

BASEC
BRITISH APPROVALS SERVICE FOR CABLES



Corporate Brochure

WORLDWIDE CABLE EXPERTS

Your guide to cable
certification and
testing services



Contents

- 2 Introducing BASEC
- 3 What we do
- 4 Global coverage
- 5-7 Product certification and approvals service
- 8 Management systems certification
- 9-12 Sector specialists
- 13-14 LV, Data Comm, Medium Voltage Laboratory
- 15-16 Construction products regulation
- 17-18 Laboratory & testing facilities
- 19-20 Training & other services
- 21-22 Cable standards

BASEC Group Limited (BASEC)

Presley House
Presley Way
Crownhill
Milton Keynes
MK8 0ES, UK

BASEC Middle East

Dubai Production City,
PBU No. E78 & E79,
Dubai, UAE.

BASEC Private (India)

BASEC Europe Belgelendirme
Hizmetleri Limited (Turkey)

BASEC Conformity Limited (Ireland)

Contact our UK Head Office on:

+44 (0)1908 267300

mail@basec.org.uk

www.basec.org.uk

BASEC GROUP LIMITED (BASEC), registered in England No; 13950143

Trading Office: Presley House, Presley Way, Crownhill, Milton Keynes,
Buckinghamshire, MK8 0ES, United Kingdom

Registered Office: KIWA House, Malvern View Business Park, Stella Way,
Bishops Cleeve, Cheltenham, Gloucestershire GL52 7DQ, United Kingdom





Introducing BASEC

BASEC Group Limited (BASEC)

BASEC focuses exclusively on serving the needs and customers of the global cable industry.

Established in 1971, for over 50 years BASEC has been a mark of reassurance for those manufacturing, specifying, buying and installing cable. The BASEC name is synonymous with quality and safety and our cable certification and testing is trusted and respected around the world.

Core values:

- ✓ Customer first
- ✓ Trust
- ✓ Experts
- ✓ Integrity
- ✓ Independence



Vision - to be the preferred testing and certification partner to the worldwide cable industry.



Purpose - to be continuously improving quality and safety.

UKAS Accredited

United Kingdom Accreditation Service (UKAS) is the only national accreditation body recognised by the UK government which assesses organisations that provide certification, testing, inspection and calibration services. UKAS work to internationally agreed standards.

BASEC is accredited by UKAS for ISO/IEC 17065 for product certification, ISO/IEC 17025 for testing, and ISO/IEC 17021-1 for quality management systems and environmental management systems certifications.



0004



0004



5950

About us

What we do



BASEC is a global leader in product testing and certification services for the cable industry across numerous sectors, including construction & electrical installation, power distribution, rail, marine, oil & gas and renewables.

In addition, you can access triple standard management systems certification, Construction Product Regulation (CPR) testing, bespoke type testing, impartial investigation of conformity issues, and testing and reporting to support you in the event of any potential disputes.

Working to worldwide standards

BASEC's goal is to ensure that cable products meet appropriate national, local e.g. European specific and international standards by carrying out detailed examinations of both manufacturers' production processes and regular, rigorous testing of their products.

Testing to:

- ✓ International standards
- ✓ European standards
- ✓ British and other national standards
- ✓ Private specifications
- ✓ Sector-specific standards (e.g. rail, marine)
- ✓ Utility standards

Working with:

- | | |
|-----------------------------|-----------------------------|
| ✓ Cable manufacturers | ✓ Professional institutions |
| ✓ Standardisation bodies | ✓ Wholesalers |
| ✓ Manufacturer associations | ✓ Distributors |
| ✓ Installer associations | ✓ Cable stockists |

Not BASEC approved cable?

One of BASEC's founding objectives is to enhance the quality and safety of all cable and related products in the marketplace. BASEC therefore, not only monitors approved cable products but also undertakes market surveillance testing of cables on sale that do not carry any third party approval.

Why?

When serious problems are found with compliance, BASEC gives you warnings, technical support and advice to the full cable supply chain and, if necessary notifies the relevant authorities.

“
This guide will tell you more about who we are, how we operate and the reasons why people around the world are demanding BASEC approved cable.
”



About us

Global Coverage



Working with companies worldwide

You access tailored services to meet you and your customer's needs, wherever you are located in the world. This forms a key part of our commitment to providing you with an excellent service. To further support this, we have regional teams now based in both the Middle East and Asia.

Alongside this global remit, we have not lost sight of our British roots and the rigour of the standards and testing that have been the foundation of BASEC's work from the beginning.

Our customers can be assured that the BASEC mark of approval carries the same weight and respect today as it has always done.

The benefits of BASEC approval

BASEC certification is amongst the most rigorous in the industry. By achieving it you will stand out clearly from your competitors and your cables will be recognised worldwide as market leaders in terms of quality, safety and ongoing conformity to all the relevant standards.

It will open up new opportunities and markets for you, as the BASEC mark has been a mark of reassurance for those specifying, buying and installing cable for over 50 years. We support our clients throughout the process and ensure that we deliver a truly international accreditation service.

BASEC operates globally, auditing in over 42 countries around the world and expanding all the time

UK & Ireland

UK
Ireland

Europe

Belgium
Croatia
Bosnia and Herzegovina
Czech Republic
France
Germany
Greece
Italy
Lithuania
Malta
Netherlands
Poland
Portugal
Romania
Slovakia
Spain
Switzerland
Turkey

Middle East

Israel
Kuwait
Lebanon
Oman
Qatar
Saudi Arabia
UAE

Africa

Egypt
Nigeria
South Africa

Asia

Bangladesh
China
Hong Kong
India
Sri Lanka
South Korea
Taiwan
Thailand
Vietnam
Uzbekistan

Rest of World

Trinidad and Tobago
USA

Product Certification and Approvals Services

About the service

Comprehensive product testing and approvals provide purchasers and contractors with the peace of mind that the cable they install is compliant, safe, fit for purpose and will provide years of reliable service.

Our certification scheme is recognised as one of the most demanding in the industry. Manufacturers of BASEC approved cables are subject to regular factory inspections and cables are sampled and tested several times a year to ensure ongoing conformity.

This thoroughness means that when purchasers and contractors specify BASEC approved cable they can be sure it meets the highest quality standards and that it conforms with all relevant regulatory requirements.

Rigorous testing and ongoing surveillance

During the application process and our subsequent factory visits we check:

- ✓ The manufacturer's range of cable types and sizes against the Product Certification Requirements (PCR)
- ✓ Production equipment (including witnessing cable being made)
- ✓ The manufacturer's laboratory, including witnessing testing and checking the reliability of results
- ✓ Calibration of machines and instruments

In addition to factory visits BASEC selects up to 200 cable samples a year from each factory to test in the independent BASEC laboratories. All certification systems are based on a sampled process as not every batch of cable can be independently tested.

However, as BASEC samples more frequently than other certification schemes, you can be assured that any problems or deviations in production are identified quickly, and so can be promptly rectified.



If you see the BASEC mark on a cable you can rest assured that both cable and manufacturer are, and continue to be, compliant with the world's most rigorous quality testing processes.



The BASEC Mark



Only BASEC approved manufacturers are awarded the BASEC certificate which allows them to use the BASEC mark on their product.

Gaining the BASEC Mark

Manufacturers can apply for a licence to display the BASEC mark only when we are satisfied that their manufacturing systems are capable of consistently producing compliant cable products.

BASEC also verifies that the products comply with the relevant specifications through full type testing at the BASEC laboratories, or if appropriate, by witnessing tests at your factory.

Maintaining the BASEC Mark

To maintain a licence, manufacturers undergo both planned and unannounced factory audits to ensure ongoing conformity. Our global team of experts in cable-making and certification, audit manufacturer's sites several times a year, with a mixture of these visits.

Up to 200 cable samples a year are requested from each factory for surveillance testing in the BASEC laboratory to ensure the cables being produced continue to conform to the required standards.



The BASEC mark of approval isn't easy to earn – and isn't easy to keep. Approved manufacturers work hard to maintain their BASEC approvals, which is what keeps them ahead of the competition.

Product Certification and Approvals Services

What is involved

Six steps to gaining and maintaining the BASEC mark

The certification process can be broken down into six steps and we will work closely with you throughout to ensure it runs smoothly.

Step 1 Planning & preparation

A pre-audit visit is offered to provide guidance and support in readying the necessary systems.

Step 2 Initial audit & audit report issued

The audit comprises of both a review of the management systems in place and of the processes involved in the operations and production lines.

Step 3 Samples sent to BASEC for testing

Cables are tested in one of BASEC's accredited laboratories in accordance with the relevant standards.

Step 4 Certification

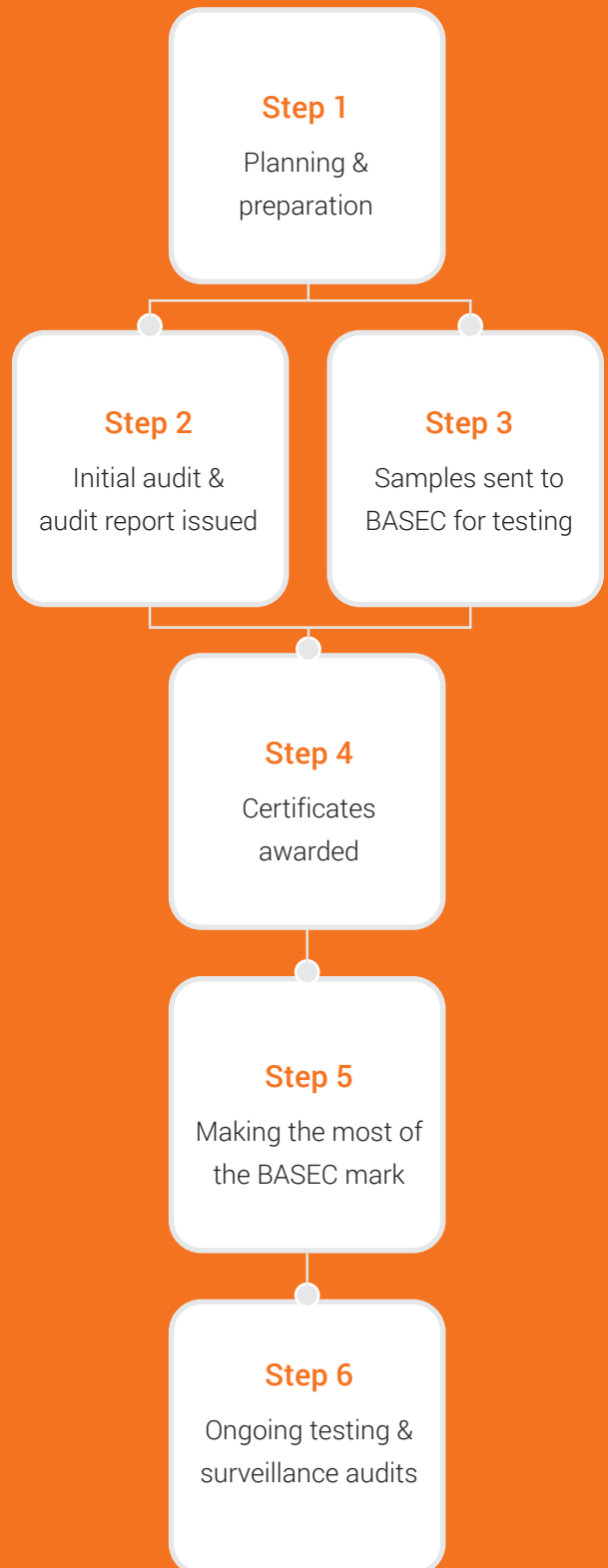
Following successful completion of the audit and testing, management systems certifications and product marking licences are awarded.

Step 5 Using the BASEC mark

Once you have been awarded the BASEC mark you will be able to use it on your products, as well as on your sales and marketing materials.

Step 6 Ongoing testing and surveillance audits

Between two and four routine audits, plus one unannounced visit per year, depending on the size and complexity of your business. At each routine audit, samples will be selected for testing, in order to ensure ongoing conformity. Recertification takes place every three years.





Management systems certification

BASEC is a UKAS accredited certification body for management systems, for the specific requirements of the cable sector. This makes us perfectly placed to offer an integrated and discrete solution to your management systems requirements.

Integrated Triple Standard

Integration of management systems reduces duplication and improves efficiency. We offer an integrated service to companies seeking approval to two or more standards

- ✓ Quality management systems to ISO 9001
- ✓ Environmental management systems to ISO 14001
- ✓ Health & Safety management systems to ISO 45001

Reasons to integrate management systems:

- ✓ More efficient and cost effective than operating separate systems
- ✓ Reduces disruption to your business and the amount of time required for assessments
- ✓ Increases efficiency by reducing the duplication of policies, procedures and auditing
- ✓ Integrate management systems with the BASEC PCR and demonstrate industry best practice

The benefits of choosing BASEC

- ✓ BASEC Product Approval clients will benefit from cost savings when you move your management systems certifications to BASEC.
- ✓ Tailored requirements for ISO 14001 to local environmental and legislative obligations, to enhance your environmental performance.
- ✓ BASEC looks beyond the legislation and compliance to ISO 45001, to help you deliver good risk management and organisational continuity, addressing the needs of all of your stakeholders.

Discrete Standards

Where required BASEC issues stand-alone of your management systems certification for ISO 9001, ISO 14001 and ISO 45001



BASEC auditors all have cable manufacturing experience so bring real value to your audit and your business.

Sector specialists

As the experts in cables across numerous sectors, BASEC works with manufacturers to ensure the supply of safe and compliant cable, in line with sector-specific standards and regulations. Offering peace of mind to installers and specifiers when buying and sourcing cable products.

Many sectors, such as rail, marine and oil & gas, rely on third-party testing to demonstrate product conformity to their customers.

BASEC's laboratories can carry out a range of tests to verify a cable's construction, materials and its electrical properties. Our state-of-the-art fire testing laboratory carries out tests on fire resistance, circuit integrity and reaction to fire. BASEC also offers a range of smoke emission, halogens, acid gas and toxicity tests.

BASEC delivers product certification and approval, third-party testing, investigations and assessments of non-standard cables, pre-shipment testing, inspection and batch testing.



As cable experts, BASEC partners with manufacturers across multiple sectors to ensure the installation of safe and compliant cable. Ensuring that cable products are made and perform in line with sector specific standards and regulations, offering peace of mind to installers and specifiers.

Aerospace & Defence

Cables used in various aerospace and defence applications often need to conform to special requirements and rigorous approval and procurement processes. Specific tests are applied to cable products to address the need to cope with high-performance, lightweight, and aggressive environments.

BASEC tests to DEF STAN 61-12 series and BS (G) series.

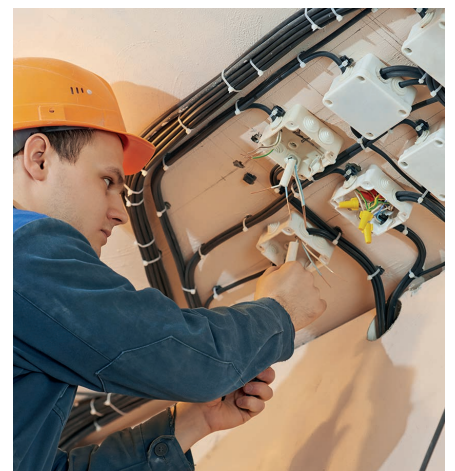


Construction & Electrical Installation

In the construction and electrical installation sector, cable must be installed to strict quality requirements and must conform to regulatory requirements such as local wiring codes and regulations like BS 7671 and CPR (Construction Products Regulation).

Assurance of product quality level in such applications is crucial as it will directly affect the safety and performance inside these constructions. Depending on the risk level of each construction and local regulations, the classification requirements will be specified during the design stage.

At BASEC, we test to International, European and British standards for building wire, installation cables, flexible cables, armoured and non-armoured power distribution cables, control and instrumentation cables and modular wiring.



Data Communication

The data communications cabling should support the reliable movement of a high volume of data as reliably and efficiently as possible. The ongoing rapid market growth of Internet-connected devices continues to drive the need for bandwidth and more incredible transmission speeds from the Terabit speeds in the WAN environment to Gigabit speeds to the desktop or Wireless dependent connected devices.

High-quality cabling incorporating standards-compliant cables remains at the heart of all Ethernet-based communications networks.

BASEC can test all types of cables, shielded or unshielded cables and different Categories Cat 5e, Cat 6e, Cat 6A, Cat 7, Cat 7A and Cat 8, in which maximum bandwidth can reach up to 2000MHz.

At BASEC, we test according to different international standards like BS/ISO/IEC 11801 series, ANSI/TIA 568 series, and BS EN 50173 series.



Fire & Security

Product performance is fundamental for any cable; however, the fire performance of the cable is also crucial in the fire and security sector.

The expected fire performance of the cable can be fire resistance or fire reaction, and it will be specified in the system design stage based on the application of each cable, and in all cases, it should be verified.

Independent assurance of performance verified through rigorous testing and certification is a must to ensure the cables' highest level of quality and safety.

At BASEC we test to International, European, and British standards for fire performance cables.



EV charging Cables

Electric vehicles present a very effective way to support global economies by reducing carbon footprints and offering mobile, decentralised energy storage. In addition, it's the opportunity to support the energy networks in a completely unconnected phenomenon which is a key factor in achieving intelligent networks.

The EV charging cable is intended to supply power and communication to an electric vehicle, which will be defined based on the required charging mode.

The charging mode will affect the cable design, rated voltage, and even the used raw materials, which shows the importance of rigorous testing for each cable type. This ensures the quality of the charging cable meets the standard requirements; otherwise, the non-standard cables will affect the efficiency of the overall charging effectiveness of the installed charger.

BASEC can test international and European standards, such as IEC 62893 series and EN 50620, and merge the test protocols for similar standards to issue a dual approval including both standards.



Marine

Marine cables must operate in some of the most adverse conditions with the highest quality and safety levels. The BASEC name is synonymous with quality and safety, and our cable testing enables you to demonstrate to your clients that your cables meet the required standards and will deliver reliable service for many years.

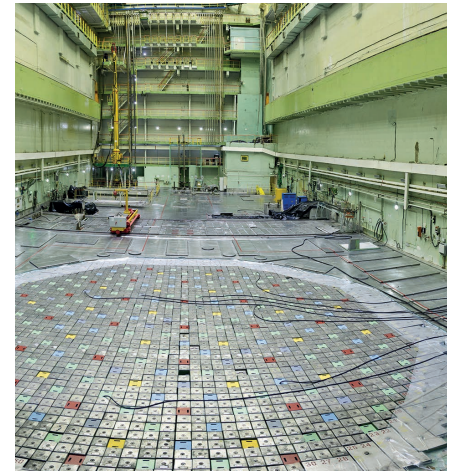
BASEC tests to sector standards and specifications for LV, MV, and instrumentation and control cables, including NEK 606, IEC 60092 series, IEEE 1580, BS 6883, BS 7917, IEC 60331, and IEC 60332 series.



Nuclear

Cables supplied to the nuclear sector must hold high performance characteristics such as achieving reliable performance for the power plant's lifetime and maintaining integrity in a loss of coolant accident (LOCA) scenario.

BASEC performs testing to measure thermal endurance, LOCA scenarios, and testing for enhanced fire performance. Fire testing is delivered to IEC 60332-3 series and IEC 60331 series, smoke emission to IEC 61034-2 and acid, gas and halogens to IEC 60754 series. Testing to IEEE 383 is available.



Oil, Gas & Petrochemical

Cables supplied to the oil, gas and petrochemical sectors must conform to strict regulatory and design standards as they are installed in hazardous areas and challenging environments.

These cables should be sensibly designed, manufactured, and tested to ensure that these cables work in these hazardous areas and challenging environments with the highest levels of quality and safety to enhance and limit the risk level in these sectors.

BASEC tests to sector standards and specifications for LV, MV and instrumentation and control cables, including NEK 606, IEC 60092 series, IEEE 1580, BS 6883, BS 7917, EEMUA 133, IEC 60331, and IEC 60332.



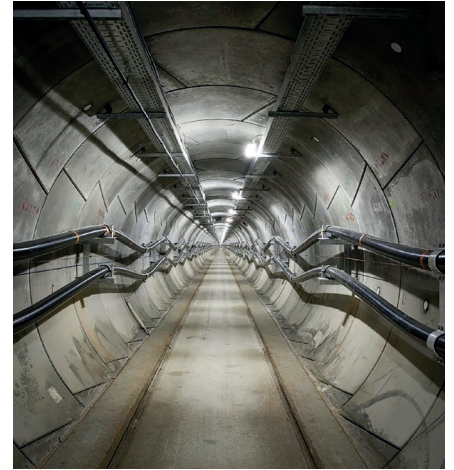
Power Distribution

Substantial structural changes are currently underway in the power industry. This, coupled with an ageing infrastructure, means that it's essential that the cabling supplied provides a reliable and long-term service.

Medium and low voltage cables are essential parts of the distribution networks, which need high-quality cables to be used to increase the overall efficiency of the distribution network by minimising the downtime of these networks because of cable failures.

BASEC tests insulated power, armoured, non-armoured, control and instrumentation cables. Testing to BS 7870 series, BS 6622, BS 7835 and

IEC 60502-2 is conducted on: copper, aluminium, alloy, reinforced, waveform, triplex, concentric and split concentric cables.



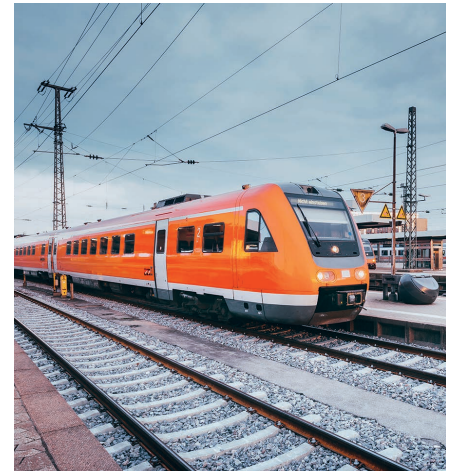
Rail

Complex components and systems developed over the years come together to make up the railway network operations. They must be safe and suitable for the intended rail application.

A range of cable types is used to connect these complex rail systems together. Electrified railway lines can also house generating stations, transmission, and distribution lines to transfer power from the in-house supply or connect to the grid.

Cables supplied to rail networks and for rolling stock or power and signalling applications must conform to strict performance and safety standards, often requiring additional fire safety and performance specifications.

For rolling stock BASEC tests to EN 50306 series, EN 50305, EN 45545, BS EN 50264 series and Transport for London (TfL) / London Underground Ltd (LUL) S1-085. For rail infrastructure, BASEC tests MV track feeder cables to Network Rail standards and LUL, BS 7835 / BS 6622 / IEC 60502-2, tests, and LV power cables to BS 7846, BS 6724, BS 8592, BS 7629-1.



Renewables

Renewable energies are at the forefront of a sustainable power supply. Solar is the world's fastest-growing energy technology, and ambitious growth projections remain key targets for all major global regions.

Cables for the renewables sector must also be resilient in challenging weather conditions including harsh sunlight, extreme heat, high winds, and regular contact with rain and saltwater.

Solar cables are used to interconnect PV panels and connect the PV panels to the inverter. The inverter plays the role of converting direct current (DC) to alternating current (AC).

BASEC tests to sector standards and specifications, including IEC 62930 and EN 50618 for solar photovoltaic systems and MV cables to IEC 60502 for wind power.

BASEC can merge the test protocols for similar standards like IEC 62930 and EN 50618 to issue a dual approval including both standards.



Low Voltage & fire Laboratory

BASEC opened a new Multi-Million-pound Laboratory in Milton Keynes in 2012, and in 2014 a new fire testing lab was added to cover all types of cable fire tests and allow BASEC to do all cable tests in our full-service facility comprehensively.

BASEC opened a State-of-the-art laboratory for testing all types of low-voltage cables in Dubai, UAE, in October 2021.

Expanding on 50 years of being the trusted reassurance mark of cable quality worldwide, this laboratory will enhance the testing capacity for low-voltage cable testing for the BASEC group when combined with the laboratory in Milton Keynes, UK.

UKAS accreditation is received to ensure the same quality levels have been maintained in all BASEC's laboratories.

Wide range of testing:

- ✓ Electrical & mechanical tests.
- ✓ Material tests.
- ✓ Chemical tests.
- ✓ Fire tests.

Ensures that the same quality materials have been used to validate our certificate over time. BASEC use spectroscopy technologies to test and analyse the materials used in the cables of our customers. In addition to special test equipment such as Thermogravimetric analysis (TGA) and Fourier Transform Infrared (FTIR).



Data Communication Laboratory

BASEC opened a Data communication laboratory for testing data cables reliably and efficiently.

The data communication testing laboratory is located in Milton Keynes, UK and has the most up-to-date test equipment. BASEC is capable of testing all cable performance indicators:

- ✓ Crosstalk (Near-End & Far-End)
- ✓ Alien (exogenous) Crosstalk
- ✓ Transfer impedance
- ✓ Power sum attenuation to crosstalk ratio (PSACR-F)
- ✓ Pair Balance
- ✓ Characteristic impedance
- ✓ Propagation delay difference
- ✓ Capacitance unbalance – mutual capacitance
- ✓ Structural return loss (SRL)
- ✓ Return Loss (RL)
- ✓ Velocity of Propagation (VoP)
- ✓ Attenuation & Unbalance attenuation
- ✓ Characteristic Impedance (Zo)

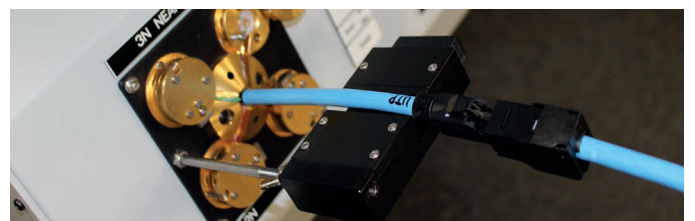
In addition to different electrical, constructional, mechanical and material tests. Including comprehensive fire performance assessment for data communication cables like (flame propagation, Gas evolution, smoke density, and CPR).

At BASEC's data communication laboratory, we test all types of data communication cables:

- ✓ Cat 5e
- ✓ Cat 6 & Cat 6A
- ✓ Cat 7 & Cat 7A
- ✓ Cat 8

Accredited testing scope according to different international standards:

- ✓ BS/ISO/IEC 11801 series
- ✓ ANSI/TIA 568 series
- ✓ BS EN 50173 series



Medium Voltage Laboratory

In November 2022, BASEC opened a new State-of-the-art laboratory in Dubai for medium voltage cable testing, the first specialised laboratory for cable testing in the Middle East.

Comprehensive testing to meet the national and international cables standards for medium-voltage cables as per different cables standards:

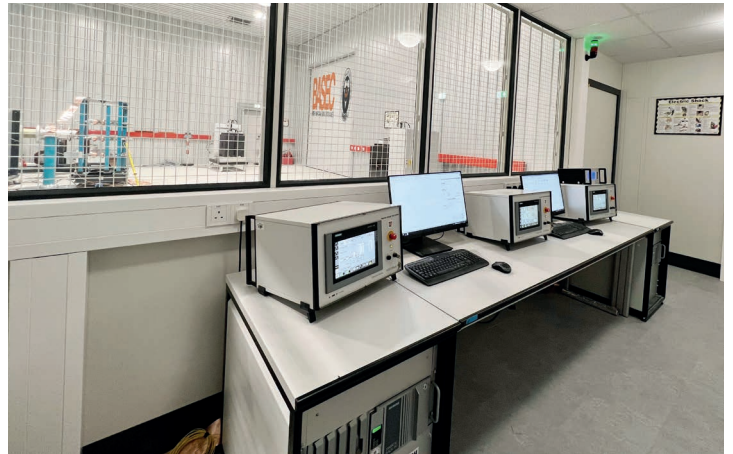
- ✓ IEC 60502-2
- ✓ BS 6622
- ✓ BS 7835
- ✓ BS 7870-4.10
- ✓ BS 7870-4.20
- ✓ BS 7870-4.11

Accredited laboratory to enhance the quality & safety of distribution networks and different projects worldwide.

At BASEC's MV laboratory in Dubai, we can test MV cables up to 42 kV, a comprehensive test range for electrical testing,

- ✓ Partial discharge test
- ✓ Tan δ measurement in relation to voltage.
- ✓ Tan δ measurement in relation to temperature.
- ✓ Heating cycle test
- ✓ Impulse voltage test
- ✓ Four-hour voltage test
- ✓ D.C. voltage test on oversheath
- ✓ Conductor and metallic screen resistance measurements
- ✓ Insulation and conductor screens resistivity
- ✓ Insulation resistance constant of oversheath
- ✓ Water penetration test

A wide range of non-electrical testing for MV cables is done to assess the material cable performance as per different standards (constructional and dimensional tests, hot set test, circularity, corrosive and acid gas, insulation/separation/oversheath materials performance before and after ageing. Water absorption test on insulation, strippability test for insulation screen, and the like).



UKCA and CPR – Testing and Certification

As a designated UK Approved Body (No 2661) for both AVCP System 1+ and System 3, BASEC UK can test and classify cables for UKCA, enabling manufacturers and distributors worldwide to supply into the UK CPR market. BASEC Conformity Limited was established and listed as an EU Notified Body (NB 2851) in February 2020; it is NANDO listed, and EU 27 recognised, enabling certification to AVCP System 1+ and CE marking for the EU CPR market.

For over 50 years, BASEC has been a global leader in the testing and certification of cables. We have invested heavily in new equipment to allow us to test all the requirements of the CPR in respect of cables, providing a full service to manufacturers and traders.

CPR Explained

As of 1st July 2017 under the European Construction Products Regulation (CPR), it is now mandatory for cable manufacturers and suppliers to apply CE marking to any products covered by the harmonised European standard EN 50575. The CPR applies to all cables placed on the market for use in a fixed installation in domestic, commercial and industrial premises and other civil engineering works anywhere in the European Union. It applies to power, communications and fibre optic cables irrespective of the place of manufacture and includes novel/unique cables and those which are not designed to any particular design standard. These tests, with a few exceptions, need to be carried out by an independent Notified Body. Following the UK exit from the European Union (Brexit) and from Jan 1st 2021, the UK has maintained the testing and certification requirements of the CPR under the umbrella of UKCA and this operates in parallel to CPR and is appropriate for the UK market. For UKCA a UK approved body fulfils the requirements of an EU Notified body.

The Construction Products Regulation is solely concerned with the reaction to fire and resistance to fire properties of these products, resulting in awarding classifications often known as “Euroclasses” to each product or family of products. The CPR regime for resistance to fire of cables is still under development at present.



BASEC has invested heavily in state-of-the-art equipment, allowing us to test all of the CPR's requirements, respective to cables. Enabling you, your manufacturer and traders to access a full service for testing.



Compliance to all of the requirements for CPR and fire, through BASEC testing and classification, means manufacturers and distributors from around the world can supply in to the European markets.

CPR Classification According to Fire Performance

Reduced fire performance





Depending on the classification sought - different tests are conducted.

BS EN/ISO 1716

The gross heat of combustion is measured for each of the cable's components.

Used for Class Aca only.



BS EN 60332-1-2

A single length of cable is exposed to a 1kW flame and the total char length is measured after all combustion has ceased.

Used for Classes B1ca, B2ca, Cca, Dca, Eca and Fca.



BS EN 50399

An array of individually spaced cable or spaced bundles of cable are exposed to a flame. The flame spread, heat release, smoke production and droplet generation are measured.

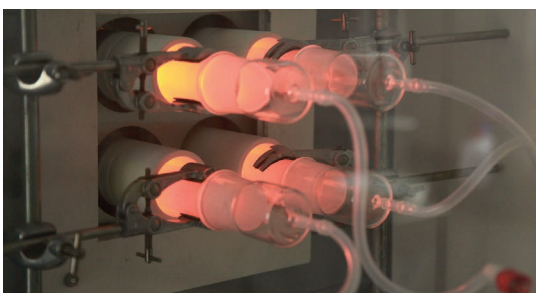
Used for Classes B1ca, B2ca, Cca, Dca.



BS EN 61034-2

The reduction in light transmission gives a measure of smoke density generated during the combustion of cables.

Used for Classes B1ca, B2ca, Cca, Dca where applicable.

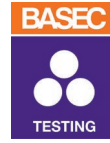


BS EN 60754-2

The pH and conductivity of effluent gasses from the combustion of the cable components are measured to indicate the degree of acidity and corrosivity of the cable under fire conditions.

Used for Classes B1ca, B2ca, Cca, Dca.

UK Laboratory & testing facilities



BASEC's fully accredited, state-of-the-art laboratory is the largest independent cable testing service in the UK. At BASEC we test to any international standard, product code or bespoke requirement you may have.

Cable testing scope includes:

- ✓ Product certification
- ✓ Product approvals
- ✓ One-off type testing
- ✓ Pre-shipment and batch testing
- ✓ Operational failure analysis
- ✓ CPR testing

Our commitment to ongoing investment, the BASEC laboratory contains the latest state-of-the-art technology and equipment.

Extensive range of equipment includes:

- ✓ Tensometers
- ✓ Ageing ovens
- ✓ Freezers
- ✓ Conductor testers
- ✓ Fire test resistance
- ✓ Ladder fire test rig
- ✓ Voltage testers
- ✓ Smoke cube
- ✓ Chemistry laboratory



Testing is provided to enable certification and product approval purposes. BASEC also delivers independent testing for any party including trading standards, certification bodies, wholesalers, distributors, consultants and end users.



Fire & Smoke

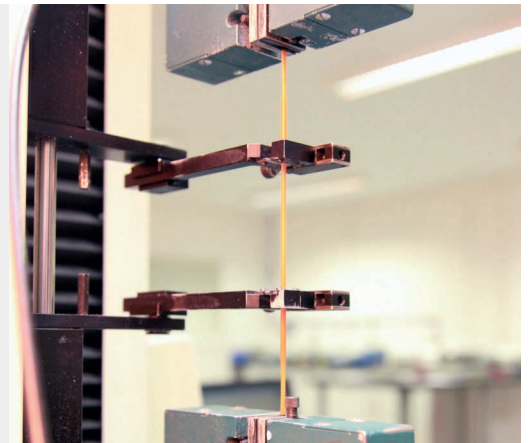
Regulatory safety standards testing for cables used for emergency power, fire alarms and in public spaces including flammability, reaction to fire, resistance to fire, smoke emission and toxic gases.





Construction and Mechanical

Tests for conformity to specification and ease of identification, installation and usability including armour testing, marking and colour checking.



Chemical Testing

Testing for chemical composition of cable compounds (insulation and sheath) and other chemical tests on cable components such as metal coatings.



Electricity

Safety and performance tests including conductor resistance, insulation resistance, voltage tests and flex testing.



Materials and polymers

Testing for performance including ageing, compatibility of polymers, compliance of polymers for high and low-temperature conditions and checks on the correct processing of polymers during manufacture.



Training

All our courses are run by cable experts which means they are tailored specifically to your industry, and will focus on the issues that will make a difference to your organisation. BASEC training ensures your staff are up-to-date with the latest industry requirements, standards and new regulations. Courses can be run either at our Milton Keynes office or if you prefer, at your own site. They are relevant for those involved in testing, quality assurance and quality control, as well as those running BASEC systems.

BASEC's training courses include:

- ✓ CPR and fire
- ✓ Cable testing
- ✓ Cable standards
- ✓ LVD compliance
- ✓ Management systems
- ✓ BASEC PCR

Other services

HAR Scheme

BASEC is a member of the pan-European HAR scheme, which is in place to demonstrate mutual acceptance and harmonised European standards of cable certification.

BASEC provides HAR scheme certification to manufacturers based in the UK, Ireland and other eligible European markets.

Certificate of Assessed Design

We offer a Certificate of Assessed Design (CAD) for new concepts where no national or international standards exist, or for variants from an existing standard. This enables manufacturers to offer innovative new designs to the market, whilst at the same time verifying their quality, safety and fitness for purpose.

BASEC, as an approved UKAS and INAB notified body, we can help customers with all legal requirements.



Cable standards

One of the most common causes of confusion and issues on site when specifying cable is understanding the various standards that cables must comply to.

Most importantly, BASEC aims to give you a measure and mark you can trust in – to be sure that the cable you are using is compliant and will not cause any problems or damage your reputation as an installer or specifier.

A key part of our role is to ensure that the claims of conformity made by the cable manufacturers about the cable are valid. Only when we are completely satisfied with each cable's test results do we allow manufacturers to use the BASEC mark.

Registered Stockist scheme

The Registered Stockist scheme forms part of BASEC's established Market Surveillance initiatives to drive the improvement of cable quality and safety throughout the supply chain and industry, with rigorous certification, factory auditing and testing.

An important feature of the scheme sees BASEC conducting audits at cable distributors' facilities to review procurement, selling and compliance practices, and to take random product samples for independent testing at the BASEC laboratory. This is a step towards ensuring that the product that reaches the market is of the highest quality and safety and will:

- ✓ Improve market surveillance of manufacturers samples
- ✓ Ensure cables are distributed to the highest standards
- ✓ Ensure cables are of the highest quality and safety when certified by BASEC

Companies that distribute cables, regardless of the size, are encouraged to sign up. Becoming a BASEC Stockist gives you the advantage to display the BASEC mark, a symbol to give confidence to your customers, as proof you have met the scheme's requirements.



BASEC provides certifications and approvals to all global cable standards



Global range of cable standards

BASEC's rich British heritage means we are well versed in certifying and approving to British and European standards. In order for you to manufacture, supply, or install cable, we understand that there is a vast number of local standards across the global that you may need support in complying and obtaining approvals for.

Our business has been set up to cater to your requirements with dedicated teams in each of the following regions:

Geographical standards and the coding prefixes to look out for:

UK & Ireland

British (BS)
Irish (IS)

Europe & Rest of World

Brazilian (ABNT/NBR)
Canadian (CSA)
European (EN)
French (NF)
German (DIN/VDE)
Italian (UNI)
Norwegian (NEK)

Asia

Australian (AS)
Indian (BIS)
Indonesian (SNI)
Malaysian (MS)
New Zealand (NZS)
People's Republic of China (GB/T)
Singapore (SS)
Taiwan (CNC)
Thailand (TIS)

Middle East & Asia

Gulf Cooperation Council (GSO)
South Africa (SANS)
United Arab Emirates (ESMA)

International

IEC / IEEE / ISO



Common standards for the differing cable applications

Building Wire

Standards for harmonised and final building circuits in buildings using PVC or low smoke halogen free (LSHF) variations – single core and multicore, for fixed and flexible applications.

Low voltage power

Applicable to all types of armoured and non-armoured PVC, XLPE, elastomeric, LSHF and MDPE sheathed single and multicore variants.

Medium & high voltage

Applicable to armoured and non-armoured cables with PVC and other polymeric insulated cables for use across distribution and generation utilities.

Flexible

Arctic-grade, HAR scheme (where applicable), light, ordinary and heavy duty, at high and low temperatures - PVC, PCP, PU, LSHF, sheathed variants.

Data and telecoms

Applicable to all cable types involved in the transmission of data and telecommunications networks – including LSHF variants.

Control and instrumentation

Used in the control and monitoring of plant processes linked to their power systems – armoured, screened, non-armoured and lead sheathed variants.

Fire test performance

Mineral insulated (bare or served), armoured power, armoured control, fire alarm, emergency lighting, evacuation alarm, single core and multicore cables - small scale flame propagation, large scale ladder.

Fire test standards

Standards for fire, with or without direct or indirect shock, with or without water spray or jet, mounted bare, or in conduit, or on fire resistant board, flame temperatures from 500C to 1000C; various performance grades; monitoring of circuit integrity or data transmission.

Renewables- PV solar cables

Used to interconnect PV panels together and to connect the PV panels to the inverter, it will be subjected to DC voltage.

EV charging cables

Used for EV charging by connecting the charger with the charging point at the EV, different types of charging modes (Mode 1, Mode 2, Mode 3, and Mode 4).



The rigour of BASEC's testing, coupled with the experience of our team, offers you reassurance that any cable tested and approved by BASEC is fit for purpose, safe to use and will deliver long-term reliability.

Typical Standards

Building Wire

BS 6004 / BS 7211 / BS EN Series / IEC 60227-3 / IEC 60227-4 / BS 8436 / I.S.201-4 / IS 694 (India)

Low voltage power

BS 5467 / BS 6724 / BS 7846 / BS 7889 / BS 8573 / BS 8436 / IEC 60502-1 / I.S.273 / CSA C22.2 / NF C32

Medium & high voltage

BS 6622 / BS 7835 / BS 7870 series / IEC 60502-2 / IEC 60840 / I.S.273 / CSA C22.2 / NF C32

Flexible

BS 6004 / BS EN 50525 series / IEC 60227-5 / IEC 62821-3 / AS/NZS 3191

Data and telecoms

IEC 11801 / BS EN 50173 / ANSI TIA 568

Control and instrumentation

BS 6231 / PAS 5308 / IEC 60227-6 / IEC 60227-7 / BS EN 50288-7

Fire test performance

BS 7629-1 / BS 7846 / BS EN 60702-1 and IEC 60702-1 / BS 5839-1 / SS 299-1

Fire test standards

BS EN 50399 / BS EN 60332-3 / BS 6387 / BS EN 50200 / BS 8434-2 / BS 8491 / BS EN 61034 / BS EN 60754 / IEC 60331 and 60332

Solar cables standards

EN 50618, IEC 62930

EV cables standards

EN 50620, IEC 62893 series

BASEC
BRITISH APPROVALS SERVICE FOR CABLES



For more information or a quote get in touch

+44 (0)1908 267300

mail@basec.org.uk www.basec.org.uk

