

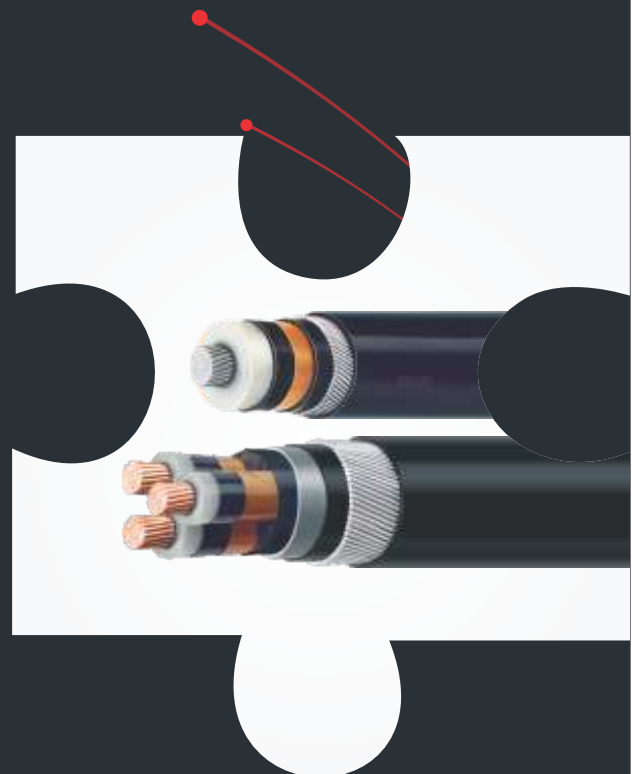


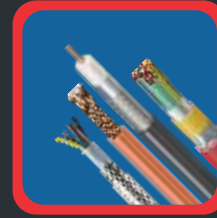
# POLYCAB

*Connection Zindagi Ka*



**HIGH TENSION  
XLPE CABLES**





Dear Customers,

The journey of over 4 decades would not have been as exciting and fulfilling without the unconditional support of all our customers & our sales partners, I would like to express our deep gratitude to you for you all have made Polycab as one of the outstanding companies in our industry.

The advent of the second millennium has brought in its wake a transformation in the mindset of the customers. The expectation of customer has risen exponentially. This trend is here to stay and we have to gear up towards keeping our customers totally satisfied.

Despite our rapid growth and elevation to the leadership position in the industry, the simplicity in Polycab's flexibility and openness to new market trends and changing technology continue to be our driving force. The core values of, simplicity, team work, trust amongst people, customer focus and meeting commitments have given us a unique position and respectability among the Indian industry.

Gearing up for the future and to keep winning in tomorrow's world, we have our well recognized market presence with a strong product portfolio, streamlined and efficient manufacturing capabilities to withstand the winds of change. But we will need to be even more proactive, agile and customer centric. We will need to anticipate the future and be ready with solutions, even before the customer asks for them.

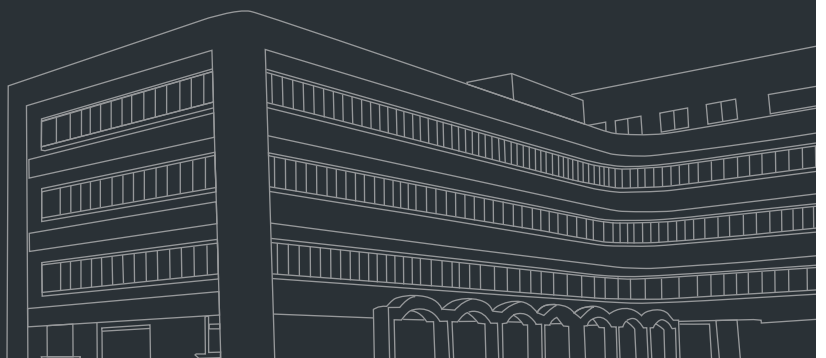
There are many new challenges the cable industry is facing with new market opportunities and product developments, due to thrust in renewable energy sector. We have enthusiastically achieved success towards developing and delivering products for this segment and at the same time ensured to be internationally competitive.

Polycab's business model is evolving. We have identified focus areas of growth over the next 5 years and beyond. Polycab will diversify into adjacent product categories such as Lighting, Luminaires, Switches, Switchgear, Electric Fans and Appliances in the near future. Polycab aspires to be a Rs. 10000+ crores company within the next 4-5 years.

We take this opportunity to thank you and convey our gratitude for the unabated support and trust you have always reposed in Polycab and encouraged it to move ahead confidently. I am confident that this will keep us ahead and winning in our constant endeavor to continue to be the preferred brand in this competitive market.

We hope to improve each day to serve you better and spread happiness.

**INDER JAISINGHANI**  
Chairman & Managing Director



## COMPANY PROFILE

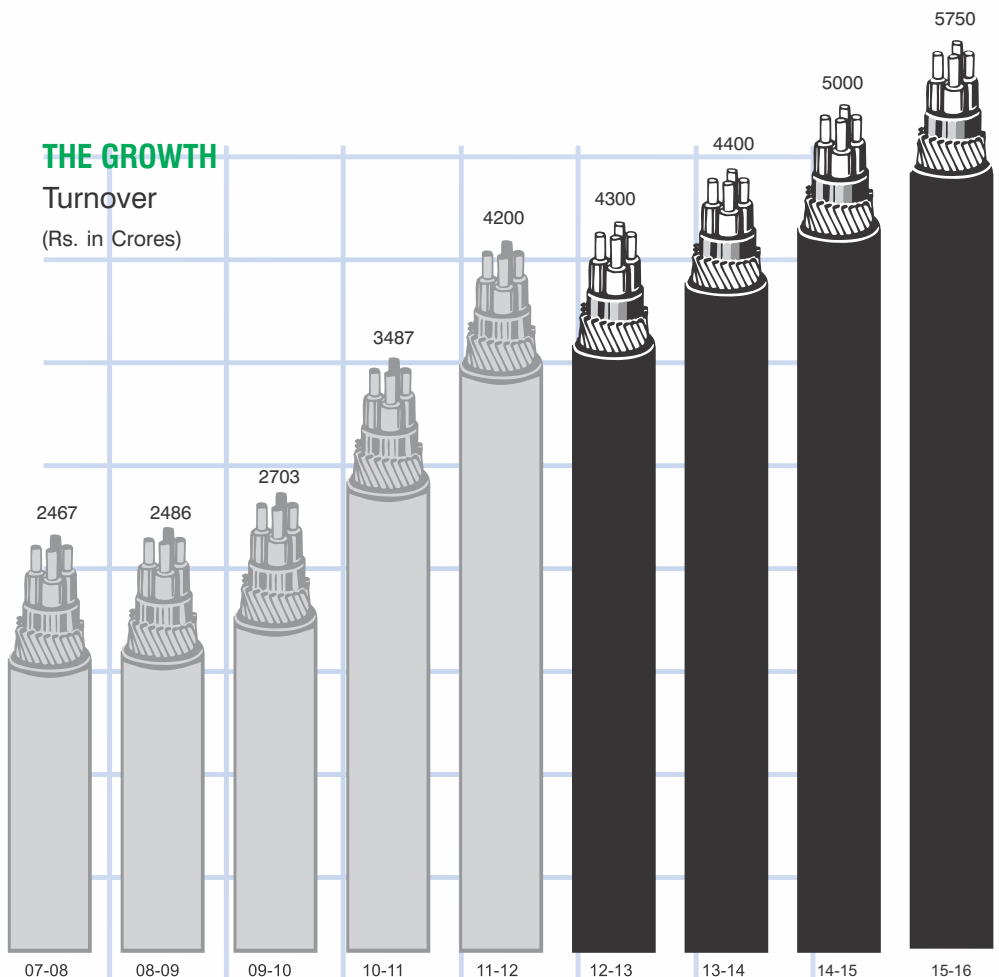
Polycab an ISO 9001:2008, ISO 14001: 2004, OHSAS 18001:2007 company, is India's No. 1 Cables & Wires Company, with a glorious track record of over 4 decades. We have the reputation of being the fastest growing company in the Indian Cable industry. We believe that our competitive edge lies in product innovation as well as superior quality and ready availability. Our Daman and Halol manufacturing facilities were created to address these specific needs. Our manufacturing set-up is state-of-the-art, from world renowned suppliers of machinery and technology.

At Polycab, we constantly strive to bring greater happiness to our customers through best in class products and services. We at Polycab understand the importance of both aesthetics and performance. Polycab has crossed ₹5750 crore turnover and is set to achieve even higher benchmarks in the coming years. In an on-going process to improve Customer satisfaction, Polycab offers a variety of services :

- Commercially competitive prices
- Reliable & consistent quality
- Reliable & just in time delivery
- Product development for a changing market
- A targeted stocking policy
- Technical support for applications / projects

Polycab derives its strengths from its Customers. The growth of the latter is a prerequisite to the growth of the company and hence customer satisfaction is its prime objective. Over the years sincere service and dedication of its customers has earned the company distinguished clientele & consultants which includes leaders in sectors like Utilities, Power Generation, Transmission & Distribution, Petroleum & Oil Refineries, OEM'S, EPC contractors, Steel & Metal, Cement, Chemical, Atomic Energy & Nuclear Power etc.

Polycab has highly experienced qualified and dedicated professionals with strong adherence to the quality management system. Polycab has offices all over the country and also has a wide network of authorised distributors and dealers to cater to all the customer segments in India and abroad.



## QUALITY & RELIABILITY

Our aim is to achieve the highest level of product quality, reliability and safety, but we also know that this must be achieved at the lowest practical cost.

## QUALITY ASSURANCE AND QUALITY MANUFACTURING

Quality assurance is intrinsic to Polycab. We confirm to ISO 9001:2008 standards in our manufacturing processes and overall company operation. Our management system has been defined by experienced personnel who develop, implement and monitor quality assurance procedures. The same rigour is applied to the monitoring of materials and services provided by the vendors so that these also meet our quality system standards.

## QUALITY PEOPLE

No quality is possible without the right people to carry through on the program. Everyone, from administrative staff to expert engineers, are committed to constant improvement. This commitment is backed by intensive training and education within an environment of Trust, Respect, Participation and Recognition.

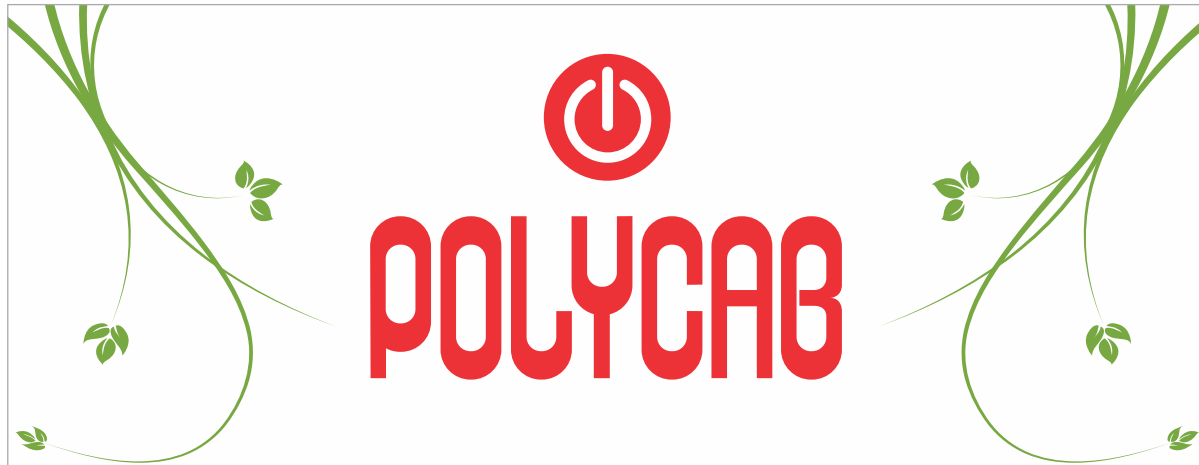
## MISSION

To build a strong brand and maintain superior quality for customer satisfaction

## VISION

“Our Vision is to improve the quality of life and bring greater happiness to our customers. We will do so through reliable, safe, sustainable and best in class products and services, while enhancing stake holder value continuously”.

QUALITY POLICY



**QUALITY POLICY**

We at Polycab, shall continually strive to provide best quality products on-time, at optimum cost with an objective of enhancing Customer Satisfaction.

We shall achieve operational excellence by continually improving the skills of our associates, keeping their morale high and improving the effectiveness of established Quality Management System.



**I. T. JAISINGHANI**  
Chairman & Managing Director



**R. RAMAKRISHNAN**  
Vice Chairman, Joint MD  
and Group CEO

Mumbai  
12/04/2012



# BASEC PCR

## QUALITY CERTIFICATIONS

**BASEC**  
BASEC POLYMER SERVICES PRIVATE LIMITED

**Product Certification Schedule**

**Product No:** 01-2022-010  
**Address:** POLYCAB WAREHOUSE LTD., T-300 DABHA INDUSTRIAL ESTATE, VILLAGE KADVAVA, DISTRICT DABHA, GUJARAT, INDIA.  
**Phone:** POLYCAB WAREHOUSE LTD., T-300 DABHA INDUSTRIAL ESTATE, VILLAGE KADVAVA, DISTRICT DABHA, GUJARAT, INDIA.  
**Head Office:** POLYCAB WAREHOUSE LTD., T-300 DABHA INDUSTRIAL ESTATE, VILLAGE KADVAVA, DISTRICT DABHA, GUJARAT, INDIA.  
**Branch Office:** POLYCAB WAREHOUSE LTD., T-300 DABHA INDUSTRIAL ESTATE, VILLAGE KADVAVA, DISTRICT DABHA, GUJARAT, INDIA.  
**Type of Cable:** Table - 01 - 9000KV Armoured cable with or without copper conductors.  
**WPC Approved:** Not applicable  
**WPC Condition:** Not applicable  
**Range of Approval:** 1. Supply to 9000KV armoured cable with or without copper conductors. 2. Supply to 9000KV armoured cable with or without copper conductors.  
**WPC Tested:** Not applicable  
**Origin Mark:** POLYCAB



**PERMISSIBLE MARKS**

**BASEC**

YELLOW CONTACT THREE

Exp. Date: 01-2023-0

Authorized Signatory:  01-2022-010




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BASEC POLYMER SERVICES PRIVATE LIMITED

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**PERMISSIBLE MARKS**

**BASEC**

YELLOW CONTACT THREE

Exp. Date: 01-2023-0

Authorized Signatory:  01-2022-010








**ISO 9001 : 2008**

**QUALITY MANAGEMENT SYSTEM CERTIFICATE**

## CERTIFICATE

THIS IS TO CERTIFY THAT

**Polycarb Group of Companies**  
F-8, Phase-1, F-7/1  
125B Capital Complex  
Gurgaon, Haryana  
122001  
INDIA

OPERATES AND MAINTAINS AN ISIRI CERTIFIED  
QUALITY MANAGEMENT SYSTEM

TO THE SCOPE:

ANALYSIS, DESIGN, MANUFACTURE OF HIGH TENSION CABLES.  
ANALYSIS, DESIGN, MANUFACTURE, INSTALLATION, MAINTENANCE,  
REPAIRS OF LT, HT, EHV TRANSMISSION LINES.  
ANALYSIS, DESIGN AND MANUFACTURE OF XLPE, HVDC CABLES, POWER  
CABLES AND EHV TRANSMISSION  
THIS SYSTEM IS BASED ON THE INTERNATIONAL STANDARD ISO 9001:2008 IN ACCORDANCE  
WITH REQUIREMENT OF THE STANDARD.

**ISO 9001 : 2008**

Certified against the: ISO 9001:2008  
Date of Issue: 20/12/2013  
Date of Audit: 23/11/2013  
Valid Until: 23/11/2015

**DQS Inc.**  
DQS  
Dägerstrasse  
70509 Stuttgart  
Germany  
Tel: +49 7141 343-3300  
E-Mail: info@dqs.de  
www.dqs.de  
www.iso9001certification.com

This certificate is valid only for the scope as stated above and is subject to surveillance audits.

**Annex to certificate**  
Registration No. 20120341 QM08

**Polycarb Group of Companies**  
F-8, Phase-1, F-7/1  
125B Capital Complex  
Gurgaon, Haryana  
122001  
INDIA

Division	Location	Scope
20120341	125B Capital Complex, F-8, Phase-1, F-7/1, Gurgaon, Haryana, India-122001	Analysis and Design of High Tension Cables and EHV Transmission Lines and EHV Transmision Lines and EHV Transmission Lines
20120341	125B Capital Complex, F-8, Phase-1, F-7/1, Gurgaon, Haryana, India-122001	Analysis, Design, Manufacturing and Installation, Maintenance, Repairs of LT, HT, EHV Transmission Lines
20120341	125B Capital Complex, F-8, Phase-1, F-7/1, Gurgaon, Haryana, India-122001	Analysis, Design and Manufacturing of XLPE, HVDC Cables, Power Cables and EHV Transmission
20120341	125B Capital Complex, F-8, Phase-1, F-7/1, Gurgaon, Haryana, India-122001	Analysis, Design and Manufacturing of High Tension Cables and EHV Transmission Lines
20120341	125B Capital Complex, F-8, Phase-1, F-7/1, Gurgaon, Haryana, India-122001	Analysis, Design and Manufacturing of High Tension Cables and EHV Transmission Lines

This annex to the certificate is subject to surveillance audits.

**Annex to certificate**  
Registration No. 20120341 QM08

**Polycarb Group of Companies**  
F-8, Phase-1, F-7/1  
125B Capital Complex  
Gurgaon, Haryana  
122001  
INDIA

Division	Location	Scope
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This annex to the certificate is subject to surveillance audits.

# ISO 9001 : 2008

## QUALITY MANAGEMENT SYSTEM CERTIFICATE

**Annex to certificate**  
Registration No. 20003384 QM08

**Polycab Group of Companies**  
P.O. Box 177  
EPIP Special Zone  
VSI Industrial Estate  
Durgam Chouk  
Hyderabad - 500043  
India

Division	Location	Scope
20003384	Hyderabad, India	1. Design, development, production, installation, maintenance, repair, testing, commissioning, operation and decommissioning of electrical power cables, accessories and components.
20003384	Hyderabad, India	2. Design, development, production, installation, maintenance, repair, testing, commissioning, operation and decommissioning of electrical power cables, accessories and components.
20003384	Hyderabad, India	3. Design, development, production, installation, maintenance, repair, testing, commissioning, operation and decommissioning of electrical power cables, accessories and components.
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20003384	Hyderabad, India	10. Design, development, production, installation, maintenance, repair, testing, commissioning, operation and decommissioning of electrical power cables, accessories and components.

**I-Net**

For a complete list of divisions, please refer to the certificate.

**Annex to certificate**  
Registration No. 20002384 QM28

**Polycab Group of Companies**  
P.O. Box 177  
EPIP Special Zone  
VSI Industrial Estate  
Durgam Chouk  
Hyderabad - 500043  
India

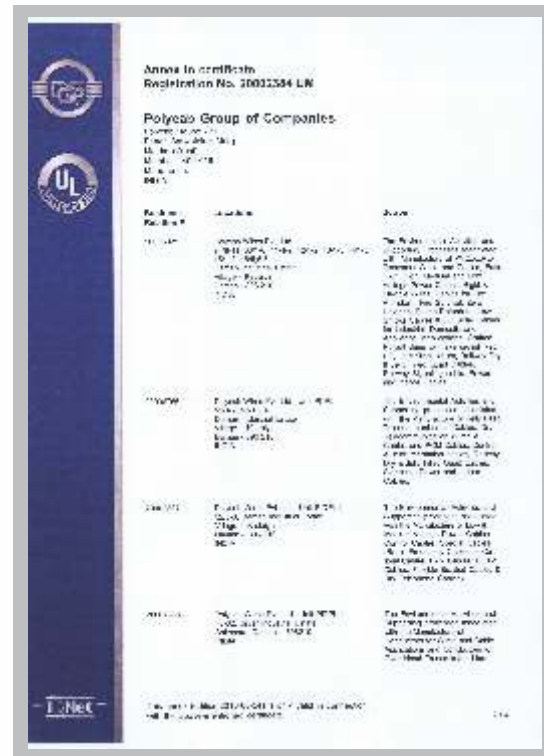
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For a complete list of divisions, please refer to the certificate.

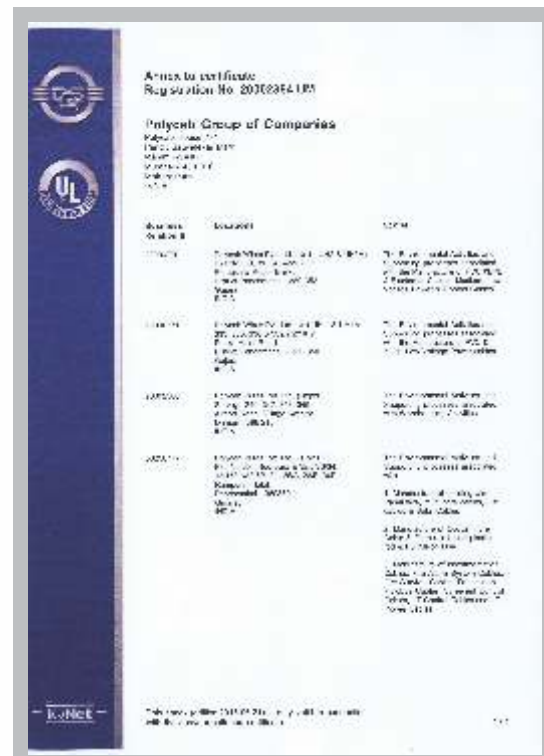
# ISO 14001 : 2004

## ENVIRONMENT MANAGEMENT SYSTEM CERTIFICATE



# ISO 14001 : 2004

## ENVIRONMENT MANAGEMENT SYSTEM CERTIFICATE



# BS OHSAS 18001 : 2007

## OCCUPATIONAL HEALTH & SAFETY MANAGEMENT SYSTEM CERTIFICATE

**CERTIFICATE**

**Polycab Group of Companies**  
 Polycab Group Ltd.  
 Plot: 1, Sector 7, Mayapuri  
 New Delhi - 110 014  
 India

**Scope of certification:**  
 Occupational Health and Safety Management System

**BS OHSAS 18001 : 2007**

**ANAB**  
 American National Standards Institute  
 11 Dupont Circle, N.W.  
 Washington, D.C. 20036

**DR2 Inc.**  
 10000  
 10000  
 10000  
 10000

**Annex to certificate**  
 Registration No. 2012254 BSOH

**Polycab Group of Companies**

Division	Location	Scope
10001	Polycab Group Ltd. Plot: 1, Sector 7, Mayapuri, New Delhi - 110 014, India	The Occupational Health and Safety Management System covering the activities of the company at the above location.
10002	Polycab Group Ltd. Plot: 1, Sector 7, Mayapuri, New Delhi - 110 014, India	The Occupational Health and Safety Management System covering the activities of the company at the above location.
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**DR2 Inc.**

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**DR2 Inc.**

HIGH TENSION XLPE CABLES

# UL CERTIFICATION

## QUALITY CERTIFICATIONS



# TUV RHEINLAND CERTIFICATE

## QUALITY CERTIFICATIONS



HIGH TENSION XLPE CABLES

## MANUFACTURING PROCESS – AT POLYCAB

POLYCAB HV XLPE cables are manufactured at its most modern manufacturing setup in DAMAN. Manufacture of HV XLPE CABLES requires great care and skill at all stages of processing. Work on HV cables has shown to raise the electric stress of XLPE cables it is essential that the extruded insulation is of high cleanliness without any imperfection, free of contamination, voids and manufacturing defects, and that the screen interface is smooth. In addition an integrated extrusion plant employing a Continuous Centenary Vulcanizing (CCV) process line (Dry Curing Line) is required. Polycab easily met these two criteria by carefully selecting imported insulating materials and by installing 2 CCV lines sourced from world renowned manufacturers. (Fig 1)

The cable core is triple extruded and crosslinked in the fully enclosed process in which the inner “semi-conducting” screen, the XLPE insulation and the outer semi conducting screen are applied simultaneously (Fig 2) to the pre-heated cable conductor. Specialized in-line inspection techniques using X-rays are employed to monitor the dimensional accuracy of the extruded core. These examinations confirm the correct levels of dimensional accuracy.

The final stage of HV cable manufacture is the high voltage test, which comprises an HV withstand, and a partial discharge detection test. These tests take place in Polycab’s sophisticated HV Test Lab (Fig 3). The tests are of short duration, typically 30 minutes, and are capable of detecting the defects that initiate partial discharges, as small as one “pico-coulomb”. Such defects lead to gradual deterioration of the XLPE and eventually breakdown may occur.



**Figure 1:**  
6 Nos. CCV (DRY CURE) LINES



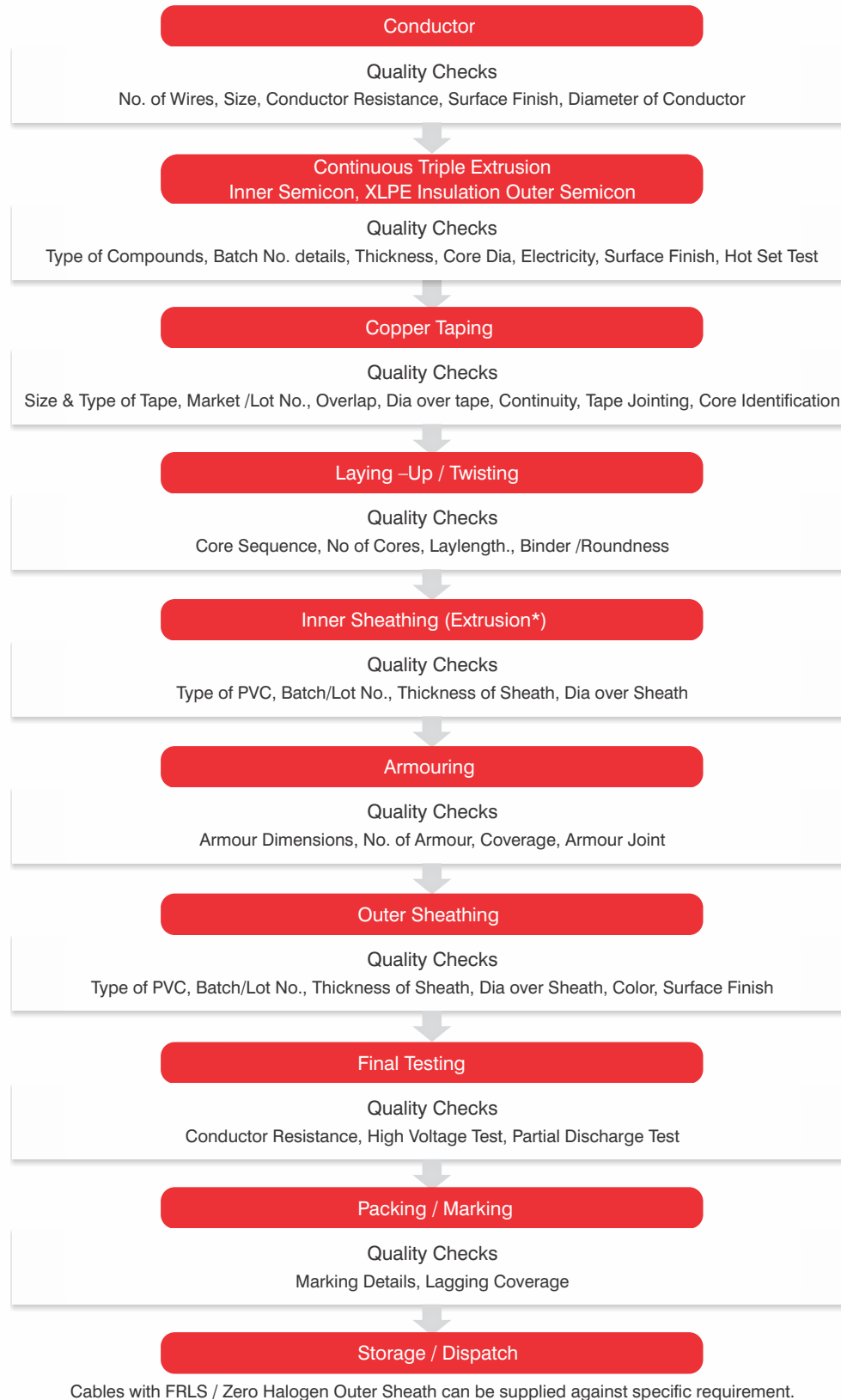
**Figure 2 :**  
Three Layer Comon Triple Extrusion Method



**Figure 3 :**  
Ultra Modern Hv Testing Lab



**FLOW CHART**



\*Lead Sheath (optional)

## CONSTRUCTION OF HT CABLES

### 1. Conductor

Stranded Class 2 - Annealed Plain / Tinned Copper / Aluminium - IS:8130 / IEC 60228/ BS 6360.

### 2. Conductor Screen

Extruded semi-conducting compound – IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.

### 3. Insulation

XLPE – IS : 7098 Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.

### 4. Insulation Non-metallic Screen

Extruded semi-conducting compound – IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.

### 5. Insulation Metallic Screen

Copper Wire / Tape or Aluminium Wire / Strip – IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, BS:7835.

### 6. Fillers

Non Hygroscopic PVC \* / Polypropylene Fiber to maintain roundness of cable.

### 7. Inner sheath/Bedding

PVC ST 2 as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835.

### 8. Armour

IS:7098 Part 2, IS: 3975, IEC:60502 Part – 2, BS:6622, BS:7835.

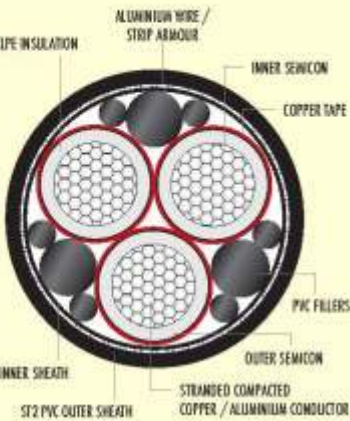
### 9. Outer Sheath

PVC ST 2, FR, FRLS as per IS:7098 Part 2, IEC:60502 Part – 2, BS:6622, LSOH to BS:7835.

Flame Retardant (FR), Flame Retardant Low Smoke (FRLS) and Low Smoke Zero Halogen & Flame Retardant (LSOH) Sheathed HT XLPE cables are also manufactured.

\* Weights given in the Tables are with PVC Fillers.

**Polycab manufactures following voltage grade cables as per IS-7098[Part-2], IEC-60502 Part-2 and BS-6622 & BS:7835**



- 33 kV (UE) Screened XLPE Cables as per customer requirement.
- 19/33 kV Screened Cable i.e. 33 kV (E)
- 12.7/22 kV Screened Cables i.e. 22 kV (E)
- 11/11 kV Screened Cables i.e. 11 kV ( UE)
- 6.35/11 kV, Screened Cables i.e. 6.6 kV (UE)
- 3.8/6.6 kV Screened Cables.
- 3.3kV (E) and (UE) Unscreened & Screened Cables.

**SIZES:**

- 35 Sq.mm up to 1000 Sq.mm in Single Core Cables.
- 35 Sq.mm to 400 Sq.mm in Multi Cores Cables.

## QUALITY ASSURANCE

Polycab's goal is to have satisfied customers. Quality assurance consisting of rigorous inspection followed by meticulous process and quality control in all phases, guarantees the superior quality of Polycab's products. Up-to-date laboratory facilities ensure that quality control requirements are met in full. Polycab XLPE Cables are tested to ensure high reliability in performance. Continuous process monitoring and post manufacturing tests ensure the compliance to Indian and International Standards. The assurance of quality is further ensured by ISI certification No. CM/L-7180366 on cables and ISO 9001 certification by UL, USA, A-7913.

### QUALITY ASSURANCE TESTING

Polycab is self sufficient to carry out all Routine & Type Tests in its own laboratory. It has world class Testing facilities for Routine & Type Tests. Routine Tests : IS:7098 Part 2, IEC:60502, BS:6622, BS:7835

- Partial Discharge Test
- High Voltage Test
- Conductor Resistance Test. Routine Tests are performed on each manufactured length of cable in Routine Test Laboratory.

### TYPE TESTS

IS:7098 Part 2, IEC:60502, BS:6622, BS:7835

- a) Electrical Type Tests
- b) Non-Electrical Type Tests
- c) Special Tests.

The cable samples are type tested in-house to ensure conformance as to various standards. Polycab cables of various voltage grades are type tested at CPRI Bangalore & ERDA Vadodara. Short circuit tests on cable conductor and armour are successfully carried at CPRI Bhopal & ERDA Vadodara.



Impulse Test Set Up



Non Electrical Type Test Laboratory

## FLAME RETARDANT LOW SMOKE CABLES

The behaviour of Electric Cables in presence of fire has been a matter of great concern to all Electrical Engineers involved in Generation, Transmission and Utilisation of electric power. Normally all XLPE Cables have an outer sheath of PVC. Although PVC by itself is flame retarding, it does produce highly toxic and corrosive fumes in the event of fire.

As a matter of fact, in closed and crowded places such as power stations, subways, railways with long sections in tunnels, road tunnels, ships, hospitals, schools, hotels, cinema theatres, museums and public premises in general, besides the obvious danger represented by fire propagation, also fume toxicity and opacity are particularly important as they may cause, with equally serious consequences for human safety, suffocation intoxication and panic due to reduced visibility.

FRLS PVC compound should ensure the following :

- 1) Minimum smoke emission.
- 2) Very low toxic and corrosive fumes emission.
- 3) Fire Retardant characteristics.

**Our laboratory is well equipped with latest test equipments to carry out following test requirements.**

- a) The oxygen index and temperature index of sheath as per ASTM-D 2863.
- b) Flammability characteristics of cable as per IEC 60332 ( Pt. I ) & IEC 60332 ( Pt. III )
- c) Flammability characteristics of cables as per Swedish Standard SS 424 14 75, Class F3.
- d) Determination of the amount of halogen acid gas evolved during combustion of outersheath materials as per IEC 60754 ( Pt. I & II ).
- e) Determination of smoke generation of outersheath material under fire as per ASTM-D 2843
- f) The measurement of smoke density as per IEC 61034.

## ADVANTAGES OF POLYCAB XLPE CABLES

- Higher Electrical Strength Retention
- Higher Short Circuit Rating
- Better Electrical , Mechanical & Thermal Properties
- Easy Jointing & Termination

## SELECTION OF CABLES

Power Cables are generally selected considering the application. However, following factors are important for selection of suitable cable construction required to transport electrical energy from one end to the other.

- 1) Maximum operating voltage.
- 2) Fault Level.
- 3) Load to be carried.
- 4) Possible overloading duration & magnitude.
- 5) Route length and voltage drop.
- 6) Mode of installation considering installation environment such as ambient & ground temperature chemical & physical properties of soil.
- 7) Flame retardant properties.

All sizes of POLYCAB XLPE cables are designed to standard operating conditions in India and abroad. The standards adopted are considering the geographical/climatical conditions and general applications of power for utilities, distribution and generation purposes.

The cables are manufactured conforming to Indian & International cables specifications for XLPE Insulated cables. Customer specific requirements can also be met.

## POLYCAB GUIDELINES FOR SELECTION OF CABLES

Polycab is manufacturing wide range of cables, so it is important that while placing enquiries or orders, as much information as possible shall be given to Polycab, so that the enquiries and orders are dealt quickly and efficiently.

**1) Voltage Grade**

1.9 / 3.3 kV (E), 3.3 / 3.3 kV (UE), 3.8 / 6.6 kV (E) , 6.6 / 6.6 kV (UE), 6.35 / 11 kV (E), 11 / 11 kV (UE), 12.7 / 22 kV (E) & 33 kV (E), 33 kV (UE) , 45 kV & 66kV

**2) Relevant Indian Standard**

IS 7098 (Part-2) – 1985 or International standard – IEC-60502 (Part-2), BS-6622 & BS:7835.

**3) Number of cores.**

Single & Three.

**4) Conductor**

Size - 35 Sq.mm to 1000 Sq.mm in Single Core Cables & 35 Sq.mm to 400 Sq.mm in 3 Core cables.

**5) Conductor Material**

Copper / Aluminium

**6) Type of Insulation**

XLPE

**7) Type of Inner Sheathing**

PVC Wrapped / PVC Extruded.

**8) Type of Armour**

Unarmoured / Strip Armoured / Round Wire Armoured.

**9) Type of Outer Sheath**

PVC / Flame Retardant / Flame Retardant Low Smoke / Zero Halogen (LSOH).

**10) Length of cable required and drum length.**

Note : Detailed Leaflet for 66kV & above can be available on specific request .

## CONDUCTOR RESISTANCE

The details to the above Guidelines are given in tables.

**TABLE - 1\*Conductor Technical Information for Single Core and Multicore cables conforming to IS-8130 /1984 (Stranded-Class-2) Copper & Aluminium Conductors**

Nominal Size of Conductor	Minimum No. of Wires		Max. D.C. Resistance at 20° C		A.C. Resistance at 90° C	
	Max. D.C. Resistance at 20° C		Copper	Aluminium	Copper	Aluminium
	Compacted Round	Plain Copper				
Sq.mm	CU.	ALU.	Ohm/Km	Ohm/Km	Ohm/Km	Ohm/Km
25	6	6	0.727	1.2	0.927	1.54
35	6	6	0.524	0.868	0.668	1.11
50	6	6	0.387	0.641	0.494	0.822
70	12	12	0.268	0.443	0.342	0.568
95	15	15	0.193	0.32	0.247	0.411
120	18	15	0.153	0.253	0.196	0.325
150	18	15	0.124	0.206	0.159	0.265
185	30	30	0.0991	0.164	0.128	0.211
240	34	30	0.0754	0.125	0.0982	0.161
300	34	30	0.0601	0.1	0.0792	0.13
400	53	53	0.047	0.0778	0.0632	0.102
500	53	53	0.0366	0.0605	0.0509	0.0801
630	53	53	0.0283	0.0469	0.0414	0.0634
800	53	53	0.0221	0.0367	0.0349	0.0513
1000	53	53	0.0176	0.0291	0.0306	0.0426

\* Conductor meeting requirements of IEC-60228 and BS 6360 can also be manufactured.

**TABLE - 2 Short Circuit Rating for 1 Second Duration for Copper and Aluminium XLPE Cables (Current In K. AMPS)**

Nominal Size	XLPE Insulated	
	Copper	Aluminium
25	3.58	2.36
35	5.01	3.31
50	7.15	4.72
70	10.02	6.61
95	13.59	8.98
120	17.17	11.34
150	21.46	14.17
185	26.47	17.48
240	34.34	22.68
300	42.93	28.35
400	57.23	37.79
500	71.54	47.24
630	90.14	59.52
800	114.47	75.59
1000	143.08	94.48

## CAPACITANCE

**TABLE - 3 Capacitance**

Approximate Capacitance (Microfarads/km) for Single Core Cables

Size	Voltage Grade (kV)						
	1.9/3.3 & 3.3/3.3	3.8/6.6	6.6/6.6 & 6.35/11	11/11	12.7/22	19/33	33/33
35							
50	0.32	0.26	0.22				
70	0.37	0.3	0.24	0.18			
95	0.41	0.34	0.28	0.2	0.19	0.14	0.14
120	0.46	0.38	0.3	0.22	0.2	0.16	0.15
150	0.5	0.4	0.33	0.23	0.22	0.16	0.16
185	0.55	0.44	0.36	0.25	0.24	0.18	0.17
240	0.61	0.49	0.4	0.28	0.26	0.19	0.18
300	0.67	0.51	0.43	0.3	0.28	0.21	0.2
400	0.75	0.52	0.48	0.34	0.31	0.23	0.22
500	0.79	0.56	0.55	0.38	0.35	0.26	0.24
630	0.83	0.64	0.62	0.43	0.4	0.29	0.27
800	0.87	0.71	0.69	0.47	0.44	0.32	0.3
1000	0.88	0.75	0.75	0.51	0.47	0.34	0.32

**TABLE - 4 Capacitance**

Approximate Capacitance (Microfarads/km) for Multi Core Cables

Size	Voltage Grade (kV)						
	1.9/3.3 & 3.3/3.3	3.8/6.6	6.6/6.6 & 6.35/11	11/11	12.7/22	19/33	33/33
35	0.3	0.25	0.2				
50	0.33	0.27	0.22				
70	0.37	0.3	0.25	0.18			
95	0.42	0.35	0.28	0.2	0.19	0.15	0.14
120	0.47	0.38	0.31	0.22	0.21	0.16	0.15
150	0.51	0.41	0.33	0.24	0.22	0.17	0.16
185	0.56	0.45	0.36	0.26	0.24	0.18	0.17
240	0.63	0.5	0.41	0.29	0.27	0.2	0.19
300	0.68	0.52	0.44	0.31	0.29	0.21	0.2
400	0.77	0.53	0.49	0.34	0.32	0.24	0.22



## REACTANCE

**TABLE - 5 Reactance**

Approximate Reactance At 50 Hz (Ohms/km) For Single Core Cables

Size	Voltage Grade (kV)													
	1.9/3.3 & 3.3/3.3		3.8/6.6		6.6/6.6 & 6.35/11		11-11-2014		12.7/22		19/33		33/33	
	Arm	Un-Arm	Arm	Un-Arm	Arm	Un-Arm	Arm	Un-Arm	Arm	Un-Arm	Un-Arm	Un-Arm	Arm	Un-Arm
35														
50	0.124	0.117	0.126	0.121	0.13	0.126	0.14	0.136	0.143	0.155	0.14	0.151		
70	0.115	0.108	0.117	0.112	0.121	0.117	0.13	0.126	0.133	0.144	0.133	0.141		
95	0.109	0.103	0.111	0.106	0.115	0.111	0.124	0.12	0.126	0.136	0.127	0.133	0.139	0.136
120	0.104	0.098	0.105	0.101	0.109	0.105	0.118	0.115	0.12	0.13	0.122	0.127	0.13	0.129
150	0.101	0.096	0.102	0.099	0.107	0.103	0.115	0.111	0.117	0.127	0.118	0.123	0.127	0.126
185	0.0986	0.093	0.0999	0.096	0.104	0.1	0.111	0.108	0.112	0.123	0.115	0.12	0.123	0.122
240	0.0952	0.089	0.0964	0.093	0.0993	0.096	0.106	0.103	0.108	0.117	0.11	0.114	0.117	0.116
300	0.092	0.088	0.0939	0.091	0.0961	0.093	0.103	0.1	0.105	0.113	0.105	0.111	0.113	0.113
400	0.0892	0.085	0.0914	0.089	0.093	0.09	0.0993	0.096	0.101	0.109	0.102	0.106	0.109	0.108
500	0.087	0.082	0.0895	0.087	0.0898	0.087	0.0955	0.093	0.0971	0.105	0.099	0.102	0.105	0.104
630	0.0858	0.082	0.0877	0.085	0.088	0.085	0.0927	0.091	0.0942	0.101	0.096	0.099	0.101	0.101
800	0.0845	0.081	0.0848	0.083	0.0851	0.083	0.0902	0.088	0.0914	0.098	0.092	0.096	0.098	0.097
1000	0.0839	0.08	0.0839	0.082	0.0839	0.082	0.0886	0.086	0.0895	0.0958	0.09	0.094	0.0958	0.095

**TABLE - 6 Reactance**

Approximate Reactance At 50 Hz (Ohms/km) For Multi Core Cables

Size	Voltage Grade (kV)						
	1.9/3.3 & 3.3/3.3	3.8/6.6	6.6/6.6 & 6.35/11	11/11	12.7/22	19/33	33/33
35	0.107	0.112	0.119				
50	0.103	0.108	0.114				
	0.0955	0.1	0.106	0.118			
95	0.0914	0.0958	0.101	0.112	0.114	0.127	0.13
120	0.0877	0.0914	0.096	0.106	0.109	0.121	0.124
150	0.0858	0.0895	0.094	0.104	0.106	0.117	0.12
185	0.0836	0.087	0.091	0.1	0.102	0.113	0.116
240	0.0811	0.0842	0.088	0.0964	0.0983	0.109	0.111
300	0.0789	0.0826	0.086	0.0933	0.0952	0.105	0.107
400	0.077	0.0817	0.083	0.0898	0.0917	0.101	0.103

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 7 - 3.8 / 6.6 KV (E) HT XLPE Single Core Aluminium Conductor Cables**

"POLYCAB" single core aluminium conductor, XLPE insulated, unarmoured & armoured cables conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	2.8	2	19	410	0.3	0.8	1.4	20	500	1.6	1.4	22	575	117	104	139	500	
50	2.8	2	20	470	0.3	0.8	1.4	21	160	1.6	1.4	23	640	138	123	166	500	
70	2.8	2	21	550	0.3	0.8	1.4	23	660	1.6	1.4	24	745	168	149	208	500	
95	2.8	2	23	670	0.3	0.8	1.4	25	780	1.6	1.4	26	865	200	177	252	500	
120	2.8	2	25	770	0.3	0.8	1.4	26	900	1.6	1.4	28	990	227	201	292	500	
150	2.8	2	26	870	0.3	0.8	1.4	27	990	1.6	1.56	29	1115	252	223	329	500	
185	2.8	2	27	1000	0.3	0.8	1.56	29	1170	1.6	1.56	31	1275	285	251	380	500	
240	2.8	2.2	30	1230	0.4	0.8	1.56	32	1390	2	1.56	34	1580	326	286	448	500	
300	3	2.2	32	1460	0.4	0.8	1.56	34	1635	2	1.56	37	A830	365	319	511	500	
400	3.3	2.2	36	1810	0.4	0.8	1.56	38	2005	2	1.72	41	2260	412	359	593	500	
500	3.5	2.4	40	2240	0.5	0.8	1.72	42	2465	2	1.88	44	2755	461	401	680	500	
630	3.5	2.4	43	2640	0.5	0.8	1.88	45	2920	2	1.88	48	3200	514	445	777	500	
800	3.5	2.6	47	3170	0.5	0.8	1.88	49	3440	2.5	2.04	52	3900	552	476	863	500	
1000	3.6	2.8	52	3940	0.6	0.8	2.04	54	4245	2.5	2.2	58	4775	595	509	954	500	

**TABLE 8 - 3.8 / 6.6 KV (E) HT XLPE Single Core Copper Conductor Cables**

"POLYCAB" Single Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	2.8	2	19	615	0.3	0.8	1.4	20	705	1.6	1.4	22	780	151	134	181	500	
50	2.8	2	20	750	0.3	0.8	1.4	21	845	1.6	1.4	23	925	178	158	216	500	
70	2.8	2	21	965	0.3	0.8	1.4	23	1065	1.6	1.4	24	1150	216	191	269	500	
95	2.8	2	23	1225	0.3	0.8	1.4	25	1340	1.6	1.4	26	1425	257	227	326	500	
120	2.8	2	25	1475	0.3	0.8	1.4	26	1595	1.6	1.4	28	1690	290	256	376	500	
150	2.8	2	26	1755	0.3	0.8	1.4	27	1875	1.6	1.56	29	2005	323	285	424	500	
185	2.8	2	27	2090	0.3	0.8	1.56	29	2250	1.6	1.56	31	2355	360	317	487	500	
240	2.8	2.2	30	2630	0.4	0.8	1.56	32	2780	2	1.56	34	2980	411	361	568	500	
300	3	2.2	32	3205	0.4	0.8	1.56	34	3380	2	1.56	37	3580	456	399	643	500	
400	3.3	2.2	36	4120	0.4	0.8	1.56	38	4320	2	1.72	41	4575	508	443	735	500	
500	3.5	2.4	40	5140	0.5	0.8	1.72	42	5370	2	1.88	44	5660	559	486	828	500	
630	3.5	2.4	43	6330	0.5	0.8	1.88	45	6610	2	1.88	48	6885	611	529	930	500	
800	3.5	2.6	47	7905	0.5	0.8	1.88	49	8175	2.5	2.04	52	8630	639	550	1003	500	
1000	3.6	2.8	52	9800	0.6	0.8	2.04	54	10105	2.5	2.2	58	10630	672	575	1083	500	

The above data is approximate and subject to manufacturing tolerance.  
\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 9 - 6.35/11 KV (E), 6.6/6.6 KV (UE) HT XLPE Single Core Aluminium Conductor Cables**

"POLYCAB" single core aluminium conductor, XLPE insulated, unarmoured & armoured cables conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	3.6	2	20	465	0.3	0.8	1.4	22	565	1.6	1.4	22	640	118	104	140	500	
50	3.6	2	21	520	0.3	0.8	1.4	23	625	1.6	1.4	23	710	138	122	167	500	
70	3.6	2	23	615	0.3	0.8	1.4	25	725	1.6	1.4	25	815	168	149	209	500	
95	3.6	2	25	730	0.3	0.8	1.4	26	855	1.6	1.4	26	945	200	177	254	500	
120	3.6	2	26	835	0.3	0.8	1.4	28	970	1.6	1.56	28	1090	227	200	294	500	
150	3.6	2	27	940	0.3	0.8	1.56	29	1100	1.6	1.56	29	1200	252	223	331	500	
185	3.6	2.2	29	1110	0.4	0.8	1.56	31	1265	2	1.56	31	1440	284	250	383	500	
240	3.6	2.2	32	1315	0.4	0.8	1.56	33	1480	2	1.56	33	1675	326	286	450	500	
300	3.6	2.2	34	1525	0.4	0.8	1.56	35	1710	2	1.56	35	1910	365	319	512	500	
400	3.6	2.2	37	1845	0.4	0.8	1.72	39	2070	2	1.72	39	2300	412	359	594	500	
500	3.6	2.4	40	2240	0.5	0.8	1.72	42	2475	2	1.88	42	2760	461	401	680	500	
630	3.6	2.4	43	2655	0.5	0.8	1.88	45	2945	2	1.88	45	3210	514	445	778	500	
800	3.6	2.6	47	3190	0.5	0.8	1.88	49	3455	2.5	2.04	49	3910	553	476	863	500	
1000	3.6	2.8	52	3940	0.6	0.8	2.04	54	4245	2.5	2.2	54	4760	595	509	954	500	

**TABLE 10 - 6.35/11 KV (E), 6.6/6.6 KV (UE) HT XLPE Single Core Copper Conductor Cables**

"POLYCAB" single core copper conductor, XLPE insulated, unarmoured & armoured cables conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	3.6	2	20	670	0.3	0.8	1.4	22	770	1.6	1.4	22	847	151	134	181	500	
50	3.6	2	21	810	0.3	0.8	1.4	23	910	1.6	1.4	23	997	178	158	216	500	
70	3.6	2	23	1025	0.3	0.8	1.4	25	1135	1.6	1.4	25	1226	216	191	269	500	
95	3.6	2	25	1290	0.3	0.8	1.4	26	1410	1.6	1.4	26	1505	257	227	326	500	
120	3.6	2	26	1540	0.3	0.8	1.4	28	1675	1.6	1.56	28	1797	290	256	376	500	
150	3.6	2	27	1825	0.3	0.8	1.56	29	1990	1.6	1.56	29	2092	323	285	424	500	
185	3.6	2.2	29	2195	0.4	0.8	1.56	31	2350	2	1.56	31	2512	360	317	487	500	
240	3.6	2.2	32	2710	0.4	0.8	1.56	33	2880	2	1.56	33	3057	411	361	568	500	
300	3.6	2.2	34	3270	0.4	0.8	1.56	35	3455	2	1.56	35	3641	456	399	643	500	
400	3.6	2.2	37	4155	0.4	0.8	1.72	39	4385	2	1.72	39	4588	508	443	735	500	
500	3.6	2.4	40	5155	0.5	0.8	1.72	42	5385	2	1.88	42	5621	559	486	828	500	
630	3.6	2.4	43	6345	0.5	0.8	1.88	45	6635	2	1.88	45	6854	611	529	930	500	
800	3.6	2.6	47	7925	0.5	0.8	1.88	49	8190	2.5	2.04	49	8595	639	550	1003	500	
1000	3.6	2.8	52	9800	0.6	0.8	2.04	54	10105	2.5	2.2	54	10532	672	575	1083	500	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is ± 5 %. Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 11 - 11/ 11 KV (UE) HT XLPE Single Core Aluminium Conductor Cables**

“POLYCAB” Single Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
70	5.5	2	27	775	0.3	0.8	1.56	29	935	1.6	1.56	30	1045	168	149	209	500	
95	5.5	2	28	900	0.3	0.8	1.56	30	1070	2	1.56	33	1250	200	177	254	500	
120	5.5	2.2	30	1045	0.4	0.8	1.56	32	1220	2	1.56	35	1410	227	200	294	500	
150	5.5	2.2	32	1155	0.4	0.8	1.56	33	1325	2	1.56	36	1525	252	223	331	500	
185	5.5	2.2	33	1305	0.4	0.8	1.56	35	1495	2	1.56	37	1700	284	250	383	500	
240	5.5	2.2	35	1525	0.4	0.8	1.56	37	1725	2	1.72	40	1980	326	286	450	500	
300	5.5	2.2	37	1745	0.4	0.8	1.72	39	1995	2	1.72	42	2225	365	319	512	500	
400	5.5	2.4	41	2120	0.5	0.8	1.72	43	2370	2	1.88	45	2660	412	359	594	500	
500	5.5	2.4	44	2495	0.5	0.8	1.88	46	2800	2.5	2.04	50	3240	461	401	680	500	
630	5.5	2.6	47	2975	0.5	0.8	1.88	49	3255	2.5	2.04	53	3720	514	445	778	500	
800	5.5	2.8	51	3535	0.6	0.8	2.04	53	3860	2.5	2.2	57	4370	553	476	863	500	
1000	5.5	2.8	56	4270	0.6	0.8	2.2	58	4665	2.5	2.36	62	5225	595	509	954	500	

**TABLE 12 - 11 / 11 KV (UE) HT XLPE Single Core Copper Conductor Cables**

“POLYCAB” Single Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
70	5.5	2	27	1185	0.3	0.8	1.56	25	1345	1.6	1.56	30	1456	216	191	269	500	
95	5.5	2	28	1460	0.3	0.8	1.56	27	1625	2	1.56	33	1810	257	227	326	500	
120	5.5	2.2	30	1750	0.4	0.8	1.56	29	1920	2	1.56	35	2115	290	256	376	500	
150	5.5	2.2	32	2040	0.4	0.8	1.56	30	2215	2	1.56	36	2415	323	285	424	500	
185	5.5	2.2	33	2390	0.4	0.8	1.56	31	2580	2	1.56	37	2790	360	317	487	500	
240	5.5	2.2	35	2925	0.4	0.8	1.56	34	3120	2	1.72	40	3380	411	361	568	500	
300	5.5	2.2	37	3490	0.4	0.8	1.72	36	3740	2	1.72	42	3970	456	399	643	500	
400	5.5	2.4	41	4430	0.5	0.8	1.72	39	4680	2	1.88	45	4970	508	443	735	500	
500	5.5	2.4	44	5410	0.5	0.8	1.88	42	5715	2.5	2.04	50	6155	559	486	828	500	
630	5.5	2.6	47	6665	0.5	0.8	1.88	45	6945	2.5	2.04	53	7410	611	529	930	500	
800	5.5	2.8	51	8270	0.6	0.8	2.04	49	8595	2.5	2.2	57	9110	639	550	1003	500	
1000	5.5	2.8	56	10125	0.6	0.8	2.2	53	10525	2.5	2.36	62	11085	672	575	1083	500	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is ± 5 %. Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 13 - 12.7/22 KV (E) HT XLPE Single Core Aluminium Conductor Cables**

"POLYCAB" Single Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	6	2.2	30	975	0.4	0.8	1.56	32	1130	2	1.56	30	1325	198	172	262	500	
120	6	2.2	31	1095	0.4	0.8	1.56	33	1265	2	1.56	32	1465	224	195	302	500	
150	6	2.2	33	1205	0.4	0.8	1.56	34	1380	2	1.56	33	1590	249	217	339	500	
185	6	2.2	34	1360	0.4	0.8	1.56	36	1545	2	1.72	35	1795	280	243	389	500	
240	6	2.2	36	1580	0.4	0.8	1.56	38	1780	2	1.72	37	2040	321	278	455	500	
300	6	2.2	38	1810	0.4	0.8	1.72	41	2050	2	1.72	39	2295	355	307	515	500	
400	6	2.4	42	2190	0.5	0.8	1.88	44	2470	2	1.88	42	2735	400	345	594	500	
500	6	2.6	45	2615	0.5	0.8	1.88	47	2870	2.5	2.04	46	3315	447	384	678	500	
630	6	2.6	48	3055	0.5	0.8	2.04	51	3365	2.5	2.04	49	3810	496	424	770	500	
800	6	2.8	52	3620	0.6	0.8	2.04	54	3930	2.5	2.2	53	4455	543	475	866	500	
1000	6	3	57	4415	0.6	0.8	2.2	59	4745	2.5	2.36	58	5310	572	498	944	500	

**TABLE 14 - 12.7 / 22 KV (E) HT XLPE Single Core Copper Conductor Cables**

"POLYCAB" Single Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	ALUMINIUM STRIP ARMOURD CABLE				ALUMINIUM ROUND WIRE ARMOURD CABLE				CURRENT CARRYING CAPACITY			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	6	2.2	30	975	0.4	0.8	1.56	32	1695	2	1.56	34	1885	253	221	336	500	
120	6	2.2	31	1095	0.4	0.8	1.56	33	1965	2	1.56	36	2165	285	249	386	500	
150	6	2.2	33	1205	0.4	0.8	1.56	34	2265	2	1.56	37	2475	317	276	434	500	
185	6	2.2	34	1360	0.4	0.8	1.56	36	2630	2	1.72	39	2880	355	308	494	500	
240	6	2.2	36	1585	0.4	0.8	1.56	38	3180	2	1.72	41	3440	404	350	575	500	
300	6	2.2	38	1810	0.4	0.8	1.72	41	3795	2	1.72	43	4040	442	382	644	500	
400	6	2.4	42	2190	0.5	0.8	1.88	44	4780	2	1.88	46	5045	490	422	734	500	
500	6	2.6	45	2615	0.5	0.8	1.88	47	5785	2.5	2.04	51	6230	538	462	825	500	
630	6	2.6	48	3055	0.5	0.8	2.04	51	7055	2.5	2.04	54	7500	586	501	920	500	
800	6	2.8	52	3620	0.6	0.8	2.04	54	8665	2.5	2.2	58	9190	629	550	1014	500	
1000	6	3	57	4415	0.6	0.8	2.2	59	10105	2.5	2.36	63	11170	643	560	1074	500	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 15 - 19 / 33 KV (E) HT XLPE Single Core Aluminium Conductor Cables**

“POLYCAB” Single Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	8.8	2.2	35	1275	0.4	0.8	1.56	37	1465	2	1.72	40	1720	198	172	262	500	
120	8.8	2.2	37	1410	0.4	0.8	1.72	39	1640	2	1.72	41	1875	224	195	302	500	
150	8.8	2.2	38	1530	0.4	0.8	1.72	40	1765	2	1.72	43	2005	249	217	339	500	
185	8.8	2.4	40	1735	0.5	0.8	1.72	42	1965	2	1.88	45	2255	280	243	389	500	
240	8.8	2.4	42	1980	0.5	0.8	1.88	45	2260	2	1.88	47	2525	321	278	455	500	
300	8.8	2.6	45	2265	0.5	0.8	1.88	47	2515	2	2.04	50	2965	355	307	515	500	
400	8.8	2.6	48	2640	0.5	0.8	2.04	50	2950	2	2.04	53	3385	400	345	594	500	
500	8.8	2.8	51	3095	0.6	0.8	2.04	53	3400	2.5	2.2	57	3915	447	384	678	500	
630	8.8	2.8	54	3565	0.6	0.8	2.2	57	3930	2.5	2.36	60	4475	496	424	770	500	
800	8.8	3	58	4165	0.6	0.8	2.36	60	4545	2.5	2.36	64	5080	543	475	866	500	
1000	8.8	3.2	63	5010	0.7	0.8	2.36	65	5395	2.5	2.52	70	6260	572	498	944	500	

**TABLE 16 - 19 / 33 KV (E) HT XLPE Single Core Copper Conductor Cables**

“POLYCAB” Single Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Dimension of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	8.8	2.2	35	1835	0.4	0.8	1.56	37	2025	2	1.72	40	2285	253	221	336	500	
120	8.8	2.2	37	2110	0.4	0.8	1.72	39	2345	2	1.72	41	2585	285	249	386	500	
150	8.8	2.2	38	2415	0.4	0.8	1.72	40	2655	2	1.72	43	2895	317	276	434	500	
185	8.8	2.4	40	2825	0.5	0.8	1.72	42	3055	2	1.88	45	3340	355	308	494	500	
240	8.8	2.4	42	3375	0.5	0.8	1.88	45	3660	2	1.88	47	3925	404	350	575	500	
300	8.8	2.6	45	4010	0.5	0.8	1.88	47	4260	2	2.04	50	4715	442	382	644	500	
400	8.8	2.6	48	4945	0.5	0.8	2.04	50	5260	2	2.04	53	5695	490	422	734	500	
500	8.8	2.8	51	6010	0.6	0.8	2.04	53	6315	2.5	2.2	57	6830	538	462	825	500	
630	8.8	2.8	54	7255	0.6	0.8	2.2	57	7620	2.5	2.36	60	8165	586	501	920	500	
800	8.8	3	58	8900	0.6	0.8	2.36	60	9285	2.5	2.36	64	9815	629	550	1014	500	
1000	8.8	3.2	63	10870	0.7	0.8	2.36	65	11255	2.5	2.52	70	12120	643	560	1074	500	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery Length tolerance is ± 5 %. Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 17 - 33 / 33 KV (UE) HT XLPE Single Core Aluminium Conductor Cable**

"POLYCAB" Single Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
120	9.5	2.2	38	1495	0.4	0.8	1.72	41	1735	2	1.72	43	1980	224	195	302	500	
150	9.5	2.4	40	1655	0.4	0.8	1.72	42	1865	2	1.88	44	2145	249	217	339	500	
185	9.5	2.4	42	1830	0.5	0.8	1.72	44	2065	2	1.88	46	2370	280	243	389	500	
240	9.5	2.4	44	2075	0.5	0.8	1.88	46	2365	2.5	2.04	50	2810	321	278	455	500	
300	9.5	2.6	46	2370	0.5	0.8	1.88	48	2625	2.5	2.04	52	2085	355	307	515	500	
400	9.5	2.6	49	2745	0.5	0.8	2.04	51	3070	2.5	2.2	55	3565	400	345	594	500	
500	9.5	2.8	53	3210	0.6	0.8	2.04	55	3525	2.5	2.2	58	4045	447	384	678	500	
630	9.5	3	56	3740	0.6	0.8	2.2	58	4065	2.5	2.36	62	4625	496	424	770	500	
800	9.5	3	60	4300	0.6	0.8	2.36	62	4690	3.15	2.52	67	5510	543	475	866	500	
1000	9.5	3.2	65	5155	0.7	0.8	2.52	67	5600	3.15	2.68	72	6485	572	498	944	500	

**TABLE 18 - 33 / 33 KV (UE) HT XLPE Single Core Copper Conductor Cable**

"POLYCAB" Single Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
120	9.5	2.2	38	2200	0.4	0.8	1.72	41	2440	2	1.72	43	2685	285	249	386	500	
150	9.5	2.4	40	2555	0.4	0.8	1.72	42	2755	2	1.88	44	3035	317	276	434	500	
185	9.5	2.4	42	2915	0.5	0.8	1.72	44	3155	2	1.88	46	3455	355	308	494	500	
240	9.5	2.4	44	3475	0.5	0.8	1.88	46	3765	2.5	2.04	50	4205	404	350	575	500	
300	9.5	2.6	46	4115	0.5	0.8	1.88	48	4370	2.5	2.04	52	4830	442	382	644	500	
400	9.5	2.6	49	5055	0.5	0.8	2.04	51	5375	2.5	2.2	55	5870	490	422	734	250	
500	9.5	2.8	53	6125	0.6	0.8	2.04	55	6440	2.5	2.2	58	6960	538	462	825	250	
630	9.5	3	56	7430	0.6	0.8	2.2	58	7755	2.5	2.36	62	8315	586	501	920	250	
800	9.5	3	60	9035	0.6	0.8	2.36	62	9425	3.15	2.52	67	10250	629	550	1014	250	
1000	9.5	3.2	65	11010	0.7	0.8	2.52	67	11460	3.15	2.68	72	12340	643	560	1074	200	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is ± 5 %. Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 19 - 1.9/3.3 KV (E) & 3.3/3.3 KV (UE) HT XLPE Three Core Aluminium Conductor Cables**

“POLYCAB” Single Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Aluminium Strip Armoured Cable					Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Inner Sheath	Nominal Dimension of Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	2.2	0.4	34	1270	0.4	0.8	1.56	35	1560	2	1.72	35	2120	112	96	123	500	
50	2.2	0.4	36	1465	0.4	0.8	1.72	37	1825	2	1.72	37	2385	131	113	146	500	
70	2.2	0.5	40	1840	0.5	0.8	1.72	41	2205	2	1.88	41	2870	160	138	182	500	
95	2.2	0.5	44	2275	0.5	0.8	1.88	45	2685	2.5	2.04	45	3675	191	165	221	500	
120	2.2	0.5	48	2655	0.5	0.8	2.04	48	3145	2.5	2.04	48	4205	216	187	254	500	
150	2.2	0.6	51	3075	0.6	0.8	2.04	51	3530	2.5	2.2	51	4720	241	208	286	500	
185	2.2	0.6	55	3630	0.6	0.8	2.2	55	4115	2.5	2.36	55	5415	273	236	330	500	
240	2.2	0.7	60	4390	0.7	0.8	2.36	60	4995	2.5	2.36	60	6350	315	277	385	500	
300	2.2	0.7	65	5200	0.7	0.8	2.52	65	5855	3.15	2.68	65	7940	354	312	440	500	
400	2.2	0.7	72	6500	0.7	0.8	2.68	72	7145	3.15	2.84	72	9505	403	355	512	500	

**TABLE 20 - 1.9/3.3 KV (E) & 3.3/3.3 (UE) KV HT XLPE Three Core Copper Conductor Cables**

“POLYCAB” Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Screened Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Aluminium Strip Armoured Cable					Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Inner Sheath	Nominal Dimension of Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	2.2	0.4	34	1885	0.4	0.8	1.56	35	2175	2	1.72	35	2735	144	124	159	500	
50	2.2	0.4	36	2320	0.4	0.8	1.72	37	2680	2	1.72	37	3245	169	146	188	500	
70	2.2	0.5	40	3065	0.5	0.8	1.72	41	3430	2	1.88	41	4100	206	178	234	500	
95	2.2	0.5	44	3950	0.5	0.8	1.88	45	4365	2.5	2.04	45	5353	246	212	284	500	
120	2.2	0.5	48	4765	0.5	0.8	2.04	48	5255	2.5	2.04	48	6315	278	240	326	500	
150	2.2	0.6	51	5735	0.6	0.8	2.04	51	6195	2.5	2.2	51	7385	310	268	368	500	
185	2.2	0.6	55	6890	0.6	0.8	2.2	55	7370	2.5	2.36	55	8670	350	302	422	500	
240	2.2	0.7	60	8585	0.7	0.8	2.36	60	9190	2.5	2.36	60	10545	401	353	492	500	
300	2.2	0.7	65	10435	0.7	0.8	2.52	65	11090	3.15	2.68	65	13175	449	395	559	500	
400	2.2	0.7	72	13425	0.7	0.8	2.68	72	14070	3.15	2.84	72	16430	506	445	642	250	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.



## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 21 - 3.8 / 6.6 KV (E) HT XLPE Three Core Aluminium Conductor Cables**

“POLYCAB” Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Inner Sheath	Nominal Dimension of Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.	
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs
35	2.8	2.2	37	1425	0.4	0.8	1.72	38	1785	2	1.72	40	2395	112	96	123	500
50	2.8	2.4	40	1685	0.5	0.8	1.72	40	2050	2	1.88	43	2720	131	113	146	500
70	2.8	2.6	43	2065	0.5	0.8	1.88	44	2460	2	1.88	46	3145	160	138	182	500
95	2.8	2.6	47	2470	0.5	0.8	1.88	47	2900	2.5	2.04	51	4020	191	165	221	500
120	2.8	2.8	51	2940	0.6	0.8	2.04	51	3420	2.5	2.2	55	4630	216	187	254	500
150	2.8	3	54	3350	0.6	0.8	2.2	54	3835	2.5	2.2	57	5095	241	208	286	500
185	2.8	3.2	58	3930	0.6	0.8	2.2	58	4390	2.5	2.36	61	5765	273	236	330	500
240	2.8	3.4	63	4771	0.7	0.8	2.36	63	5275	3.15	2.52	68	7345	315	277	385	500
300	3	3.6	69	5710	0.7	0.8	2.52	68	6265	3.15	2.68	73	8555	354	312	440	500
400	3.3	3.8	77	7145	0.7	0.8	2.84	77	7825	4	3	84	11315	403	355	512	500

**TABLE 22 - 3.8/6.6 KV (E) HT XLPE Three Core Copper Conductor Cables**

“POLYCAB” Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Inner Sheath	Nominal Dimension of Strip	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.	
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs
35	2.8	2.2	37	2040	0.4	0.8	1.72	38	2400	2	1.72	40	3010	144	124	159	500
50	2.8	2.4	40	2545	0.5	0.8	1.72	40	2910	2	1.88	43	3575	169	146	188	500
70	2.8	2.6	43	3290	0.5	0.8	1.88	44	3685	2	1.88	46	4375	206	178	234	500
95	2.8	2.6	47	4145	0.5	0.8	1.88	47	4580	2.5	2.04	51	5695	246	212	284	500
120	2.8	2.8	51	5055	0.6	0.8	2.04	51	5535	2.5	2.2	55	6740	278	240	326	500
150	2.8	3	54	6010	0.6	0.8	2.2	54	6500	2.5	2.2	57	7755	310	268	368	500
185	2.8	3.2	58	7185	0.6	0.8	2.2	58	7685	2.5	2.36	61	9020	350	302	422	500
240	2.8	3.4	63	8965	0.7	0.8	2.36	63	9470	3.15	2.52	68	11540	401	353	492	500
300	3	3.6	69	10945	0.7	0.8	2.52	68	11505	3.15	2.68	73	13795	449	395	559	250
400	3.3	3.8	77	14075	0.7	0.8	2.84	77	14755	4	3	84	18245	506	445	642	200

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 23 - 6.35 / 11 KV (E) HT XLPE Three Core Aluminium Conductor Cables**

"POLYCAB" Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	3.6	2.4	41	1705	0.5	0.8	1.72	41	2090	2	1.88	44	2760	112	97	124	500	
50	3.6	2.6	43	1965	0.5	0.8	1.88	44	2360	2.5	2.04	47	3370	131	114	148	500	
70	3.6	2.6	47	2320	0.5	0.8	1.88	47	2750	2.5	2.04	51	3870	161	139	184	500	
95	3.6	2.8	51	2820	0.6	0.8	2.04	51	3300	2.5	2.2	55	4510	190	165	222	500	
120	3.6	2.8	54	3240	0.6	0.8	2.2	55	3800	2.5	2.2	58	5075	216	188	256	500	
150	3.6	3	57	3660	0.6	0.8	2.2	57	4188	2.5	2.36	61	5560	242	209	288	500	
185	3.6	3.2	62	4295	0.7	0.8	2.36	62	4865	3.15	2.52	66	6875	273	240	330	500	
240	3.6	3.4	67	5140	0.7	0.8	2.52	67	5748	3.15	2.68	71	7940	315	278	387	500	
300	3.6	3.6	71	6005	0.7	0.8	2.68	71	6651	3.15	2.84	76	9020	354	312	441	250	
400	3.6	3.8	78	7310	0.7	0.8	2.84	78	8010	4	3	85	11575	404	356	512	250	

**TABLE 24 - 6.35 / 11 KV (E) HT XLPE Three Core Copper Conductor Cables**

"POLYCAB" Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
35	3.6	2.4	41	2320	0.5	0.8	1.72	41	2705	2	1.88	44	3375	144	125	160	500	
50	3.6	2.6	43	2820	0.5	0.8	1.88	44	3220	2.5	2.04	47	4220	169	146	191	500	
70	3.6	2.6	47	3550	0.5	0.8	1.88	47	3980	2.5	2.04	51	5100	207	179	237	500	
95	3.6	2.8	51	4500	0.6	0.8	2.04	51	4980	2.5	2.2	55	6185	245	213	286	500	
120	3.6	2.8	54	5350	0.6	0.8	2.2	55	5910	2.5	2.2	58	7185	278	241	329	500	
150	3.6	3	57	6325	0.6	0.8	2.2	57	6850	2.5	2.36	61	8220	311	269	371	500	
185	3.6	3.2	62	7550	0.7	0.8	2.36	62	8120	3.15	2.52	66	10130	349	308	422	500	
240	3.6	3.4	67	9335	0.7	0.8	2.52	67	9940	3.15	2.68	71	12130	401	354	493	250	
300	3.6	3.6	71	11240	0.7	0.8	2.68	71	11885	3.15	2.84	76	14260	449	396	560	250	
400	3.6	3.8	78	14235	0.7	0.8	2.84	78	14945	4	3	85	18500	506	446	643	250	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 25 - 11 / 11 KV (UE) HT XLPE Three Core Aluminium Conductor Cables**

"POLYCAB" Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
70	5.5	3	56	3145	0.6	0.8	2.2	56	3665	2.5	2.36	60	5000	161	139	184	500	
95	5.5	3.2	60	3680	0.6	0.8	2.36	60	4250	3.15	2.52	65	6200	190	165	222	500	
120	5.5	3.2	64	4180	0.7	0.8	2.36	64	4785	3.15	2.52	68	6840	216	188	256	500	
150	5.5	3.4	66	4645	0.7	0.8	2.52	66	5255	3.15	2.68	71	7415	242	209	288	500	
185	5.5	3.4	70	5240	0.7	0.8	2.68	70	5935	3.15	2.84	75	8270	273	240	330	500	
240	5.5	3.6	75	6155	0.7	0.8	2.84	75	6890	3.15	3	80	9405	315	278	387	250	
300	5.5	3.8	80	7085	0.7	0.8	3	80	7860	4	3	86	11440	354	312	441	250	
400	5.5	4	87	8485	0.7	0.8	3	87	9270	4	3	93	13125	404	356	512	250	

**TABLE 26 - 11 / 11 KV (UE) HT XLPE Three Core Copper Conductor Cables**

"POLYCAB" Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
70	5.5	3	56	4370	0.6	0.8	2.2	56	4895	2.5	2.36	60	6230	207	179	237	500	
95	5.5	3.2	60	5355	0.6	0.8	2.36	60	5930	3.15	2.52	65	7875	245	213	286	500	
120	5.5	3.2	64	6290	0.7	0.8	2.36	64	6900	3.15	2.52	68	8950	278	241	329	500	
150	5.5	3.4	66	7310	0.7	0.8	2.52	66	7920	3.15	2.68	71	10070	311	269	371	500	
185	5.5	3.4	70	8495	0.7	0.8	2.68	70	9190	3.15	2.84	75	11525	349	308	422	250	
240	5.5	3.6	75	10345	0.7	0.8	2.84	75	11090	3.15	3	80	13600	401	354	493	250	
300	5.5	3.8	80	12320	0.7	0.8	3	80	13100	4	3	86	16675	449	396	560	250	
400	5.5	4	87	15415	0.7	0.8	3	87	16200	4	3	93	20055	506	446	643	250	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 27 - 12.7/22 KV (E) HT XLPE Three Core Aluminium Conductor Cables**

“POLYCAB” Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	6	3.2	62	3925	0.7	0.8	2.36	62	4516	3.15	2.52	67	6565	189	169	227	500	
120	6	3.4	66	4470	0.7	0.8	2.52	66	5080	3.15	2.68	71	7270	215	192	262	500	
150	6	3.4	69	4885	0.7	0.8	2.68	69	5565	3.15	2.68	73	7800	239	214	294	250	
185	6	3.6	73	5560	0.7	0.8	2.68	73	6225	3.15	2.84	77	8635	270	245	336	250	
240	6	3.8	78	6495	0.7	0.8	2.84	78	7200	4	3	84	10665	312	282	393	250	
300	6	4	83	7445	0.7	0.8	3	82	8185	4	3	88	11810	351	317	448	250	
400	6	4	89	8790	0.7	0.8	3	89	9595	4	3	95	13620	400	361	519	250	

**TABLE 28 - 12.7 / 22 KV (E) HT XLPE Three Core Copper Conductor Cables**

“POLYCAB” Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	6	3.2	62	5605	0.7	0.8	2.36	62	6190	3.15	2.52	67	8240	243	217	293	500	
120	6	3.4	66	6585	0.7	0.8	2.52	66	7195	3.15	2.68	71	9385	276	246	336	500	
150	6	3.4	69	7545	0.7	0.8	2.68	69	8225	3.15	2.68	73	10460	307	275	378	250	
185	6	3.6	73	8815	0.7	0.8	2.68	73	9485	3.15	2.84	77	11890	346	313	431	250	
240	6	3.8	78	10690	0.7	0.8	2.84	78	11390	4	3	84	14855	398	360	503	250	
300	6	4	83	12685	0.7	0.8	3	82	13420	4	3	88	17050	446	403	571	250	
400	6	4	89	15720	0.7	0.8	3	89	16520	4	3	95	20545	503	453	655	200	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 29 - 19 / 33 KV (E) HT XLPE Three Core Aluminium Conductor Cables**

"POLYCAB" Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	8.8	3.6	75	5415	0.7	0.8	2.84	75	6175	3.15	3	80	8665	189	169	227	500	
120	8.8	3.8	79	6040	0.7	0.8	2.84	79	6780	4	3	85	10300	215	192	262	500	
150	8.8	4	82	6580	0.7	0.8	3	82	7295	4	3	88	10950	239	214	294	250	
185	8.8	4	86	7260	0.7	0.8	3	85	8030	4	3	91	11810	270	245	336	250	
240	8.8	4	90	8215	0.7	0.8	3	90	9030	4	3	96	13135	312	282	393	250	
300	8.8	4	95	9165	0.7	0.8	3	94	10035	4	3	101	14265	351	317	448	250	
400	8.8	4	101	10630	0.7	0.8	3	101	11555	4	3	107	16190	400	361	519	250	

**TABLE 30 - 19 / 33 KV (E) HT XLPE Three Core Copper Conductor Cables**

"POLYCAB" Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
95	8.8	3.6	75	7090	0.7	0.8	2.84	75	7855	3.15	3	80	10345	245	215	300	250	
120	8.8	3.8	79	8155	0.7	0.8	2.84	79	8895	4	3	85	12415	275	245	340	250	
150	8.8	4	82	9240	0.7	0.8	3	82	9955	4	3	88	13610	305	275	385	250	
185	8.8	4	86	10515	0.7	0.8	3	85	11285	4	3	91	15065	345	305	435	250	
240	8.8	4	90	12410	0.7	0.8	3	90	13230	4	3	96	17330	395	350	510	250	
300	8.8	4	95	14405	0.7	0.8	3	94	15275	4	3	101	91500	440	390	580	200	
400	8.8	4	101	17555	0.7	0.8	3	101	18490	4	3	107	23115	495	440	660	200	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## WEIGHT, DIMENSION DATA & CURRENT CARRYING CAPACITY OF CABLES

**TABLE 31 - 33 / 33 KV (UE) HT XLPE Three Core Aluminium Conductor Cables**

"POLYCAB" Three Core Aluminium Conductor, XLPE Insulated, Unarmoured & Armoured Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
120	9.5	4	83	6640	0.7	0.8	3	83	7395	4	3	89	11100	215	192	262	500	
150	9.5	4	86	7115	0.7	0.8	3	86	7885	4	3	92	11760	239	214	294	250	
185	9.5	4	89	7820	0.7	0.8	3	89	8620	4	3	95	13645	270	245	336	250	
240	9.5	4	94	8800	0.7	0.8	3	94	9675	4	3	100	13900	312	282	393	250	
300	9.5	4	99	9775	0.7	0.8	3	98	10675	4	3	104	15150	351	317	448	250	
400	9.5	4	105	11280	0.7	0.8	3	105	12270	4	3	111	17115	400	361	519	250	

**TABLE 32 - 33 / 33 KV (UE) HT XLPE Three Core Copper Conductor Cables**

"POLYCAB" Three Core Copper Conductor, XLPE Insulated, Unarmoured & Armoured Screened Cables Conforming to IS: 7098 PART-2/1985:

Nominal Size of Conductor	Nominal Thickness of XLPE Insulation	Unarmoured Cable				Minimum Thickness of Inner Sheath	Aluminium Strip Armoured Cable				Aluminium Round Wire Armoured Cable				Current Carrying Capacity			*Normal Delivery Length
		Nominal Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Minimum Thickness of Strip		Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	Nominal Dimension of Round Wire	Minimum Thickness of PVC Outer Sheath	Approx. Overall Diameter of Cable	Approx. Weight of Cable	In Ground at 30° C	In Duct at 30° C.	In Air at 40° C.		
Sq.mm	mm	mm	mm	Kg/Km	mm	mm	mm	mm	Kg/mm	mm	mm	mm	Kg/mm	Amps	Amps	Amps	Mtrs	
120	9.5	4	83	8750	0.7	0.8	3	83	9510	4	3	89	13210	276	246	336	250	
150	9.5	4	86	9775	0.7	0.8	3	86	10545	4	3	92	14425	307	275	378	250	
185	9.5	4	89	11075	0.7	0.8	3	89	11875	4	3	95	15900	346	313	431	250	
240	9.5	4	94	12995	0.7	0.8	3	94	13865	4	3	100	18095	398	360	503	250	
300	9.5	4	99	15015	0.7	0.8	3	98	15915	4	3	104	20385	446	403	571	200	
400	9.5	4	105	18210	0.7	0.8	3	105	19195	4	3	111	24045	503	453	655	200	

The above data is approximate and subject to manufacturing tolerance.

\* Delivery length tolerance is  $\pm 5\%$ . Length more than normal as per customer request.

## IMPORTANT FORMULAE

IMPORTANT FORMULAE \* TO CALCULATE VARIOUS ELECTRICAL PARAMETERS OF CABLES

### 1) Inductance :

$$L = K + 0.2 \log_e 2S \text{ (mH/km)}$$

where K = Constant for different stranded conductors  
S = Axial Spacing between Cables Conductors in mm.

d = Conductor Diameter

No. of wires in Conductor	K
7	0.0642
19	0.0554
37	0.0528
61 and above	0.0514
1(Solid)	0.0500

### 2) Reactance:

$$X = 2\pi f \times L \times 10^{-3} \Omega/\text{km}$$

where f = frequency  
L = Inductance

### 3) Impedance :

$$Z = (R^2 + X^2)^{1/2} \Omega/\text{km}$$

where R = A.C Resistance at operating temperature  $\Omega/\text{km}$   
X = Reactance

### 4) Charging Current :

$$A = U_0 \times 2\pi \times f \times C \times 10^{-6} \text{ Amp/km}$$

C = Cable capacitance in  $\mu\text{f}/\text{km}$

### 5) Voltage Drop :

$$\text{For 3 Core Cables : } \sqrt{3} \times Z \text{ mv/A/mtr}$$

$$\text{For 1 Core Cables : } 2 \times Z \text{ mv/A/mtr}$$

where Z = Impedance in ohm/km

### 6) Capacitance:

$$C = \frac{Er}{18 \log_e (D/d)} (\mu\text{f} / \text{km})$$

where Er = Relative Permittivity for XLPE : 2.3  
D = Dia over Insulation in mm  
d = Dia over conductor screen in mm

### 7) Dielectric loss in watts per km/phase:

$$2\pi f \times C U_0^2 \tan \delta \cdot 10^{-6} \text{ (watt / km per phase)}$$

where C = Capacitance in  $\mu\text{f}/\text{km}$   
U<sub>0</sub> = Power frequency voltage between conductor & earth -V  
Tan  $\delta$  = Dielectric power factor  
= 0.004 for XLPE

### 8) Voltage Induced in Sheath :

$$E_s = Ix_m$$

where I = conductor current (A)  
X<sub>m</sub> =  $2\pi f M \times 10^{-3}$  ( $\square$  / km)  
M =  $0.2 \log_e \frac{2S}{d_m}$  (mH/km)  
S = Distance between Cable Centres,  
d<sub>m</sub> = Mean Diameter of Sheath

### 9) Short Circuit Rating:

$$I^2 = \frac{K^2 S^2}{T} \log_e \left( \frac{\theta_1 + \beta}{\theta_0 + \beta} \right)$$

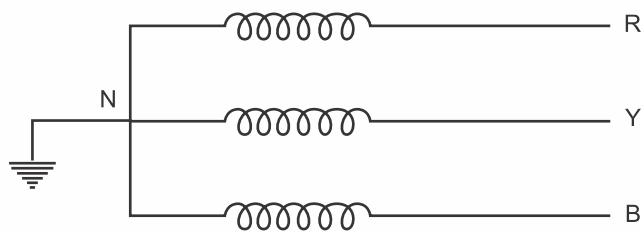
where I = Short circuit (R.M.S over duration) in Amps.  
T = Duration of short circuit in second  
K = Constant – 226 for Copper, 148 for Aluminium, 78 for Steel  
S = Area of Conductor in mm<sup>2</sup>  
 $\theta_1$  = Final Temperature of Conductor or Armour  
 $\theta_0$  = Initial Temperature of Conductor or Armour  
 $\beta$  = Reciprocal of the temperature coefficient of resistance of the conductor per °C at 0° C (228 for Aluminium, 202 for Steel, & 234.5 for Copper)

\* Source BICC handbook

## DIFFERENCE BETWEEN EARTHED & UNEARTHED SYSTEM

### EARTHED SYSTEM:

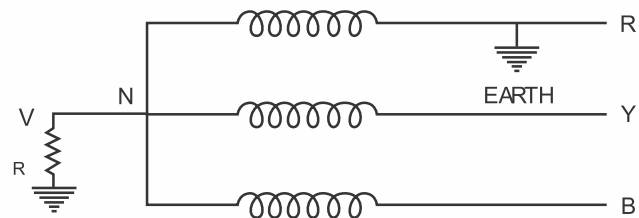
In the initial years, the generators and transformers were having capacities of few MVA and hence fault current was also less. The star point or neutral point was solidly grounded and this is called earthed system.



In this system if an earth fault occurs on any of the phases, the voltages of other two healthy phases with respect to the earth remain the same.

### UNEARTHED SYSTEM:

Today generators of 500 MVA capacity are in commercial use. More over several mega power stations are connected to grid. Due to this, the fault level has increased tremendously. In case of an earth fault, a heavy current flows in to the fault and this may damage the costly generators and power transformers.



In this case if an earth fault occurs on R phase, the voltage of the faulty phase with respect to the earth (R) appears across the current limiting resistance or reactance in the earth circuit of the star point and as a result the voltage of the star point which was at earth potential under normal conditions rises to  $V_R$ . Due to this the voltages of other two healthy phases (B and Y) with respect to the earth rises by 1.7 times (Vector sum of  $V_R$  and  $V_B$ ). If the insulation of these phases are not designed for these increased voltages they may develop earth fault. This is called Unearthed System.

\* source BICC handbook



**ESTEEMED CUSTOMERS**

Power



Oil and Petroleum



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Construction



IT Parks



Infrastructure



Steel Metal and Non Metal



Cement



Others



HIGH TENSION XLPE CABLES



# POLYCAB

*Connection Zindagi Ka*



Production Facilities at Daman Factory



## POLYCAB REGIONAL OFFICES

### POLYCAB REGIONAL OFFICES

#### NORTH

##### CHANDIGARH

SCO-10-11-12, SEC 17 B, Chandigarh - 160017.

##### LUCKNOW

Shalimar Square, Office No - 09, 126/31,  
B. N. Road, Lalbagh, Hazratganj, Lucknow - 226001.

##### NOIDA

B9, 1<sup>st</sup> Floor Sector - 3, Near Bajaj Bhawan,  
Noida - 201301.

##### DEHRADUN

109, Tagore Villa, Near P. N. B., Dehradun - 248001.

##### JAIPUR

B-44 & B-45, Industrial Area, Sudarshanpura Extn.,  
Bais Godam, Jaipur - 302019.

#### EAST

##### GUWAHATI

3<sup>rd</sup> Floor, Purbi Complex, Near Panbazar Flyover,  
A. T. Road, Guwahati - 781001.

##### KOLKATA

18, Rabindra Sarani, Poddar Court, Gate No. 3,  
5<sup>th</sup> Floor, Kolkata - 700001.

##### ORISSA

A/2, RCC Building, Ground Floor, Saheed Nagar, Bhubaneswar,  
Orissa - 751007.

##### PATNA

D-302, Dumraon Palace, 3<sup>rd</sup> Floor, Fraser Road,  
Near Dakbangla Crossing, Patna - 800001.

##### RANCHI

Room No. 4A, 4<sup>th</sup> Floor, Poornima Tower, Lake Road, Vishnu  
Talkies Lane, Ranchi - 834001.

#### WEST

##### AHMEDABAD

102-1<sup>st</sup> Floor, Hrishikesh, Opp. Gulbai Tekra Water Tank,  
Nr. IDBI Bank Cross Road, Ahmedabad - 380006.

##### INDORE

B-12, New Siyaganj, Patthar Godam Road,  
Indore - 452003.

##### PUNE

Off No. 36, Sangam Project Phase 2, Near RTO Pune,  
Near Sangam Bridge, Pune - 411001.

##### RAIPUR

506, 5<sup>th</sup> Floor, Wallfort Ozone, Near Fafadih Chowk,  
Raipur (C.G.) 492001.

#### SOUTH

##### BENGALURU

B-78, No.18, 4<sup>th</sup> Main Road, KSSIDC Industrial Estate,  
6<sup>th</sup> Block, Rajajinagar, Bangalore - 560010.

##### CHENNAI

New No. 8/6, Old No. 5, Josmans Building, 4<sup>th</sup> Floor,  
MC Nichols Road, Chetpet, Chennai - 600 031.

##### KOCHI

34/138 C, NH By-Pass Road, Edappally, Kochi - 682024.

##### SECUNDERABAD

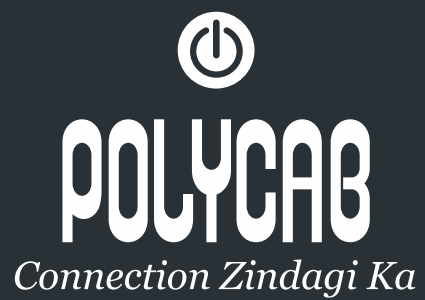
208-209, 2<sup>nd</sup> Floor Bhuvana Towers S. D. Road,  
Secunderabad - 500 003.

##### VIJAYAWADA

Ground Floor, House No.40-5/7-6,  
Municipal Employees Colony, Vijayawada - 520010(AP).

##### COIMBATORE

No: 45, K. K. Lane, No. 3, Near Avinashi Road Flyover,  
Coimbatore - 641 018.



**Polycab Wires Pvt. Ltd.**

Corporate Office : Polycab House, 771, Mogul Lane, Mahim (W), Mumbai 400 016.

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