HIGH TENSION **XLPE** CABLES

www.polycab.com

POLYCAB

Connection Zindagi Ka

Year 2020

POLYCAB
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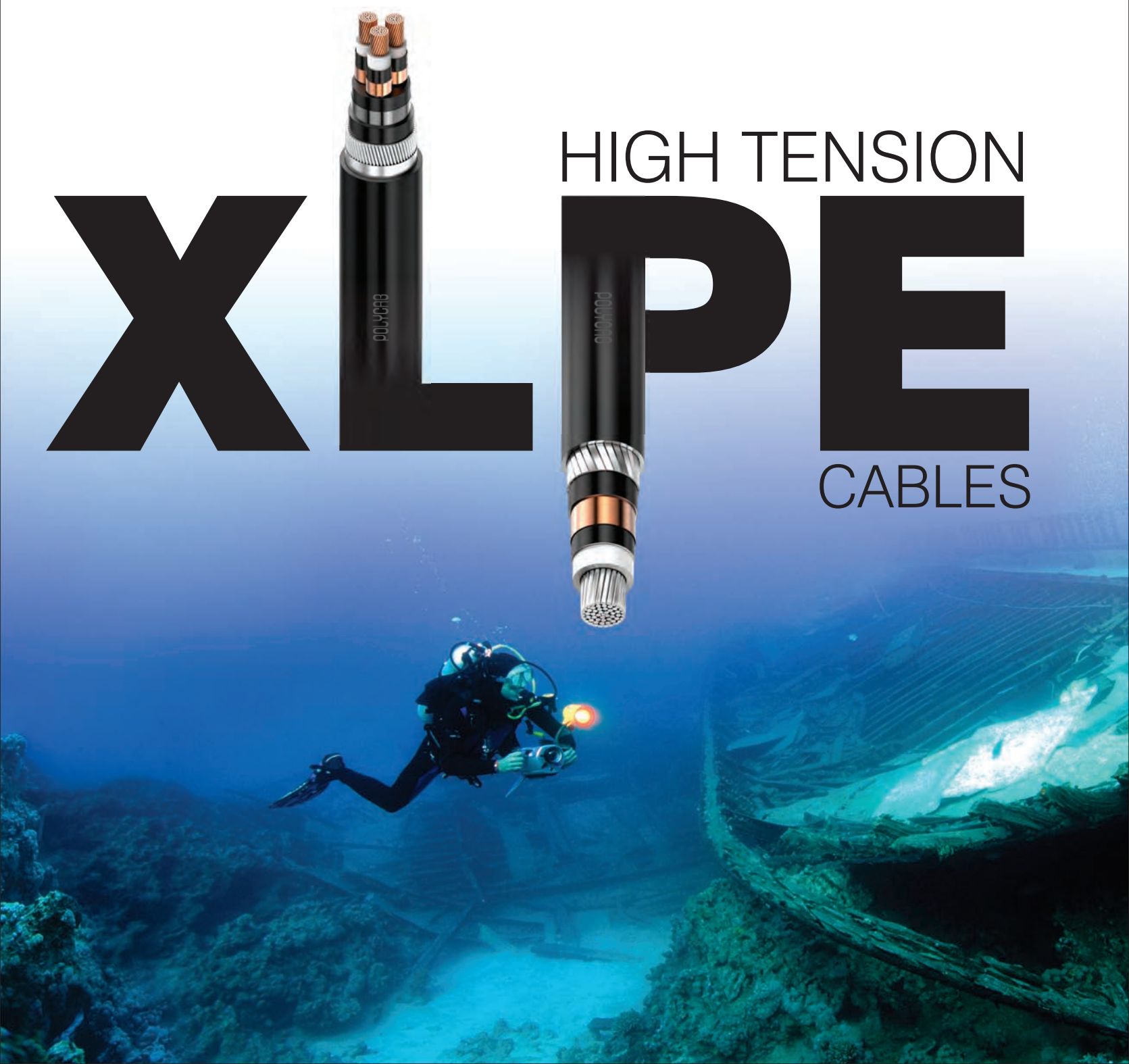
Connection Zindagi Ka

HIGH TENSION XLPE CABLES



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. OUR MANUFACTURING FACILITIES AT HALOL (VADODARA), DAMAN, NASHIK AND ROORKEE IN INDIA, ADDRESSES TO THE SPECIFIC NEEDS WITH STATE-OF-THE-ART MACHINERY AND TECHNOLOGY.

POLYCAB'S TURNOVER HAS CROSSED INR 6000 CRORE'S IN THE FISCAL YEAR 2016-17. POLYCAB DERIVES ITS STRENGTH FROM ITS CUSTOMERS AND THOSE BEING IN SECTORS LIKE UTILITIES, POWER GENERATION, TRANSMISSION & DISTRIBUTION, PETROLEUM & OIL REFINERIES, OEMs, EPC CONTRACTORS, STEEL & METAL, CEMENT, CHEMICAL, ATOMIC ENERGY, NUCLEAR PLANTS, AS WELL AS GOVERNMENT PARTNERS LIKE BSNL, RAILWAYS AND PRIVATE TELECOM OPERATORS LIKE RELIANCE, VODAFONE, AIRTEL, AIRCEL, TATA, IDEA AND MANY MORE.

THINGS YOU DIDN'T KNOW ABOUT POLYCAB

BETWEEN ITS FACILITIES IN DAMAN, HALOL (VADODARA), NASHIK AND ROORKEE THE COMPANY HAS 3.5 MILLION SQUARE FEET OF MANUFACTURING SPACE.

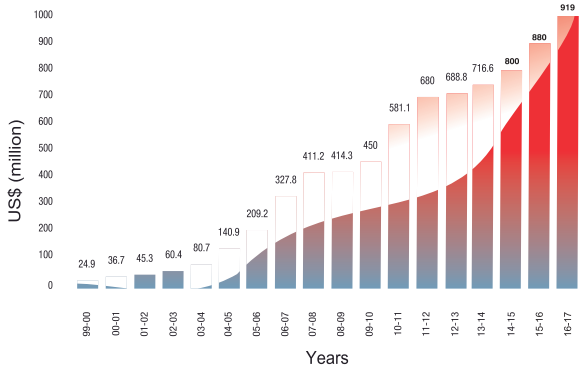
POLYCAB MANUFACTURES ENOUGH CABLE EACH YEAR TO CIRCUMNAVIGATE THE EARTH THREE AND A HALF TIMES AND ENOUGH WIRE TO GO TO THE MOON AND COME BACK - FOUR TIMES.

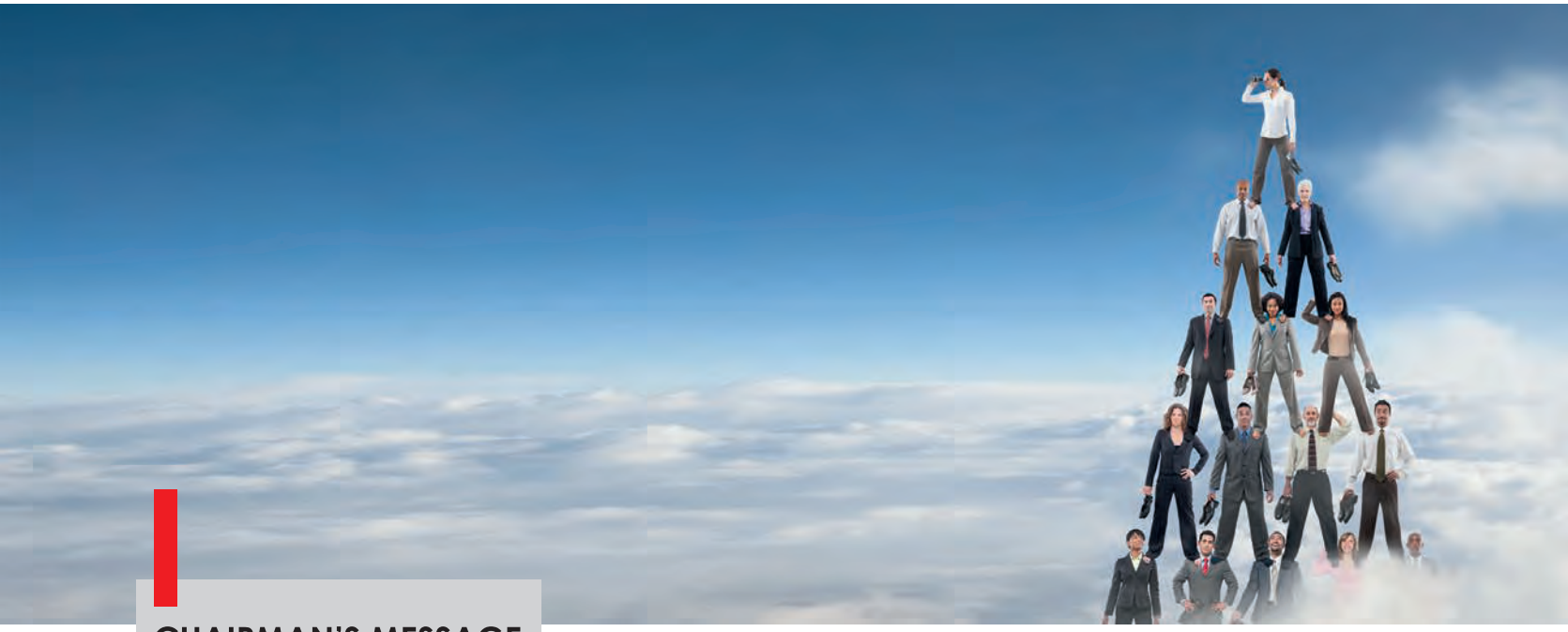
POLYCAB HAS INCREASED ITS TURNOVER 100 TIMES IN SIXTEEN YEARS.

OVER 300 AUTHORISED DISTRIBUTORS SERVICE ITS INDIA NEEDS AND ITS OVERSEAS INTERESTS.

POLYCAB OFFERS A VARIETY OF SERVICES:

- COMMERCIALLY REASONABLE PRICES
- RELIABLE & CONSISTENT QUALITY
- PRODUCT DEVELOPMENT AS PER MARKET
- A TARGET STOCKING POLICY
- TECHNICAL SUPPORT FOR APPLICATION





CHAIRMAN'S MESSAGE

The journey of over four 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, as you have made Polycab one of the outstanding companies in our industry.

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 a 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. Automation in all sphere's of business processing is becoming very important and innovation in this segment is inevitable. Polycab is extending its product range in the segment to meet your growing needs and many new products for specific applications will be introduced soon.

Polycab's business model is evolving. We are enhancing our key internal operations to ensure a consistent and positive experience for our customers. Our business processes will begin and end with the customers. We have identified focus areas of growth over the next 5 years and beyond. Polycab aspires to be a RS.10000+ crore company within the next 4 years.

We take this opportunity to thank you and convey our gratitude for the unabated support and trust you have always reposed on Polycab and encouraged it to move ahead confidently. We are confident that this will keep us ahead in our constant endeavour to be your preferred brand.

We hope to improve each day to serve you better.

HAPPY CABLING!!!

INDER T. JAISINGHANI
Chairman & Managing Director

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 venders 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

POLYCAB

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

ISO 9001 : 2015

CERTIFICATE

This is to certify that

Polycab India Limited
Polycab House 771
Pandit Satwalekar Marg
Mahim (West)
Mumbai - 400 016
Maharashtra
INDIA

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

Scope:
The Design and Manufacture of PVC, XLPE, ZHFR and EBXL Compound and Celling Fans.

The Manufacture of Galvanized Steel Wires, Strips, Conductors, Wires & Cables, Switchgears, Conduits & Fittings and Tapes.

Trading of LED Lights, Fans, Switches & Luminaries

Engineering, Procurement & Construction (EPC) of EHV , HV & LT Electrical Work , Fire Alarm System and Public Address Systems.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001 : 2015

Certificate registration no.	20002384 QM15
Date of original certification	1999-04-27
Date of revision	2018-12-20
Date of certification	2018-07-13
Valid until	2021-07-12

DQS Inc.

Brad McGuire
Managing Director
Accredited Body: DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
Administrative Office: Deutsch Quality Systems (India) Pvt. Ltd., 5th Floor, Anjaneya Techno Park, 147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India

1 / 5

ISO 14001 : 2015

ENVIRONMENTAL MANAGEMENT SYSTEM

CERTIFICATE

This is to certify that

Polycab India Limited
Polycab House 771
Pandit Satwalekar Marg
Mahim (West)
Mumbai - 400 016
Maharashtra
INDIA

with the organizational units/sites as listed in the annex

has implemented and maintains an **Environmental Management System**.

Scope:
The Environmental activities and supporting processes associated with the Design and Manufacture of PVC and XLPE compound.

The Environmental activities and supporting processes associated with the Manufacture of Conductors, Wires and Cables.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 14001 : 2015

Certificate registration no.	20002384 UM
Date of original certification	2010-06-22
Date of revision	2018-12-20
Date of certification	2018-07-13
Valid until	2021-07-12

DQS Inc.

Brad McGuire
Managing Director

Accredited Body: DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
Administrative Office: Deutsch Quality Systems (India) Pvt. Ltd., 5th Floor, Anjaneya Techno Park, 147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India

1 / 5

BS OHSAS 18001 : 2007

OCCUPATIONAL HEALTH AND SAFETY MANAGEMENT SYSTEM

CERTIFICATE

This is to certify that

Polycab India Limited
Polycab House 771
Pandit Satwalekar Marg
Mahim (West)
Mumbai - 400 016
Maharashtra
INDIA

with the organizational units/sites as listed in the annex

has implemented and maintains an
Occupational Health and Safety Management System.

Scope:
The Occupaitonal Health & Safety activities and supporting processes associated with the Design and Manufacture of PVC and XLPE compound.

The Occupational Health & Safety activities and supporting processes associated with the manufacture of Conductors, Wires and Cables.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

BS OHSAS 18001 : 2007

Certificate registration no.	20002384 BSOH
Date of original certification	2010-06-22
Date of revision	2018-12-20
Date of certification	2018-07-13
Valid until	2021-03-12

ANAB ACCREDITED MANAGEMENT SYSTEMS CERTIFICATION BODY

DQS Inc.

Brad McGuire
Managing Director

Accredited Body: DQS Inc., 1130 West Lake Cook Road, Suite 340, Buffalo Grove, IL 60089 USA
Administrative Office: Deutsch Quality Systems (India) Pvt. Ltd., 5th Floor, Anjaneya Techno Park, 147, HAL Airport Road, Kodihalli, Bangalore - 560 017 - India

1 / 5

CPRI TEST REPORT

CENTRAL POWER RESEARCH INSTITUTE

CPRI

TEST REPORT

Test Report Number	: CDD-0031 **Dated** : 07.09.2016
Name & Address of the Customer	: M/s Polycab Wires Pvt. Ltd.,(Unit 4), Plot No. 67-72,Nurpura, Tal:Halol, Dist. Panchmahal,- 389350, Gujarat.
Name & Address of the Manufacturer	: M/s Polycab Wires Pvt. Ltd.,(Unit 4), Plot No. 67-72,Nurpura, Tal:Halol, Dist. Panchmahal,- 389350, Gujarat.
Particulars of sample tested	: 1 X`400 mm^2, 19/33 kV XLPE Cable
Condition of the sample on receipt	: New
Type	: A2XA2Y- XLPE insulated HDPE Sheathed Cable
Designation	: Conductor Material : Aluminium No. of cores : One Size : 400 mm^2 Insulation: XLPE (TR-XLPE as Declared) Metallic Sheath : Corrugated Aluminium Outer sheath : HDPE (ST7) Voltage Rating : 19/33 kV(E) Embossing : 2016 POLYCAB ELECTRIC 19/33KV(E) GRADE XLPE 1C X 400 SQ.MM A2XA2Y " OPTCL-ODSSP"
Serial Number	: Drum No: 29AFG-223788-2
Number of Samples tested	: One
Date(s) of Test(s)	: 29.07.2016 to 02.09.2016
CPRI Sample Code no(s)	: DCCDCAB16S0144
Particulars of test conducted	: Type Test as per IS 7098 Part II
Test in accordance with Standard /Specification	: In General Accordance with IS 7098 Part II- 2011, Am1-2015,
Sampling plan	: Not Applicable
Customer's requirement	: Nil
Deviation if any	: Nil
Name of the witnessing persons	
Customer's representatives	: Nil
Other than customer's representatives	: None
Test subcontracted with address of the laboratory	: Nil

Documents constituting this Report (in words)

Number of sheets	: Eight
Number of oscillogram/s	: Four (One Page)
Number of graphs	: Nil
Number of photos	: Nil
Number of test circuit diagrams	: Nil
Number of drawings	: Nil

(Thirumurthy)
Test Engineer

(Dr.B.Nageshwar Rao)
Additional Director

CABLES & DIAGNOSTICS DIVISION
P.B.NO.8066, SADASHIVANAGAR P.O
PROF SIR C V RAMAN ROAD BANGALORE - 560 080, INDIA
Tel/Fax : 91 (0) 80-2360 1435

Sheet 1 of 8

BASEC PCR

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

CERTIFICATION SCHEDULE

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

SITE:

Polycab India Limited
Head Office
771 Polycab House
Pandit Satawalekar Marg,
Mogal Lane, Mahim (W)
Mumbai – 400 016
India

SCOPE OF CERTIFICATION

Head office activities including:

Sales, Purchasing, Design and Supply Chain, HR

Schedule No.: PCR-216/001 **Issue No.:** 06 **Issue Date:** 19th December 2018

Date of initial certification: 9th September 2009 **Expiry Date:** 8th September 2021

Last certification cycle expiry date: 26th June 2018

Not valid without the certificate No.: PCR-216

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BSF 121.004/ A1702 / Copy No. 1

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

CERTIFICATE OF CONFORMITY

BASEC hereby certifies that:

Polycab India Limited
Incorporating:
Head Office, 771 Polycab House, Mumbai, India
74/8-11 Daman Industrial Estate, UT

Has implemented and maintains a
Product Management System
that fulfils the requirements of the following

BASEC Product Certification Requirements
Including Clause 2.6
'Enhanced Quality Management Systems for Product Related Functions'

in respect of the site (s) and scope (s) specified: in the below schedule (s)

Schedule nos.:-

PCR-216/001
PCR-216/002

Certificate No.: **PCR-216** **Issue: 06** Issue Date: 19th December 2018

Date of initial certification: 9th September 2009 Expiry Date: 8th September 2021

Last certification cycle expiry date: 26th June 2018

Lack of fulfilment of conditions as set out in the certification agreement may render this Certificate invalid.
This certificate is issued subject to and in accordance with BASEC Regulations and continued compliance.

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

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BSF 121.004/ A1662 & A1702 / Copy No. 1

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

CERTIFICATION SCHEDULE

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

SITE:

Polycab India Limited
74/8-11 Daman Industrial Estate
Village Kadaiya
Daman – 396 210
UT
India

Incorporating the following sites:

Polycab India Limited (Unit-II)
Survey No. 38/1-6, 42/1 & 2, 43/1-3, 45/1 & 2, 46/5, 6 & 9, 41/4, 5, 6, 7, 8 & 9
Daman Industrial Estate, Village Kadaiya, Daman 396 210, India

Polycab India Limited
Survey No. 52/5-8, Daman Industrial Estate, Village Kadaiya, Daman 396 210, India

Polycab India Limited
Survey No. 52/1, 2 & 53/1, 3, 4 Daman Industrial Estate, Village Kadaiya, Daman 396 210, India

Polycab India Limited
Survey No. 74/7, Daman Industrial Estate, Village Kadaiya, Daman 396 210, India

SCOPE OF CERTIFICATION

The manufacture and supply of the following cable and wire products:

Low Voltage Power and Control Cables up to and including 1 kV

Schedule No.: PCR-216/002 **Issue No.:** 06 **Issue Date:** 19th December 2018

Date of initial certification: 9th September 2009 **Expiry Date:** 8th September 2021

Last certification cycle expiry date: 26th June 2018

Not valid without the certificate No.: PCR-216

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BSF 121.004/ A1662 / Copy No. 1

BASEC PCR

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/031
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 5467:2016 Incorporating Corrigendum No. 1 Electric cables - Thermosetting insulated, armoured cables of rated voltages of 600/1000V and 1900/3300V for fixed installations - Specification.
Type of Cable:	Table 4 - Single-core 600/1000V cables with copper conductors
Range of Approval:	50sqmm to 1000sqmm nominal cross-sectional area of conductors inclusive. Single-core. Sheath - Type 9. Insulation - GP8.
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/032
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 5467:2016 Incorporating Corrigendum No. 1 Electric cables - Thermosetting insulated, armoured cables of rated voltages of 600/1000V and 1900/3300V for fixed installations - Specification.
Type of Cable:	Tables 5, 6, 7 and 8 - Two-core, three-core, four-core and five-core 600/1000V cables with copper conductors
Range of Approval:	1.5sqmm to 400sqmm nominal cross-sectional area of conductors inclusive. Two-core to four-core inclusive. 1.5sqmm to 70sqmm nominal cross-sectional area of conductor. Five-core. Sheath - Type 9. Insulation - GP8
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/033
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 5467:2016 Incorporating Corrigendum No. 1 Electric cables - Thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300V
Type of Cable:	Table 9 - Multicore auxiliary 600/1000V cables with copper conductors
Range of Approval:	1.5sqmm to 4sqmm nominal cross-sectional area of conductors inclusive. 7-core to 37-core inclusive. Sheath - Type 9. Insulation - GP8.
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/034
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 8724:2016 Incorporating Corrigenda Nos. 1 and 2 Electric cables - Thermosetting insulated, armoured cables for voltages of 600/1000V and 1900/3300V having low emission of smoke and corrosive gases when affected by fire
Type of Cable:	Table 4 - Single-core 600/1000V cables with copper conductor
Range of Approval:	50sqmm to 1000sqmm nominal cross-sectional area of conductors inclusive. Single-core. Sheath - LTS1. Insulation - GP8.
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC PCR

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/035
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 6724:2016 Incorporating Corrigenda Nos. 1 and 2 Electric cables - Thermosetting insulated, armoured cables of rated voltages of 600/1000V and 1900/3300V for fixed installations, having low emission of smoke and corrosive gases when affected by fire - Specification
Type of Cable:	Tables 5, 6, 7 and 8 - Two-core, three-core, four-core and five-core 600/1000V cables with copper conductors
Range of Approval:	1.5sqmm to 400sqmm nominal cross-sectional area of conductors inclusive. Two-core to four-core inclusive. 1.5sqmm to 70sqmm nominal cross-sectional area of conductors inclusive. Five-core. Sheath - LTS1. Insulation - GP8.
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Schedule

Schedule No:	176/001/036
Licensee:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Factory:	POLYCAB INDIA LIMITED, 74/8-11 DAMAN INDUSTRIAL ESTATE, VILLAGE KADAIYA, DAMAN-396210, UT, INDIA
Specification:	BS 6724:2016 Incorporating Corrigenda Nos. 1 and 2 Electric cables - Thermosetting insulated, armoured cables of rated voltages of 600V and 1900/3300V for fixed installations,having low emission of smoke and corrosive gases when affected by fire - Specification
Type of Cable:	Table 9 - Multicore auxiliary 600/1000V cables with copper conductors
Range of Approval:	1.5sqmm to 4sqmm nominal cross-sectional area of conductors inclusive. 7-core to 37-core inclusive. Sheath - LTS1. Insulation - GP8.
Origin Thread:	Not applicable
Origin Mark:	POLYCAB

PERMISSIBLE MARKS

BASEC

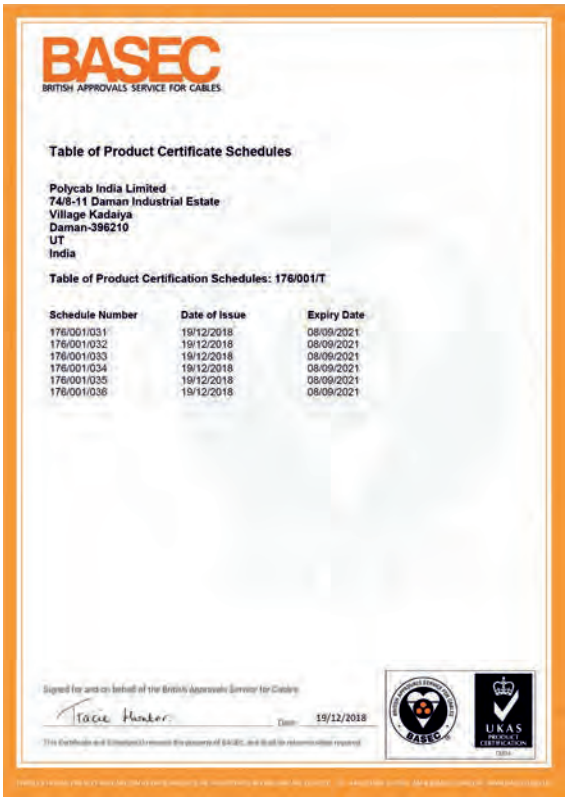
YELLOW ACETATE THREAD

Please refer to the BASEC Product Certification Requirements

Expiry Date: 08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018



BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Table of Product Certificate Schedules

Polycab India Limited
74/8-11 Daman Industrial Estate
Village Kadaiya
Daman-396210
UT
India

Table of Product Certification Schedules: 176/001/T

Schedule Number	Date of Issue	Expiry Date
176/001/031	19/12/2018	08/09/2021
176/001/032	19/12/2018	08/09/2021
176/001/033	19/12/2018	08/09/2021
176/001/034	19/12/2018	08/09/2021
176/001/035	19/12/2018	08/09/2021
176/001/036	19/12/2018	08/09/2021

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

BASEC
BRITISH APPROVALS SERVICE FOR CABLES

Product Certification Licence

This is to certify that:

Polycab India Limited
74/8-11 Daman Industrial Estate
Village Kadaiya
Daman-396210
UT
India

is licensed to use the BASEC Marks as defined in the BASEC Product Certification Requirements, in respect of products identified in the Product Certification Schedules listed in the Tables, shown below, which form an integral part of this Certificate:

Licence Number: 176

Issue Date: 19th December 2018

Expiry Date: 8th September 2021

Table Numbers: 176/001/T

This Certificate is issued subject to and in accordance with BASEC Regulations and continued compliance

Signed for and on behalf of the British Approvals Service for Cables

Tracie Hunter Date 19/12/2018

CE CERTIFICATE

FIRST QUALITY CERTIFICATION

FQC®
FIRST QUALITY CERTIFICATION

CERTIFICATE

This certificate is granted to the organization, MANUFACTURER

POLYCAB WIRES PVT. LTD

H.O : Polycab House, 771, Pandit Satwalekar Marg, Mahim (W), Mumbai – 400 016, India.
Works: 74/8-11, Daman Industrial Area, Village Kadaiya, Daman – 396210, UT
Survey No. 67-69, 71-72, 105, 106, Nurpura, District Panchmahal, Halol - 389 350, Gujarat, INDIA

Products Description:

1. HO5v – U/R/K/F
2. HO7v – U/R/K/F
3. HO5z – U/R/K
4. HO7z – U/K
5. HO5vv – U/R/K/F
6. HO7vv – U/R/K/F
7. Panel Board Wiring Cables
8. L V Power & Control Cables
9. MV & HV Power Cables
10. Flame Retardant / Fire Resistant Cables
11. Instrumentation & Signaling Cables
12. Co- Axial, LAN & Communication Cables
13. Optical Fibre Cable (1 Fibre to 432 Fibre)

products described above complies with the essential health and safety requirements of Council Directive low voltage directive 2014/35/EU on the approximation of the laws of the Member States relating to the safety of products.

The following harmonized standards and/or technical specifications applied:

BS 5467:2016, BS 6724:2016, BS 6346:1997, BS 6622:2007, BS 7835:2007, BS 6004:2012, BS 6231:2006, BS 7211:2012, IEC 60502-1 2004+AMD1:2009, IEC 60502-2:2014, IEC 60331-21:1999, IEC 60331-11:1999+AMD1:2009, IEC 60332-1-1: 2004+AMD1:2015, IEC 60332-3-22:2000+AMD1:2008, IS 7098-Part 1:1988, IS 7098 Part – 2:2011, IS 694:2010, IS 1554 – Part 1:1988, IS 1554 – Part 2:1988, BS EN 60794-1-1:2016, BS IEC 60794-1-20:2014, BS EN 60794-1-21:2015, BS EN 60794-1-22:2012, BS EN 60794-1-23:2012, BS EN 60794-1-24:2014, BS EN 60794-1-2:2017, BS EN 60793-2:2016, EN 60974-1-20, IEC 60794-1-2:2017 (For Optical Fiber Cable) & IEC 60793-1-1:2017 (For Optical Fiber)

Product complies with essential safety requirements objectives of mentioned directive/standard for Certification. An EC declaration is often referred to as a manufacturer's declaration.

Certificate No: 09.02.6204.1001
Date of Issue: (18.06.2017)09.02.2017
Expiry date : 08.02.2022

CE

First Quality Certification
Product Certificate Approved
Istanbul

This certificate remains the property of FQC. This must not be copied in whole or in part without the written permission of the managing Director of FQC Deliberate misuse of the certificate or schedule will result in cancellation without notification. This document does not abrogate the compulsory obligation of manufacturer to issue the declaration of conformity/Technical file. The product liability rests with the manufacturer or his representative.

FQC Uluslar Arası Belgelendirme ve Eğitim Hizmetleri Anonim Şirketi
Hanımeli Caddesi Prestij İş Merkezi No:10 Kat:7 Zümrütevler - Maltepe / İSTANBUL / TÜRKİYE T : +90 216 444 21 41 / +90 216 457 69 08 F : +90 216 457 98 69
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This document shall remain valid as long as the customer obeys FQC rules and terms of the contract. Certificate validity may be checked on FQC website.
www.fqc.com.tr info@fqc.com.tr

NABL - CERTIFICATE OF ACCREDITATION

National Accreditation Board for Testing and Calibration Laboratories
(A Constituent Board of Quality Council of India)

CERTIFICATE OF ACCREDITATION

POWER CABLE TEST LABORATORY, POLYCAB WIRES PVT. LTD.

has been assessed and accredited in accordance with the standard

ISO/IEC 17025:2005

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

for its facilities at

Plot No. 67-69, 71-72, 105-106, Nurpura Road, Baska Halol, Dist. Panchmahal Halol, Gujarat

in the field of

TESTING

Certificate Number TC-5295
Issue Date 17/03/2017
Valid Until 16/03/2019

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.

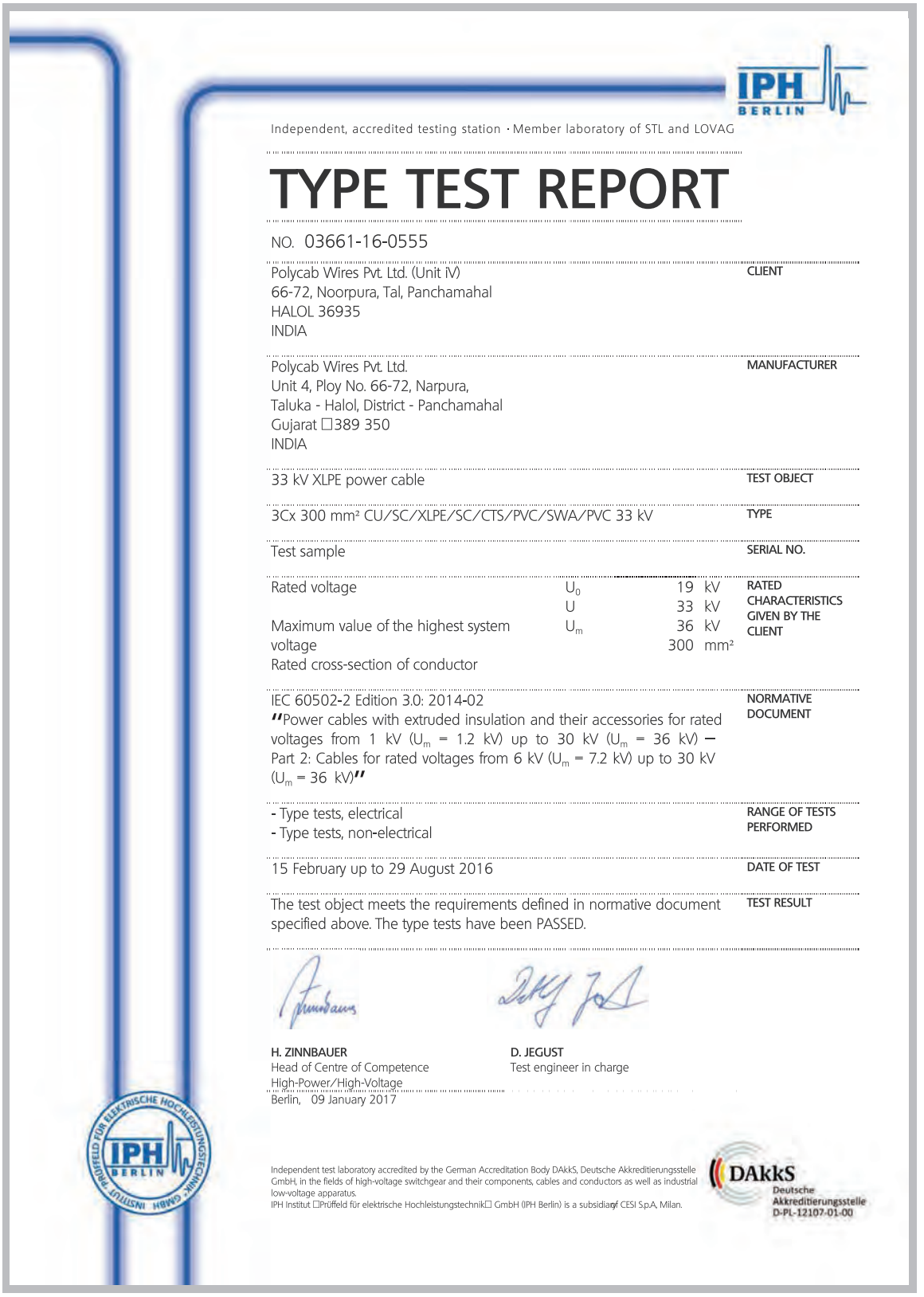
(To see the scope of accreditation of this laboratory, you may also visit NABL website www.nabl-india.org)

Signed for and on behalf of NABL

N. Venkateswaran
Program Director

Anil Relia
Chief Executive Officer

IPH BERLIN



IPH BERLIN

Independent, accredited testing station · Member laboratory of STL and LOVAG

TYPE TEST REPORT

NO. 03661-16-0555

Polycab Wires Pvt. Ltd. (Unit iV) 66-72, Noorpura, Tal, Panchamahal HALOL 36935 INDIA				CLIENT
Polycab Wires Pvt. Ltd. Unit 4, Ploy No. 66-72, Narpura, Taluka - Halol, District - Panchamahal Gujarat □389 350 INDIA				MANUFACTURER
33 kV XLPE power cable				TEST OBJECT
3Cx 300 mm² CU/SC/XLPE/SC/CTS/PVC/SWA/PVC 33 kV				TYPE
Test sample				SERIAL NO.
Rated voltage	U_0	19	kV	RATED CHARACTERISTICS GIVEN BY THE CLIENT
	U	33	kV	
Maximum value of the highest system voltage	U_m	36	kV	
Rated cross-section of conductor		300	mm²	
IEC 60502-2 Edition 3.0: 2014-02 "Power cables with extruded insulation and their accessories for rated voltages from 1 kV (U_m = 1.2 kV) up to 30 kV (U_m = 36 kV) – Part 2: Cables for rated voltages from 6 kV (U_m = 7.2 kV) up to 30 kV (U_m = 36 kV)"				NORMATIVE DOCUMENT
- Type tests, electrical - Type tests, non-electrical				RANGE OF TESTS PERFORMED
15 February up to 29 August 2016				DATE OF TEST
The test object meets the requirements defined in normative document specified above. The type tests have been PASSED.				TEST RESULT

H. ZINNBAUER
Head of Centre of Competence
High-Power/High-Voltage

D. JEGUST
Test engineer in charge

Berlin, 09 January 2017

INSTITUT FÜR ELEKTRISCHE HOCHLEISTUNGSTECHNIK GMBH · IPH BERLIN

Independent test laboratory accredited by the German Accreditation Body DAkkS, Deutsche Akkreditierungsstelle GmbH, in the fields of high-voltage switchgear and their components, cables and conductors as well as industrial low-voltage apparatus.
IPH Institut □Prüffeld für elektrische Hochleistungstechnik□ GmbH (IPH Berlin) is a subsidiary of CESI S.p.A, Milan.

DAkkS Deutsche Akkreditierungsstelle D-PL-12107-01-00

MANUFACTURING PROCESS – AT POLYCAB

POLYCAB HV XLPE cables are manufactured at its most modern manufacturing setup in HALOL and 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 Catenary Vulcanizing (CCV) process line (Dry Curing Line) is required. Polycab easily met these two criteria by carefully selecting imported insulating materials and by installing 6 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

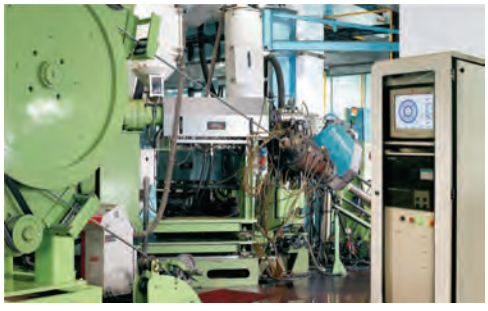


Figure 2 :
Three Layer Comon Triple Extrusion Method

Figure 3 :
Ultra Modern Hv Testing Lab

FLOW CHART

Conductor

Quality Checks
No. of Wires, Size, Conductor Resistance, Surface Finish, Diameter of Conductor

Continuous Triple Extrusion
Inner Semicon, XLPE Insulation Outer Semicon

Quality Checks
Type of Compounds, Batch No. details, Thickness, Core Dia, Electricity, Surface Finish, Hot Set Test

Copper Taping

Quality Checks
Size & Type of Tape, Market /Lot No., Overlap, Dia over tape, Continuity, Tape Jointing, Core Identification

Laying –Up / Twisting

Quality Checks
Core Sequence, No of Cores, Laylength., Binder /Roundness

Inner Sheathing (Extrusion*)

Quality Checks
Type of PVC, Batch/Lot No., Thickness of Sheath, Dia over Sheath

Armouring

Quality Checks
Armour Dimensions, No. of Armour, Coverage, Armour Joint

Outer Sheathing

Quality Checks
Type of PVC, Batch/Lot No., Thickness of Sheath, Dia over Sheath, Color, Surface Finish

Final Testing

Quality Checks
Conductor Resistance, High Voltage Test, Partial Discharge Test

Packing / Marking

Quality Checks
Marking Details, Lagging Coverage

Storage / Dispatch

Cables with FR-LSH / Zero Halogen Outer Sheath can be supplied against specific requirement.

POLYCAB GUIDELINES FOR 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 grade
2) Maximum fault current and its duration under fault condition
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) Requirement of fire performance in cable

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 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 :- 3.6 / 6 (7.2)kV **OR** 3.8 / 6.6 (7.2)kV, 6 / 10 (12)kV **OR** 6.35 / 11 (12)kV,

8.7 / 15 (17.5)kV **OR** 8.7 / 15 (17.5)kV, 12 / 20 (24)kV **OR** 12.7 / 22 (24)kV, 18 / 30 (36)kV **OR** 19 / 33 (36)kV

2) International standard :- Year 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 630 Sq.mm in

3 Core cables.

5) Conductor Material :- Copper / Aluminum

6) Type of Insulation :- XLPE

7) Type of Inner Sheathing :- PVC Extruded / PVC / Flame Retardant / Flame Retardant Low Smoke / Zero Halogen (LSOH).

8) Type of Armour :- Unarmoured / Strip Armoured / Round Wire Armored / Tape Armored.

9) Type of Outer Sheath :- PVC / Flame Retardant / Flame Retardant Low Smoke / Zero Halogen (LSOH).

10) Length of cable required and drum length.

DESIGN OF HT CABLES AND CONSTRUCTIONS WITH SPECIAL FEATURES

1. Conductor

Stranded compacted class 2 circular conductors of Annealed Copper/ Aluminium to carry continuous load and short circuit current. All Conductors shall comply with the requirement of IEC 60228/ BS 6360.

2. Conductor Screen

This is a layer of cross linkable semiconducting compound extruded directly over the conductor. It not only eliminates any sharp points on conductor surface but also nullifies the chance of electric discharge at the interface between conductor & insulation.

3. Insulation

The insulation is of natural, Cross Linked Polyethylene (XLPE) extruded over conductor screen. XLPE Insulation is capable of operation continuously at 90°C. Thickness of insulation shall as per IEC:60502 Part – 2, BS:6622, BS:7835.

4. Non-Metallic Insulation Screen

This is a layer of cross linkable semiconducting compound extruded directly over the Insulation at the same time when conductor screen and insulation are extruded. These are extruded in one operation by TRIPLE EXTRUSION which eliminates the formation of micro voids during the extrusion and curing resulting in longer life of cables.

5. Metallic Insulation Screen

The metallic Screen can be helically applied copper tape or a number of copper wires applied over semiconducting screen to carry fault current. This ensures that the surface of insulation is at ground potential and hence no surface discharge and electric field will be radial in nature.

6. Laying up

In case of three core cable, insulated cores are laid up together with PVC* or Polypropylene Fiber fillers to maintain circularity of cable. The core identification of three core cable is done either by coloured strips / numbered applied on the cores.

7. Inner Sheath

Polyvinyl Chloride (PVC) or Polyethylene (PE) compound is extruded over the laid up cores. The laid up cores shall be provided with inner sheath applied either by extrusion or by wrapping as per customer requirement. It shall be ensured that the shape is as circular as possible.

8. Armour

Galvanized steel wires applied over the inner sheath in case of three core cables and for single core cables, non-magnetic armouring is applied over the inner sheath. The direction of lay of armouring shall be left hand. The purpose of armour is to give mechanical protection to cables. It also acts as a return path for earth fault current.

9. Outer Sheath

This is an extruded layer of polyvinyl chloride (PVC) or Polyethylene (PE) is extruded over armour. For single core unarmoured cables the outer sheath is extruded over the non-magnetic metallic part of insulation screen.

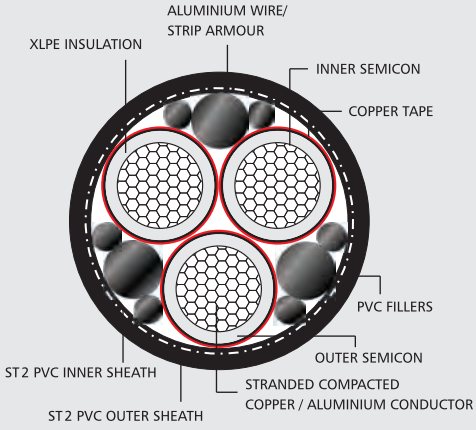
* Weights given in the table are with PVC fillers.

SPECIAL FEATURES

Other than above design, elements can vary in a number of ways to meet the specific customer requirements. Some of the examples are listed below.

- Longitudinal and radial water blocking of conductor, cable cores and complete cable.
- Lead alloy metallic sheath.
- Water tree retardant XLPE insulation.

Polycab manufactures following voltage grade cables as per IEC-60502 part-2 and BS-6622 & BS:7835

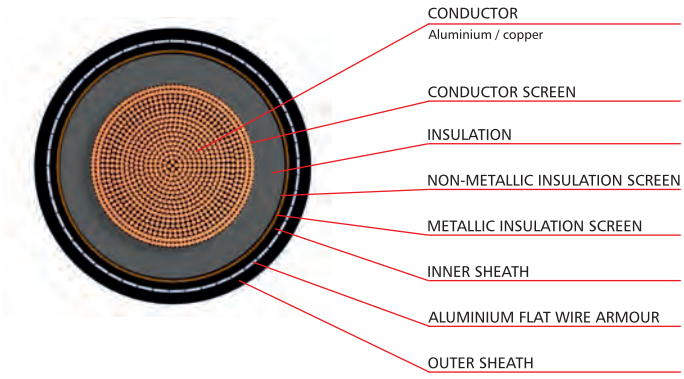


- 3.6 / 6 (7.2)kV **OR** 3.8 / 6.6 (7.2)kV
- 6 / 10 (12)kV **OR** 6.35 / 11 (12)kV
- 8.7 / 15 (17.5)kV **OR** 8.7 / 15 (17.5)kV
- 12 / 20 (24)kV **OR** 12.7 / 22 (24)kV
- 18 / 30 (36)kV **OR** 19 / 33 (36)kV

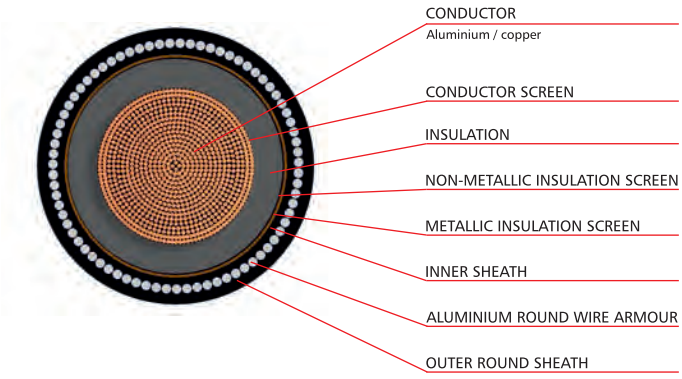
SIZES:

- 35 Sq.mm up to 1000 Sq.mm in Single Core Cables.
- 35 Sq.mm to 630 Sq.mm in Multi Cores Cables.

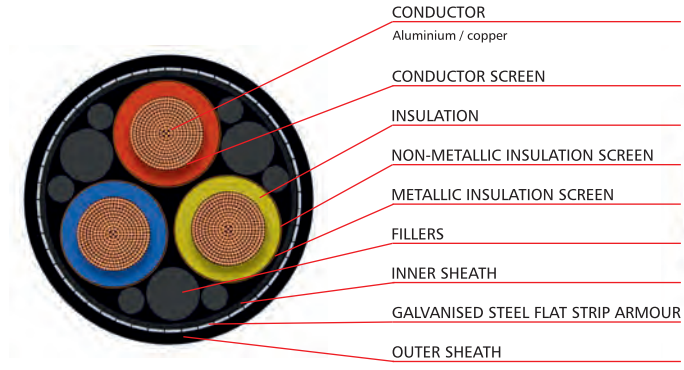
SINGLE CORE CABLE WITH FLAT STRIP ARMOUR



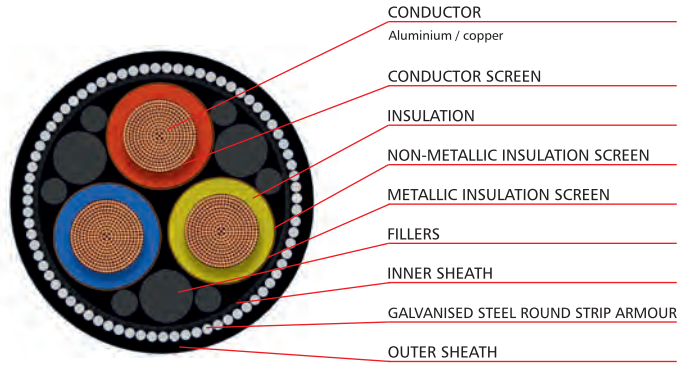
SINGLE CORE CABLE WITH ROUND STRIP ARMOUR



THREE CORE CABLE WITH FLAT STRIP ARMOUR



THREE CORE CABLE WITH ROUND STRIP ARMOUR



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 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 IEC:60502, BS:6622, BS:7835

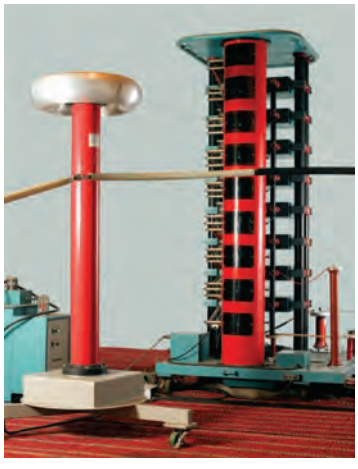
- Partial Discharge Test
- High Voltage Test
- Conductor Resistance Test. Routine Tests are performed on each manufactured length of cable in Routine Test Laboratory.

TYPE TEST

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

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.

FR-LSH 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) Determination of the amount of halogen acid gas evolved during combustion of outersheath materials as per per IEC 60754 (Pt. I & II).