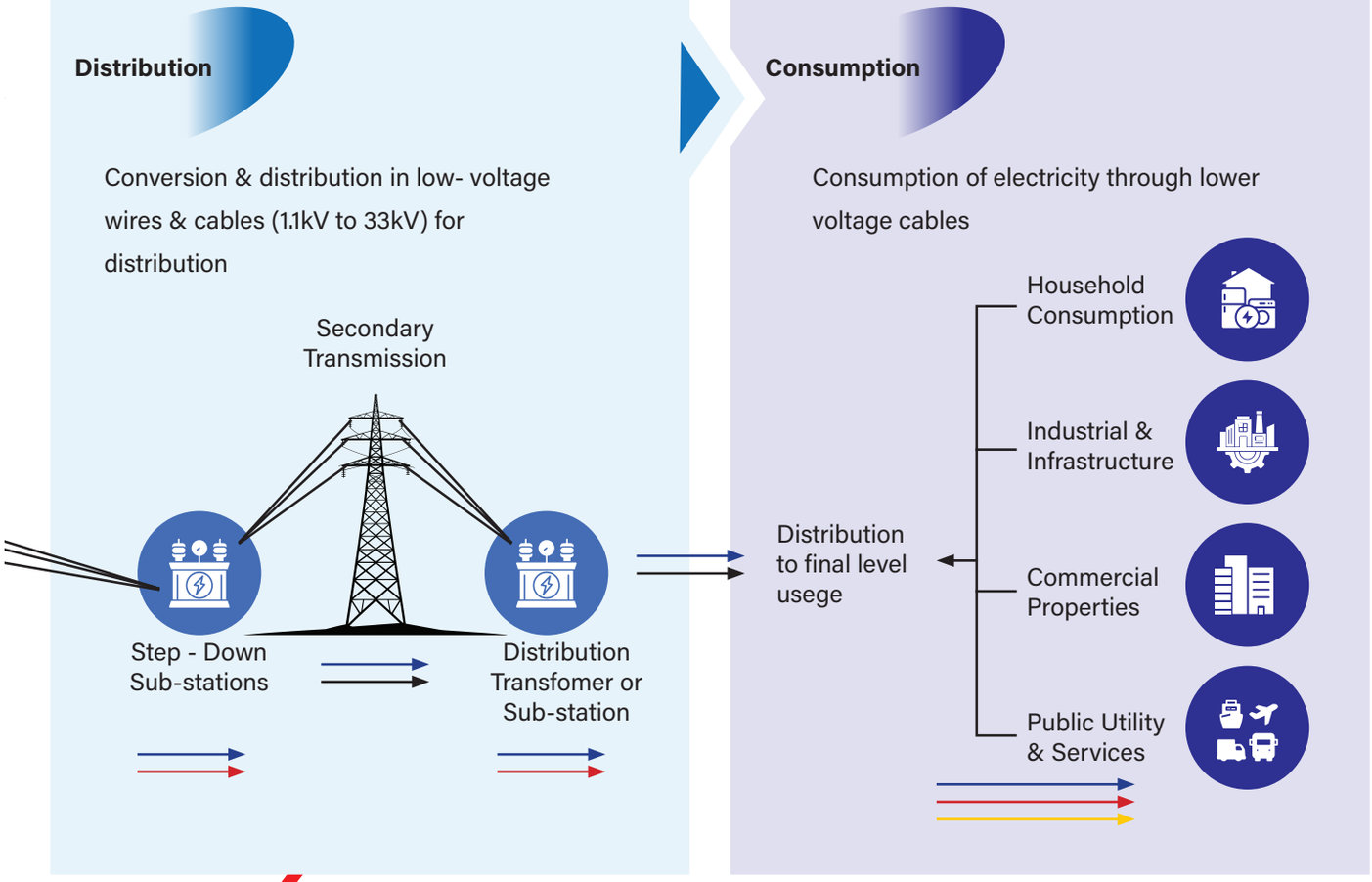


solutions for infrastructure, power, and industrial applications. Our products are manufactured using high-grade raw materials and comply with relevant BIS and international standards, ensuring superior conductivity, durability, and safety.

Through precision engineering, robust testing processes, and partnerships with trusted suppliers, we ensure consistent performance across demanding EPC and industrial projects. Our commitment to technological excellence enables us to provide dependable cable solutions that support efficient installation and long-term operational reliability.

Industries We Serve

Prime Cables Industries Limited caters to a diverse range of industries that demand reliable and high-performance cable solutions. Our clientele includes leading EPC contractors, electricity boards, and public sector undertakings engaged in the generation, transmission, and distribution of power. In addition, our products are widely used across sectors such as oil & gas, mining, steel, real estate, and by electrical panel manufacturers, supporting critical infrastructure and industrial applications with dependable connectivity solutions.



WHY CHOOSE PRIME CABLES?

Choosing the right cable partner is critical to ensuring performance, safety, and long-term reliability. At Prime Cables Industries Limited, every solution is designed with a strong focus on quality, consistency, and operational excellence.

Our key strengths include:

Advanced manufacturing

Modern production facilities equipped with precision machinery and efficient processes.

Quality assurance

Strict testing protocols and quality checks ensure that every cable meets not industry standards but also client expectations.

Reliable performance

Products engineered for durability, safety, and a long service life.

Trusted partnerships

A growing network of satisfied clients who rely on our products for mission-critical applications.

Long-standing client relationships

Prime Cables Industries Limited has built enduring relationships with leading customers through consistent product quality and dependable service, resulting in strong repeat business and sustained growth.

Customer-centric approach

Solutions tailored to meet the specific requirements of diverse industries.

Eco-friendly manufacturing

Produced using recyclable, improved-grade raw materials that support environmentally responsible manufacturing and reduced carbon emissions.

Low smoke & reduced toxic emissions

Specially designed insulation ensures minimal smoke generation and reduced toxic fumes during electrical fires, enabling better visibility and safer evacuation.

Enhanced fire safety

Superior flame-retardant properties help restrict fire propagation, enhancing safety across electrical installations.

High thermal stability

Built to perform reliably under high temperature conditions, offering excellent heat resistance and operational stability.

Higher current carrying capacity

Engineered using premium-grade conductors and insulation materials that allow higher current flow while maintaining optimal power efficiency.

Longer operational life

Advanced material technology ensures greater durability, structural stability, and consistent long-term performance.

Manufactured in Controlled Green Facilities

Produced in environmentally controlled manufacturing environments to ensure product integrity, quality, and contamination-free production.

POWERING PROGRESS THROUGH THE YEARS

From a small entrepreneurial venture to an expanding cable manufacturing enterprise, Prime Cables Industries Limited has grown steadily by strengthening capabilities, expanding infrastructure, and building long-term customer trust. Each milestone reflects our commitment to quality, innovation, and reliable connectivity solutions.

The Beginning

1997

Mr. Purshotam Singla established a proprietorship firm in the SSI Industrial Area, Delhi, engaged in manufacturing and trading of cables, wires, and allied products.

Corporate Formation

2008

The business was incorporated as R C Cable Private Limited, marking the beginning of a structured corporate journey.

Manufacturing Expansion

2009

Launched a new manufacturing unit in DSIDC Narela, Delhi, covering approximately 3,767 sq. ft.

A New Identity

2019

The company was renamed Prime Cable Industries Private Limited, aligning the brand with its growing vision and market presence.

Scaling Production

2020

Commenced development of Manufacturing Unit–II at Ghiloth, spanning around 67,178 sq. ft.

Strengthening Distribution

2021

Established the first warehouse in Bangalore to ensure faster product availability across southern India.

Strengthening Logistics & Future Capacity

2023

Progressed towards the completion of our new manufacturing unit, spread across over 67,178 sq. ft., with plans to integrate HT cables up to 3.3 KV into its product portfolio.

A Landmark Year

2024

Started commercial production of cables at the Ghiloth plant (Unit-II)

Achieved NABL certification for the in-house testing laboratory

Transitioned from a private limited company to a public limited company

Strengthening Our Core

2025

Acquired land of 12,000 SqMtr. for the upcoming Medium Voltage (MV) manufacturing unit, reinforcing future growth plans.

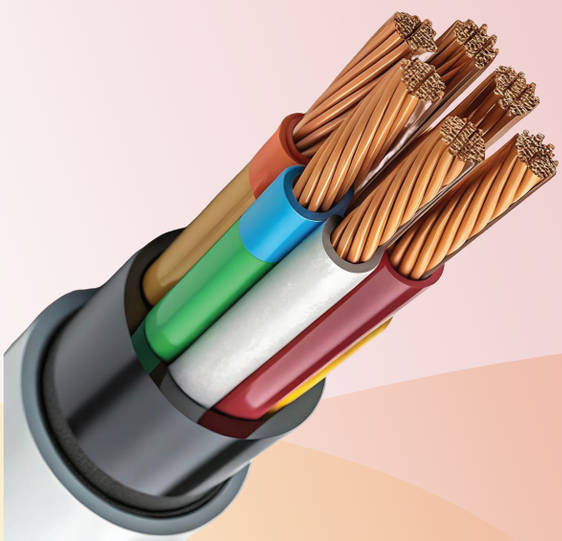
Got listed on National Stock Exchange of India (NSE)

NSE

Preparing for the Future

2026

Established new lines & got BIS Approval of BIS 7098-II for manufacuturing HT cables upto 33 kv.



INDUSTRIES WE SERVE

Prime Cables Industries Limited provides cable solutions designed to support a wide range of industries and infrastructure requirements.

Our products are widely used across:

- Power transmission and distribution
- Infrastructure and construction projects
- Industrial manufacturing facilities
- Commercial and residential electrical systems

Renewable energy installations

With a focus on reliability and performance, our cable solutions help power critical systems and ensure seamless connectivity across sectors.

POWER SECTOR

State electricity boards, power generation, and distribution companies.

INFRASTRUCTURE & ENGINEERING

EPC (Engineering, Procurement, and Construction) players.

INDUSTRIAL

Oil & gas companies, mining operations, steel plants, and electrical panel builders.

CONSTRUCTION & REAL ESTATE

Commercial and residential real estate developers.

TRANSPORTATION

Railways and port trusts.

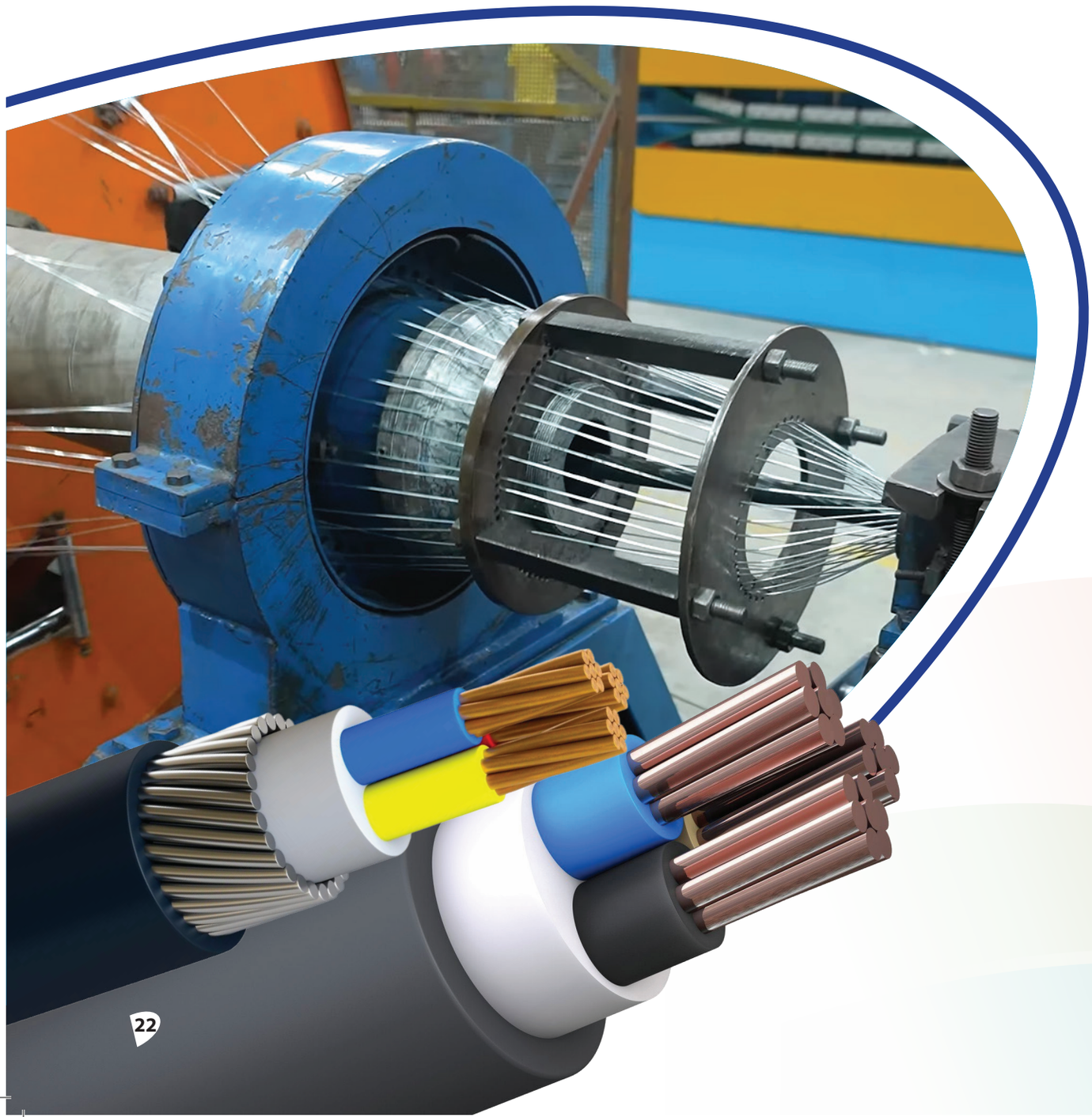
OUR MANUFACTURING PROCESS

Manufacturing of cables

At Prime Cables Industries Limited, cable manufacturing follows a structured and quality-driven process. It begins with the careful procurement and inspection of raw materials, followed by wire drawing, furnacing, and stranding to achieve the desired conductor properties. The conductor is then insulated to ensure electrical safety and performance.

Depending on the application, the cables undergo further processes such as laying up, inner sheathing, optional armouring, and outer sheathing for LT power, control, and instrumentation cables. For LT AB cables, the process includes laying up followed by rigorous final testing.

Every cable is subjected to strict quality checks before being securely packed and dispatched, ensuring reliable performance and compliance with industry standards.



Wire manufacturing process

At Prime Cables Industries Limited, the manufacturing of wires begins with the careful procurement and inspection of high-quality raw materials such as copper and aluminium. The materials undergo wire drawing to achieve the required diameter, followed by annealing to enhance flexibility and conductivity. The processed conductors are then stranded to improve strength and performance. This is followed by insulation to ensure electrical safety and durability. The finished wires are coiled, thoroughly inspected, and securely packed before dispatch, ensuring reliable quality and performance for end-use applications.

CABLE

- Wire Drawing
- Furnacing
- Stranding
- Conductor Strung (optional)
- Core Insulation
- Insulation Strung (optional)
- Additional of fillers for roundness (optional)
- Laying up
- Inner Sheathing
- Armouring (optional)
- Rubberized Cotton Taping (optional)
- Outer Sheathing
- Final Testing
- Packing & Dispatch

WIRE

Copper

2. Wire Drawing
3. Annealling

Aluminum

2. Wire Drawing
3. Annealling

4. Conductor Stranding
5. Insulation
6. Colling
7. Packing & Dispatch

* Raw Material & Process checks at each step.
* Process might demised in use of AB cable, conductor & wire.

OUR MANUFACTURING EXCELLENCE

Manufacturing excellence lies at the heart of Prime Cables Industries Limited. Our facilities are designed to support efficient production, precision engineering, and consistent product quality.

By leveraging advanced machinery, automated processes, and skilled technical expertise, we ensure that every cable produced adheres to stringent quality and safety standards. Continuous process improvements and technological upgrades allow us to maintain reliability, scalability, and operational efficiency across our product range.

13000 KMS
Power & AB Cables Till 33KV.
Upto 1000 sq. mm.

11000 KMS
Control Cables & Instrumentation Cables.
Upto 61 crore & pairs

10000 KMS
Housing/Building Wire.
Upto 400 sq. mm.

6000 KMS
Conductors (Bare/ Insulated).
Upto 540 sq. mm.

OUR PEOPLE. OUR STRENGTH.

At Prime Cables Industries Limited, our greatest strength lies in our people. The dedication, expertise, and collaborative spirit of our team drive the quality, innovation, and reliability that define our products. Recognized as a Great Place to Work, we foster a culture of respect, safety, and continuous learning where individuals are empowered to contribute their best every day. Together, our workforce builds not just superior cable solutions, but also a strong foundation for sustainable growth and enduring customer trust.

Great Place To Work® Certified FEB 2024-FEB 2025 INDIA ™

NABL - ACCREDITED TESTING EXCELLENCE

At Prime Cables Industries Limited, quality assurance is at the core of our manufacturing philosophy. Our state-of-the-art NABL-accredited in-house testing laboratory ensures that every product meets stringent national and international quality standards. Equipped to conduct both routine and type testing, the facility enables comprehensive evaluation of product performance, safety, and durability. Through rigorous testing and precision-driven quality control, we ensure that every cable delivered reflects the reliability, consistency, and high performance that our customers trust.


OXYGEN INDEX
CONDITIONING HUMIDITY CHAMBER

FROM THE CHAIRMAN'S DESK

Hello Readers',

Prime Cables Industries Limited has grown to become a trusted name in India's cable manufacturing industry, backed by over three decades of experience and commitment to excellence. Over the years, the Company has steadily expanded its product portfolio to cater to a wide spectrum of industries, including power generation, transmission and distribution, electrical boards, thermal power plants, oil & gas, railways, steel plants, ports, and institutional and private sector projects across the country.

At the heart of our growth lies a strong focus on manufacturing excellence and customer satisfaction. Our in-house production capabilities, supported by stringent quality assurance systems and experienced professionals, ensure that every product meets the highest standards of reliability, safety, and performance. This commitment to quality has helped us build enduring relationships with government bodies, semi-government institutions, and leading private sector organisations.

Despite the dynamic nature of today's economic environment, India continues to present strong opportunities for industrial and infrastructure growth. As demand for reliable power and connectivity expands, the cable industry is evolving rapidly. At Prime Cables, we see these changes as opportunities to strengthen our capabilities, adopt modern manufacturing practices, and deliver solutions that meet the evolving needs of our customers.

Our organization culture encourages continuous improvement, innovation, and accountability. From sourcing quality raw materials to delivering finished products, every step of our process is designed to uphold our promise of reliability and performance.

Looking ahead, we remain focused on strengthening our manufacturing capabilities, expanding our market presence, and preparing ourselves for the opportunities of tomorrow. With a dedicated team and a customer-centric approach, we are confident of building on our legacy while continuing to deliver value to our partners and stakeholders.

We thank our customers, partners, and employees for their continued trust and support as we move forward together.

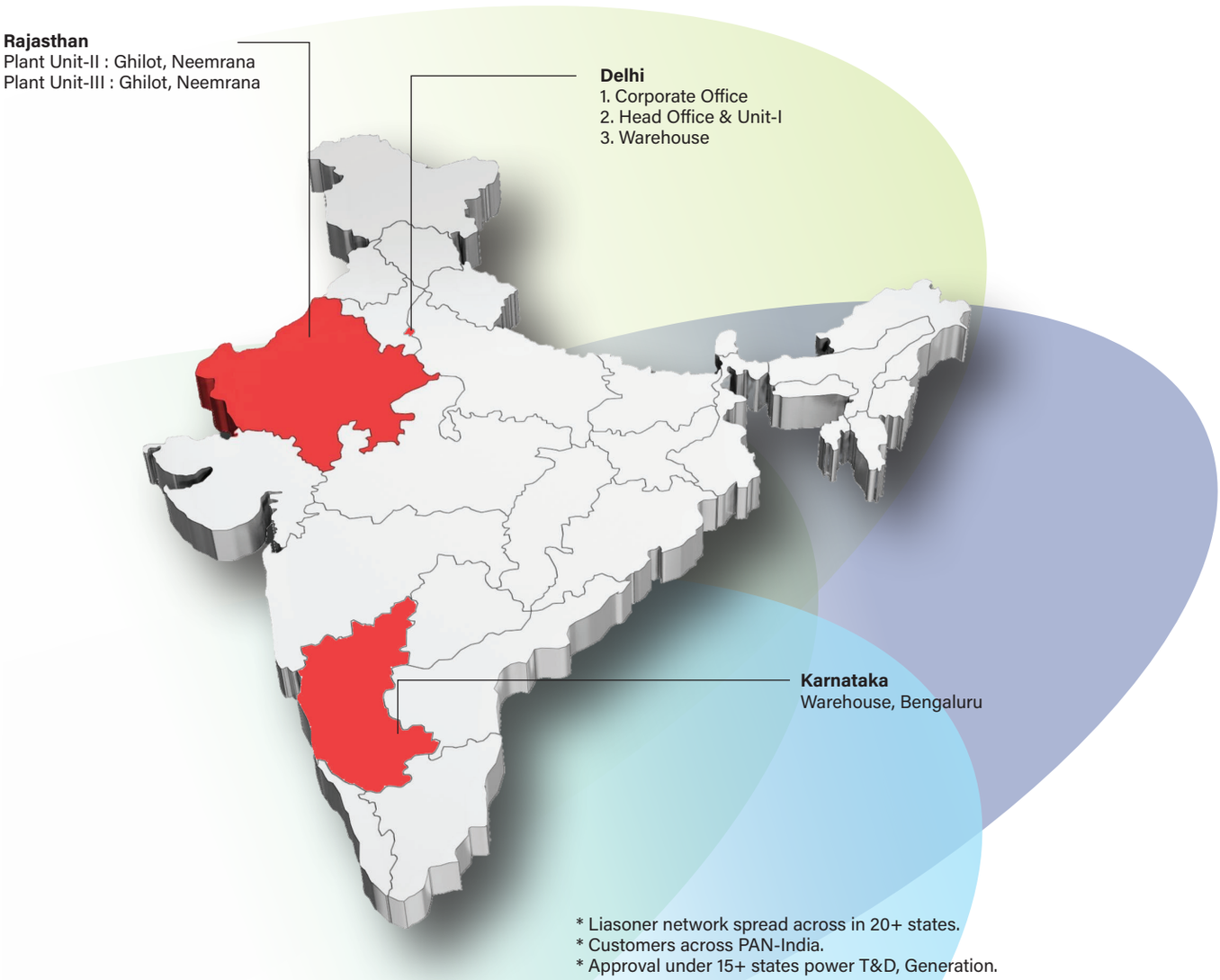
Happy Cabling!

Purshotam Singla
Director

OUR PRESENCE

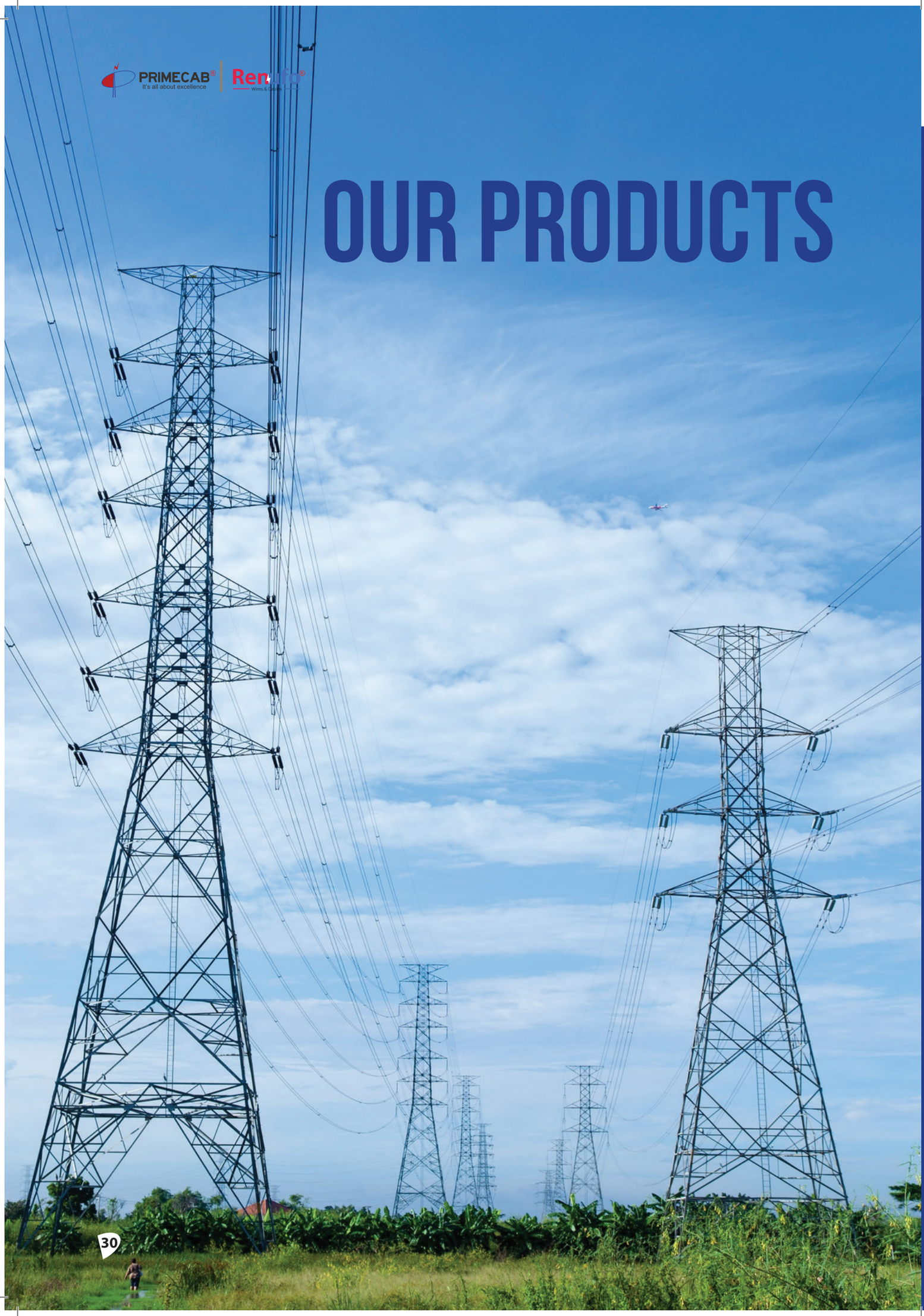
Prime Cables Industries Limited has established a strong pan-India presence, supplying reliable cable solutions across key industrial and infrastructure markets. The Company derives nearly 88% of its revenue from its top-performing states, reflecting both market depth and customer trust across regions. Our strongest markets include Tamil Nadu (15%), Bihar (14%), Karnataka (11%), and Rajasthan (11%), followed by significant contributions from West Bengal (8.5%), Madhya Pradesh (8.4%), Uttar Pradesh (5.9%), and Jharkhand (4.2%). Additional presence across Gujarat (1.7%), Haryana (1.4%), and Delhi (1.2%) further strengthens our national footprint. With a well-established supply network and growing market reach, Prime Cables continues to expand its presence across India, supporting infrastructure growth and industrial development with dependable cable solutions.

In terms of product presence, Prime Cables Industries Limited has built a strong and expanding presence across diverse industries by delivering reliable and high-performance cable solutions. Our products serve a wide spectrum of applications across infrastructure, power distribution, industrial manufacturing, and commercial establishments. With a growing network of partners and customers, we continue to strengthen our footprint across markets, ensuring timely delivery, consistent quality, and dependable performance wherever our cables power progress.



PRIMECAB®
It's all about excellence

OUR PRODUCTS



OUR PRODUCT RANGE

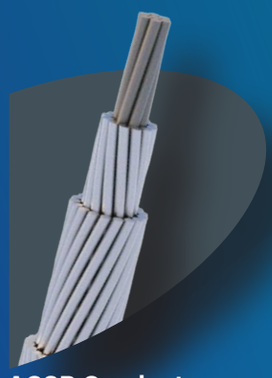
Prime Cables Industries Limited offers a comprehensive portfolio of cable and conductor solutions engineered for reliability, safety, and performance. Designed to support diverse applications across power distribution, infrastructure, industrial systems, and renewable energy projects, our products combine advanced manufacturing, stringent quality standards, and decades of industry expertise to deliver dependable connectivity across every installation.

LV Power Cables

Control & Instrumental Cables

Aerial Bunched Cables

Panels/House Wires



ACSR Conductor

MVCC - Medium Viltage Covered Conductor

Solar DC Cables

AAAC Conductors

HT Cables

PRIMECAB®
It's all about excellence

Renufo®
Wires & Cables

1

LV POWER CABLES

Prime Cables manufactures high-performance Low Voltage Power Cables designed for reliable power transmission and distribution applications up to 1.1 KV. Engineered with superior insulation and high-quality conductors, these cables ensure safe and efficient distribution of electricity across industrial, commercial, and infrastructure projects. Built to withstand demanding operating conditions, they deliver durability, flexibility, and consistent electrical performance.

Our power cables are manufactured with copper / aluminium conductors with XLPE or PVC insulation, laid up, inner taped/extruded. The armoring is of galvanized mild steel wires/strips. The final outer sheath is with high grade FRLS PVC. (All as per relevant IS specification.)

- L.T XLPE Insulated & PVC sheathed, armoured / unarmoured cables with Copper and Aluminium conductor 1.1 KV grade in two, three & half, four core up to 400 Sq.mm. and single core up to 1000 Sq.mm.
- L.T PVC Insulated & PVC sheathed, armoured / unarmoured cables with Copper and Aluminium conductor 1.1 KV grade in two, three & half, four core up to 400 Sq.mm. and single core up to 1000 Sq.mm.
- We also offer Flame Retardant (FR), Flame Retardant Low Smoke (FRLS) & Zero Halogen Flame Retardant (ZHFR) properties to any of our Power Cables as per the requirement of the customers.
- We also Offer Heat Resistant (up to 85 Degree Celsius) features to our PVC Power Cable as per the requirement of the customer.
- We also have the design & technical capabilities to make power cables that can withstand short circuit on conduct &armour of 45 KVA for 0.12 sec, if required by the customer.
- We have also got the design, technical, production & testing capabilities to offer power cables that are water resistant, for areas that are exposed to heavy flooding, if deemed by the customer.

Applications of Power Cables

A power cable is an electrical cable, high dielectric strength & resistance to D.C. voltage effects; high mechanical strength & resistance to abrasion, vibration & ageing; resistant to most acids, alkalis, to temporary contact with solvents, oils and liquid fluids; flame retardant, does not support combustion and self-extinguishing consisting one or more electrical conductors, usually held together with an overall sheath.

Power cables are used for transmission of electrical power. Power cables may be installed as permanent wiring within buildings, buried in the ground, run overhead, or exposed.

LT cables can be used in industries like power distribution, power stations, railways, etc. revolving around 1.1 KV range.

LV POWER CABLES

Table No. 1.1

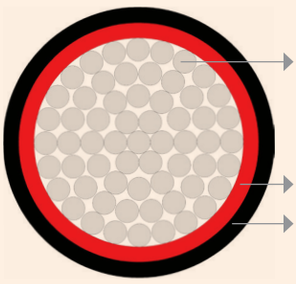
Power Cables with pvc insulation for power transmission. Voltage grade 650/1100 volts (U/ U) provided with ISI marking IS 1554 (pt.I), IEC502, BS6436/87.

Configuration:- Single core upto 1000 sq. mm. Multi-core upto 400 sq. mm.

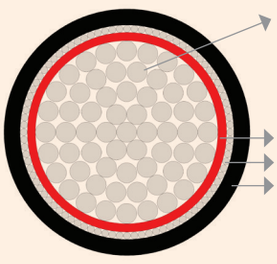
1 core, Aluminium & Copper Conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/(YY)/armoured (AYWaY)/ (YWaY)/ cable-1100 volts as per is : 1554 (Pt-1)/88

Nominal cross sectional area	Nominal thickness of PVC	UNARMOURED					ARMOURED										Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) GPPVC			
		Nom. Outer Sheath Thickness	App. Overall	App. Weight kg/km		Nominal Thickness Of PVC Insulation	Nominal Steel Armour Size mm		Min. Outer Sheath Thickness (mm)		App. Overall (mm)		App. Weight (kg/km)						In Air		In ground	
																			Al	Cu	Al	Cu
sq. mm	mm	mm	mm	YY	AYY	mm	W	F	W	F	W	F	W (Al)	F (Al)	W (Cu)	F (Cu)	Al	Cu	Amps	Amps	Amps	Amps
1.5	0.8	1.8	6.7	-	68	1.1	1.4	-	1.24	-	10	-	-	-	-	-	0.114	0.215	18		21	
2.5	0.9	1.8	7.4	-	70	1.2	1.4	-	1.24	-	10.8	-	-	-	-	-	0.190	0.286	5		27	
4	1	1.8	8.0	95	81	1.3	1.4	-	1.24	-	11.5	-	125	-	150	-	0.304	0.460	32	43	35	46
6	1	1.8	9.0	115	90	1.3	1.4	-	1.24	-	12.2	-	145	-	190	-	0.456	0.690	41	54	46	57
10	1	1.8	10.1	165	115	1.3	1.4	-	1.24	-	13.1	-	165	-	240	-	0.760	1.15	56	72	57	75
16	1	1.8	10.5	240	155	1.3	1.4	-	1.24	-	13.5	-	240	-	280	-	1.22	1.84	72	92	74	94
25	1.2	1.8	12.3	330	195	1.5	1.4	-	1.24	-	16	-	290	-	430	-	1.90	2.88	99	125	95	125
35	1.2	1.8	13.1	435	270	1.5	1.4	-	1.24	-	16.5	-	340	-	530	-	2.66	4.03	120	155	114	150
50	1.4	1.8	15.1	580	310	1.7	1.4	-	1.24	-	17.5	-	380	-	680	-	3.80	5.75	150	190	134	180
70	1.4	1.8	16.1	790	405	1.7	1.4	-	1.40	-	20	-	480	-	880	-	5.32	8.05	185	235	165	220
95	1.6	1.8	18.5	1000	500	1.9	16	4x0.8	1.40	1.40	23	19	690	580	1240	1100	7.22	10.90	215	275	201	265
120	1.6	2.0	20.8	1250	600	1.9	16	4x0.8	1.40	1.40	24	31	790	680	1400	1350	9.12	13.80	240	310	230	300
150	1.8	2.0	22	1500	700	2.1	16	4x0.8	1.40	1.40	26	23	880	780	1700	1650	11.40	17.30	270	345	254	340
185	2	2.0	23	1900	855	2.3	16	4x0.8	1.40	1.40	28	25	1020	980	2100	2000	14.10	21.30	305	390	290	380
240	2.2	2.0	26	2400	1050	2.5	16	4x0.8	1.56	1.40	31	27	1340	1150	2700	2500	18.20	27.60	350	445	335	420
300	2.4	2.0	28	3000	1280	2.7	2	4x0.8	1.56	1.56	34	30	1580	1450	3300	3200	22.80	34.50	395	500	377	465
400	2.6	2.2	32	3900	1650	3	2	4x0.8	1.56	1.56	39	33	2000	1800	4200	4000	30.40	46.00	455	570	430	500
500	3	2.2	35	4800	2050	3.4	2	4x0.8	1.72	1.56	43	37	2500	2250	5300	5000	38.00	57.50	490	610	486	540
630	3.4	2.4	40	6350	2690	3.5	2	4x0.8	1.88	1.72	47	42	3200	2850	6800	6500	47.88	72.50	560	680	547	530
800	3.4	2.4	45	7950	3200	3.9	2	4x0.8	1.88	1.88	52.8	46	3700	3500	8500	8200	60.80	92.00	640	745	609	645
1000	3.4	2.6	49	9900	3920	3.9	2	4x0.8	2.04	2.04	58	49	4700	4200	10500	10000	76.00	115.00	735	890	667	705

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:1554 (pt-1)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor. For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Circular
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm and above - Stranded
2. **Compacted Circular**
3. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831 ; Colour: Black
   Outer Sheath: PVC Type ST-I as per IS 5831 ; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Circular
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm and above - Stranded Compacted Circular
2. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Black
3. **Inner Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. **Armouring:** Single Layer of Aluminium Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

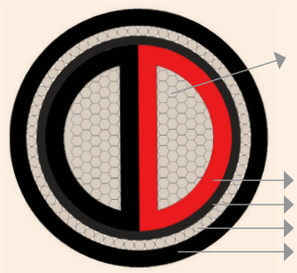
LV POWER CABLE UPTO 1.1 KV

Table No. 1.2

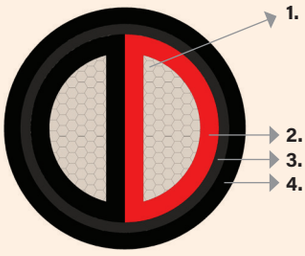
2 core, Aluminium & Copper Conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ (YY)/armoured (AYWY)/(AYFY)/(YWY)/(YFY) /cable- 1100 volts as per is : 1554 (pt-1)/88

Nominal cross sectional area	Nominal thickness of PVC	Inner Sheath (mm) Min.	UNARMOURED				ARMOURED										Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) GPPVC			
			Nom. Outer Sheath Thickness	App. Overall	App. Weight kg/km		Nominal Steel Armour Size mm		Min. Outer Sheath Thickness (mm)		App. Overall (mm)		App. Weight (kg/km)						In Air		In ground	
																			Al	Cu	Al	Cu
sq. mm	mm	mm	mm	mm	YY	AYY	W	F	W	F	W	F	W (Al)	F (Al)	W (Cu)	F (Cu)	Al	Cu	Amps	Amps	Amps	Amps
4	1.0	0.30	1.08	12	260	210	1.4	-	1.24	-	16	-	445	-	505	-	0.304	0.460	27	35	32	41
6	1.0	0.30	1.08	14	340	260	1.4	-	1.24	-	17	-	510	-	605	-	0.456	0.690	35	45	40	50
10	1.0	0.30	1.08	15	460	300	1.4	-	1.24	-	19	-	600	-	760	-	0.760	1.15	47	60	55	70
16	1.0	0.30	1.08	15	480	340	1.6	4x0.8	1.40	1.40	17	18	680	485	830	680	1.22	1.84	59	78	70	90
25	1.2	0.30	2.00	18	740	440	1.6	4x0.8	1.40	1.40	20	19	830	580	1125	930	1.90	2.88	78	105	90	115
35	1.2	0.30	2.00	19	930	540	1.6	4x0.8	1.40	1.40	21	21	930	730	1325	1125	2.66	4.03	99	125	110	140
50	1.4	0.30	2.00	22	1260	680	1.6	4x0.8	1.56	1.40	24	23	1175	870	1725	1425	3.80	5.75	125	155	135	165
70	1.4	0.30	2.00	24	1660	830	2.0	4x0.8	1.56	1.56	26	28	1375	1075	2170	1875	5.32	8.05	150	195	160	205
95	1.6	0.40	2.20	28	2260	1120	2.0	4x0.8	1.56	1.56	31	29	7875	1375	2970	2470	7.22	10.90	185	230	190	240
120	1.6	0.40	2.20	30	2750	1300	2.0	4x0.8	1.72	1.56	33	31	2120	1575	3520	2970	9.12	13.80	210	265	210	275
150	1.8	0.40	2.40	32	3310	1580	2.0	4x0.8	1.72	1.72	34.5	34	2470	1875	4150	3520	11.40	17.30	240	305	240	310
185	2.0	0.50	2.40	35	4150	1850	2.0	4x0.8	1.88	1.88	38.5	37	2920	2270	5050	4400	14.10	21.30	275	350	275	350
240	2.2	0.50	2.60	41	5300	2375	2.50	4x0.8	2.04	2.04	44.5	42	3820	2820	6650	5650	18.20	27.60	325	410	320	405
300	2.4	0.60	2.80	44	6600	2860	2.50	4x0.8	2.20	2.20	47.5	46	4500	3310	8050	6900	22.80	34.50	365	465	355	450
400	2.6	0.70	3.20	50	8400	3720	3.15	4x0.8	2.50	2.36	54.5	51	6000	4150	10550	8700	30.40	46.00	420	530	385	490

Note: Max. Conductors Resistance at 20^{0}C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:1554 (pt-1)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red & Black
3. **Inner Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
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4. **Outer Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

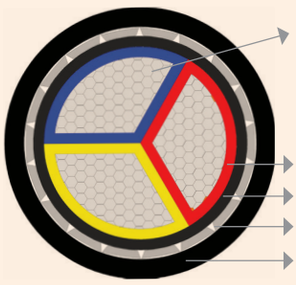
Table No. 1.3

3 core, Aluminium & Copper Conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ (YY)/armoured (AYWY)/(AYFY)/(YWY)/ (YFY) /cable- 1100 volts as per is : 1554 (pt-1)/88

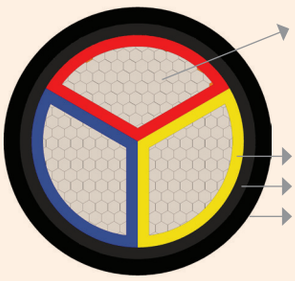
Nominal cross sectional area	Nominal thickness of PVC	Inner Sheath (mm) Min.	UNARMOURED				ARMOURED										Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) GPPVC			
			Nom. Outer Sheath Thickness	App. Overall	App. Weight kg/km		Nominal Steel Armour Size mm		Min. Outer Sheath Thickness (mm)		App. Overall (mm)		App. Weight (kg/km)						In Air		In ground	
																			Al	Cu	Al	Cu
sq. mm	mm	mm	mm	mm	YY	AYY	W	F	W	F	W	F	W (Al)	F (Al)	W (Cu)	F (Cu)	Al	Cu	Amps	Amps	Amps	Amps
4	1.00	0.30	1.80	13	315	235	1.40	-	1.24	-	15	-	445	-	520	-	0.304	0.460	23	30	28	36
6	1.00	0.30	1.80	14	405	295	1.40	-	1.24	-	16	-	510	-	630	-	0.456	0.690	30	39	35	46
10	1.00	0.30	1.80	16	560	355	1.40	-	1.40	-	18	-	605	-	820	-	0.760	1.15	40	52	46	60
16	1.00	0.30	1.80	17	680	435	1.60	4x0.8	1.40	1.40	20	18	830	585	1075	880	1.22	1.84	51	66	60	77
25	1.20	0.30	2.00	20	1025	580	1.60	4x0.8	1.40	1.40	22	21	1025	780	1475	1225	1.90	2.88	70	90	76	99
35	1.20	0.30	2.00	22	1325	680	1.60	4x0.8	1.40	1.40	24	22	1175	930	1775	1525	2.66	4.03	86	110	92	120
50	1.40	0.30	2.00	25	1675	880	1.60	4x0.8	1.56	1.56	27	26	1475	1175	2270	2020	3.80	5.75	105	135	110	145
70	1.40	0.40	2.20	28	2370	1175	2.00	4x0.8	1.56	1.56	31	29	1975	1475	3170	2670	5.32	8.05	130	165	135	175
95	1.60	0.40	2.20	32	3170	1475	2.00	4x0.8	1.72	1.56	34.5	39	2420	1825	4100	3520	7.22	10.90	155	200	165	210
120	1.60	0.40	2.20	34.5	3870	1775	2.00	4x0.8	1.72	1.72	37.5	34.5	2770	2170	4550	4250	9.12	13.80	180	230	185	240
150	1.80	0.50	2.40	38.5	4750	2170	2.00	4x0.8	1.88	1.88	41.5	38.5	3320	2620	5850	5200	11.40	17.30	205	265	210	270
185	2.00	0.50	2.60	42.5	5900	2670	2.50	4x0.8	2.04	1.88	47.5	42.5	4250	3120	7450	6350	14.10	21.30	240	305	235	300
240	2.20	0.60	2.80	47.5	7600	3520	2.50	4x0.8	2.20	2.20	51.5	48.5	5200	3970	9400	8200	18.20	27.60	280	355	375	345
300	2.40	0.60	3.00	52.5	9500	4150	2.50	4x0.8	2.36	2.36	56	53	6100	4750	11400	10100	22.80	34.50	315	400	305	385
400	2.60	0.70	3.40	59.0	12000	5300	3.15	4x0.8	2.68	2.52	64	59	8100	5900	14900	12700	30.40	46.00	375	455	335	425

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.

The date given above are generally as per IS:1554 (pt-1)



1. Conductor Material: Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. Insulation Material: PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow & Blue
3. Inner Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. Armouring: Single Layer of Galvanized Steel Round Wire / Flat Strip
5. Outer Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



1. Conductor Material: Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. Insulation Material: PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow & Blue
3. Inner Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. Outer Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

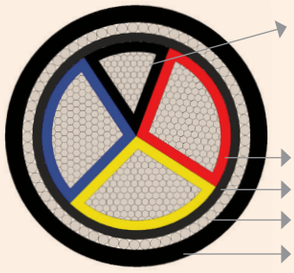
LV POWER CABLES

Table No. 1.4

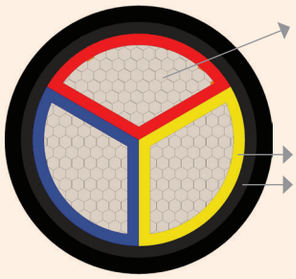
3.5 core, Aluminium & Copper Conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ (YY)/armoured (AYWY)/(AYFY)/(YWY)/(YFY) /cable- 1100 volts as per is : 1554 (pt-1)/88

Nominal cross sectional area	Nominal thickness of PVC	Inner Sheath (mm) Min.	UNARMOURED				ARMOURED										Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) GPPVC			
			Nom. Outer Sheath Thickness	App. Overall	App. Weight kg/km		Nominal Steel Armour Size mm		Min. Outer Sheath Thickness (mm)		App. Overall (mm)		App. Weight (kg/km)						In Air		In ground	
																			Al	Cu	Al	Cu
sq. mm	mm	mm	mm	mm	YY	AYY	W	F	W	F	W	F	W (Al)	F (Al)	W (Cu)	F (Cu)	Al	Cu	Amps	Amps	Amps	Amps
3X 25+16	1.20/1.00	0.30	2.00	22	1225	685	1.60	4x0.8	1.40	1.40	24	22	1125	880	1675	1425	1.90	2.88	70	90	76	99
3X35+16	1.20/1.00	0.30	2.00	24	1525	785	1.60	4x0.8	1.40	1.40	26	24	1325	1025	2020	1775	2.66	4.03	86	110	92	120
3X 50+25	1.40/1.20	0.30	2.20	27	2020	1030	2.00	4x0.8	1.56	1.56	29	28	1625	1325	2570	220	3.80	5.75	105	135	110	145
3X70+35	1.40/1.20	0.40	2.20	31	2770	1380	2.00	4x0.8	1.50	1.56	33	31	2170	1675	3570	3070	5.32	8.05	130	165	135	175
3X95 +50	1.60/1.40	0.40	2.20	34.5	3670	1780	2.00	4x0.8	1.77	1.56	38	34.5	2770	2120	4700	4000	7.22	10.90	155	200	165	210
3X120+70	1.60/1.40	0.50	2.40	37.5	4650	2125	2.00	4x0.8	1.88	1.72	40.5	38.5	3270	2430	5700	5000	9.12	13.80	180	230	185	240
3X150+70	1.80/1.40	0.50	2.40	41.5	5500	3125	2.50	4x0.8	1.88	1.88	44.5	42.5	3720	2970	6650	5900	11.40	17.30	205	265	210	270
3X 185+95	2.00/1.60	0.50	2.60	45.5	6850	4020	2.50	4x0.8	2.04	2.04	49.5	46.5	4800	3620	8600	7350	14.10	21.30	240	305	235	350
3X240+120	2.20/1.60	0.60	3.00	51.5	8900	4870	2.50	4x0.8	2.36	2.20	55	51.5	5800	4450	10750	9350	18.20	27.60	280	355	275	345
3X300+150	2.40/1.80	0.60	3.20	56.0	11000	6100	3.15	4x0.8	2.52	2.36	61	56	7550	5400	13700	11600	22.80	34.50	315	400	305	385
3X400+185	2.60/2.00	0.70	3.40	62.0	13950	7850	3.15	4x0.8	2.68	2.68	67	62	8950	6700	16750	14500	30.40	46.00	375	455	335	425

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:1554 (pt-1)



1. Conductor Material: Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. Insulation Material: PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow & Blue
3. Inner Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. Armouring: Single Layer of Galvanized Steel Round Wire / Flat Strip
5. Outer Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



1. Conductor Material: Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. Insulation Material: PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow & Blue
3. Inner Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. Outer Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

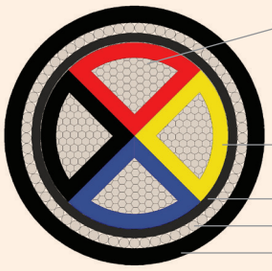
LV POWER CABLES

Table No. 1.5

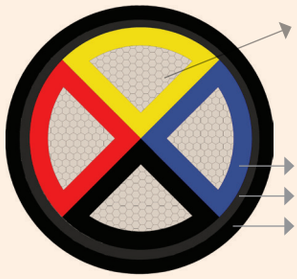
4 core, Aluminium & Copper Conductor, PVC insulated, PVC sheathed, unarmoured (AYY)/ (YY)/armoured (AYWY)/(AYFY)/(YWY)/ (YFY) /cable- 1100 volts as per is : 1554 (pt-1)/88

Nominal cross sectional area	Nominal thickness of PVC	Inner Sheath (mm) Min.	UNARMOURED				ARMOURED										Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) GPPVC			
			Nom. Outer Sheath Thickness	App. Overall	App. Weight kg/km		Nominal Steel Armour Size mm		Min. Outer Sheath Thickness (mm)		App. Overall (mm)		App. Weight (kg/km)						In Air		In ground	
																			Al	Cu	Al	Cu
sq. mm	mm	mm	mm	mm	YY	AYY	W	F	W	F	W	F	W (Al)	F (Al)	W (Cu)	F (Cu)	Al	Cu	Amps	Amps	Amps	Amps
4	1.00	0.30	1.80	14	385	275	1.40	-	1.24	-	16	-	505	-	605	-	0.304	0.460	23	30	28	36
6	1.00	0.30	1.80	16	495	335	1.40	-	1.24	-	18	-	590	-	750	-	0.456	0.690	30	39	35	45
10	1.00	0.30	1.80	18	690	425	1.60	4x0.8	1.40	1.40	20	18	770	580	1035	830	0.760	1.15	40	52	46	60
16	1.00	0.30	2.00	20	930	530	1.60	4x0.8	1.40	1.40	22	20	9025	730	1325	1080	1.22	1.84	51	66	60	77
25	1.20	0.30	2..00	22	1325	730	1.60	4x0.8	1.40	1.40	24	23	1175	930	1775	1525	1.90	2.88	70	90	76	99
35	1.20	0.30	2.00	25	1675	880	1.60	4x0.8	1.56	1.40	27	25	1425	1125	2270	1975	2.66	4.03	86	110	92	120
50	1.40	0.40	2.20	28	2270	1275	2.00	4x0.8	1.56	1.56	31	29	1975	1425	3070	2530	3.80	5.75	105	135	110	145
70	1.40	0.40	2.20	31	3070	1675	2.00	4x0.8	1.56	1.56	34	31	2370	1825	3970	3420	5.32	8.05	130	165	135	175
95	1.60	0.40	2.40	35.5	4150	2270	2.00	4x0.8	1.72	1.72	38.5	36.5	2970	2320	5200	4550	7.22	10.90	155	200	165	210
120	1.60	0.50	2.40	39.5	5100	3070	2.00	4x0.8	1.88	1.88	42.5	39.5	3470	2770	6300	5600	9.12	13.80	180	230	185	240
150	1.80	0.50	2.60	43.5	6300	4150	2.50	4x0.8	2.04	1.88	47.5	43.5	4450	3270	7900	6750	11.40	17.30	205	265	210	270
185	2.00	0.60	2.80	48	7850	5100	2.50	4x0.8	2.20	2.04	52.5	48.5	5300	3950	9700	8300	14.10	21.30	240	305	235	300
240	2.20	0.60	3.00	54	10150	6350	2.50	4x0.8	2.36	2.36	58.5	55	6450	5050	12000	10700	18.20	27.60	280	355	275	345
300	2.40	0.70	3.40	62	12700	7850	3.15	4x0.8	2.68	2.52	67.5	62	8450	6050	15500	13100	22.80	34.50	315	400	305	385
400	2.60	0.70	3.60	68	15900	6900	3.15	4x0.8	2.68	2.84	72	69	10000	7550	19000	16500	30.40	46.00	375	456	335	425

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:1554 (pt-1)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow, Blue & Black
3. **Inner Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
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2. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831; Colour: Red, Yellow, Blue & Black
3. **Inner Sheath:** PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. **Outer Sheath:** PVC type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

Power Cables with XLPE insulation for power transmission, with Voltage grade 650/1100 volts (U/ U) with or without HR/FRLS properties. Conforming to standard specification like IS 7098 (Pt.-I),IEC502.

Range of LT Power cables from single core (upto 1000 sq.mm) & Multicore upto 3.5/4 core with Aluminium / Copper (Solid Standard Circular/Compacted/Sector Shaped Conductor with XLPE Insulation,taped/extrutded inner sheath, Galvanized Steel Wire/Strip/Double Helical Steel tape (Aluminium wire armouring for single core cable with usually black outer sheath or as per purchaser specification.

Table - 1.6

SHORT CIRCUIT RATING for 1 sec.			MAXIMUM A.C/D.C RESISTANCE OF CONDUCTOR IN OHM / KM								
Nom. C/S Area of Cond.	Aluminium conductor	Copper Conductor	Nom. C/S Area of Cond.	Minium No. of Wires				Max. D.C Resistance,		Max. A.C. Resistance	
				Circular Conductor (Non Compacted)		Compacted Circular/ Shaped Conductor		Copper At 20 Deg. c	Copper At 90 Deg. c	Aluminium At 20 Deg. c	Aluminium At 90 Deg. c
Sqmm	K Amps	K Amps	Sqmm	Copper	Aluminium	Copper	Aluminium	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
1.5	0.141	0.215	1.5	3	3	-	-	12.1	15.49	18.18	23.17
2.5	0.235	0.358	2.5	3	3	-	-	7.41	9.48	12.1	15.41
4	0.376	0.572	4	7	3	-	-	4.61	5.90	7.41	9.48
6	0.564	0.858	6	7	3	-	-	3.08	3.94	4.61	5.90
10	0.940	1.430	10	7	7	6	-	1.83	2.34	3.08	3.94
16	1.50	2.29	16	7	7	6	6	1.15	1.47	1.91	2.44
25	2.35	3.58	25	7	7	6	6	0.727	0.931	1.20	1.54
35	3.29	5.01	35	7	7	6	6	0.524	0.671	0.868	1.11
50	4.70	7.15	50	19	19	6	6	0.387	0.495	0.641	0.820
70	6.58	10.01	70	19	19	12	12	0.268	0.343	0.443	0.567
95	8.93	13.59	95	19	19	15	15	0.193	0.248	0.320	0.41
120	11.28	17.16	120	37	37	18	15	0.153	0.197	0.253	0.324
150	14.10	21.45	150	37	37	18	15	0.124	0.159	0.206	0.265
185	17.39	26.46	185	37	37	30	30	0.0991	0.127	0.164	0.209
240	22.56	34.32	240	61	37	34	30	0.0754	0.0965	0.125	0.160
300	28.20	42.90	300	61	61	34	30	0.0601	0.0769	0.100	0.128
400	37.60	57.20	400	61	61	53	53	0.0470	0.0602	0.0778	0.099
500	47.00	71.50	500	61	61	53	53	0.0366	0.0468	0.0605	0.077
630	59.22	90.09	630	91	91	53	53	0.0283	0.036	0.0469	0.0600
800	75.20	114.40	800	91	91	53	53	0.0221	0.028	0.0367	0.0470
1000	94.00	143.00	1000	91	91	53	53	0.0176	0.0225	0.0291	0.0372

Table - 1.7

Nom. Area of conductor Sqmm	LT XPLE CABLES 1.1 KV GRADE					
	Capacitance			Reactance at 50 Hz		
	Single Core Cable		Twin/Multi Core Cable	Single Core Cable		Twin & Multicore
	Unarmoured mF/Km	Armoured mF/Km	mF/Km	Unarmoured (Ohm/Km)	Armoured (Ohm/Km)	(Ohm/Km)
1.5	-	-	-	0.1550	-	0.1070
2.5	-	-	-	0.1420	-	0.0850
4	0.29	0.22	0.11	0.136	0.152	0.0980
6	0.34	0.26	0.13	0.128	0.144	0.0840
10	0.42	0.31	0.16	0.118	0.133	0.0800
16	0.50	0.40	0.18	0.108	0.122	0.0800
25	0.52	0.40	0.20	0.102	0.116	0.0800
35	0.60	0.47	0.23	0.097	0.110	0.0800
50	0.63	0.50	0.24	0.092	0.103	0.0780
70	0.68	0.55	0.26	0.088	0.099	0.0770
95	0.79	0.64	0.29	0.085	0.097	0.0740
120	0.79	0.67	0.29	0.082	0.093	0.0720
150	0.79	0.67	0.29	0.082	0.091	0.0720
185	0.79	0.67	0.29	0.082	0.090	0.0720
240	0.84	0.72	0.31	0.079	0.086	0.0720
300	0.86	0.75	0.33	0.078	0.085	0.0710
400	0.88	0.75	0.33	0.077	0.085	0.0700
500	0.90	0.77	0.34	0.0776	0.083	0.0700
630	0.94	0.81	0.36	0.075	0.082	0.0690
800	0.97	0.88	-	0.075	0.081	-
1000	1.01	0.88	-	0.068	0.081	-

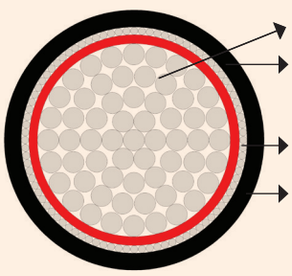
Note: Max. Conductors Resistance at 20^{o}C and compacted as per class 2 of IS & 8130.

LV POWER CABLES

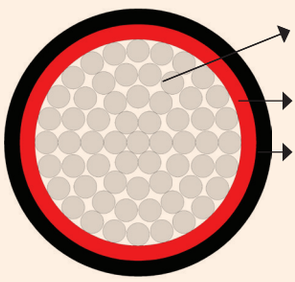
Table - 1.8

LT XLPE CABLES																						
1 Core 1.1 KV aluminium/copper conductor XLPE Armoured/Unarmoured Power Cable																						
		Unarmoured		Armoured							Unarmoured		Armoured				Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) XLPE			
Cross Sectional Area (Nom.)	Nom. Thickness of Insulation	Nom. Thickness of PVC Outersheath	Overall dia (app)	Nom. Thickness of Insulation	Nominal Dimension of Armour (Al)		Min. Thickness of outer		overall dia. (app.)		Net. Wt. of cable								Al		Cu	
					wire	Strip	wire	strip	wire	strip	conductor		Wire		Strip				Air	Ground	Air	Ground
											Al.	Cu.	Al.	Cu.	Al.	Cu.						
Sqmm	mm	mm	mm	mm	mm.	mm	mm	mm	mm	mm	Kg/Km	Kg/Km	Kg/Km	Kg/Km	Kg/Km	Kg/Km	Al	Cu	Amps	Amps	Amps	Amps
1.5	0.70	1.8	6.50	1	1.4	-	1.24	-	8.7	-	34	50	60	1	-	-	-	-	-	-	-	-
2.5	0.70	1.8	6.80	1	1.4	-	1.24	-	9.0	-	46	60	70		-	-	-	-	-	-	-	-
4	0.70	1.8	7	1	1.4	-	1.24	-	9.6	-	75	90	110	140	-	-	0.376	0.572	38	43	48	54
6	0.70	1.8	8	1	1.4	-	1.24	-	10.5	-	85	110	125	160	-	-	0.56	0.86	50	55	61	67
10	0.70	1.8	9	1	1.4	-	1.24	-	11.5	-	105	160	140	205	-	-	0.94	1.43	64	69	83	90
16	0.70	1.8	10	1	1.4	-	1.24	-	12.0	-	140	245	190	290	-	-	1.50	2.29	84	89	108	115
25	0.90	1.8	11	1.20	1.4	-	1.24	-	13.5	-	190	345	235	380	-	-	2.35	3.58	112	115	144	148
35	0.90	1.8	12	1.20	1.4	-	1.24	-	14.5	-	240	450	290	480	-	-	3.29	5.01	137	137	176	177
50	1	1.8	14	1.30	1.4	-	1.24	-	15.5	-	285	590	350	640	-	-	4.70	7.15	165	161	212	208
70	1.1	1.8	15	1.40	1.4	-	1.24	-	17.5	-	390	785	440	810	-	-	6.58	10.01	209	198	269	255
95	1.1	1.8	17	1.40	1.6	4x0.8	1.40	1.40	20.5	18.5	480	1040	605	1100	480	1060	8.93	13.59	204	243	340	312
120	1.2	1.8	19	1.50	1.6	4x0.8	1.40	1.40	22.5	20.5	585	1280	705	1350	560	1280	11.28	17.16	308	276	396	355
150	1.4	2.0	21	1.70	1.6	4x0.8	1.40	1.40	23	22	690	1560	800	1600	660	1550	14.10	21.45	360	308	450	396
185	1.6	2.0	23	1.90	1.6	4x0.8	1.40	1.40	25	24	820	1900	940	2000	890	1850	17.39	26.46	406	349	519	447
240	1.7	2.0	25.5	2.00	1.6	4x0.8	1.40	1.40	28	26	1050	2400	1100	2550	1000	2400	22.56	34.32	480	404	613	515
300	1.8	2.0	28.5	2.10	1.6	4x0.8	1.56	1.56	31	29	1250	3109	1390	3150	1200	3000	28.20	42.90	561	454	700	576
400	2.0	2.2	31	2.40	2	4x0.8	1.56	1.56	34	33	1650	3900	1810	4000	1600	3800	37.60	57.20	647	518	813	651
500	2.2	2.2	35	2.60	2	4x0.8	1.56	1.56	38	36	2000	4800	2140	5080	1950	4700	47.00	71.50	751	588	930	727
630	2.4	2.2	38	2.80	2	4x0.8	1.72	1.72	42	41	2660	6400	2700	6400	2500	6100	59.22	90.09	868	663	1055	808
800	2.6	2.4	45	3.10	2	4x0.8	1.88	1.72	47	45	3200	8000	3400	8150	3100	7850	75.20	114.40	992	740	1180	877
1000	2.8	2.6	46	3.30	2.5	4x0.8	2.04	1.88	51	49	3850	9850	4200	10100	3750	9700	94.00	143.00	1120	812	1239	935

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS: 7098(pt-I)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor 4 sq. mm, 6 sq. mm & IO sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Cir ular
2. **For Cu Conductor -** 4 sq. mm & 6 sq. mm Solid / Stran ed Non Compacted Circular, IO sq. mm and above - Stranded Compacted Circul
3. **Insulation Material:** XLPE (Cross linked pdyethylene); Colo : Natural
   Inner Sheath: PVCType Su as per IS 5831; option : FR ype/FRLS Type
4. **Armouring:** Single Layer of Aluminium Round Wire/ at St ip
   Outer Sheath: PVCType ST-2 as per IS 5831; Opti s: FR ype/FRLS Type
   Colour of Outer Sheath: Black or any other Colour perr uirement



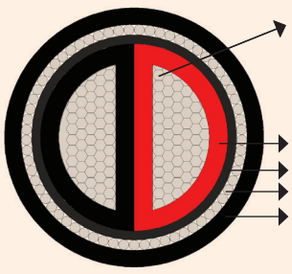
1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Circular
2. **For Copper Conductor -** 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm and above - Stranded Compacted Circular
3. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Natural
   Outer Sheath: PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour Of Outer Sheath: Black or any Other Colour as per requirement

LV POWER CABLES

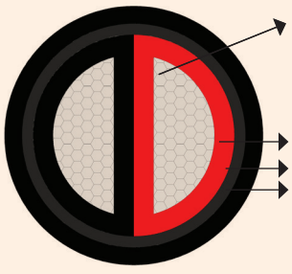
Table - 1.9

LT XPLE CABLES																					
2 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured Armroured Power Cables																					
Unarmoured					Armoured						Net WT. of Cables APP.						Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) XLPE			
cross sectional area (nom.)	Thickness of insulation (nom.)	Min. Thickness of pvc inner sheath	Nom. Thickness of pvc outer sheath	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		APP. Overall dia with armour		Unarmoured		Armoured						Al		Cu	
											conductor		Wire		Strip				Air	Ground	Air	Ground
					Wire	Strip	Wire	Strip	Wire	Strip												
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/km)	Cu (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al. (kg/km)	Cu. (kg/km)	Al	Cu	Amps	Amps	Amps	Amps
4	0.7	0.3	1.8	11.5	1.4	-	1.24	-	13	-	170	220	370	470	-	-	0.376	0.572	38	42	48	54
6	0.7	0.3	1.8	12.5	14	-	1.24	-	14	-	200	280	450	550	-	-	0.56	0.86	50	55	61	67
10	0.7	0.3	1.8	14	1.4	-	1.24	-	16	-	270	400	520	700	-	-	0.94	1.43	64	68	83	89
16	0.7	0.3	1.8	14	1.4	-	1.4	-	17	-	320	420	550	750	-	-	1.50	2.29	83	89	108	115
25	0.9	0.3	2	17	1.6	4x0.8	1.4	1.4	19	18	400	700	750	1040	550	850	2.35	3.58	109	114	140	147
35	0.9	0.3	2	18	1.6	4x0.8	1.4	1.4	21	19	440	900	850	1250	650	1050	3.29	5.01	133	136	172	176
50	1	0.3	2	20	1.6	4x0.8	1.4	1.4	23	21	590	1130	1000	1550	750	1350	4.70	7.15	162	161	208	206
70	1.1	0.3	2	23	1.6	4x0.8	1.56	1.56	25	24	750	1559	1250	2059	1000	1800	6.58	10.01	204	197	262	253
95	1.1	0.4	2.2	26	2	4x0.8	1.56	1.56	29	26	920	2109	1690	2790	1250	2340	8.93	13.59	251	235	322	302
120	1.2	0.4	2.2	28	2	4x0.8	1.56	1.56	31	30	1140	2500	1900	3350	1400	2850	11.28	17.16	287	266	368	340
150	1.4	0.4	2.2	30	2	4x0.8	1.72	1.72	35	31	1320	3100	2200	3990	1700	3430	14.10	21.45	328	296	419	379
185	1.6	0.5	2.4	34	2	4x0.8	1.88	1.72	38	35	1680	3850	2680	4840	2050	4200	17.39	26.46	379	335	482	425
240	1.7	0.5	2.6	38	2.5	4x0.8	2.04	1.88	43	39	2120	5000	3550	6350	2550	5340	22.56	34.32	448	385	566	286
300	1.8	0.6	2.8	42	2.5	4x0.8	2.2	2.04	46	41	2630	6200	4100	7650	3000	6540	28.20	42.90	513	432	644	541
400	2	0.6	3	46	2.5	4x0.8	2.36	2.36	51	47	3300	7800	4900	9500	4000	8270	37.60	57.20	593	487	734	602

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:7098(pt-I)



1. **Conductor Material:** Aluminium / Copper as per Cla -2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. m Solid / Stranded Non Compacted Circular, 1O sq. mm - Stranded Compacted Circular, 1 sq. m and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red & Black
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831; Options: FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-2 as per IS 5831; Option : FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as er requirement



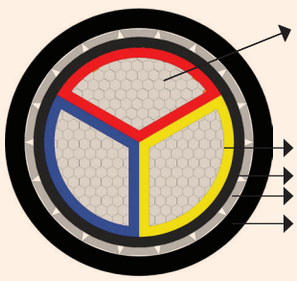
1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & IO Sq.mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 1O sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red & Black
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

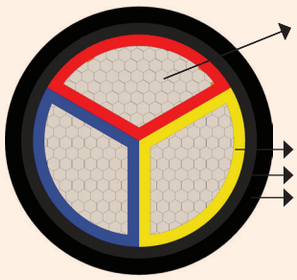
Table - 1.10

LT XPLE CABLES																						
3 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables																						
cross sectional area (nom.)	Thickness of insulatio	Min. Thickness of pvc inner sheath	Unarmoured		Armoured						Net WT. of Cables						Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) XLPE			
			Nom. Thickess of pvc outer sheath	overall dia. (app.)	Nominal size of Armour		Minimum Thickness Of outer sheath		Overall dia with armour App.		Unarmoured		Armoured						Al		Cu	
					Wire	Strip	Wire	Strip	Wire	Strip	conductor		Wire		Strip				Air	Ground	Air	Ground
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/ km)	Cu (Kg/ km)	Al. (Kg/ km)	Cu. (Kg/ km)	Al. (Kg/ km)	Cu. (Kg/ km)	Al	Cu	Amps	Amps	Amps	Amps
4	0.7	0.3	1.8	12	1.4	-	1.24	-	14	-	190	270	396	480	-	-	0.376	0.572	32	35	41	45
6	0.7	0.3	1.8	13	1.4	-	1.24	-	15	-	240	350	440	560	-	-	0.56	0.86	42	46	52	56
10	0.7	0.3	1.8	15	1.4	-	1.24	-	16	-	300	500	530	725	-	-	0.94	1.43	54	57	70	74
16	0.7	0.3	1.8	16	1.6	4x0.8	1.4	1.24	18	17	340	640	680	980	530	825	1.50	2.29	69	74	89	95
25	0.9	0.3	2	19	1.6	4x0.8	1.4	1.4	20	19	490	900	880	1300	680	1120	2.35	3.58	93	95	119	122
35	0.9	0.3	2	21	1.6	4x0.8	1.4	1.4	22	21	580	1200	1020	1600	825	1360	3.29	5.01	114	114	147	146
50	1	0.3	2	23	1.6	4x0.8	1.56	1.4	25	24	785	1550	1250	2050	970	1800	4.70	7.15	138	134	179	173
70	1.1	0.4	2.2	27	2.0	4x0.8	1.56	1.56	30	28	1035	2200	1750	2950	1300	2500	6.58	10.01	175	164	226	212
95	1.1	0.4	2.2	30	2.0	4x0.8	1.56	1.56	32	30	1280	2950	2100	3700	1500	3200	8.93	13.59	216	197	279	254
120	1.2	0.4	2.2	33	2.0	4x0.8	1.72	1.56	36	33	1582	3600	2500	4600	1850	3900	11.28	17.16	249	223	320	287
150	1.4	0.5	2.4	37	2.0	4x0.8	1.88	1.72	40	37	1930	4500	2950	5500	2300	4800	14.10	21.45	284	249	365	321
185	1.6	0.5	2.6	41	2.5	4x0.8	2.04	1.88	45	41	2430	5500	3900	7000	2800	5900	17.39	26.46	329	282	422	362
240	1.7	0.6	2.8	46	2.5	4x0.8	2.2	2.04	49	46	3072	7250	4700	8500	3400	7550	22.56	34.32	392	327	500	418
300	1.8	0.6	3	51	2.5	4x0.8	2.36	2.2	53	51	3765	9000	5500	10500	4200	9200	28.20	42.90	452	369	574	469
400	2	0.7	3.2	57	3.15	4x0.8	2.68	2.52	61	58	4750	11200	7300	14000	5300	11600	37.60	57.20	426	420	662	528

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:7098(pt-I)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 1 0 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow & Blue
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire/Flat Strip
5. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



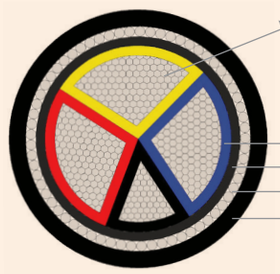
1. **Conductor Material:** Aluminium / Copper as per Class-2 Of IS 8130
   Shape Of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 1O sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 1O sq. mm - Stranded Compacted Circular, 1 6 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow & Blue
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

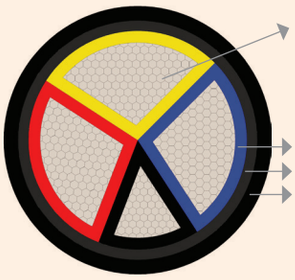
Table - 1.11

LT XPLE CABLES																						
3.5 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables																						
cross sectional area (nom.)	Thickness of insulation	Min. Thickness of pvc inner sheath	Unarmoured		Armoured						Net WT. of Cables						Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) XLPE			
			Nom. Thickness of pvc outer sheath	overall dia. (app.)	Nominal size of Armour		Minimum Thickness of outer sheath		Overall dia with armour		Unarmoured		Armoured						Al		Cu	
					Wire	Strip	Wire	Strip	Wire	Strip	conductor		Wire		Strip				Air	Ground	Air	Ground
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/ km)	Cu (kg/ km)	Al. (kg/ km)	Cu. (kg/ km)	Al. (kg/ km)	Cu. (kg/ km)	Al	Cu	Amps	Amps	Amps	Amps
25/16	0.9/0.7	0.3	2.0	20	1.6	4x0.8	1.4	1.4	22	21	590	1120	980	1500	780	1310	2.35	3.58	93	95	119	122
35/16	0.9/0.7	0.3	2.0	23	1.6	4x0.8	1.4	1.4	25	23	690	1370	1180	1800	925	1600	3.29	5.01	114	114	147	146
50/25	1.0/0.9	0.3	2.0	25	1.6	4x0.8	1.56	1.4	27	26	790	1800	1430	2300	1125	2050	4.70	7.15	138	134	179	173
70/35	1.1/0.9	0.4	2.2	29	2.0	4x0.8	1.56	1.56	32	30	1180	2550	1980	3300	1450	2750	6.58	10.01	175	164	226	212
95/50	1.1/1.0	0.4	2.2	33	2.0	4x0.8	1.56	1.56	35	33	1480	3400	2370	4300	1800	3700	8.93	13.59	216	197	279	254
120/70	1.2/1.1	0.4	2.2	36	2.0	4x0.8	1.72	1.72	39	36	1760	4500	2860	5300	2200	4700	11.28	17.16	249	223	320	287
150/70	1.4/1.1	0.5	2.4	40	2.0	4x0.8	1.88	1.72	43	40	2200	5200	3300	6300	2600	5400	14.10	21.45	284	249	365	321
185/95	1.6/1.1	0.5	2.6	44	2.5	4x0.8	2.04	1.88	49	44	2750	6500	4400	8150	3150	6900	17.39	26.46	329	282	422	362
240/120	1.7/1.2	0.6	2.8	49	2.5	4x0.8	2.2	2.04	53	49	3500	8400	5200	10000	3950	8800	22.56	34.32	392	327	500	418
300/150	1.8/1.4	0.6	3.0	54	2.5	4x0.8	2.36	2.2	57	54	4200	10300	6200	12200	4700	10750	28.20	42.90	452	369	574	469
400/185	2.0/1.6	0.7	3.4	61	3.15	4x0.8	2.68	2.52	65	61	5400	13200	8100	15800	5900	13700	37.60	57.20	426	420	662	528

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:7098(pt-1)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow, Blue & Black
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement



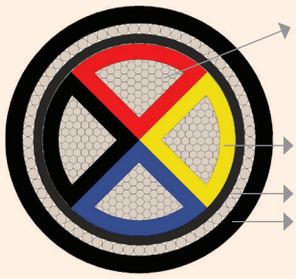
1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 10 sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 1 0 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow, Blue & Black
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

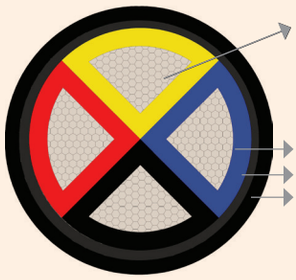
Table - 1.12

LT XPLE CABLES																					
4 core 1.1 KV Aluminium Copper conductor XLPE insulated unarmoured / Armroured Power Cables																					
cross sectional area (nom.)	Thickness of insulatio	Min. Thick-ness of pvc inner sheath	Unarmoured		Armoured						Net WT. of Cables						Short Circuit Current Rating For 1 Sec Duration kA		A.C CURRENT RATING (AMPS.) XLPE			
			Nom. Thick-ess of pvc outer sheath	over-all dia. (app.)	Nominal size of Armour		Minimum Thickness Of outer sheath		Overall dia with armour		Unarmoured		Armoured						Al		Cu	
					Wire	Strip	Wire	Strip	Wire	Strip	conductor		Wire		Strip				Air	Ground	Air	Ground
sqmm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Al. (Kg/ km)	Cu (Kg/ km)	Al. (Kg/ km)	Cu. (Kg/ km)	Al. (Kg/ km)	Cu. (Kg/ km)	Al	Cu	Amps	Amps	Amps	Amps
4	0.7	0.3	1.8	13	1.4	-	1.24	-	17	-	210	330	430	540		-	0.376	0.572	32	35	41	45
6	0.7	0.3	1.8	14	1.4	-	1.24	-	19	-	280	420	500	650	-	-	0.56	0.86	42	46	52	56
10	0.7	0.3	1.8	16	1.4	-	1.24	-	20		350	620	600	880		-	0.94	1.43	54	57	70	74
16	0.7	0.3	1.8	18	1.6	4x0.8	1.40	1.4	21	20	420	790	825	1180	630	980	1.50	2.29	69	74	89	95
25	0.9	0.3	2.0	21	1.6	4x0.8	1.4	1.4	24	23	580	1175	1050	1650	830	1350	2.35	3.58	93	95	119	122
35	0.9	0.3	2.0	23	1.6	4x0.8	1.4	1.4	26	25	725	1580	1250	2000	980	1800	3.29	5.01	114	114	147	146
50	1.0	0.3	2.0	26	1.6	4x0.8	1.56	1.56	29	28	925	1950	1500	2600	1200	2300	4.70	7.15	138	134	179	173
70	1.1	0.4	2.2	30	2.0	4x0.8	1.56	1.56	34	32	1250	2850	2150	3700	1600	3200	6.58	10.01	175	164	226	212
95	1.1	0.4	2.2	34	2.0	4x0.8	1.72	1.56	38	35	1650	3850	2650	4800	1980	4200	8.93	13.59	216	197	279	254
120	1.2	0.5	2.4	38	2.0	4x0.8	1.88	1.72	42	39	2050	4800	3100	6000	2400	5200	11.28	17.16	249	223	320	287
150	1.4	0.5	2.6	41	2.5	4x0.8	2.04	1.88	46	43	2500	5900	4000	7450	2900	6300	14.10	21.45	284	249	365	321
185	1.6	0.5	2.8	46	2.5	4x0.8	2.2	2.04	52	48	3150	7250	4750	9000	3550	7850	17.39	26.46	329	282	422	362
240	1.7	0.6	3.0	52	2.5	4x0.8	2.26	2.2	58	54	4000	9500	5850	11200	4400	10000	22.56	34.32	392	327	500	418
300	1.8	0.7	3.2	59	3.15	4x0.8	2.52	2.36	65	61	4959	12000	7650	14500	5400	12300	28.20	42.90	452	369	574	469
400	2.0	0.7	3.6	65	3.15	4x0.8	2.84	2.68	73	68	6200	15100	9300	18200	6700	15500	37.60	57.20	426	420	662	528

Note: Max. Conductors Resistance at 20°C and compacted as per class 2 of IS & 8130.
The date given above are generally as per IS:7098(pt-I)



1. **Conductor Material:** Aluminium / Copper as per Class-2 of IS 8130
   Shape of Conductor: For Aluminium Conductor- 4 sq. mm, 6 sq. mm & 1O sq. mm Solid (Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shap
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 10 sq. mm - Stranded Compacted Circular, 16 sq. mm and above - Stranded Compacted Shap
2. **Insulation Material:** XLPE (Cross linked polyethylene); ; Colour: Red, yellow, Blue & Black
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Armouring:** Single Layer of Galvanized Steel Round Wire/Flat Strip
5. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

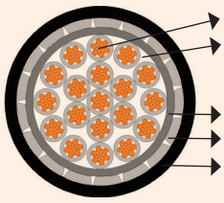


1. **Conductor Material:** Aluminium / Copper as per Class-2 Of IS 8130
   Shape Of Conductor: For Aluminium Conductor - 4 sq. mm, 6 sq. mm & 1O sq. mm Solid / Stranded Non Compacted Circular, 16 sq. mm and above - Stranded Compacted Shaped
   For Copper Conductor - 4 sq. mm & 6 sq. mm Solid / Stranded Non Compacted Circular, 1O sq. mm - Stranded Compacted Circular, 1 6 sq. mm and above - Stranded Compacted Shaped
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow & Blue
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
4. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

LV POWER CABLES

Table - 1.13
1.5 sq. mm. Multistrand Copper Conductor (7 /O.53mm) multicore control cable-1.1 KV grade as per IS:7098(pt-1)88
Thickness of insulations-0.70 mm (Nominal), Short Circuit Current Rating for 1 sec Duration.- 0.215 kA
Max. Conductor D.C. Resistance at 20°C-12.1 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured					Flat strip armoured			Reactance of Cable at 50 Hz (App.)	Capacitance of Cable (App.)	current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Wt. App. Kg/km	Round wire size (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip Size (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Ω/km	µF/km	Amp. Air	Amp. Ground
2	0.30	1.80	9.5	150	1.40	1.24	11	315	-	-	-	-	0.102	0.09	27	31
3	0.30	1.80	10.5	170	1.40	1.24	12	325	-	-	-	-	0.102	0.09	23	26
4	0.30	1.80	11.5	200	1.40	1.24	13	355	-	-	-	-	0.102	0.09	23	26
5	0.30	1.80	12.5	230	1.40	1.24	14	410	-	-	-	-	0.102	0.09	23	26
6	0.30	1.80	13.0	240	1.40	1.24	14.50	450	-	-	-	-	0.102	0.09	20	23
7	0.30	1.80	13.5	250	1.40	1.24	15	460	-	-	-	-	0.102	0.09	18	20
10	0.30	1.80	15.0	330	1.40	1.24	18	690	-	-	-	-	0.102	0.09	15	17
12	0.30	1.80	16.0	350	1.40	1.40	18.50	740	-	-	-	-	0.102	0.09	14	16
14	0.30	1.80	17.0	415	1.40	1.40	19	790	-	-	-	-	0.102	0.09	14	16
16	0.30	1.80	18.0	470	1.60	1.40	20	850	4x0.8	1.40	18	650	0.102	0.09	12	14
19	0.30	1.80	19.0	550	1.60	1.40	20.50	930	4x0.8	1.40	19	740	0.102	0.09	12	14
24	0.30	2.00	22.0	680	1.60	1.40	23	1100	4x0.8	1.40	21	900	0.102	0.09	11	12
27	0.30	2.00	23.0	720	1.60	1.40	24	1200	4x0.8	1.40	22	950	0.102	0.09	9	11
30	0.30	2.00	23.5	790	1.60	1.40	24.50	1250	4x0.8	1.40	23	1000	0.102	0.09	9	11
37	0.30	2.00	25.0	930	1.60	1.40	26	1500	4x0.8	1.40	24	1150	0.102	0.09	9	11
40	0.30	2.00	26.0	1000	1.60	1.40	27	1550	4x0.8	1.40	25	1300	0.102	0.09	8	9
44	0.30	2.00	27.0	1100	1.60	1.56	30	1730	4x0.8	1.40	2650	1400	0.102	0.09	8	9
52	0.40	2.00	28.0	1250	1.60	1.56	31	1890	4x0.8	1.56	29	1600	0.102	0.09	8	9
61	0.40	2.00	30.0	1500	2.00	1.56	32	2400	4x0.8	1.56	31	1800	0.102	0.09	8	9



1. **Conductor:** Solid / Stranded Annealed Bare Copper as per Class-2 of IS 8130; Options: Tinned
2. **Insulation Material:** XLPE Insulation
   Core Identification: Upto 5 cores: R, Y, BL, BK & GR/Above 5 cores: By colour coding Blue, Yellow & Rem. core Grey/ Number printing on cores as per IS 7098 Part-1
3. **Inner Sheath:** PVC Type ST-I as per IS 831 ; Options: PVCType ST-2/FR Type/FRLS Type
4. **Armouring:** Single Layer of Aluminium Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-I as per IS 5831 ; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

Table - 1.14
2.5 sq. mm. Multistrand Copper Conductor (7/O.67 mm) multicore control cable-1.1 KV grade as per IS:7098(pt-1)88
Thickness of insulations-0.70 mm (Nominal), Short Circuit Current Rating for 1 sec Duration.- 0.358 kA
Max. Conductor D.C. Resistance at 20°C-7.41 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured					Flat strip armoured			Reactance of Cable at 50 Hz (App.)	Capacitance of Cable (App.)	current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Wt. App. Kg/km	Round wire size (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip Size (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Ω/km	µF/km	Amp. Air	Amp. Ground
2	0.30	1.80	10.50	175	1.40	1.24	12	355	-	-	-	-	0.100	0.10	36	41
3	0.30	1.80	11.50	200	1.40	1.24	13	380	-	-	-	-	0.100	0.10	30	34
4	0.30	1.80	12.50	245	1.40	1.24	14	420	-	-	-	-	0.100	0.10	30	34
5	0.30	1.80	13.00	290	1.40	1.24	15	480	-	-	-	-	0.100	0.10	30	34
6	0.30	1.80	14.00	320	1.40	1.24	15.50	450	-	-	-	-	0.100	0.10	27	31
7	0.30	1.80	14.50	340	1.40	1.24	16	570	-	-	-	-	0.100	0.10	23	27
10	0.30	1.80	17.00	425	1.60	1.40	19	840	4x0.8	1.24	18	635	0.100	0.10	20	23
12	0.30	1.80	18.00	500	1.60	1.40	20	900	4x0.8	1.40	18.50	690	0.100	0.10	18	20
14	0.30	1.80	19.00	570	1.60	1.40	21	980	4x0.8	1.40	19	775	0.100	0.10	18	20
16	0.30	2.00	20.00	625	1.60	1.40	22	1050	4x0.8	1.40	20	865	0.100	0.10	16	18
19	0.30	2.00	21.00	725	1.60	1.40	23	1150	4x0.8	1.40	21	950	0.100	0.10	16	18
24	0.30	2.00	23.50	900	1.60	1.40	26	1440	4x0.8	1.40	24	1180	0.100	0.10	14	16
27	0.30	2.00	24.00	1000	1.60	1.40	27	1560	4x0.8	1.40	25.50	1275	0.100	0.10	13	14
30	0.30	2.00	25.00	1100	1.60	1.40	28	1670	4x0.8	1.40	26	1400	0.100	0.10	13	14
37	0.30	2.00	28.00	1300	1.60	1.56	30	1900	4x0.8	1.40	28	1600	0.100	0.10	13	14
40	0.30	2.00	28.50	1400	1.60	1.56	31	2100	4x0.8	1.56	29	1750	0.100	0.10	11	12
44	0.40	2.00	31.00	1600	2.00	1.56	34	2500	4x0.8	1.56	30	1940	0.100	0.10	11	12
52	0.40	2.20	32.00	1800	2.00	1.56	35	2800	4x0.8	1.56	32	2200	0.100	0.10	11	12
61	0.40	2.20	33.00	2100	2.00	1.56	36	3150	4x0.8	1.56	34	3100	0.100	0.10	11	12

PRIMECAB®
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2

CONTROL AND INSTRUMENTATION CABLES

Our Control and Instrumentation cables are designed to ensure accurate signal transmission in process control and monitoring systems. Widely used in industries such as transmission, power plants, oil & gas, petrochemicals, and manufacturing facilities, these cables provide excellent protection against electrical interference and environmental disturbances. With superior shielding and robust construction, they ensure reliable data transmission and operational safety in critical applications.

CONTROL CABLES

Cables for control circuits in power plants and other similar industrial installation and signaling network of railways, with or withour FR/FRLS properties in sizes normally upto 61 cores. Voltage grade 650/1100 Volts (U/U). Conforming to standard specifications like IS 1554(ptl), Bs 6346, IEC227-I, III, IRS 63/89.

Conductor :-

solid/ stranded, circular annealed, bare/tinned copper wire of 1.5 sq. mm, 2.5sq.mm, 4.0sq.mm, 6.0sq.mm.

Insulation:-

PVC fully color coded cores. Core identification by printed numerals / letters also available on request.

Screen (if desired):-

Screening by copper braid or aluminium mylar tape or aluminium wire for reinforced armour types.

Drain Wire (if desired) :-

Drain wire of solid / stranded, bare/tinned copper wire normally provided for screened cables.

Machenical Protection:-

Galvanized steel wire or strip or double helical steel tape armour.

Inner & Outer Sheath :-

PVC black/grey.

INSTRUMENTATION CABLES

Instrumentation cables are used for control circuits in power plants and other similar industrial installations and signaling network. With or without FR/FRLS properties in sizes 0.5 to 2.5 sq. mm normally upto 24 pairs and traids. Voltage grade 450/750 Volts. Conforming to standard specifications like IS 1554 (Pt-1), BS 6346, BS 5308, IEC 60227-I&III.

Conductor

Solid or stranded, circular annealed, bare or tinned copper wire of 0.5 sq. mm, 0.75 sq. mm, 1.00 sq. mm, 1.5 sq. mm, 2.5 sq. mm.

Insulation

PVC/XLPE fully colour coded cores using. Core identification by printed characters is also available on order. The colour of Pair- Blue, White & Traid - Blue, White & Black.

Screen

Screening by Copper Wire shielding with Aluminium Mylar tape.

Drain Wire

Drain wire of solid or stranded, bare or tinned copper wire are normally provided.

Mechanical Protection

Galvanized steel wire, strip use in single layer.

Inner and Outer Sheath

PVC with or without FR/FR-LSH, Black or Grey.

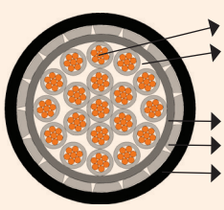
CONTROL CABLE (PVC)

Table - 2.1

1.5 sq.mm. Solid Copper Conductor (1/1.38mm) multicore control cable-I.I KV Grade as per IS: 1554 (Pt-1)88
Thickness of insulations-0.80 mm (Nominal)

Short Circuit Current Rating for 1 sec Duration.- 0.173 kA
Max. Conductor D.C. Resistance at 20°C-v12.10 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured				Flat strip armoured				current rating in air D.C.		current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Net Wt. App. Kg/km	Round wire (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip (Flat) mm	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/ km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	0.30	1.80	11.1	165	1.40	1.24	13.5	345	-	-	-	-	21	20	20	19
3	0.30	1.80	11.2	195	1.40	1.24	14	365	-	-	-	-	20	18	17	16
4	0.30	1.80	12.1	225	1.40	1.24	14.5	405	-	-	-	-	18	17	17	16
5	0.30	1.80	13.1	262	1.40	1.24	15.2	465	-	-	-	-	18	16	17	16
6	0.30	1.80	14.2	305	1.40	1.24	16.1	515	-	-	-	-	17	16	13	12
7	0.30	1.80	14.3	350	1.40	1.24	16.3	535	-	-	-	-	16	15	13	12
8	0.30	1.80	14.5	360	1.40	1.24	18.5	620	-	-	-	-	16	15	13	12
9	0.30	1.80	16	380	1.40	1.24	19.3	680	-	-	-	-	16	15	13	12
10	0.30	1.80	17.2	390	1.40	1.40	19.5	710	-	-	-	-	15	15	11	10
12	0.30	1.80	18.1	435	1.60	1.40	20.2	812	4x0.8	1.24	18.5	625	15	14	10	9
14	0.30	1.80	18.20	495	1.60	1.40	21.2	885	4x0.8	1.40	19.1	685	14	13	10	9
15	0.30	1.80	19	540	1.60	1.40	22	950	4x0.8	1.40	19.50	700	14	13	10	9
16	0.30	1.80	19.3	545	1.60	1.40	22.5	980	4x0.8	1.40	20.1	765	13	12	9	8
18	0.30	1.80	20	625	1.60	1.40	23	1050	4x0.8	1.40	21	790	13	12	9	8
19	0.30	2.00	21.2	635	1.60	1.40	23.2	1070	4x0.8	1.40	21.1	835	13	12	9	8
20	0.30	2.00	21	690	1.60	1.40	24	1100	4x0.8	1.40	21.5	850	13	11	9	8
21	0.30	2.00	21.5	700	1.60	1.40	25	1120	4x0.8	1.40	22	890	13	11	9	8
24	0.30	2.00	23.1	785	1.60	1.40	25.2	1225	4x0.8	1.40	24.5	1025	12	11	8	7
27	0.30	2.00	24.2	865	1.60	1.40	26.5	1365	4x0.8	1.40	25	1120	12	11	8	7
29	0.30	2.00	25	935	1.60	1.40	27	1400	4x0.8	1.40	25.1	1150	11	11	8	7
30	0.30	2.00	25.5	940	1.60	1.40	27.5	1460	4x0.8	1.40	25.20	1190	11	11	7	6
37	0.30	2.00	27.5	1170	1.60	1.40	29.5	1700	4x0.8	1.40	21.20	1390	11	10	7	6
40	0.30	2.00	28	1180	1.60	1.56	30.5	1790	4x0.8	1.40	28.2	1465	11	10	7	6
42	0.30	2.00	30	1280	1.60	1.56	31.5	1900	4x0.8	1.56	30.5	1480	10	10	7	6
44	0.30	2.00	31	1300	1.60	1.56	32.5	1960	4x0.8	1.56	31	1634	10	9	7	6
52	0.40	2.20	31.5	1525	2.00	1.56	34.5	2400	4x0.8	1.56	32.1	1860	10	9	6	5
61	0.40	2.20	34	1795	2.00	1.56	36.5	2670	4x0.8	1.56	34.5	2100	9	8	6	5



1. Conductor: Solid / Stranded Annealed Bare Copper as per Class-2 of IS 8130; Options: Tinned
2. Insulation Material: PVC Type-A OR HR PVC Type-C as per IS 5831; Nominal Insulation Thickness: 0.80 mm
Core Identification: Upto 5 cores: By colour coding & Above 5 cores: By colour coding / Number printing on cores as per IS 1554 Part-1
3. Inner Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
4. Armouring: Single Layer of Aluminium Round Wire / Flat Strip
5. Outer Sheath: PVC Type ST-1 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
Colour of Outer Sheath: Black or any other Colour as per requirement

CONTROL CABLE (PVC)

Table - 2.2
1.5 sq.mm. Multistrand Copper Conductor (7 /O.53mm) multicore control cable-1.1 KV grade as per IS:1554(pt-1)88
Thickness of insulations-0.80 mm (Nominal)

Short Circuit Current Rating for 1 sec Duration.- 0.173 kA
Max. Conductor D.C. Resistance at 20°C-12.10 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured				Flat strip armoured				current rating in air D.C.		current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Net Wt. App. Kg/km	Round wire (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip (Flat) mm	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/ km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	0.30	1.80	11.2	172	1.40	1.24	13.6	365	-	-	-	-	23	21	20	19
3	0.30	1.80	12.1	205	1.40	1.24	14.1	385	-	-	-	-	21	19	17	16
4	0.30	1.80	13.1	232	1.40	1.24	14.20	425	-	-	-	-	16	18	17	16
5	0.30	1.80	14.1	270	1.40	1.24	15.3	485	-		-	-	16	18	17	16
6	0.30	1.80	15.2	312	1.40	1.24	16.20	535	-	-	-	-	18	17	13	14
7	0.30	1.80	15.3	305	1.40	1.24	16.50	555	-	-	-	-	8	16	13	13
8	0.30	1.80	17	340	1.40	1.24	18.60	580	-	-	-	-	17	16	13	13
9	0.30	1.80	17.80	380	1.40	1.24	19.50	620	-	-	-	-	16	16	13	13
10	0.30	1.80	18.10	405	1.40	1.40	20.20	745	-	-	-	-	16	15	11	12
12	0.30	1.80	18.20	460	1.60	1.40	21.1	860	4x0.8	1.24	19.1	645	16	14	10	11
14	0.30	1.80	19.20	510	1.60	1.40	22.10	945	4x0.8	1.40	20.1	735	15	14	10	10
15	0.30	1.80	20.00	540	1.60	1.40	22.20	1000	4x0.8	1.40	20.5	770	14	13	10	10
16	0.30	1.80	20.20	565	1.60	1.40	23.1	1030	4x0.8	1.40	21.5	765	14	13	9	10
18	0.30	1.80	21	600	1.60	1.40	23.2	1100	4x0.8	1.40	21.9	800	14	13	9	10
19	0.30	2.00	21.3	665	1.60	1.40	24.1	1120	4x0.8	1.40	22.1	885	14	13	9	9
20	0.30	2.00	22	700	1.60	1.40	24.3	1200	4x0.8	1.40	22.5	900	14	13	9	9
21	0.30	2.00	23	760	1.60	1.40	25.1	1250	4x0.8	1.40	23	970	14	13	9	9
24	0.30	2.00	25.5	830	1.60	1.40	27.1	1350	4x0.8	1.40	25.1	1075	13	12	8	8
27	0.30	2.00	25.6	900	1.60	1.40	27.2	1435	4x0.8	1.40	26.1	1155	13	12	8	8
29	0.30	2.00	26	930	1.60	1.40	27.5	1460	4x0.8	1.40	26.5	1190	13	11	8	8
30	0.30	2.00	26.5	980	1.60	1.40	28.2	1530	4x0.8	1.40	27.28	1250	12	11	7	8
37	0.30	2.00	28.2	1160	1.60	1.40	30.5	1750	4x0.8	1.40	28.1	1450	11	11	7	7
40	0.30	2.00	29.5	1225	1.60	1.56	31.5	1875	4x0.8	1.40	29.1	1535	11	10	7	7
42	0.30	2.00	30	1280	1.60	1.56	32	1900	4x0.8	1.56	30.1	1600	11	10	7	7
44	0.30	2.00	31.5	1360	1.60	1.56	34.2	2045	4x0.8	1.56	32.2	1720	11	10	7	6
52	0.40	2.20	33.2	1600	2.00	1.56	36.5	2500	4x0.8	1.56	33.1	1950	11	9	6	5
61	0.40	2.20	35.2	1830	2.00	1.56	38.5	2910	4x0.8	1.56	35.1	2230	10	9	6	5

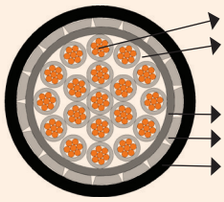
CONTROL CABLE (PVC)

Table - 2.3

2.5 sq.mm. Solid Copper Conductor (1/1.78mm) multicore control cable - 1.1 KV grade as per IS: 1554 (pt-I)88
Thickness of insulations-0.90 mm (Nominal)

Short Circuit Current Rating for 1 sec Duration.- 0.288 kA
Max. Conductor D.C. Resistance at 20°C-7.41 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured				Flat strip armoured				current rating in air D.C.		current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Net Wt. App. Kg/km	Round wire (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip (Flat) mm	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	0.30	1.80	12.1	212	1.40	1.24	14.1	415	-	-	-	-	28	26	26	25
3	0.30	1.80	13.1	255	1.40	1.24	15.1	435	-	-	-	-	26	24	23	22
4	0.30	1.80	14.1	305	1.40	1.24	16.1	505	-	-	-	-	24	23	23	22
5	0.30	1.80	15.1	315	1.40	1.24	17.1	575	-	-	-	-	24	23	23	22
6	0.30	1.80	16.1	402	1.40	1.24	18.1	635	-	-	-	-	23	22	18	17
7	0.30	1.80	16.3	430	1.40	1.24	18.2	675	-	-	-	-	22	21	17	16
8	0.30	1.80	16.5	480	1.40	1.40	18.70	700	4x0.8	1.40	18	500	21	21	17	16
9	0.30	1.80	18	500	1.60	1.40	20.5	850	4x0.8	1.40	19	680	21	20	17	16
10	0.30	1.80	20.1	535	1.60	1.40	22.1	900	4x0.8	1.40	20.1	755	21	19	15	14
12	0.30	2.00	21.1	622	1.60	1.40	23.1	1045	4x0.8	1.40	21.1	825	20	18	14	13
14	0.30	2.00	21.5	705	1.60	1.40	24.1	1155	4x0.8	1.40	22.1	925	19	18	13	12
15	0.30	2.00	21.9	750	1.60	1.40	24.9	1200	4x0.8	1.40	22.5	990	19	18	13	12
16	0.30	2.00	22.1	785	1.60	1.40	25.2	1245	4x0.8	1.40	23.1	1030	19	17	13	12
18	0.30	2.00	23	810	1.60	1.40	26	1300	4x0.8	1.40	23.5	1090	19	17	13	12
19	0.30	2.00	24.1	895	1.60	1.40	26.5	1390	4x0.8	1.40	24.1	1135	18	16	12	11
20	0.30	2.00	25	900	1.60	1.56	27	1450	4x0.8	1.40	24.1	1200	18	16	12	11
21	0.30	2.00	26	1050	1.60	1.56	27.5	1600	4x0.8	1.40	25	1300	18	16	12	11
24	0.30	2.00	27.2	1110	1.60	1.56	30.5	1720	4x0.8	1.40	28	1400	17	16	11	10
27	0.30	2.00	28.2	1215	1.60	1.56	31	1845	4x0.8	1.40	28.1	1515	16	15	10	9
29	0.30	2.00	28.9	1295	1.60	1.56	31.1	1910	4x0.8	1.56	29	1590	16	15	10	9
30	0.30	2.00	29.2	1325	1.60	1.56	31.6	1985	4x0.8	1.56	30.1	1680	16	14	10	9
37	0.40	2.20	32.1	1635	1.60	1.56	34.2	2525	4x0.8	1.56	32.1	1965	15	14	9	8
40	0.40	2.20	33.1	1735	1.60	1.56	36.2	2625	4x0.8	1.56	33.1	2090	15	13	9	8
42	0.40	2.20	34	1810	1.60	1.56	37	2800	4x0.8	1.56	34.1	2150	14	13	9	8
44	0.40	2.20	35.1	1910	1.60	1.56	38.2	2900	4x0.8	1.56	36.1	2320	14	13	9	8
52	0.40	2.20	37.5	2200	2.00	1.72	40.2	3265	4x0.8	1.56	37.5	2620	14	13	8	7
61	0.40	2.20	39.5	2530	2.00	1.72	43	3650	4x0.8	1.56	41	2960	13	12	8	7



1. **Conductor:** Solid / Stranded Annealed Bare Copper as per Class-2 of IS 8130; Options: Tinned
2. **Insulation Material:** PVC Type-A OR HR PVC Type-C as per IS 5831 ; Nominal Insulation Thickness: 0.90 mm
   Core Identification: Upto 5 cores: By colour coding & Above 5 cores: By colour coding / Number printing on cores as per IS 1554 Part-I
3. **Inner Sheath:** PVC Type ST-I as per IS 831 ; Options: PVCType ST-2/FR Type/FRLS Type
4. **Armouring:** Single Layer of Aluminium Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-I as per IS 5831 ; Options: PVC Type ST-2/FR Type/FRLS Type
   Colour of Outer Sheath: Black or any other Colour as per requirement

CONTROL CABLE (PVC)

Table - 2.4
2.5 sq.mm. Multistrand Copper Conductor (7 /O.67mm) multicore control cable - I.I KV grade as per IS: 1554 (pt-I)88
Thickness of insulations-0.90 mm (Nominal)
Short Circuit Current Rating for 1 sec Duration.- 0.288 kA
Max. Conductor D.C. Resistance at 20°C-7.41 Ω/km

No. of cores	Inner Sheath (mm) Min.	Unarmoured			Round wire armoured				Flat strip armoured				current rating in air D.C.		current rating in air A.C.	
		Nom. Outer Sheath Thickness (mm)	O.D. App. In mm	Net Wt. App. Kg/km	Round wire (mm)	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	Strip (Flat) mm	Min. Outer Sheath Thickness (mm)	O.D. App. in mm	Net Wt. App. In kg/km	amp. Armoured	Amp. Unarmoured	amp. Armoured	Amp. Unarmoured
2	0.30	1.80	13.1	222	1.40	1.24	14.1	442	-	-	-	-	29	27	26	25
3	0.30	1.80	13.2	263	1.40	1.24	15.1	453	-	-	-	-	27	25	23	22
4	0.30	1.80	14.1	312	1.40	1.24	16.1	522	-	-	-	-	25	24	23	22
5	0.30	1.80	15.1	368	1.40	1.24	17.2	595	-	-	-	-	24	23	23	22
6	0.30	1.80	16.1	425	1.40	1.24	18.1	665	-	-	-	-	23	22	18	17
7	0.30	1.80	16.5	405	1.40	1.24	18.5	705	-	-	-	-	22	21	17	16
8	0.30	1.80	17	450	1.40	1.40	20	800	4x0.8	1.40	18.5	505	22	21	17	16
9	0.30	1.80	18	500	1.40	1.40	23	900	4x0.8	1.40	19.5	690	21	20	17	16
10	0.30	1.80	20.5	555	1.40	1.40	23.5	1015	4x0.8	1.40	20.5	765	20	19	15	14
12	0.30	2.00	21.2	655	1.60	1.40	24.5	1105	4x0.8	1.40	21.5	835	20	19	14	13
14	0.30	2.00	22.2	735	1.60	1.40	25	1195	4x0.8	1.40	22.5	935	19	18	13	12
15	0.30	2.00	23	780	1.60	1.40	26	1240	4x0.8	1.40	22.8	1000	19	18	13	12
16	0.30	2.00	23.5	815	1.60	1.40	26.5	1305	4x0.8	1.40	23.5	1040	19	18	13	12
18	0.30	2.00	24	900	1.60	1.40	26.8	1365	4x0.8	1.40	23.9	1100	18	17	13	12
19	0.30	2.00	25.5	935	1.60	1.40	27.2	1455	4x0.8	1.40	24.5	1145	18	17	12	11
20	0.30	2.00	26	1000	1.60	1.56	28	1500	4x0.8	1.40	24.9	1210	18	17	12	11
21	0.30	2.00	27	1050	1.60	1.56	29	1600	4x0.8	1.40	25.5	1310	17	16	12	11
24	0.30	2.00	29.5	1155	1.60	1.56	31.5	1795	4x0.8	1.40	28.5	1410	17	16	11	10
27	0.30	2.00	30	1265	1.60	1.56	32.5	1925	4x0.8	1.40	28.6	1525	16	15	10	9
29	0.30	2.00	30.5	1300	1.60	1.56	33	1995	4x0.8	1.56	29.5	1600	16	15	10	9
30	0.30	2.00	31	1358	1.60	1.56	33.1	2065	4x0.8	1.56	30.5	1690	15	14	10	9
37	0.40	2.20	33.5	1710	1.60	1.56	36.2	2625	4x0.8	1.56	32.5	1975	15	14	9	8
40	0.40	2.20	34.2	1810	1.60	1.56	37.2	2745	4x0.8	1.56	33.5	2100	15	14	9	8
42	0.40	2.20	36	1900	1.60	1.56	39	2820	4x0.8	1.56	34.5	2160	15	14	9	8
44	0.40	2.20	37.5	1985	1.60	1.56	40.5	3025	4x0.8	1.56	36.5	2330	14	13	9	8
52	0.40	2.20	38.5	2285	2.00	1.72	42.5	3450	4x0.8	1.56	38.1	2640	14	13	8	7
61	0.40	2.20	42	2625	2.00	1.72	45	3820	4x0.8	1.56	41.5	2970	13	12	8	7

1. Insulation thickness (nom)- 0.8mm for 1.5 sq. mm & 0.9mm for 2.5 sq.mm
2. Thickness of inner sheath (minimum]
   0.3mm upto including 48 cores & 0.4mm above 48 cores for table 1
   0.3mm upto including 43 cores & 0.4mm above 43 cores for table 2
   0.3mm upto including 33 cores & 0.4mm above 33 cores for table 3
   0.3mm upto including 29 cores & 0.4mm above 29 cores for table 4

3. Standard drum lenth -500/1000mtrs+/-5% upto & including 19 cores & 500 mtrs.+/-5% above 19 cores
4. Maximum DC resistance of condr. at 20° C in ohm/km-12.1 for 1.5 sq.mm & 7.41 for 2.5sq.mm
5. Maximum AC resistance of condr. at 70°C in ohm/km-17.42 for 1.5 sq.mm. & 10.67 for 2.5sq.mm
6. Maximum mutual capacitance between core to core in nF/km-100 at 0.8khz.
7. Short circuit current in amp. for 1 sec. duration-176 for 1.5sq. mm & 287 for 2.5 sq.mm.
8. Minimum bending radius for unarmoured cable in mm=10x cable dia in mm.

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3

AERIAL BUNCHED CABLES

Prime Cables' Aerial Bunched Cables offer a safe and efficient solution for overhead power distribution networks. Designed to reduce transmission losses and enhance operational safety, these cables minimise the risk of short circuits, theft, and power interruptions. Their compact design and high mechanical strength make them ideal for urban, rural, and semi-urban electrification projects.

AERIAL BUNCHED CABLES (ABC)

INTRODUCTION

Aerial Bunched Cable (ABC) is a good concept for over head power distribution. When compared to the conventional bare conductor over head distribution system ABC provides reliability and higher safety. Lowers power losses and ultimate system economy by reducing installation, maintenance and operative cost. This system is ideal for rural distribution and specially attractive for installation in difficult places such as hilly areas, forest ares, coastal areas etc.

CONSTRUCTION OF ABC

XLPE/HDPE insulated power conductors of aluminium (neutral conductor and street lighting conductors if and when necessary) are laid together (twisted) around a high tensile stranded and aluminum alloy with insulated or bare messenger wire to form the aerial bunched cable. This assembly is directly strung on to distribution pole/towers by mean of standard hardwares available in the market but care shall be taken to render the messenger wire completely insulated from earthing at any point of distribution in case of HT ABC. The XLPE (cross-linked polyethelene) insulation is black in colour and its stabilizer against deterioration caused by exposure to direct sunlight and ultraviolet radiation. XLPE is cross-linkable low density polyethylene which Is made thermoset by special formation from base polymer of thermoplastic low density polyethylene. XLPE combines the best electrical properties of LDPE and superior thermo mechanical properties.

MATERIALS

- Aluminum conductors conform to IS:8130(class-2)
- Stranded high tensile AI Alloy messenger wire conforms to IS:398(part-4). Alternatively Galvanized steelwire conforms to IS:398(part-2)
- XLPE and HDPE insulation of power conductors conforms to IS:7098(part-I & II) and IS:6474 respectively. Since, the tension-from the curret carrying conductor is totally removed by introduction of messenger. Wire the operating temperature of the conductor is 90° C as against 75°C of the bare conductor of the same size.

STRINGING

No difficulty is envisaged during stringing of ABC in the conventional method but care shall be taken that insulated conductors do not get damaged during installation.

Dragging the ABC on the ground is to be avoided. Tension to be applied during stringing shall be 25% of the breaking load of the messenger wires. This will Allow line to have sag withing specified limit of 1.5% of the span at the lowest ambient temperature.

JOINTING

While mid-span jointing permissible for LT ABC system by conventional technique, our recommendation will be to draw the line in such a way as to bring the joints at the supports. Mid-span jointing is not at all recommended in the case of HT lines our recommendation is for outdoor type HY terminations only. Under unavoidable circumstances, line tapping at the support points may be allowed through suitably designed clamp connectors/PG clamp, semi-conducting screen continuity shall be maintained at all joints as far as possible to avoid fluctuations during system disturbances. The 3 phase screens may be shorted and earthed through suitable non-linear surge arrestor.

RELIABILITY, SAFETY AND FLEXIBILITY:

ABC Cables are highly reliable and insulation has been developed to with stand heat, cold and intense sunlight. Disturbance and faults occur five to ten times more often in open wire lines than in ABC lines. There is no risk in touching the live cable and the insulation reduces the number of short circuits and over-voltages in overhead cables during thunder-storms. Few hardware accessories are needed as each one can be used with many different sizes of cable. This makes installation and storage easier. Streets can easily be get 1 it at little extra cost by using the ABC cables that have an extra conductor for lighting. The cable can be supplied with one or two insulated conductors for street lighting.

The hardware and accessories for AB cables are made by various reputed manufacturer and is easily available in India. They are similar to the standard hardware available for Bare conductor overhead distribution lines.

SCOPE

This specification covers design, engineering, manufacture, assembly, stage testing, inspection and testing before supply and delivery at site of XLPE. Insulated Aluminum cables twisted over central bare/ insulate aluminum messenger wire.

STANDARDS

The materials shall conform in all respects to the relevant Indian Standard Specifications with latest amendments thereto, IS-14255/95 Indian Title International &Standard Internationally recognized standard

- IS - 8130/1984 Aluminum conductors for Insulated electric cables
- IS - 6474/1984 Polyethylene Insulation for IS 7098 Part-1 XLPE Insulation
- Cables for voltage upto and including IOOOV
- IS-398/Part-IV/ All Aluminum Alloy IEC - 228/1978
- 1994 Conductors (AAAC) for
- Overhead Transmission purposes Conductors of Insulated Cables
- IS 10418/1982 Drums for electric cables
- IS - 656/1988 Specification for logs for BSI48/ ASTMD plywood 1275, D1533,
- D1934,IEC
- PUB 296-1969

Sl. No.	Description
l	Aluminum conductor (power)
2	XLPE Insulation
3	Aluminum Conductor (lighting)
4	Bare 'Al -alloy' co nductor (messenger)

AERIAL BUNCHED CABLES (ABC)

Table - 3.1

1.1KV grade stranded & compacted aluminium phase conductor and stranded messenger conductor with all aluminium alloy, phase conductor is insulated with XLPE compound, messenger is either insulated or bare with lighting conductor of 16mm2 reffered specification IS: 14255-1995 up to the latest amendment.

Despcription & type of cable	No. of wires		Thickness of XLPE insulation		App. Overall dia.	App. Weight of cable	Breaking load of messenger	Max. D.C. resistance ohms/km		A.C. current rating Amps. in air at 40°C
	Phase	Messenger	Phase	Messenger				Phase	Messenger	
			mm	mm	mm	kg/km	kn(min)			
With insulated messenger conductor										
3C x 16 mm2 + 25 mm2 (insulated) +16 mm2	7	7	1.2	1.2	17	320	7	1.91	1.38	62
3C x 25 mm2 + 25 mm2 (insulated) +16 mm2	7	7	1.2	1.2	21.0	430	7	1.2	1.38	82
3C x 35 mm2 + 25 mm2 (insulated) +16 mm2	7	7	1.2	1.2	24	510	7	0.868	1.38	103
3C x 35 mm2 + 35 mm2 (insulated) +16 mm2	7	7	1.2	1.2	25.0	540	9.8	0.868	0.986	103
3C x 50 mm2 + 35 mm2 (insulated) +16 mm2	7	7	1.5	1.2	28	700	9.8	0.641	0.986	127
3C x 70 mm2 + 50 mm2 (insulated) +16 mm2	19	7	1.5	1.5	33	932	14.0	0.443	0.689	154
3C x 70 mm2 + 70 mm2 (insulated) +16 mm2	19	7	1.5	1.5	34	980	19.7	0.443	0.492	154
3C x 95 mm2 + 70 mm2 (insulated) +16 mm2	19	7	1.5	1.5	38	1100	19.7	0.32	0.492	188
3C x 120 mm2 + 70 mm2 (insulated) +16 mm2	19	7	1.6	1.5	40.5	1395	19.7	0.253	0.492	218
3C x 150 mm2 + 70 mm2 (insulated) +16 mm2	19	7	1.8	1.5	45.0	1676	19.7	0.206	0.492	248
With bare messenger conductor										
3C x 16 mm2 + 25 mm2 (bare) 4 16mm2	7	7	1.2	N.A*	16.5	290	7	1.91	1.38	62
3C x 25 mm2 + 25 mm2 (bare) 4 16mm2	7	7	1.2	N.A*	20.5	400	7	1.2	1.38	82
3C x 35 mm2 + 25 mm2 (bare) 4 16mm2	7	7	1.2	N.A*	23.5	480	7	0.868	1.38	103
3C x 35 mm2 + 35 mm2 (bare) 4 16mm2	7	7	1.2	N.A*	24.5	505	9.8	0.868	0.986	103
3C x 50 mm2 + 35 mm2 (bare) 4 16mm2	7	7	1.5	N.A*	27.5	666	9.8	0.641	0.986	127
3C x 70 mm2 4- 50 mm2 (bare) 4 16mm2	19	7	1.5	N.A*	32.5	890	14	0.443	0.689	154
3C x 70 mm2 4- 70 mm2 (bare) 4 16mm2	19	7	1.5	N.A*	33.5	926	19.7	0.443	0.492	154
3C x 95 mm2 4- 70 mm2 (bare) 4 16mm2	19	7	1.5	N.A*	37.5	1046	19.7	0.320	0.492	188
3C x 120 mm2 4- 70 mm2 (bare 16mm2	19	7	1.6	N.A*	40	1341	19.7	0.253	0.492	218
3C x 150 mm2 + 70 mm2 (bare 16mm2	19	7	1.8	N.A*	44.5	1622	19.7	0.206	0.492	248

AERIAL BUNCHED CABLES (ABC)

Table - 3.2

1.1 KV grade stranded & conpacted aluminium alloy, phase conductor and stranded messenger conductor with all aluminium alloy, phase cojnductor is insulated with XLPE compound, messenger is either insulated or bare with lighting conductor of 16 mm2 reffered specification IS : 14255-1995 up to latest amendment.

Despcription & type of cable	No. of wires		Thickness of XLPE insulation		App. Overall dia.	App. Weight of cable	Breaking load of messenger	Max. D.C. resistance ohms/km		A.C. current rating Amps. in air at 400C
	Phase	Messenger	Phase	Messenger				Phase	Messenger	
			mm	mm	mm	kg/km	kn(min)			
With insulated messenger conductor										
1C x 16 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	15	150	7	1.91	1.38	72
3C x 16 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	18	268	7	1.91	1.38	64
1C x 25 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	16	176	7	1.2	1.38	99
3C x 25 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	20	352	7	1.2	1.38	84
1C x 35 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	17.5	204	7	0.868	1.38	120
3C x 35 mm2 + 35 mm2 (insulated)	7	7	1.2	1.2	23	464	7	0.868	0.986	105
1C x 35 mm2 + 35 mm2 (insulated)	7	7	1.2	1.2	19	232	9.8	0.868	0.986	120
3C x 35 mm2 + 25 mm2 (insulated)	7	7	1.2	1.2	21	436	7	0.868	1.38	105
1C x 50 mm2 + 35 mm2 (insulated)	7	7	1.5	1.2	20	270	9.8	0.641	0.986	150
3C x 50 mm2 + 35 mm2 (insulated)	7	7	1.5	1.2	26	578	9.8	0.641	0.986	130
3C x 70 mm2 + 50 mm2 (insulated)	19	7	1.5	1.5	28	793	14	0.443	0.689	155
3C x 70 mm2 + 70 mm2 (insulated)	19	7	1.5	1.5	31	852	19.7	0.443	0.492	155
3C x 95 mm2 + 70 mm2 (insulated)	19	7	1.5	1.5	33	1083	19.7	0.32	0.492	190
3C x 120 mm2 + 70 mm2 (insulated	19	7	16	1.5	35	1317	19.7	0.253	0.492	220
3C x 150 mm2 + 70 mm2 (insulated)	19	7	1.8	1.5	40	1572	19.7	0.206	0.492	250
With bare messenger conductor										
1C x 16 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	14	124	7	1.91	1.38	72
3C x 16 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	17	242	7	1.91	1.38	64
1C x 25 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	15	150	7	1.2	1.38	99
3C x 25 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	19	326	7	1.2	1.38	84
1C x 35 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	16.5	178	7	0.868	1.38	120
3C x 35 mm2 + 35 mm2 (bare	7	7	1.2	N.A*	22	434	7	0.868	0.986	105
1C x 35 mm2 + 35 mm2 (bare)	7	7	1.2	N.A*	18	202	9.8	0.868	0.986	120
3C x 35 mm2 + 25 mm2 (bare)	7	7	1.2	N.A*	20	410	7	0.868	1.38	105
1C x 50 mm2 + 35 mm2 (bare)	7	7	1.5	N.A*	19	240	9.8	0.641	0.986	150
3C x 50 mm2 + 35 mm2 (bare)	7	7	1.5	N.A*	25	548	9.8	0.641	0.986	130
3C x 70 mm2 + 50 mm2 (bare)	19	7	1.5	N.A*	27	757	14	0.443	0.689	155
3C x 70 mm2 + 70 mm2 (bare)	19	7	1.5	N.A*	30	804	19.7	0.443	0.492	155
3C x 95 mm2 + 70 mm2 (bare)	19	7	1.5	N.A*	32	1035	19.7	0.32	0.492	190
3C x 120 mm2 + 70 mm2 (bare)	19	7	1.6	N.A*	34	1269	19.7	0.253	0.492	220
3C x 150 mm2 + 70 mm2 (bare)	19	7	1.8	N.A*	39	1524	19.7	0.206	0.492	250

Rating factor for variation in air temperature:

Air Temperature °C	20	25	30	35	40	49	50
Rating Factor	1.32	1.25	1.16	1.09	1	0.9	0.81

*Not Applicable

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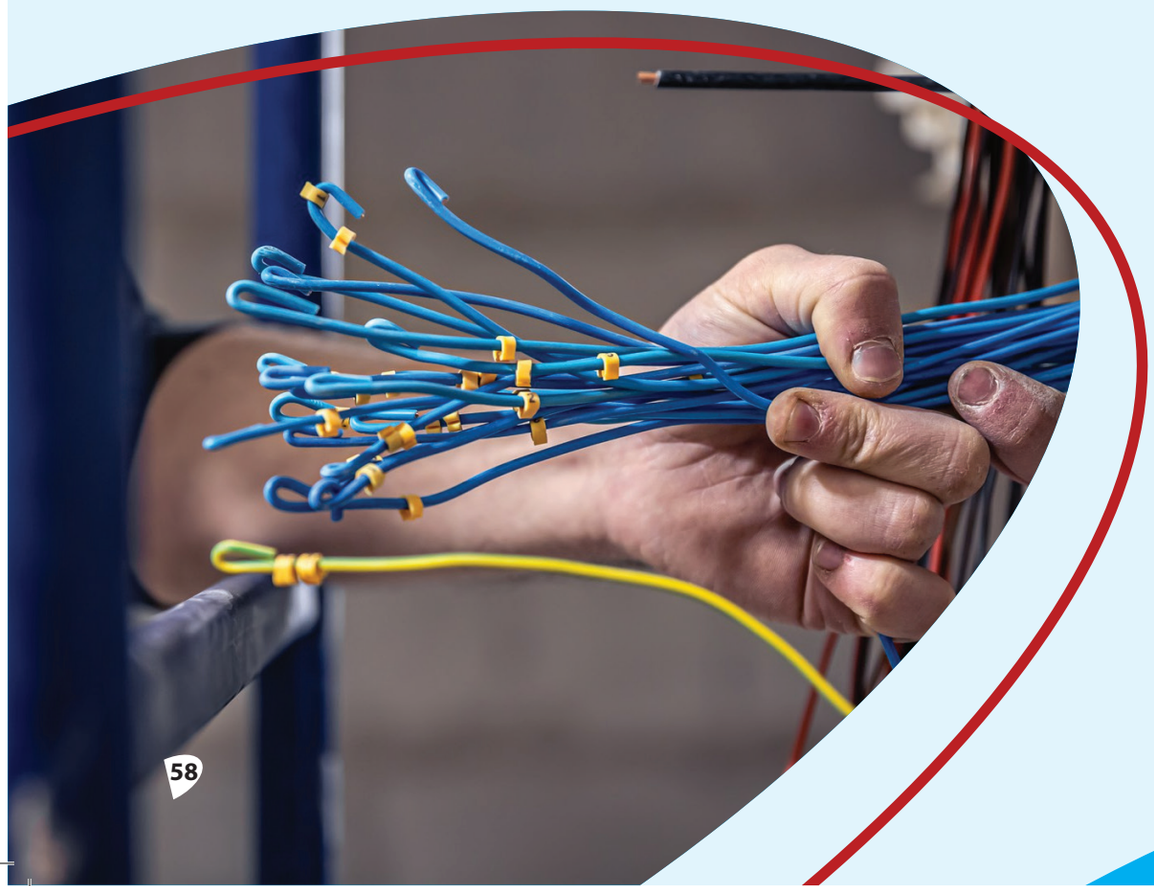
PANEL/HOUSE WIRES

Panel Wires from Prime Cables are manufactured for internal wiring of electrical panels, control panels, switchgear, and electrical equipment. Designed for superior flexibility and insulation integrity, these wires ensure reliable connectivity and safe operation within electrical assemblies. Their high-quality construction enables efficient current flow and long-term durability even in demanding industrial environments.

HOUSE WIRING & FLEXIBLE CORD

Table - 4.1

No. & dia of wire, No./inch	No. & dia of wire, No./SWG	No. & dia of wire, No./mm	Thickness		Appr. Overall dia. mm	appr. Weight of cable kg/km	current rating Amps.	Standard length of coil mtrs.
			PVC insulation mm	PVC outer sheath mm				
SINGLE CORE UNSHEATHED								
1/0.044	1/18	1/1.2	1		3.2	18.1	19	100
3/0.029	3/32	3/0.73	1		3.7	23.5	22	100
3/0.036	3/20	3/0.91	1	-	4.12	31.2	28	100
7/0.029	7/22	7/0.73	1.1	-	4.5	41.5	38	100
7/0.036	7/20	7/0.91	1.2	-	5.2	60	46	100
7/0.044	7/18	7/1.12	1.2	-	5.8	81.5	57	100
7/0.052	-	7/1.32	1.2	-	6.4	108	70	100
7/0.064	7/16	7/1.62	1.3	-	7.5	156	88	100
19/0.044	19/18	19/1.12	1.3	-	8.3	197	110	100
19/0.025	-	19/1.42	1.3	-	9.3	365	127	100
19/0.064	19/16	19/1.62	1.4	-	11	390	160	100
19/0.083	19/14	19/2.11	1.4	-	13.4	640	220	100
37/0.064	37/16	37/1.64	1.5	-	14.5	725	245	100
37/0.083	37/14	37/2.11	1.5	-	17.9	1210	320	100
SINGLE CORE SHEATHED								
1/0.044	1/18	1/1.12	1	0.7	4.7	30	19	100
3/0.029	3/32	3/0.73	1	0.7	5.2	37	22	100
3/0.036	3/20	3/0.91	1	0.7	5.6	45.5	28	100
7/0.029	7/22	7/0.073	1.1	0.7	6	58	38	100
7/0.036	7/20	7/0.91	1.2	0.7	6.6	74	46	100
7/0.044	7/18	7/1.12	1.2	0.7	7.2	100.5	57	100
Two Core Flat								
1/0.044	1/18	1/1.12	1	0.9	5.10x8.40	71	14	100
3/0.029	3/32	3/0.73	1	0.9	5.60x9.40	87	18	100
3/0.036	3/20	3/0.91	1	1	6.20x10.40	113	24	100
7/0.029	7/22	7/0.073	1.1	1	6.60x1120	140	31	100
7/0.036	7/20	7/0.91	1.2	1	7.20C12.40	182	37	100
7/0.044	7/18	7/1.12	1.2	1	8.00x13.80	239	46	100



HOUSE WIRING & FLEXIBLE CORD

Table - 4.2

Nominal cross sectional area sq. mm	Thickness of PVC insulation mm	THICKNESS		Apprax. Overall diameter mm	Apprax. Weight of cable kg/km	Current rating Amps.	Standard length of coll meters
		PVC insulation mm	PVC Outer sheath mm				
SINGLE CORE UNSHEATHED							
0.5	16/0.20	0.6	-	2.1	8.7	3	100
0.75	24/0.20	0.6	-	2.25	11.4	6	100
1	32/0.20	0.6	-	2.45	14.3	10	100
1.5	48/0.2 30/0.25	0.6	-	2.8	20.2	15	100
2.5	80/0.20 50/0.25	0.7	-	3.35	31.7	20	100
4	128/0.20 56/0.30	0.8	-	4	48.5	25	100
6	84/0.30	0.8	-	4.55	69	32	100
10	140/0.30 80/0.40	1	-	6	117	43	100
16	126/0.40	1	-	7	177	58	100
25	196/0.40	1.2	-	8.5	270	78	100
35	276/0.40	1.2	-	9.6	370	95	100
50	396/0.40	1.4	-	11.6	540	120	100
TWO CORE TWISTED							
0.5	16/0.20	0.6			17.7	3	100
0.75	24/0.20	0.6			23.2	6	100
1	32/0.20	0.6			29	10	100
1.5	48/0.2 30/0.25	0.6			41	15	100
2.5	80/0.20 50/0.25	0.7			64	20	100
4	128/0.20 56/0.30	0.8			98	25	100
TWO CORE ROUND							
0.5	16/0.20	0.6	0.9	6.1	49	3	100
0.75	24/0.20	0.6	0.9	6.4	59.2	6	100
1	32/0.20	0.6	0.9	6.8	66.7	10	100
1.5	48/0.2 30/0.25	0.6	0.9	7.5	85.6	15	100
2.5	80/0.20 50/0.25	0.7	1	8.8	125	20	100
4	128/0.20 56/0.30	0.8	1	10.1	175	25	100
THREE CORE ROUND							
0.5	16/0.20	0.6	0.9	6.5	58	3	100
0.75	24/0.20	0.6	0.9	6.8	68	6	100
1	32/0.20	0.6	0.9	7.2	80	10	100
1.5	48/0.2 30/0.25	0.6	0.9	8	106	15	100
2.5	80/0.20 50/0.25	0.7	1	9.4	155	20	100
4	128/0.20 56/0.30	0.8	1	10.7	220	25	100
6	85/0.30	0.8	1.2	12.3	300	32	100
10	141/0.30 80/0.40	1	1.4	15.5	495	43	100
16	126/0.40	1	1.4	18	725	58	100
25	196/0.40	1.2	1.5	21.5	1090	78	100
35	276/0.40	1.2	1.6	24	1435	95	100
50	396/0.40	1.4	2.0	29	2070	120	100
FOUR CORE ROUND							
0.5	16/0.20	0.6	0.9	7.1	70	3	100
0.75	24/0.20	0.6	0.9	7.5	85	6	100
1	32/0.20	0.6	0.9	8	102	10	100
1.5	48/0.2 30/0.25	0.6	1	9	136	15	100
2.5	80/0.20 50/0.25	0.7	1	10.3	195	20	100
4	128/0.20 56/0.30	0.8	1	11.9	280	25	100

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ACSR CONDUCTORS

ACSR (Aluminium Conductor Steel Reinforced) conductors from Prime Cables are widely used in overhead transmission and distribution lines. Featuring a combination of aluminium strands and a steel core, these conductors offer excellent tensile strength along with efficient electrical conductivity. Their ability to span long distances while maintaining structural integrity makes them a preferred choice for utility networks and power transmission projects.

ALL ALUMINUM CONDUCTOR STEEL REINFORCED (ACSR)

Table - 5.1

ALL ALUMINUM CONDUCTOR STEEL REINFORCED (ACSR) - IS 398 (PART II) : 1996												
S.N.	Nominal Area	Total Sectional Area (mm^2)	Stranding No. of Wires		Wire diameter		Approximate Diameter of Complete Conductor (mm)	Approximate Conductor Weight (Kg/km)	Rated Strength KN	DC Resistance @20°C (Ω/Km)	Current Capacity	
			AL (No.)	Steel (No.)	AL (mm)	Steel (mm)					@ 75°C (Am er	@85°C (Ampere)
1	10	12.37	6	1	1.50	1.50	4.50	43	4.0	2.7800	59	69
2	18	21.12	6	1	1.96	1.96	5.88	73	6.7	1.6180	81	97
3	20	24.48	6	1	2.11	2.11	6.33	85	7.6	1.3940	89	106
4	30	36.88	6	1	2.59	2.59	7.77	128	11.1	0.9289	114	136
5	50	61.70	6	1	3.35	3.35	10.05	214	18.3	0.5524	155	186
6	80	91.97	6	1	4.09	4.09	12.27	319	26.9	0.3712	196	237
7	100	118.50	6	7	4.72	1.57	14.15	394	32.4	0.2792	231	282
8	150	194.90	30	7	2.59	2.59	18.13	726	67.3	0.1871	315	389
9	200	261.50	30	7	3.00	3.00	21.00	974	89.7	0.1390	374	465
10	400	425.20	42	7	3.50	1.96	26.88	1281	88.8	0.0731	525	664
11	420	484.50	54	7	3.18	3.18	28.62	1621	130.3	0.0687	546	693
12	520	597.00	54	7	3.53	3.53	31.77	1998	159.6	0.0560	612	783
13	560	531.70	42	7	4.13	2.30	31.68	1781	120.2	0.0523	631	808

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MVCC - MEDIUM VILTAGE COVERED CONDUCTOR

Prime Cables' Medium Voltage Covered Conductors provide enhanced safety and reliability for overhead distribution systems. Designed with protective insulation covering, these conductors significantly reduce the risks of electrical faults caused by environmental factors such as vegetation, wildlife, or accidental contact. They are widely used in areas where improved safety and uninterrupted power supply are critical.

MEDIUM VOLTAGE COVERED CONDUCTORS (MVCC)

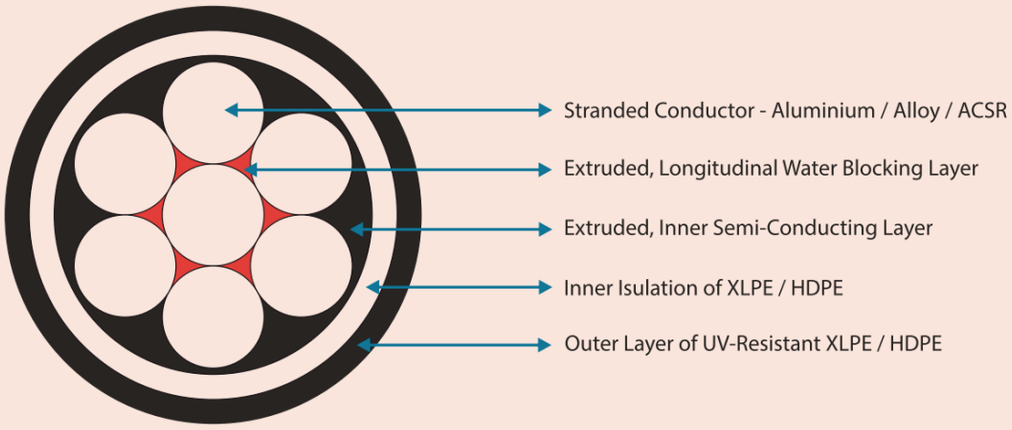

Table - 6.1

Nos.	Description	Unit	Nominal Thickness		
			11 KV	22 KV	33 KV
1	Stranded Conductor – Aluminium / Alloy / ACSR	Sq.mm	AS PER REQUIREMENT		
2	Extruded, Longitudinal Water Blocking Layer	mm	AS REQUIRED TO MAKE WATER BLOCKED ARRANGEMENT		
3	Extruded, Inner Semi-Conducting Layer	mm	0.3	0.3	0.4
4	Inner Insulation of XLPE / HDPE	mm	1.2	1.32	2.43
5	Outer Layer of UV-Resistant XLPE / HDPE	mm	1.1	1.1	1.2

Table - 6.2

LAY RATIO OF CONDUCTORS								
Number of wires		Ratio of Aluminium wire/ Aluminium Alloy diameter to steel wire/ACS diameter	Lay ratio of steel/ACS core		Lay ratio for Aluminium wire/ Aluminium Alloy			
					Outer most layer		Layer immediately beneath Outermost Layer	
Aluminium	Steel		Min.	Max.	Min.	Max.	Min.	Max.
6	1	1	-	-	10	14	-	-
30	7	1	13	28	10	14	10	16

Note: MVCC as per IS-398 Part-2, IS-398 Part-4, IS-398 Part-6 and EN-50397.

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SOLAR DC CABLES

Prime Cables' Solar DC Cables are specially engineered for photovoltaic power systems, ensuring efficient energy transmission between solar panels, inverters, and other system components. Built to withstand extreme weather conditions, UV exposure, and temperature variations, these cables offer long service life and high reliability. Their robust design supports the growing demand for sustainable and renewable energy infrastructure.

PRIME CABLES' SOLAR DC CABLES 1500V DC

Table - 7.1

Sl No	Nominal Cross-sectional Area of Conductor (mm^2)	Thickness of Insulation (mm)	Thickness of Sheath (mm)	App. Overall Diameter* (mm)	Minimum Insulation Resistance at 20°C (MΩ·km)	Minimum Insulation Resistance at 90°C (MΩ·km)	Single Cable Free in Air (A)	Single Cable on a Surface (A)	Two Loaded Cables Touching on a Surface (A)
i	1.5	0.7	0.8	4.8	1050	1.05	28	27	22
ii	2.5	0.7	0.8	5.0	862	0.862	38	36	30
iii	4.0	0.7	0.8	5.7	709	0.709	52	49	41
iv	6.0	0.7	0.8	6.6	610	0.610	66	63	53
v	10.0	0.7	0.8	7.6	489	0.489	89	87	73
vi	16.0	0.7	0.9	9.0	393	0.393	120	118	97
vii	25.0	0.9	1.0	11.0	395	0.395	167	158	126
viii	35.0	0.9	1.1	12.60	335	0.335	207	196	156
ix	50.0	1.0	1.2	15.0	314	0.314	261	248	190
x	70.0	1.1	1.2	17.0	291	0.291	329	313	245
xi	95.0	1.1	1.3	19.5	258	0.258	394	374	298
xii	120.0	1.2	1.3	21.0	249	0.249	462	440	348
xiii	150.0	1.4	1.4	23.7	260	0.260	537	510	401
xiv	185.0	1.6	1.6	26.8	268	0.268	611	581	460
xv	240.0	1.7	1.7	30.0	249	0.249	735	698	545
xvi	300.0	1.8	1.8	33.5	237	0.237	831	788	631
xvii	400.0	2.0	2.0	38.5	230	0.230	999	947	751

Note: For Class 5 Conductors

Table - 7.2

Tabulated Radial Thickness (Nominal) of Cable Under Test (mm) and Test Voltage (kV)

Above (mm)	Up to and including (mm)	a.c (kV)	d.c (kV)	h.f (High frequency) (kV)	Pulse (kV)
0	0.25	3	5	4	5
0.25	0.50	5	7	6	7
0.50	0.75	6	9	7	9
0.75	1.00	7	11	8	11
1.00	1.25	9	13	10	13
1.25	1.50	10	15	11	15
1.50	1.75	12	17	13	17
1.75	2.00	13	20	14	20
2.00	2.25	14	22	15	—
2.25	2.50	16	24	17	—
2.50	2.75	17	26	18	—
2.75	3.00	19	28	20	—
3.00	3.25	21	32	—	—
3.25	3.50	23	35	—	—
3.50	—	25	38	—	—

Table - 7.3

Reduction Factors for One Circuit or for a Group of More than One Circuit to be used with Current-Carrying Capacities of table 7.1

Sl No.	Arrangement (Cable Touching)	1	2	3	4	5	6	7	8	9	12	16	20
i	Bunched in air, on a surface, embedded or enclosed	1.00	0.80	0.70	0.65	0.60	0.57	0.54	0.52	0.50	0.45	0.41	0.38
ii	Single layer on wall, floor or unperforated cable tray systems	1.00	0.85	0.79	0.75	0.73	0.72	0.72	0.71	0.70	No further reduction factor for more than nine circuits or multicore cables		
iii	Single layer on a perforated horizontal or vertical cable tray systems	1.00	0.88	0.82	0.77	0.75	0.73	0.73	0.72	0.72			
iv	Single layer on cable ladder systems or cleats etc.	1.00	0.87	0.82	0.80	0.80	0.79	0.79	0.78	0.78			

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8

AAAC CONDUCTORS

AAAC (All Aluminium Alloy Conductors) from Prime Cables are engineered for efficient power transmission with superior corrosion resistance and an excellent strength-to-weight ratio. These conductors are ideal for overhead distribution and transmission lines, particularly in coastal or high-corrosion environments. Their lightweight structure and high conductivity make them an efficient and durable solution for modern power networks.

AAAC CONDUCTORS

Table - 8.1

Diameter			Cross Sectional Area of Nominal Diameter Wire	Mass	Minimum Breaking		Resistance at 20°C Max
					Before Stranding	After Stranding	
Nom	Min	Max	mm^2	kg/km	kN	kN	ohms/km
2.00	1.98	2.02	3.142	8.482	0.97	0.92	10.653
2.50	2.47	2.53	4.909	13.25	1.52	1.44	6.845
2.89	2.86	2.92	6.560	17.71	2.03	1.93	5.106
3.15	3.12	3.18	7.793	21.04	2.41	2.29	4.290
3.31	3.28	3.34	8.605	23.23	2.66	2.53	3.882
3.40	3.37	3.43	9.079	24.51	2.80	2.66	3.677
3.45	3.42	3.48	9.348	25.24	2.89	2.75	3.571
3.55	3.51	3.59	9.898	26.72	3.06	2.91	3.390
3.66	3.62	3.70	10.52	26.41	3.25	3.09	3.187
3.71	3.67	3.75	10.81	27.19	3.34	3.17	3.101
3.81	3.77	3.85	11.40	30.78	3.52	3.34	2.938
3.94	3.90	3.98	12.19	32.92	3.77	3.58	2.746
4.00	3.96	4.04	12.57	33.93	3.88	3.69	2.663
4.26	4.22	4.30	14.25	38.48	4.40	4.18	2.345

Table - 8.2

Sl No.	Actual Area	Stranding & Wire Dia	Approx Overall Dia	Approx Mass	Calculated Max Re-sistance at 20°C	Approx Calculated Breaking Load
	(mm^2)	(mm)	(mm)	(kg/km)	(ohms/km)	(kN)
1	15	3/2.50	5.39	40.15	2.3040	4.33
2	22	7/2.00	6.00	60.16	1.5410	6.45
3	34	7/2.50	7.50	94.00	0.9900	10.11
4	55	7/3.15	9.45	149.20	0.6210	16.03
5	80	7/3.81	11.43	218.26	0.4250	23.41
6	100	7/4.26	12.78	272.86	0.3390	29.26
7	125	19/2.89	14.45	342.51	0.2735	36.64
8	148	19/3.15	15.75	406.91	0.2290	43.50
9	173	19/3.40	17.00	474.02	0.1969	50.54
10	200	19/3.66	18.30	549.40	0.1710	58.66
11	232	19/3.94	19.70	636.67	0.1471	68.05
12	288	37/3.15	22.05	794.05	0.1182	84.71
13	346	37/3.45	24.15	952.56	0.0984	101.58
14	400	37/3.71	25.97	1101.63	0.0829	117.40
15	465	37/4.00	28.00	1280.50	0.0734	136.38
16	525	61/3.31	29.79	1448.39	0.0651	146.03
17	570	61/3.45	31.05	1573.71	0.0598	158.66
18	604	61/3.55	31.95	1666.00	0.0568	167.99
19	642	61/3.66	32.94	1771.36	0.0534	178.43
20	695	61/3.81	34.29	1919.13	0.0492	193.25
21	767	61/4.00	36.00	2115.54	0.0446	213.01

9

PRIMECAB®
It's all about excellence

Renufo®
Wires & Cables

HT CABLE

Prime Cables Limited offers high-performance HT Cables engineered to ensure reliable and efficient transmission of electrical power in demanding environments. Manufactured using superior-grade conductors and high-quality insulation, our HT cables are designed to withstand high voltage applications while maintaining excellent thermal stability, mechanical strength, and long service life. Suitable for power distribution networks, industrial installations, utilities, and infrastructure projects, Prime HT Cables are produced in compliance with relevant national and international standards, ensuring safety, durability, and consistent performance even under challenging operating conditions.

HT CABLES 3.3 KV

Table - 9.1

TECHNICAL DETAILS FOR PRIMECAB 3.3 kV

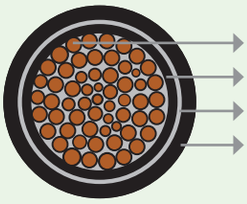
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XWaY/2XWaY (3.3 kV - EARTHED / UNEARTHED)

Physical Parameters						
Size (Cross Sectional Area)	Nominal Insulation Thickness	Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
					With Al Conductor	With Cu Conductor
					A2XWaY	2XWaY
sq. mm	mm	mm	mm	mm	kg/km	kg/km
25	2.50	1.40	1.24	17	352	501
35	2.50	1.40	1.24	18	401	602
50	2.50	1.40	1.40	19	502	751
70	2.50	1.60	1.40	21	601	1005
95	2.50	1.60	1.40	23	702	1255
120	2.50	1.60	1.40	24	801	1510
150	2.50	1.60	1.40	26	902	1810
185	2.50	1.60	1.40	27	1051	2155
240	2.50	1.60	1.56	30	1310	2710
300	2.50	1.60	1.56	32	1505	3310
400	2.60	2.00	1.56	36	1915	4210
500	2.80	2.00	1.56	41	2310	5255
630	3.00	2.00	1.72	45	2855	6665
800	3.30	2.00	1.88	51	3560	8455
1000	3.50	2.50	2.04	56	4465	10610

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Natural
3. **Armouring:** Single Layer of Aluminium Round Wire
4. **Outer Sheath:** PVC Type ST-2 as per IS 5831 ; Options: FR Type/FR-LS Type, Colour of Outer Sheath: Black or any other Colour as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
							For Aluminium Conductor			For Copper Conductor				
	Aluminium	Copper	Aluminium	Copper			Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.133	0.25	90	88	115	127	113	148	2.35	3.58
35	0.868	0.524	1.11	0.671	0.126	0.29	117	104	139	151	135	179	3.29	5.00
50	0.641	0.387	0.82	0.495	0.122	0.33	138	123	166	178	158	214	4.70	7.15
70	0.443	0.268	0.567	0.343	0.116	0.38	168	149	208	216	192	267	6.58	10.00
95	0.32	0.193	0.41	0.248	0.111	0.44	200	177	252	256	227	323	8.93	13.59
120	0.253	0.153	0.325	0.197	0.106	0.49	227	201	292	290	257	374	11.28	17.16
150	0.206	0.124	0.265	0.159	0.103	0.53	252	223	329	323	285	422	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.100	0.58	285	251	380	362	319	484	17.39	26.45
240	0.125	0.0754	0.162	0.0976	0.097	0.67	326	286	448	411	361	565	22.56	34.32
300	0.10	0.0601	0.130	0.0778	0.095	0.73	365	319	511	456	400	641	28.20	42.90
400	0.0778	0.047	0.1023	0.0618	0.093	0.84	412	359	593	508	443	734	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.091	0.86	461	401	680	559	486	828	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.090	0.88	514	445	777	611	529	929	59.22	90.10
800	0.0367	0.0221	0.053	0.0319	0.088	0.94	552	476	863	638	549	1002	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.086	0.99	595	509	954	672	575	1083	94.00	143.00

HT CABLES 3.3 KV

Table - 9.2

TECHNICAL DETAILS FOR PRIMECAB 3.3 kV

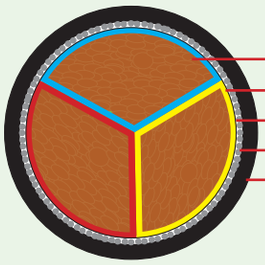
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (3.3 kV - EARTHED / UNEARTHED)

Physical Parameters													
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	2.20	0.30	4x0.80	1.40	26	1010	1430	1.60	1.56	29	1305	1755
35	2.20	0.30	4x0.80	1.56	27.5	1215	1770	1.60	1.56	32	1510	2110
50	2.20	0.40	4x0.80	1.56	30	1415	2200	2.00	1.56	34	1915	2765
70	2.20	0.40	4x0.80	1.56	33	1600	2850	2.00	1.56	37	2255	3455
95	2.20	0.40	4x0.80	1.72	36	1980	3680	2.00	1.72	41	2660	4315
120	2.20	0.50	4x0.80	1.72	39	2300	4400	2.00	1.88	44	3065	5160
150	2.20	0.50	4x0.80	1.88	41	2600	5200	2.50	2.04	47	3755	6405
185	2.20	0.50	4x0.80	2.04	44	3000	6350	2.50	2.04	50	4320	7610
240	2.20	0.60	4x0.80	2.2	48	3650	8100	2.50	2.20	55	5055	9405
300	2.20	0.60	4x0.80	2.2	53	4200	9899	2.50	2.36	59	5810	11265
400	2.20	0.70	4x0.80	2.52	59	5200	12300	3.15	2.68	66	7715	14625

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Insulation Material:** XLPE (Cross linked polyethylene); Colour: Red, Yellow & Blue Inner
3. **Inner Sheath:** PVC Type ST-2 as per IS 5831;
4. **Armouring:** Single Layer of Galvanized Steel Round Wire / Flat Strip
5. **Outer Sheath:** PVC Type ST-2 as per IS 5831; Options: FR Type/FR-LSH Type, Colour of Outer Sheath: Black or any other Colour as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.098	0.25	94	81	102	121	104	132	2.35	3.58
35	0.868	0.524	1.11	0.671	0.094	0.29	112	96	123	144	124	159	3.29	5.00
50	0.641	0.387	0.82	0.495	0.086	0.33	131	113	146	169	146	188	4.70	7.15
70	0.443	0.268	0.567	0.343	0.084	0.38	160	135	182	206	178	234	6.58	10.01
95	0.32	0.193	0.41	0.248	0.081	0.44	191	165	221	246	212	284	8.93	13.59
120	0.253	0.153	0.325	0.197	0.078	0.49	216	187	254	278	240	326	11.28	17.16
150	0.206	0.124	0.265	0.159	0.076	0.53	241	208	286	310	268	368	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.075	0.58	275	236	330	350	302	422	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.073	0.67	315	277	385	401	353	492	22.56	34.32
300	0.1	0.0601	0.13	0.0778	0.072	0.73	354	312	440	449	395	559	28.20	42.90
400	0.0778	0.047	0.1023	0.0618	0.071	0.84	403	355	512	506	445	642	37.60	57.20

HT CABLES 3.3 KV

Table - 9.3

TECHNICAL DETAILS FOR PRIMECAB 3.3 kV

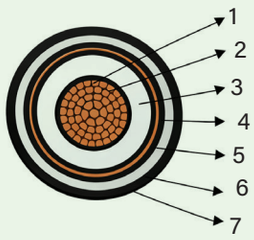
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFaY/2XFaY, A2XWaY/2XWaY (3.3 kV - EARTHED/UNEARTHED)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFaY/2XFaY)					Round Wire Armoured (A2XWaY/2XWaY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor A2XFaY	With cu Conductor 2XFaY				With Al Conductor A2XWaY	With Cu Conductor 2XWaY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	2.50	0.30	4x0.80	1.40	17	440	535	1.60	1.40	19	501	652
35	2.50	0.30	4x0.80	1.40	18	490	635	1.60	1.40	20	552	751
50	2.50	0.30	4x0.80	1.40	20	540	780	1.60	1.40	21	651	902
70	2.50	0.30	4x0.80	1.40	21	640	1000	1.60	1.40	23	752	1155
95	2.50	0.30	4x0.80	1.40	23	740	1250	1.60	1.40	24	851	1405
120	2.50	0.30	4x0.80	1.40	24	840	1500	1.60	1.40	26	952	1655
150	2.50	0.30	4x0.80	1.40	26	980	1750	1.60	1.56	28	1105	1960
185	2.50	0.30	4x0.80	1.56	28	1100	2100	1.60	1.56	29	1260	2305
240	2.50	0.40	4x0.80	1.56	30	1350	2650	2.00	1.56	32	1555	2960
300	2.50	0.40	4x0.80	1.56	32	1550	3200	2.00	1.56	34	1810	3555
400	2.60	0.40	4x0.80	1.56	35	1870	4000	2.00	1.72	38	2205	4460
500	2.80	0.40	4x0.80	1.72	40	2350	5100	2.00	1.72	42	2655	5555
630	3.00	0.50	4x0.80	1.72	44	2950	6500	2.00	1.88	47	3260	7010
800	3.30	0.50	4x0.80	1.88	49	3600	8200	2.50	2.04	52	4105	8905
1000	3.50	0.60	4x0.80	2.04	54	4300	10000	2.50	2.20	56	4965	10960

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by helically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831;
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: FR Type/FR-LSH Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.133	0.25	90	88	115	127	113	148	2.35	3.58
35	0.868	0.524	1.11	0.671	0.126	0.29	117	104	139	151	135	179	3.29	5.01
50	0.641	0.387	0.820	0.495	0.122	0.33	138	123	166	178	158	214	4.70	7.15
70	0.443	0.268	0.567	0.343	0.116	0.38	168	149	208	216	192	267	6.58	10.01
95	0.320	0.193	0.410	0.248	0.111	0.44	200	177	252	256	227	323	8.93	13.59
120	0.253	0.153	0.325	0.197	0.106	0.49	227	201	292	290	257	374	11.28	17.16
150	0.206	0.124	0.265	0.159	0.103	0.53	252	223	329	323	285	422	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.100	0.58	285	251	380	362	319	484	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.097	0.67	326	286	448	411	361	565	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.095	0.73	365	319	511	456	400	641	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.093	0.84	412	359	593	508	443	734	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.091	0.86	461	401	680	559	486	828	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.090	0.88	514	445	777	611	529	929	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.088	0.94	552	476	863	638	549	1002	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.086	0.99	595	509	954	672	575	1083	94.00	143.00

HT CABLES 3.3 KV

Table - 9.4

TECHNICAL DETAILS FOR PRIMECAB 3.3 kV

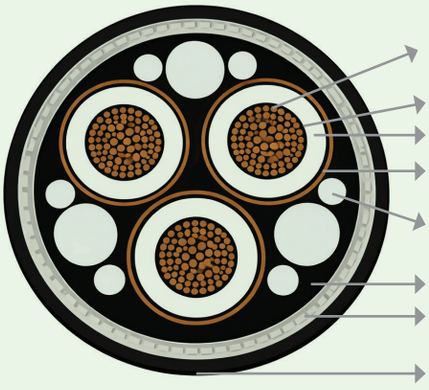
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (3.3 kV - EARTHED / UNEARTHED)

Physical Parameters													
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)					
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	2.20	0.40	4x0.80	1.56	31	1400	1840	2.00	1.56	34	2010	2405
35	2.20	0.40	4x0.80	1.56	34	1650	2200	2.00	1.72	36	2305	2810
50	2.20	0.40	4x0.80	1.72	37	1980	2730	2.00	1.72	39	2655	3355
70	2.20	0.50	4x0.80	1.72	40	2300	3505	2.00	1.88	42	3115	4210
95	2.20	0.50	4x0.80	1.88	43	2780	4360	2.50	2.04	47	3960	5515
120	2.20	0.50	4x0.80	2.04	46	3150	5100	2.50	2.04	50	4505	6365
150	2.20	0.60	4x0.80	2.04	50	3650	6050	2.50	2.20	54	5025	7425
185	2.20	0.60	4x0.80	2.20	54	4200	7180	2.50	2.36	58	5755	8755
240	2.20	0.60	4x0.80	2.36	58	5000	9100	2.50	2.36	61	6605	10605
300	2.20	0.70	4x0.80	2.52	63	6000	11000	3.15	2.68	68	8365	13360
400	2.20	0.70	4x0.80	2.68	70	7100	13200	3.15	2.84	75	9855	16305

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by helically wrapped Copper Tape Filler: PVC Filler
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831; **6. Armouring:** Single layer of Galvanized Steel Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLSH Type
8. **Colour of Outer Sheath:** Black or any other color as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
							For Aluminium Conductor			For Copper Conductor				
	Aluminium	Copper	Aluminium	Copper			Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.098	0.25	94	81	102	121	104	132	2.35	3.58
35	0.868	0.524	1.11	0.671	0.094	0.29	112	96	123	144	124	159	3.29	5.01
50	0.641	0.387	0.820	0.495	0.086	0.33	131	113	146	169	146	188	4.70	7.15
70	0.443	0.268	0.567	0.343	0.084	0.38	160	135	182	206	178	234	6.58	10.01
95	0.320	0.193	0.410	0.248	0.081	0.44	191	165	221	246	212	284	8.93	13.59
120	0.253	0.153	0.325	0.197	0.078	0.49	216	187	254	278	240	326	11.28	17.16
150	0.206	0.124	0.265	0.159	0.076	0.53	241	208	286	310	268	368	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.075	0.58	275	236	330	350	302	422	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.073	0.67	315	277	385	401	353	492	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.072	0.73	354	312	440	449	395	559	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.071	0.84	403	355	512	506	445	642	37.60	57.20

HT CABLES 6.6 KV

Table - 9.5

TECHNICAL DETAILS FOR PRIMECAB 3.8 kV/6.6 kV

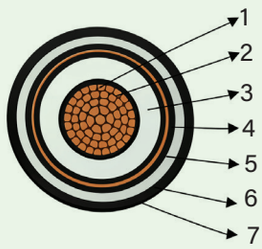
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFaY/2XFaY, A2XWaY12XWaY (6.6 kV EARTHED)

Physical Parameters													
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)					
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor A2XFY	With cu Conductor 2XFY				With Al Conductor A2XWY	With cu Conductor 2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	2.80	0.30	4x0.80	1.40	18	435	580	1.60	1.40	20	551	652
35	2.80	0.30	4x0.80	1.40	19	490	690	1.60	1.40	21	602	801
50	2.80	0.30	4x0.80	1.40	20	580	830	1.60	1.40	22	651	952
70	2.80	0.30	4x0.80	1.40	22	690	990	1.60	1.40	23	752	1160
95	2.80	0.30	4x0.80	1.40	23	785	1290	1.60	1.40	25	901	1455
120	2.80	0.30	4x0.80	1.40	25	880	1520	1.60	1.40	26	1010	1715
150	2.80	0.30	4x0.80	1.40	26	990	1810	1.60	1.56	28	1155	2010
185	2.80	0.30	4x0.80	.56	29	1140	2180	1.60	1.56	30	1310	2355
240	2.80	0.40	4x0.80	.56	31	1360	2700	2.00	1.56	33	1615	3010
300	3.00	0.40	4x0.80	.56	33	1600	3300	2.00	1.56	36	1855	3660
400	3.30	0.40	4x0.80	.56	37	2150	4150	2.00	1.72	39	2310	4555
500	3.50	0.50	4x0.80	.72	42	2200	5230	2.00	1.88	44	2810	5725
630	3.50	0.50	4x0.80	.88	46	3000	6690	2.00	1.88	48	3355	7115
800	3.50	0.50	4x0.80	.88	51	3610	8200	2.50	2.04	53	4160	8955
1000	3.60	0.60	4x0.80	2.04	55	4390	10140	2.50	2.20	57	4955	11020

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by hellically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831;
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLSH Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters															
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	Q.727	1.54	0.931	0.149	0.21	90	88	115	127	113	148	2.35	3.58
35	0.868	0.524	1.11	0.671	0.142	0.24	117	104	139	151	135	179	3.29	5.01
50	0.641	0.387	0.820	0.495	0.133	0.27	138	123	166	178	158	214	4.70	7.15
70	0.443	0.268	0.567	0.343	0.127	0.31	168	149	208	216	192	267	6.58	10.01
95	0.320	0.193	0.410	0.248	0.121	0.36	200	177	252	256	227	323	8.93	13.59
120	0.253	0.153	0.325	0.197	0.116	0.39	227	201	292	290	257	374	11.28	17.16
150	0.206	0.124	0.265	0.159	0.113	0.43	252	223	329	323	285	422	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.109	0.47	285	251	380	362	319	484	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.105	0.53	326	286	448	411	361	565	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.104	0.54	365	319	511	456	400	641	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.102	0.57	412	359	593	508	443	734	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.100	0.60	461	401	680	559	486	828	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.096	0.67	514	445	777	611	529	929	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.094	0.76	552	476	863	638	549	1002	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.092	0.82	595	509	954	672	575	1083	94.00	143.00
400	0.0778	0.0470	0.1023	0.0618	0.071	0.84	403	355	512	506	445	642	37.60	57.20

HT CABLES 3.8 KV/6.6 KV

Table - 9.6

TECHNICAL DETAILS FOR PRIMECAB 3.8 kV/6.6 kV

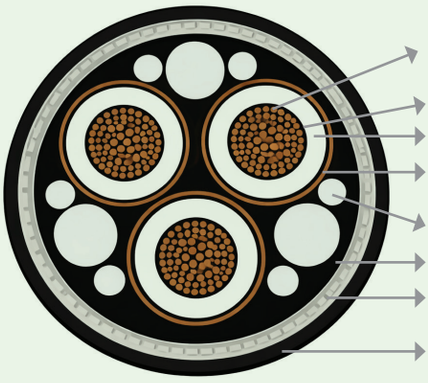
THREE CORE ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (6.6 kV EARTHED)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	2.80	0.40	4x0.80	1.56	34	1600	2000	2.00	1.56	37	2305	2660
35	2.80	0.40	4x0.80	1.72	37	1880	2400	2.00	1.72	39	2560	3055
50	2.80	0.50	4x0.80	1.72	39	2160	2910	2.00	1.72	41	2955	3610
70	2.80	0.50	4x0.80	1.88	42	2540	3680	2.00	1.88	45	3365	4405
95	2.80	0.50	4x0.80	1.88	46	3000	4510	2.50	2.04	49	4260	5760
120	2.80	0.60	4x0.80	2.04	49	3410	5410	2.50	2.04	53	4805	6705
150	2.80	0.60	4x0.80	2.20	53	3890	6400	2.50	2.20	56	5365	7760
185	2.80	0.60	4x0.80	2.20	56	4440	7500	2.50	2.36	59	6060	9055
240	2.80	0.70	4x0.80	2.36	61	5400	9350	3.15	2.36	66	7710	11660
300	3.00	0.70	4x0.80	2.52	66	6390	11500	3.15	2.68	71	8955	13915
400	3.30	0.70	4x0.80	2.84	75	7890	14100	4.00	2.84	82	11865	18220

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconducting Compound
3. **Insulation Material:** Crosslinked Polyethylene (Xlpe)
4. **Insulation Screening:** Extruded Semiconducting Compound Followed By Helically Wrapped Copper Tape. PVC Fillers
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS:5831
6. **Armouring:** Single Layer Of Galvanized Flat Strip/ Round Wires.
7. **Outer Sheath**: PVC Type St-2 Of IS 5831—Options: PVC Type St-2/ FR Type/ FRLSH Type
8. **Colour Of Outer Sheath:** Black. Options: Any Other Colours As Per Requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.126	0.21	94	81	102	121	104	132	2.35	3.58
35	0.868	0.524	1.11	0.671	0.120	0.24	112	96	123	144	124	159	3.29	5.01
50	0.641	0.387	0.820	0.495	0.114	0.27	131	113	146	169	146	188	4.70	7.15
70	0.443	0.268	0.567	0.343	0.107	0.31	160	135	182	206	178	234	6.58	10.01
95	0.320	0.193	0.410	0.248	0.102	0.36	191	165	221	246	212	284	8.93	13.59
120	0.253	0.153	0.325	0.197	0.098	0.39	216	187	254	278	240	326	11.28	17.16
150	0.206	0.124	0.265	0.159	0.095	0.43	241	208	286	310	268	368	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.093	0.47	275	236	330	350	302	422	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.090	0.53	315	277	385	401	353	492	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.090	0.54	354	312	440	449	395	559	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.087	0.57	403	355	512	506	445	642	37.60	57.20

HT CABLES 6.6 KV

Table - 9.7

TECHNICAL DETAILS FOR PRIMECAB 6.6 KV/6.6 KV & 6.35 W/11 KV

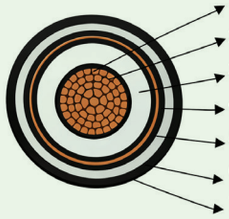
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFaY/2XFaY, A2XWaY/2XWaY (6.6 kV UNEARTHED)/ (11kV UNEARTHED)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable With Al Conductor A2XFY	Approx. Weight of Cable With cu Conductor 2XFY	Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable With Al Conductor A2XWY	Approx. Weight of Cable With cu Conductor 2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	3.60	0.30	4x0.80	.40	20	630	650	1.60	1.40	21	601	752
35	3.60	0.30	4x0.80	.40	21	725	750	1.60	1.40	22	652	851
50	3.60	0.30	4x0.80	.40	22	870	900	1.60	1.40	24	751	1005
70	3.60	0.30	4x0.80	.40	24	1060	1100	1.60	1.40	25	852	1255
95	3.60	0.30	4x0.80	.40	25	1320	1400	1.60	1.40	27	951	1510
120	3.60	0.30	4x0.80	.40	26	1600	1650	1.60	.56	28	1105	1805
150	3.60	0.30	4x0.80	.56	28	1900	1950	1.60	.56	30	1260	2105
185	3.60	0.40	4x0.80	.56	30	2250	2300	2.00	.56	33	1510	2560
240	3.60	0.40	4x0.80	.56	33	2800	2850	2.00	.56	35	1715	3105
300	3.60	0.40	4x0.80	.56	34	3350	3400	2.00	.56	37	1955	3710
400	3.60	0.40	4x0.80	.72	38	4210	4250	2.00	.72	40	2355	4615
500	3.60	0.50	4x0.80	.72	43	5260	5300	2.00	.88	45	2860	5765
630	3.60	0.50	4x0.80	.88	44	6610	6700	2.00	.88	49	3360	7120
800	3.60	0.50	4x0.80	.88	51	8200	8300	2.50	2.04	54	4205	9025
1000	3.60	0.60	4x0.80	2.04	57	10000	10250	2.50	2.20	59	5025	11015

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by hellically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLS Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters

Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.164	0.18	99	88	116	127	113	150	2.35	3.58
35	0.868	0.524	1.11	0.671	0.156	0.20	118	104	140	151	134	181	3.29	5.01
50	0.641	0.387	0.820	0.495	0.147	0.22	138	122	167	178	158	216	4.70	7.15
70	0.443	0.268	0.567	0.343	0.139	0.26	168	149	209	216	191	269	6.58	10.01
95	0.320	0.193	0.410	0.248	0.133	0.29	200	177	254	257	227	326	8.93	13.59
120	0.253	0.153	0.325	0.197	0.127	0.32	227	200	294	290	256	376	11.28	17.16
150	0.206	0.124	0.265	0.159	0.124	0.35	252	223	331	323	285	424	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.120	0.38	284	250	383	360	317	487	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.117	0.43	326	286	450	411	361	568	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.113	0.46	365	319	512	456	399	643	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.110	0.53	412	359	594	508	443	735	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.107	0.59	461	401	680	559	486	828	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.104	0.66	514	445	778	611	529	930	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.100	0.74	553	476	863	639	550	1003	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.098	0.82	595	509	954	672	575	1083	94.00	143.00

HT CABLES 6.6 KV

Table - 9.8

TECHNICAL DETAILS FOR PRIMECAB 6.6 kV/6.6 kV & 6.35 kV/11 kV

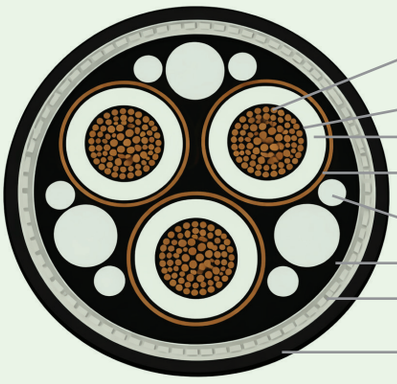
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (6.6 kV UNEARTHED / 11 kV EARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	3.60	0.40	4x0.80	1.72	38	1900	2330	2.00	1.72	40	2605	2960
35	3.60	0.50	4x0.80	1.72	40	2200	2740	2.00	1.88	43	2960	3455
50	3.60	0.50	4x0.80	1.88	42	2500	3230	2.50	2.04	47	3655	4360
70	3.60	0.50	4x0.80	1.88	46	2900	3980	2.50	2.04	49	4110	5155
95	3.60	0.60	4x0.80	2.04	50	3400	4940	2.50	2.20	53	4765	6265
120	3.60	0.60	4x0.80	2.20	53	3900	5810	2.50	2.36	56	5255	7205
150	3.60	0.60	4x0.80	2.20	56	4300	6780	2.50	2.36	59	5860	8210
185	3.60	0.70	4x0.80	2.36	59	5000	8000	3.15	2.52	64	7265	10205
240	3.60	0.70	4x0.80	2.52	64	5900	9900	3.15	2.68	70	8315	12210
300	3.60	0.70	4x0.80	2.68	69	6800	11840	3.15	2.84	74	9410	14405
400	3.60	0.70	4x0.80	2.84	76	8100	14570	4.00	3.00	83	12115	18465

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconducting Compound
3. **Insulation Material:** Crosslinked Polyethylene (Xlpe)
4. **Insulation Screening:** Extruded Semiconducting Compound Followed By Helically Wrapped Copper Tape. PVC Fillers
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS:5831
6. **Armouring:** Single Layer Of Galvanized Flat Strip/ Round Wires.
7. **Outer Sheath**: PVC Type St-2 Of IS 5831—Options: PVC Type St-2/ FR Type/ FR-LSH Type
8. **Colour Of Outer Sheath:** Black. Options: Any Other Colours As Per Requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.133	0.18	94	81	103	121	105	133	2.35	3.58
35	0.868	0.524	1.11	0.671	0.126	0.20	112	97	124	144	133	160	3.29	5.01
50	0.641	0.387	0.820	0.495	0.118	0.22	131	114	148	169	146	191	4.70	7.15
70	0.443	0.268	0.567	0.343	0.116	0.26	161	139	184	207	179	237	6.58	10.01
95	0.320	0.193	0.410	0.248	0.107	0.29	190	165	222	245	213	286	8.93	13.59
120	0.253	0.153	0.325	0.197	0.102	0.32	216	188	256	278	241	329	11.28	17.16
150	0.206	0.124	0.265	0.159	0.099	0.35	242	209	288	311	269	371	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.097	0.38	273	240	330	349	308	422	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.084	0.43	315	278	387	401	354	493	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.083	0.46	354	312	441	449	396	560	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.089	0.53	404	356	512	506	446	643	37.60	57.20

HT CABLES 11 KV

Table - 9.9

TECHNICAL DETAILS FOR PRIMECAB 11 kV/11 kV

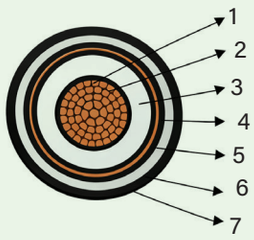
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFaY/2XFaY, A2XWaY/2XWaY (11 kV UNEARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFaY/2XFaY)					Round Wire Armoured (A2XWaY/2XWaY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFaY	2XFaY				A2XWaY	2XWaY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	5.50	0.30	4x0.80	1.40	23	690	780	1.60	1.40	26	750	800
35	5.50	0.30	4x0.80	1.40	25	720	860	1.60	1.40	27	800	1040
50	5.50	0.30	4x0.80	1.40	26	780	1050	1.60	1.56	29	900	1180
70	5.50	0.30	4x0.80	1.56	28	900	1250	1.60	1.56	30	1000	1400
95	5.50	0.30	4x0.80	1.56	29	1050	1550	2.00	1.56	32	1180	1800
120	5.50	0.40	4x0.80	1.56	31	1150	1800	2.00	1.56	34	1350	2050
150	5.50	0.40	4x0.80	1.56	32	1300	2100	2.00	1.56	36	1500	2310
185	5.50	0.40	4x0.80	1.56	34	1450	2450	2.00	1.56	38	1700	2750
240	5.50	0.40	4x0.80	1.56	36	1700	3050	2.00	1.72	40	1950	3350
300	5.50	0.40	4x0.80	1.72	39	1950	3600	2.00	1.72	42	2200	3950
400	5.50	0.50	4x0.80	1.72	42	2350	4500	2.00	1.88	46	2650	4900
500	5.50	0.50	4x0.80	1.88	46	2860	5600	2.50	2.04	51	3250	6150
630	5.50	0.50	4x0.80	1.88	49	3350	6900	2.50	2.04	55	3800	7550
800	5.50	0.60	4x0.80	2.04	54	4000	8500	2.50	2.20	60	4510	9400
1000	5.50	0.60	4x0.80	2.20	58	4800	10200	2.50	2.36	64	5300	11100

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by hellically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831;
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLSH Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20oC		Approx. Conductor A.C. Resistance at 90oC		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.164	0.14	99	88	116	127	113	150	2.35	3.58
35	0.868	0.524	1.11	0.671	0.156	0.16	118	104	140	151	134	181	3.29	5.01
50	0.641	0.387	0.820	0.495	0.147	0.17	138	122	167	178	158	216	4.70	7.15
70	0.443	0.268	0.567	0.343	0.139	0.20	168	149	209	216	191	269	6.58	10.01
95	0.320	0.193	0.410	0.248	0.132	0.21	200	177	254	257	227	326	8.93	13.59
120	0.253	0.153	0.325	0.197	0.126	0.23	227	200	294	290	256	376	11.28	17.16
150	0.206	0.124	0.265	0.159	0.124	0.25	252	223	331	323	285	424	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.120	0.26	284	250	383	360	317	487	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.116	0.29	326	286	450	411	361	568	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.112	0.32	365	319	512	456	399	643	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.109	0.35	412	359	594	508	443	735	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.105	0.39	461	401	680	559	486	828	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.102	0.43	514	445	778	611	529	930	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.097	0.50	553	476	863	639	550	1003	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.096	0.56	595	509	954	672	575	1083	94.00	143.00

HT CABLES 11 KV

Table - 9.10

TECHNICAL DETAILS FOR PRIMECAB 11 kV/11 kV

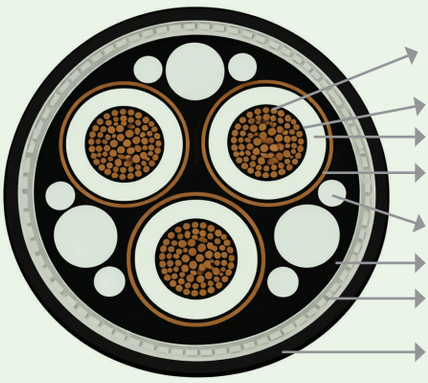
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (1 1 kV UNEARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	5.50	0.50	4x0.80	1.88	47	2650	3000	2.50	2.04	50	3905	4210
35	5.50	0.50	4x0.80	2.04	49	2950	3400	2.50	2.20	53	4260	4705
50	5.50	0.60	4x0.80	2.20	52	3350	4000	2.50	2.20	55	4715	5410
70	5.50	0.60	4x0.80	2.20	56	3800	4800	2.50	2.36	60	5310	6315
95	5.50	0.60	4x0.80	2.36	60	4350	5800	3.15	2.52	64	6620	8010
120	5.50	0.70	4x0.80	2.52	64	4900	6800	3.15	2.52	67	7215	9055
150	5.50	0.70	4x0.80	2.52	67	5450	7200	3.15	2.68	70	7810	10155
185	5.50	0.70	4x0.80	2.68	70	6000	9000	3.15	2.84	74	8655	11560
240	5.50	0.70	4x0.80	2.84	75	7000	11000	3.15	3.00	79	9810	13705
300	5.50	0.70	4x0.80	3.00	80	8000	13000	4.00	3.00	87	12025	16910
400	5.50	0.70	4x0.80	3.00	86	9200	15000	4.00	3.00	94	13610	19915

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconducting Compound
3. **Insulation Material:** Crosslinked Polyethylene (Xlpe)
4. **Insulation Screening:** Extruded Semiconducting Compound Followed By Helically Wrapped Copper Tape. PVC Fillers
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS:5831
6. **Armouring:** Single Layer Of Galvanized Flat Strip/ Round Wires.
7. **Outer Sheath**: PVC Type St-2 Of IS 5831—Options: PVC Type St-2/ FR Type/ FRLSH Type
8. **Colour Of Outer Sheath:** Black. Options: Any Other Colours As Per Requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20°C		Approx. Conductor A.C. Resistance at 90°C		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.145	0.14	94	81	103	121	105	133	2.35	3.58
35	0.868	0.524	1.11	0.671	0.138	0.16	112	97	124	144	133	160	3.29	5.01
50	0.641	0.387	0.820	0.495	0.129	0.17	131	114	148	169	146	191	4.70	7.15
70	0.443	0.268	0.567	0.343	0.124	0.20	161	139	184	207	179	237	6.58	10.01
95	0.320	0.193	0.410	0.248	0.116	0.21	190	165	222	245	213	286	8.93	13.59
120	0.253	0.153	0.325	0.197	0.112	0.23	216	188	256	278	241	329	11.28	17.16
150	0.206	0.124	0.265	0.159	0.108	0.25	242	209	288	311	269	371	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.105	0.26	273	240	330	349	308	422	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.102	0.29	315	278	387	401	354	493	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.0999	0.32	354	312	441	449	396	560	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.0954	0.35	404	356	512	506	446	643	37.60	57.20

HT CABLES 22 KV

Table - 9.11

TECHNICAL DETAILS FOR PRIMECAB 12.7 kV/22 kV

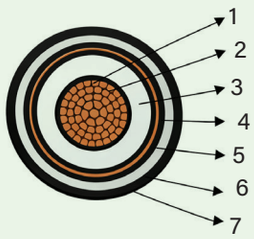
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFaY/2XFaY, A2XWaY/2XWaY (22 kV EARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFaY	2XFaY				A2XWaY	2XWaY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	6.00	0.30	4x0.80	1.40	24	680	835	1.60	1.40	26	801	952
35	6.00	0.30	4x0.80	1.40	25	780	935	1.60	1.56	27	902	1100
50	6.00	0.30	4x0.80	1.56	27	780	1135	1.60	1.56	29	1005	1260
70	6.00	0.30	4x0.80	1.56	29	980	1380	1.60	1.56	30	1110	1510
95	6.00	0.40	4x0.80	1.56	30	1130	1685	2.00	1.56	33	1355	1905
120	6.00	0.40	4x0.80	1.56	33	1265	1900	2.00	1.56	34	1510	2160
150	6.00	0.40	4x0.80	1.56	34	1390	2100	2.00	1.56	36	1605	2455
185	6.00	0.40	4x0.80	1.56	35	1500	2500	2.00	1.72	38	1810	2905
240	6.00	0.40	4x0.80	1.56	37	1760	3145	2.00	1.72	40	2055	3455
300	6.00	0.40	4x0.80	1.72	40	2050	3760	2.00	1.72	42	2310	4125
400	6.00	0.50	4x0.80	1.88	44	2400	4610	2.00	1.88	46	2755	5010
500	6.00	0.50	4x0.80	1.88	48	2900	5700	2.50	2.04	51	3405	6305
630	6.00	0.50	4x0.80	2.04	52	3400	7000	2.50	2.04	54	3965	7710
800	6.00	0.60	4x0.80	2.04	56	4100	9600	2.50	2.20	60	4760	9555
1000	6.00	0.60	4x0.80	2.20	60	4900	10550	2.50	2.36	64	5565	11560

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by hellically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831;
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLSH Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters																
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20oC		Approx. Conductor A.C. Resistance at 90oC		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air		
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.166	0.13	100	90	120	130	115	155	2.35	3.58
35	0.868	0.524	1.11	0.671	0.158	0.15	116	102	144	150	132	185	3.29	5.01
50	0.641	0.387	0.820	0.495	0.149	0.16	137	120	174	176	154	224	4.70	7.15
70	0.443	0.268	0.567	0.343	0.140	0.18	167	146	217	214	187	278	6.58	10.01
95	0.320	0.193	0.410	0.248	0.134	0.20	198	172	262	253	221	336	8.93	13.59
120	0.253	0.153	0.325	0.197	0.130	0.22	224	195	302	285	249	386	11.28	17.16
150	0.206	0.124	0.265	0.159	0.126	0.23	249	217	339	317	276	434	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.122	0.25	280	243	389	355	308	494	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.118	0.27	321	278	455	404	350	575	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.113	0.30	355	307	515	442	382	641	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.110	0.32	400	345	594	490	422	734	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.107	0.36	447	384	678	538	462	825	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.103	0.40	496	424	770	586	501	920	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.0997	0.46	543	475	866	629	550	1014	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.0970	0.52	572	498	944	643	560	1074	94.00	143.00

HT CABLES 22 KV

Table - 9.12

TECHNICAL DETAILS FOR PRIMECAB 12.7 kV/22 kV

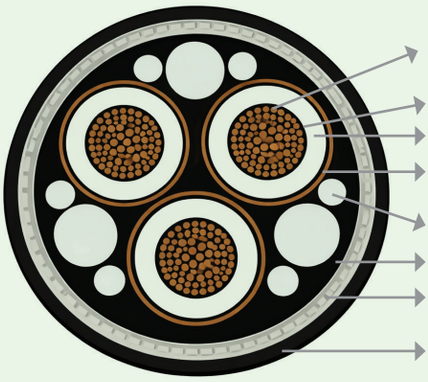
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (22 kV EARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	6.00	0.50	4x0.80	2.04	49	2870	3200	2.50	2.20	53	4210	4515
35	6.00	0.60	4x0.80	2.04	51	3150	3700	2.50	2.20	54	4615	5055
50	6.00	0.60	4x0.80	2.20	55	3300	4300	2.50	2.36	58	5065	5705
70	6.00	0.60	4x0.80	2.36	58	3800	5200	2.50	2.36	62	5600	6610
95	6.00	0.60	4x0.80	2.36	61	4650	6150	3.15	2.52	67	7005	8360
120	6.00	0.70	4x0.80	2.52	64	5200	7100	3.15	2.68	70	7560	9405
150	6.00	0.70	4x0.80	2.68	68	5700	8100	3.15	2.68	73	8210	10510
185	6.00	0.70	4x0.80	2.68	71	6300	9300	3.15	2.84	78	9105	11965
240	6.00	0.70	4x0.80	2.84	77	7300	11300	4.00	3.00	84	11355	15205
300	6.00	0.70	4x0.80	3.00	81	9600	13300	4.00	3.00	88	12360	17265
400	6.00	0.70	4x0.80	3.00	89	9700	16000	4.00	3.00	95	14105	20410

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconducting Compound
3. **Insulation Material:** Crosslinked Polyethylene (Xlpe)
4. **Insulation Screening:** Extruded Semiconducting Compound Followed By Helically Wrapped Copper Tape. PVC Fillers
5. **Inner Sheath:** Extruded PVC
6. **Armouring:** Single Layer Of Galvanized Flat Strip/ Round Wires.
7. **Outer Sheath**: PVC Type St-2 Of IS 5831—Options: PVC Type St-2/ FR Type/ FRLSH Type
8. **Colour Of Outer Sheath:** Black. Options: Any Other Colours As Per Requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20oC		Approx. Conductor A.C. Resistance at 90oC		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.148	0.13	90	85	110	120	100	135	2.35	3.58
35	0.868	0.524	1.11	0.671	0.141	0.15	111	97	127	143	125	164	3.29	5.01
50	0.641	0.387	0.820	0.495	0.132	0.16	130	116	155	167	150	196	4.70	7.15
70	0.443	0.268	0.567	0.343	0.125	0.18	159	142	190	204	183	243	6.58	10.01
95	0.320	0.193	0.410	0.248	0.119	0.20	189	169	230	243	217	293	8.93	13.59
120	0.253	0.153	0.325	0.197	0.114	0.22	215	192	265	276	246	336	11.28	17.16
150	0.206	0.124	0.265	0.159	0.111	0.23	239	214	300	307	275	378	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.107	0.25	270	245	340	346	313	431	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.104	0.27	312	282	400	398	360	503	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.102	0.30	351	317	455	446	403	571	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.097	0.32	400	361	530	503	453	655	37.60	57.20

HT CABLES 33 KV

Table - 9.13

TECHNICAL DETAILS FOR PRIMECAB 19 kV/33 kV

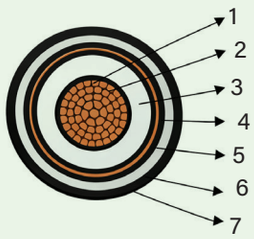
SINGLE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 part-2

Cable Code: A2XFaY/2XFaY, A2XWaY/2XWaY (33 kV EARTHED GRADE)

Physical Parameters												
Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFaY/2XFaY)					Round Wire Armoured (A2XWaY/2XWaY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFaY	2XFaY				A2XWaY	2XWaY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	8.80	0.40	4x0.80	1.56	31	1000	1120	2.00	1.56	33	1255	1410
35	8.80	0.40	4x0.80	1.56	32	1100	1270	2.00	1.56	34	1360	1525
50	8.80	0.40	4x0.80	1.56	33	1180	1400	2.00	1.56	36	1455	1710
70	8.80	0.40	4x0.80	1.56	35	1330	1660	2.00	1.56	37	1565	1975
95	8.80	0.40	4x0.80	1.56	36	1450	1940	2.00	1.72	39	1755	2320
120	8.80	0.40	4x0.80	1.72	38	1600	2200	2.00	1.72	40	1910	2555
150	8.80	0.40	4x0.80	1.72	39	1750	2560	2.00	1.72	42	2055	2910
185	8.80	0.50	4x0.80	1.72	41	1960	2910	2.00	1.88	44	2325	3325
240	8.80	0.50	4x0.80	1.88	44	2260	3630	2.00	1.88	46	2570	3955
300	8.80	0.50	4x0.80	1.88	46	2500	4210	2.50	2.04	48	3005	4765
400	8.80	0.50	4x0.80	2.04	49	2900	5060	2.50	2.04	52	3420	5660
500	8.80	0.60	4x0.80	2.04	54	3400	6200	2.50	2.20	57	4065	6915
630	8.80	0.60	4x0.80	2.20	58	4000	7000	2.50	2.36	61	4715	8410
800	8.80	0.60	4x0.80	2.36	62	4800	9200	2.50	2.36	65	5410	10225
1000	8.80	0.70	4x0.80	2.36	65	5600	11000	3.15	2.52	70	6565	12555

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconductor Compound
3. **Insulation Material:** XLPE (Cross linked polyethylene)
4. **Insulation Screening:** Extruded Semiconducting Compound followed by hellically wrapped Copper Tape
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS 5831;
6. **Armouring:** Single layer of Aluminium Round Wire / Flat Strip
7. **Outer Sheath:** Extruded PVC Type ST-2 as per IS 5831; Options: PVC Type ST-2/FR Type/FRLSH Type, Colour of Outer Sheath: Black or any other color as per requirement

Electrical Parameters														
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20oC		Approx. Conductor A.C. Resistance at 90oC		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air	Aluminium	Copper
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.175	0.10	100	90	120	130	115	155	2.35	3.58
35	0.868	0.524	1.11	0.671	0.169	0.11	116	102	144	150	132	185	3.29	5.01
50	0.641	0.387	0.820	0.495	0.161	0.12	137	120	174	176	154	224	4.70	7.15
70	0.443	0.268	0.567	0.343	0.152	0.14	167	146	217	214	187	278	6.58	10.01
95	0.320	0.193	0.410	0.248	0.145	0.15	198	172	262	253	221	336	8.93	13.59
120	0.253	0.153	0.325	0.197	0.140	0.16	224	195	302	285	249	386	11.28	17.16
150	0.206	0.124	0.265	0.159	0.135	0.18	249	217	339	317	276	434	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.130	0.19	280	243	389	355	308	494	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.126	0.21	321	278	455	404	350	575	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.122	0.23	355	307	515	442	382	641	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.117	0.25	400	345	594	490	422	734	37.60	57.20
500	0.0605	0.0366	0.0808	0.0489	0.113	0.27	447	384	678	538	462	825	47.00	71.50
630	0.0469	0.0283	0.0648	0.0391	0.111	0.29	496	424	770	586	501	920	59.22	90.10
800	0.0367	0.0221	0.0530	0.0319	0.105	0.34	543	475	866	629	550	1014	75.20	114.40
1000	0.0291	0.0176	0.0444	0.0268	0.102	0.37	572	498	944	643	560	1074	94.00	143.00

HT CABLES 33 KV

Table - 9.14

TECHNICAL DETAILS FOR PRIMECAB 19 kV/33 kV

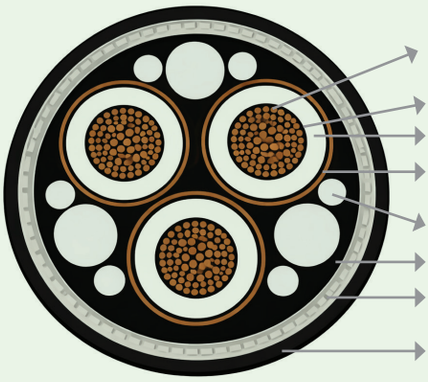
THREE CORE, ALUMINIUM/COPPER CONDUCTOR, XLPE INSULATED, ARMOURED CABLES

Ref Specification: IS 7098 Part-2

Cable Code: A2XFY/2XFY, A2XWY/2XWY (33 kV EARTHED GRADE)

Size (Cross Sectional Area)	Nominal Insulation Thickness	Minimum Inner Sheath Thickness	Flat strip Armoured (A2XFY/2XFY)					Round Wire Armoured (A2XWY/2XWY)				
			Nominal Armour Strip Dimension	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable		Nominal Dia of Armor Wire	Minimum Outer Sheath Thickness	Approx. Overall Dia of Cable	Approx. Weight of Cable	
						With Al Conductor	With cu Conductor				With Al Conductor	With cu Conductor
						A2XFY	2XFY				A2XWY	2XWY
sq. mm	mm	mm	mm	mm	mm	kg/km	kg/km	mm	mm	mm	kg/km	kg/km
25	8.80	0.70	4x0.80	2.36	61	4300	4600	3.15	2.52	66	6610	6805
35	8.80	0.70	4x0.80	2.52	65	4700	5000	3.15	2.68	69	7055	7410
50	8.80	0.70	4x0.80	2.52	67	5100	5700	3.15	2.68	72	7565	8115
70	8.80	0.70	4x0.80	2.68	70	5650	6600	3.15	2.84	75	8270	9210
95	8.80	0.70	4x0.80	2.84	75	6300	7700	3.15	3.00	79	9065	10455
120	8.80	0.70	4x0.80	2.84	78	6800	8500	4.00	3.00	84	10805	12515
150	8.80	0.70	4x0.80	3.00	81	7500	9200	4.00	3.00	87	11575	13765
185	8.80	0.70	4x0.80	3.00	84	8880	11000	4.00	3.00	91	12355	15105
240	8.80	0.70	4x0.80	3.00	89	9000	12800	4.00	3.00	95	13510	17255
300	8.80	0.70	4x0.80	3.00	94	10000	14950	4.00	3.00	99	14720	19560
400	8.80	0.70	4x0.80	3.00	100	11300	17500	4.00	3.00	105	16415	22610

Cross-Sectional View



1. **Conductor:** Stranded Compacted Circular Aluminum / Copper as per Class-2 of IS 8130
2. **Conductor Screening:** Extruded Semiconducting Compound
3. **Insulation Material:** Crosslinked Polyethylene (Xlpe)
4. **Insulation Screening:** Extruded Semiconducting Compound Followed By Helically Wrapped Copper Tape. PVC Fillers
5. **Inner Sheath:** Extruded PVC Type ST-2 as per IS:5831
6. **Armouring:** Single Layer Of Galvanized Flat Strip/ Round Wires.
7. **Outer Sheath**: PVC Type St-2 Of IS 5831—Options: PVC Type St-2/ FR Type/ FRLSH Type
8. **Colour Of Outer Sheath:** Black. Options: Any Other Colours As Per Requirement

Electrical Parameters															
Size (Cross Sectional Area)	Max. Conductor D.C. Resistance at 20oC		Approx. Conductor A.C. Resistance at 90oC		Reactance of Cable at 50 Hz (Approx.)	Capacitance of Cable (Approx.)	Normal Current Rating						Short Circuit Current Rating for 1 s Duration	
	Aluminium	Copper	Aluminium	Copper			For Aluminium Conductor			For Copper Conductor				
							Ground	Duct	Air	Ground	Duct	Air		
sq. mm	Ω/km	Ω/km	Ω/km	Ω/km	Ω/km	µF/km	A	A	A	A	A	A	kA	kA
25	1.20	0.727	1.54	0.931	0.160	0.10	90	85	110	120	100	135	2.35	3.58
35	0.868	0.524	1.11	0.671	0.153	0.11	111	97	127	143	125	164	3.29	5.01
50	0.641	0.387	0.820	0.495	0.146	0.12	130	116	155	167	150	196	4.70	7.15
70	0.443	0.268	0.567	0.343	0.138	0.14	159	142	190	204	183	243	6.58	10.01
95	0.320	0.193	0.410	0.248	0.130	0.15	189	169	230	243	217	293	8.93	13.59
120	0.253	0.153	0.325	0.197	0.125	0.16	215	192	265	276	246	336	11.28	17.16
150	0.206	0.124	0.265	0.159	0.122	0.18	239	214	300	307	275	378	14.10	21.45
185	0.164	0.0991	0.211	0.127	0.118	0.19	270	245	340	346	313	431	17.39	26.46
240	0.125	0.0754	0.162	0.0976	0.113	0.21	312	282	400	398	360	503	22.56	34.32
300	0.100	0.0601	0.130	0.0778	0.111	0.23	351	317	455	446	403	571	28.20	42.90
400	0.0778	0.0470	0.1023	0.0618	0.106	0.25	400	361	530	503	453	655	37.60	57.20

BASIC ASSUMPTION FOR CURRENT RATINGS & RATING FACTORS .

SCOPE

The current ratings of cables as indicated In various tables have been calculated on certain assumed conditions.

In actual practice these conditions may be different. Therefore to determine the actual current ratings as per Installation conditions, the tabulated ratings shall be multiplied with appropriate factors

a) Basic assumption for current ratings

i) Maximum permissible temperature - 90 °C forXLPE insulation, 70 °C for general purpose PVC, 85 °C for HR PVC
ii) Ground/Ducttemperature-30°C
iii) Ambient temperature - 40 °C
iv) Thermal resistivity of soil -150 °C.cm/W or 1.5 km/W.
v) Thermal resistivity of Dielectric 650 °C.cm/W for PVC, 350 °C.cm/W forXLPE
vi) Single core cables installed in one circuit in following arrangement
OR
vi) Multicore cables installed in single circuit

Voltage Grade	Depth of Laying
1.1 kV cables	750 mm
3.3 kV to 11 kV	900 mm
More than 11 kV	1050 mm

b) Rating Factors

i) Rating factors related to variation in ambient air temperature

Air Temperature in °C		25 °C	30 °C	35 °C	40 °C	45 °C	50 °C	55 °C	60 °C
Rating factors	Normal PVC	1.22	1.15	1.08	1.00	0.91	0.82	0.71	0.58
	HRPVC	1.15	1.11	1.05	1.00	0.94	0.88	0.82	0.75
	XLPE	1.14	1.10	1.05	1.00	0.95	0.84	0.84	0.77

ii) Rating factors related to variation in ground temperature

Air Temperature in °C		15 °C	20 °C	25 °C	30 °C	35 °C	40 °C	45 °C	50 °C
Rating factors	Normal PVC	1.17	1.12	1.06	1.00	0.94	0.87	0.79	0.71
	HRPVC	1.13	1.09	1.04	1.00	0.95	0.90	0.85	0.80
	XLPE	1.12	1.08	1.04	1.00	0.96	0.91	0..87	0.82

iii) Rating factors related to variation in ground thermal resistivity of soil for 3 single core cables laid direct in ground. (Average value)

Thermal Resistivity in °C.cm/W	100	120	150	200	250	300
Rating factors	1.20	1.10	1.00	0.90	0.81	0.74

iv) Rating factors related to variation in ground thermal resistivity of soil for multi core cables laid direct in ground. (Average value)

Thermal Resistivity in °C.cm/W	100	120	150	200	250	300
Rating factors	1.16	1.08	1.00	0.90	0.82	0.76

v) Rating factors related to variation in depth of laying for 1.1 kV cables

1. For cross-sectional area of conductor < 25 sq. mm

Depth of laying (cm) >	75	90	105	120	150	180 & Above
Rating factors	1.00	0.99	0.98	0.97	0.96	0.95

2. For cross-sectional area of conductor 25 sq. mm to 300 sq. mm

Depth of laying (cm) >	75	90	105	120	150	180 & Above
Rating factors	1.00	0.98	0.97	0.96	0.94	0.93

3. For cross-sectional area of conductor above 300 sq. mm

Depth of laying (cm) >	75	90	105	120	150	180 & Above
Rating factors	1.00	0.97	0.96	0.95	0.92	0.91

vi) Rating factors related to variation in depth of laying for 3.3 kV to 11 kV cables

Depth of laying (cm) >	75	90	105	120	150	180	200
Rating factors	-	1.00	0.98	0.97	0.95	0.95	0.93

vii) Rating factors related to variation in depth of laying for above 11 kV cables

Depth of laying (cm) >	75	90	105	120	150	180 & Above
Rating factors	-	-	1.00	0.99	0.98	0.96

Group Rating Factors

1. Cable laid direct in Ground

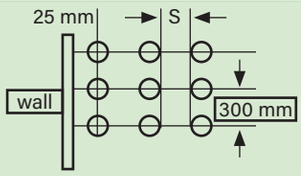
No of cables/ circuits in groups	Multicore cables in horizontal formation					Single cables in horizontal formation				
	Touching	S=15cm	S = 30 cm	S = 45 cm	S = 60 cm	Touching	S = 15cm	S = 30 cm	S = 45 cm	S = 60 cm
2	0.80	0.84	0.87	0.90	0.91	0.80	0.85	0.90	0.92	0.95
3	0.68	0.74	0.79	0.83	0.86	0.70	0.78	0.85	0.88	0.91
4	0.62	0.69	0.75	0.80	0.83	0.64	0.73	0.81	0.86	0.89
5	0.58	0.65	0.72	0.77	0.80	0.59	0.70	0.79	0.84	0.88
6	0.55	0.62	0.69	0.75	0.78	0.55	0.67	0.77	0.83	0.87
7	0.52	0.59	0.67	0.73	0.77	0.53	0.65	0.76	0.82	0.86
8	0.50	0.57	0.66	0.72	0.75	0.51	0.64	0.76	0.82	0.86
9	0.48	0.55	0.65	0.71	0.75	0.49	0.63	0.74	0.81	0.85
10	0.46	0.54	0.64	0.70	0.74	0.48	0.63	0.74	0.81	0.85
11	0.45	0.53	0.63	0.70	0.74	0.47	0.62	0.73	0.80	0.84
12	0.44	0.52	0.62	0.69	0.73	0.46	0.61	0.73	0.80	0.84

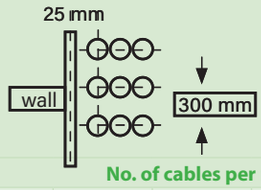
S = axial spacing of cable

No. of cables/ circuits in groups	No. of Tier	Multicore cables in Tier formation				
		Touching	S = 15cm	S = 30cm	S = 45cm	S = 60 cm
2	1	0.80	0.84	0.87	0.90	0.91
3	1	0.68	0.74	0.79	0.83	0.86
4	2	0.60	0.66	0.73	0.77	0.79
5	2	0.55	0.61	0.68	0.71	0.73
6	2	0.51	0.57	0.63	0.67	0.69
7	3	0.48	0.54	0.59	0.63	0.64
8	3	0.46	0.51	0.56	0.60	0.61
9	3	0.44	0.48	0.53	0.57	0.58
10	4	0.42	0.47	0.52	0.55	0.56
11	4	0.41	0.46	0.50	0.54	0.55
12	4	0.40	0.45	0.49	0.53	0.54

2. Cable laid direct in open racks in air

(i) Multicore Cables in open racks in air

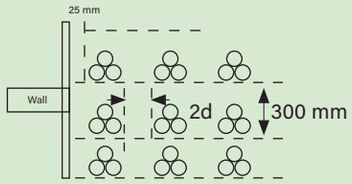




No. of racks	No. of cables per rack					No. of cables per rack				
	1	2	3	6	9	1	2	3	6	9
1	1.00	0.98	0.96	0.93	0.92	1.00	0.84	0.80	0.75	0.73
2	1.00	0.95	0.93	0.90	0.89	1.00	0.80	0.76	0.71	0.69
3	1.00	0.94	0.92	0.89	0.88	1.00	0.78	0.74	0.70	0.68
6	1.00	0.93	0.90	0.87	0.86	1.00	0.76	0.72	0.65	0.66

(ii) Single Core Cables In open racks In air

ARRANGEMENT



No. of Racks	No. of Circuit Racks (3 single cores) per rack		
1	1	0.98	0.96
2	1	0.95	0.93
3	1	0.94	0.92
4	1	0.93	0.9

S = axial spacing of cable

No. of cables/ circuits In groups	No. of Tier	Multicore cables in Tier formation				
		Touching	S= 15cm	S = 30 cm	S = 45cm	S = 60 cm
2	1	0.80	0.84	0.87	0.90	0.91
3	1	0.68	0.74	0.79	0.83	0.86
4	2	0.60	0.66	0.73	0.77	0.79
5	2	0.55	0.61	0.68	0.71	0.73
6	2	0.51	0.57	0.63	0.67	0.69
7	3	0.48	0.54	0.59	0.63	0.64
8	3	0.46	0.51	0.56	0.6	0.61
9	3	0.44	0.48	0.53	0.57	0.58
10	4	0.42	0.47	0.52	0.55	0.56
11	4	0.41	0.46	0.50	0.54	0.55
12	4	0.40	0.45	0.49	0.53	0.54

No. of cables/ circuits in groups	Multicore cable (Touching) No of cables in racks				Multicore cables (spacing of cable equal to dia meter of cable No of cables in racks				S/core cables in trefoil touching formation spacing between circuits equal to twice the diameter of cable) No of cables in racks			
	1	2	3	4	1	2	3	4	1	2	3	4
1	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
2	0.84	0.80	0.78	0.76	0.98	0.95	0.94	0.93	0.98	0.95	0.94	0.93
3	0.80	0.76	0.74	0.72	0.96	0.93	0.92	0.90	0.96	0.93	0.92	0.90
4	0.76	0.71	0.70	0.68	0.93	0.90	0.89	0.87	—	—	—	—

Estimated Voltage Drops in PVC/XLPE Aluminium Cables For A.C. System

(Voltage drop-V/km/A)

Nominal area of conductor (sq. mm)	P.V.C. Cable		XLPE Cable	
	Single Phase	Three Phase	Single Phase	Three System
1.5	43.44	37.62	46.34	40.13
2.5	29.04	25.15	30.98	26.83
4	17.78	15.40	18.98	16.44
6	11.06	9.58	11.80	10.22
10	7.40	6.41	7.88	6.82
16	4.58	3.97	4.90	4.24
25	2.89	2.50	3.08	2.67
35	2.10	1.80	2.23	1.94
50	1.55	1.30	1.65	1.44
70	1.10	0.94	1.15	1.00
95	0.79	0.68	0.83	0.70
120	0.63	0.55	0.66	0.56
150	0.52	0.46	0.55	0.48
185	0.42	0.37	0.44	0.40
240	0.34	0.30	0.35	0.30
300	0.28	0.26	0.30	0.26
400	0.24	0.22	0.24	0.22
500	0.23	0.20	0.23	0.20
630	0.20	0.18	0.21	0.18
800	0.19	-	0.20	-
1000	0.18	-	0.18	-

**Above voltage drops (V/km/A) shall be multiplied with rated current & length of Cable in km to calculate total voltage drop in particular length and size of cables.

* Selection criteria of MV/HV cable size for primary distribution SCOPE

The conductor size In the cables for any Installation is also governed by Its ability to carry short circuit current of system. For L.V. distribution cable may be selected on the basis of continuous load current. But in case of MV/HV distribution It Is always safer to select the cable on the basis of ability of conductor to carry expected short circuit current. Short circuit current rating of cable should In line with short circuit capacity of damping apparatus such as circuit breakers, Transformers & reactor etc. beside Its capacity to carry desired load current. Short circuit ratings of cables each size are given In relevant tables & have been calculated on the basis of IEC-949 & IEC-986 & on the following assumption

a) Temperature of conductor just prior to short circuit
   i) With XLPE insulation - 90 °C
   ii) With PVC insulation - 70 °C
b) Maximum permissible conductor temperature during short circuit
   i) With XLPE insulation - 250 °C ii) With PVC insulation -160 °C
c) Volumetric specific heat of the conductor
   i) With Aluminium conductor - 2.5 * 10-3 J/°C/MM3 ") With Copper conductor - 3.45 x 10J J/°C/MM3
d) Reciprocal of temperature co-efficient of resistance at 9 °C
   i) With Aluminium conductor - 228
   ii) With Copper conductor - 234.5

Short circuit current rating at different duration may be calcJated as

$$\text{Ish (for t duration)} = \frac{\text{Ish (for 1 s)}}{t}$$

Ish for 1 s Duration is given in relevant tables in kA

t = Time duration required tube calculated of short circuit in s

SELECTION CRITERIA OF H.V./MV CABLES FOR PRIMARY DISTRIBUTION

REQUIRED DATAS		FOR EXAMPLE
1)	Nominal System voltage at H.T. Side	11 kV
2)	Short circuit level for H.T. system	25 kA
3)	Fault withstand time for H.T. CBs	0.5 s
4)	Formula for calculating H.T. cable size	
	With Aluiminium cond./XLPE insulated cable = $\frac{\text{Ish} \times \sqrt{t}}{0.094}$	= $\frac{25 \times \sqrt{0.5}}{0.094}$
	$\frac{}{0.094}$	= 188
	Hence nearest higher size 240 sq. mm is required	
With Copper cond./XLPE insulated cable		
	= $\frac{\text{Ishx}\sqrt{t}}{0.143}$	= $\frac{25 \times \sqrt{0.5}}{0.143}$
		= 124
	Hence nearest higher size 150 sq. mm is required	

ELECTRICAL FORMULAS FOR CALCULATING AC LOAD CURRENT

Load current in Ampere when kVA is given	for Single phase (AC) $\frac{\text{kVA} \times 1000}{\text{V}}$	for Three phase (AC) $\frac{\text{kVA} \times 1000}{1.732 \times \text{V}}$
Load current in Ampere when kW is given	for Single phase (AC) $\frac{\text{kW} \times 1000}{\text{V} \times \text{pf}}$	for Three phase (AC) $\frac{\text{kW} \times 1000}{1.732 \times \text{V} \times \text{pf}}$
Load current in Ampere when H.P. is given	for Single phase (AC) $\frac{\text{H.P} \times 746}{\text{V} \times \%\text{EFf} \times \text{pf}}$	for Three phase (AC) $\frac{\text{H.P} \times 746}{1.732 \times \text{V} \times \%\text{EFf} \times \text{pf}}$

V = Nominal system voltage in volt, pf= Power factor, kVA = Kilovolt Ampere, H.P. = Horse Power

Standard drum lengths of cables

STANDARD LENGTH (MTS) WITH ± 5% TOLERANCE			
DESCRIPTION OF CABLE UNARMOURED	STRIP ARMOURED	ROUND WIRE ARMOURED	
1.1 kV PVC/XLPE CABLES WITH ALUMINIUM			
~ SINGLE CORE	up to 150 sq. mm-500/1000 185 to 1000 sq. mm-500	up to 150 sq. mm-500/1000 185 to 1000 sq. mm-500	up to 150 sq. mm-500/1000 185 to 1000 sq. mm-500
~ TWO CORE	up to 50 sq. mm-500/1000 70 to 630 sq. mm-500	up to 50 sq. mm-500/1000 70 to 630 sq. mm-500	up to 50 sq. mm-500/1000, 70 to 400 sq. mm 500, Above 400 sq. mm-250
~ THREE CORE	up to 50 sq. mm-1000 70 to 400 sq. mm-500 Above 400 sq. mm-250/500	up to 50 sq. mm-1000 70 to 500 sq. mm-500 630 sq. mm-250	up to 50 sq. mm-1000, 70 to 300 sq. mm 500, 500 to 630 sq. mm-250
~ THREE & HALF CORE	up to 50 sq. mm-500/1000 70 to 400 sq. mm-500 Above 400 sq. mm-250	up to sq. mm-500/1000 70 to 400 sq. mm-500 500 to 630 sq. mm-250	up to 50 sq. mm-500/1000, 70 to 300 sq. mm 500, 400-630 sq. mm-250
'FOUR CORE	up to 50 sq. mm-500/1000 70 to 400 sq. mm-500 Above 400 sq. mm-250	up to 50 sq. mm-500/1000 70 to 400 sq. mm-500 500 to 630 sq. mm-250	up to 50 sq. mm-500/1000, 70 to 240 sq. mm 500, 300 to 630 sq. mm-250
1.1 kV PVC/XLPE CABLES WITH COPPER CONDUCTOR			
~ SINGLE CORE	up to 150 sq. mm-500/1000 185 to 630 sq. mm-500 800 to 1000 sq. mm-250	up to 150 sq. mm-500/1000 185 to 630 sq. mm-500 800 to 1000 sq. mm-250	up to 150 sq. mm-500/1000 185 to 630 sq. mm-500 800 to 1000 sq. mm-250
~TWO CORE	up to 10sq. mm-500/1000 16 to 300 sq. mm-500 400 to 630 sq. mm-250	up to 10 sq. mm-1000 16 to 150 sq. mm-500 400 to 630 sq. mm-250	up to 10S sq. mm-1000, 70 to 500 sq. mm 500, Above 630 sq. mm-250
~ THREE CORE	up to 10 sq. mm-500/1000 16 to 185 sq. mm-500 Above 240 sq. mm-250	up to 10 sq. mm-1000 16 to 185 sq. mm-500 240 to 400 sq. mm-250	up to 10 sq. mm-1000, 16 to 185 sq. mm 16 to 185 sq. mm-500 240 to 630 sq. mm-250
~ THREES HALF CORE	up to 10 sq. mm-1000 16 to 185 sq. mm-500 Above 185 sq. mm-250	up to 10 sq. mm-1000 16 to 185 sq. mm-500 240 to 400 sq. mm-250	up to 10 sq. mm-1000, 16 to 185 sq. mm-500 240 to 630 sq. mm-250
'FOUR CORE	up to 10 sq. mm-1000 16 to 185 sq. mm-500 Above 185 sq. mm-250	up to 10 sq. mm-1000 16 to 185 sq. mm-500 Above 185 to 400 sq. mm-250	up to 10 sq. mm-1000, 16 to 150 sq. mm 500, 185 to 630 sq. mm-250
- Control cables more than FOUR CORES shall be supplied in 500 m length			
DESCRIPTION OF CABLE	6.35/11 kV GRADE	11/11 kV GRADE	19/33 kV GRADE
H.T. XLPE CABLES WITH ALUMINIUM CONDUCTOR			
~ SINGLE CORE-A2XWaY	up to 150 sq. mm-1000 185 to 1000 sq. mm-500	up to 150 sq. mm-1000 185 to 1000 sq. mm-500	up to 95 sq. mm-1000 120 to 1000 sq. mm-250/500
~ THREE CORE-A2XFY	25 to 150 sq. mm-500 Above 185 sq. mm-250	25 to 150 sq. mm-500 Above 185 sq. mm-250	25 to 70 sq. mm-500 Above 70 sq. mm-250
~ THREE CORE-A2XWY	25 TO 150 sq. mm-500 185 to 300 sq. mm-250 Above 185 sq. mm-200	25 to 95 sq. mm-500 120 to 240 sq. mm-250 Above 240 sq. mm-200	25 to 70 sq. mm-500 70 to 120 sq. mm-250 185 to 630 sq. mm-200

HANDLING, STORAGE AND LAYING OF CABLES

A. CABLE INSPECTION

Inspect every cable reel for damage before accepting the shipment. Be particularly alert for cable damage if:

1. A reel is lying flat on its side
2. Serveral reels are stacked
3. Other freight is stacked on a reel
4. Nails have been driven into reel flanges to secure shipping blocks
5. A reel flange is damaged
6. A cable covering is removed, stained ordamaged
7. A cable end seal is removed or damaged. A reel has been dropped (hidden damage likely]

B. CABLE HANDLING & STORAGE

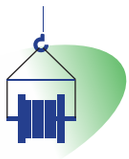
Damage to cables can occur due to the incorrect handling to which the drums and cables may be subjected; causing breakdown of the drum flanges and in exceptional cases, movement of the drum barrel takes place. Once this breakdown of the drum occurs, the cable is immediately exposed to damage. Cables damaged during handling & storage can cause service failures when the subject cable is put to use.

Thus the following is a list of Do's and Don'ts that should be followed while handling and storing the cables before it is put to use.

DO'S

When off loading reels from a truck, lower reels carefully using a hydraulic gate, hoist or forklift truck.

If a fork lift is used, approach the reel from the flange size. Position the forks such that the reel is lifted by both reel flanges. Also Consideration should be given to, Traffic Patterns during off-loading & damage during the time in storage



When using a hoist, install a mancrel through the reel arbor holes and attach a sling. Use a spreader bar approximately 6 inches longer than the overall reel width placed between the sling ends just above the reel flanges,

Cable reels should be stored on hard surfaces resting on the flanges edge (flanges vertical). Align reels flange to flange and, if possible, arrange so that first in is first out.

DON'TS

Never drop reels. If reels must be rolled, roll in opposite direction of the cable wraps to keep cable from loosening on the reel.

Do not allow the lift forks to contact the cable. Care must be taken by the fork lift operator not to make sudden turns or stops.

This may lead to the bending of the reel flanges and mashing the cable.

Multiple reels stacked on top of each other ("Pancake" storage) is not recommended for cable drums. The weight of the stack can total thousands of kgs. creating an enormous load on the bottom reels. Also, damage to the reel and/ or cable will likely occur when the reel is flipped for transit. A concentration of stress on the reel flange may cause it to break and subsequently damage the cable.

PRIMECAB® | Renufo Wires & Cables

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