

APPLICANTS AND MANUFACTURERS GUIDANCE

# EMIRATES CONFORMITY ASSESSMENT SCHEME (ECAS): ECASEx COMPLIANCE

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# EXECUTIVE SUMMARY



The Government of the United Arab Emirates decreed that as a measure of protecting its citizens and property and implementing measures to control electrical equipment, sub-assemblies, or components to be installed in potentially explosive atmospheres (Electrical Equipment for Ex), it has taken the decision to introduce mandatory regulatory controls.

Intertek has produced this document as a guide and to assist manufacturers, importers, or agents who intend to import Electrical Equipment for Ex installation into the country of the United Arab Emirates (U.A.E.).

In August of 2017 the (U.A.E.) Ministry for Commerce and Industry issued government order No. 23 from which Articles give direction for new regulations to be introduced under the program now known as the 'Emirates Conformity Assessment System Ex' (ECASEx).

Emirates Standards & Metrology Authority (ESMA) is the regulatory body appointed by the (U.A.E.) Government to manage the program.

This conformity assessment approach is based on meeting the procedures and rules as defined within IECEx scheme rules as defined within IECEx OD 01 and IECEx OD 02 for the certification of electrical products intended for use in potentially explosive atmospheres.

By adopting this approach, the ECASEx program utilizes IEC Standards as a means of supporting regulation for safety requirements. A presumption of conformity is said to be met by meeting the requirements of the IECEx scheme in full, including mandatory factory site Quality Assessment Reports (QARs).

Intertek is an accredited Notified Body (NB0007) by ESMA to conduct Certification activities under the ECASEx program. As a leading global Assurance, Testing, Inspection, and Certification provider, Intertek can offer Global Market Access services for the (U.A.E.) ECASEx program via application to/by Intertek's network of Ex laboratories and Ex Certification Bodies.

## SCOPE OF TECHNICAL REGULATIONS

The Technical Regulation applies to any device that uses electricity for use in a potentially explosive atmosphere. This includes equipment for generation, transmission, distribution, storage, measurements, controls, processing, and consumption of electricity and telecommunication equipment.

Components, understood as part of electrical construction, which should not be used alone in an explosive atmosphere and require an additional certification when incorporated into an electrical construction or electrical systems for potentially explosive atmospheres, are also covered by this Technical Regulation.

### Mandatory Standards in Support of this Regulation

- IEC 60079-0 (Explosive atmospheres - Part 0: Equipment - General requirements)
- IEC 60079-1 (Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures 'd')
- IEC 60079-2 (Explosive atmospheres - Part 2: Equipment protection by pressurized enclosures 'p')
- IEC 60079-5 (Explosive atmospheres - Part 5: Equipment protection by powder filling 'q')
- IEC 60079-6 (Explosive atmospheres - Part 6: Equipment protection by oil immersion 'o')
- IEC 60079-7 (Explosive atmospheres - Part 7: Equipment protection by increased safety 'e')
- IEC 60079-11 (Explosive atmospheres - Part 11: Equipment protection by intrinsic safety 'i')
- IEC 60079-13 (Explosive atmospheres - Part 13: Equipment protection by pressurized room 'p')
- IEC 60079-15 (Explosive atmospheres - Part 15: Equipment protection by type of protection 'n')
- IEC TR 60079-16 (Electrical apparatus for explosive gas atmospheres - Part 16: Artificial ventilation for the protection of analyser (s) houses)
- IEC 60079-18 (Explosive atmospheres - Part 18: Equipment protection by encapsulation "m")
- IEC 60079-19 (Explosive atmospheres - Part 19: Equipment repair, overhaul and reclamation)
- IEC 60079-25 (Explosive atmospheres - Part 25: Intrinsically safe systems)
- IEC 60079-26 (Explosive atmospheres - Part 26: Equipment with equipment protection level (EPL) Ga)
- IEC 60079-27 (Explosive atmospheres - Part 27: Fieldbus intrinsically safe concept (FISCO))
- IEC 60079-28 (Explosive atmospheres - Part 28: Protection of equipment and transmission systems using optical radiation)
- IEC 60079-29-1 (Explosive atmospheres - Part 29-1: Gas detectors - Performance requirements of detectors for flammable gases)
- IEC 60079-29-4 (Explosive atmospheres - Part 29-4: Gas detectors - Performance requirements of open path detectors for flammable gases)
- IEC 60079-30-1 (Explosive atmospheres - Part 30-1: Electrical resistance trace heating - General and testing requirements)
- IEC 60079-31 (Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t")
- 60079-35-1 (Explosive atmospheres - Part 35-1: Caplights for use in mines susceptible to firedamp - General requirements - Construction and testing in relation to the risk of explosion)
- IEC 61241-0 (Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements)
- IEC 61241-1 (Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures 'tD')

## DEFINITION OF TERMS

- **ECAS** – Emirates Conformity Assessment Scheme.
- **ESMA** – The Emirates Authority for Standardization and Metrology; UAE standards body as mandated by Federal Law No. 28. The sole government authority body responsible for implementing ECAS requirements.
- **ECAS Certificate of Conformity** – a certificate of conformity is issued to the product complying to a relevant UAE Standard/s or ESMA-recognized national, regional, or international standards.
- **Emirates Quality Mark (EQM)** – quality mark granted by ESMA indicating the given product complies with the requirements in the approved standards.
- **Mark** – any illustration, symbol, stamp, engraving, or picture appearing on the product which indicates that the product complies with requirements of the standard issued by ESMA or international standards body.
- **Product/s** – any equipment, system, or part which is included in the list of regulated products under this regulation.
- **Supplier** – the manufacturer, importer, including storage operator, wholesale and retail, and any other relevant processes or professionals in the supply chain who may impact the product, or any representative.
- **Conformity Assessment** – any activity to determine directly or indirectly that a process, product, or service meets relevant standards or regulation and fulfils all relevant requirements.
- **Recognized Conformity Assessment Body** – a competent body recognized by ESMA to carry out factory inspection and/or product testing.
- **Approved Standard** – product standard approved by ESMA to be used in verifying conformity of a product.
- **Conformity Certificate** – A certificate issued by a Notified Body to a product ensuring the product complies with scheme requirements.
- **IECEx** – internationally recognized scheme of approving products used for potentially explosive atmospheres.
- **ExCB** – certification body recognized by the IECEx Scheme.
- **IECEx Approved Testing Laboratory** – testing facility recognized under the IECEx Scheme.
- **ExTR** – a test report issued by an IECEx Approved Testing Laboratory.

- IEC 61241-1-1 (Electrical apparatus for use in the presence of combustible dust - Part 1: Electrical apparatus protected by enclosures and surface temperature limitation - Specification for apparatus)
- IEC 61241-4 (Electrical apparatus for use in the presence of combustible dust - Part 4: Type of protection 'pD')
- IEC 61241-11 (Electrical apparatus for use in the presence of combustible dust - Part 11: Protection by intrinsic safety 'iD')
- IEC 61241-18 (Electrical apparatus for use in the presence of combustible dust - Part 18: Protection by encapsulation 'mD')
- IEC 61779-1 (Electrical apparatus for the detection and measurement of flammable gases - Part 1: General requirements and test methods)
- IEC 61779-2 (Electrical apparatus for the detection and measurement of flammable gases - Part 2: Performance requirements for group I apparatus indicating a volume fraction up to 5% methane in air)
- IEC 61779-3 (Electrical apparatus for the detection and measurement of flammable gases - Part 3: Performance requirements for group I apparatus indicating a volume fraction up to 100% methane in air)
- IEC 61779-4 (Electrical apparatus for the detection and measurement of flammable gases - Part 4: Performance requirements for group II apparatus indicating a volume fraction up to 100% lower explosive limit)
- IEC 61779-5 (Electrical apparatus for the detection and measurement of flammable gases - Part 5: Performance requirements for group II apparatus indicating a volume fraction up to 100% gas)
- IEC 62013-1 (Caplights for use in mines susceptible to firedamp - Part 1: General requirements - Construction and testing in relation to the risk of explosion)
- IEC 62013-2 (Caplights for use in mines susceptible to firedamp - Part 2: Performance and other safety-related matters)
- IEC 62086-1 (Electrical apparatus for explosive gas atmospheres – Electrical resistance trace heating – Part 1: General and testing requirements)
- IEC 80079-34 (Explosive atmospheres - Part 34: Application of quality systems for equipment manufacture)

# MANUFACTURER RESPONSIBILITIES

## RESPONSIBILITIES OF SUPPLIER

At all times, it is the responsibility of any supplier to have their products approved by an appointed Notified Body and ensure that products continuously comply with the requirements defined in this Technical Regulation.

### Application criteria requirements

- List of applied standards showing which conformity assessment the equipment meets
- Management system according to ISO 9001 and ISO/IEC 80079-34
- Product documentation that meets IECEx Operational Document OD 017 requirements
- IECEx-recognized test report (ExTR) issued by an appointed test laboratory (ExTL) accompanied by an Ex certificate issued by an appointed ExCB
- IECEx Test Reports and IECEx Certificates not more than 3 years from date of issue are considered valid.
- Manufacturers' Quality Management System verified in accordance with IECEx OD 24 Quality Assurance Report (QAR)

### Documents required to be submitted or Registration of Products

- Signed application form and certification agreement
- Manufacturer's Quality Management System Manual according to ISO 9001 and ISO/IEC 80079-34
- IECEx Test Report and Ex Certificate
- Valid UAE Industrial or Commercial License (Importers/Agents)
- Manufacturer and/or Importer Declaration of Conformity and a declaration that product is mass produced (no period here)
- User/installation manual (Arabic & English language)
- Engineering drawings/electrical schematic diagrams
- BOM (Bill of Materials)
- Nominal characteristics of product and type of protection
- Valid QAR (Quality Assurance Report)

**Note:** ECASEx Certificate is valid for 3 years and is subject to an annual surveillance visit.

# ECASEx CERTIFICATION

Intertek shall certify the Ex equipment for safety requirements based on the IECEx scheme and the specific requirements of these Technical Regulations and referenced Standards. On successful review of the client’s supporting technical documentation, an ECASEx certificate of conformity shall be issued with a validity period of three (3) years subject to an annual factory visit (QAR).

ISO/IEC 17065 Critical work flow process:

- Quotation phase
- Application Review (Certification Plan)
- Evaluation (Testing)
- Certification Review
- Certification Decision

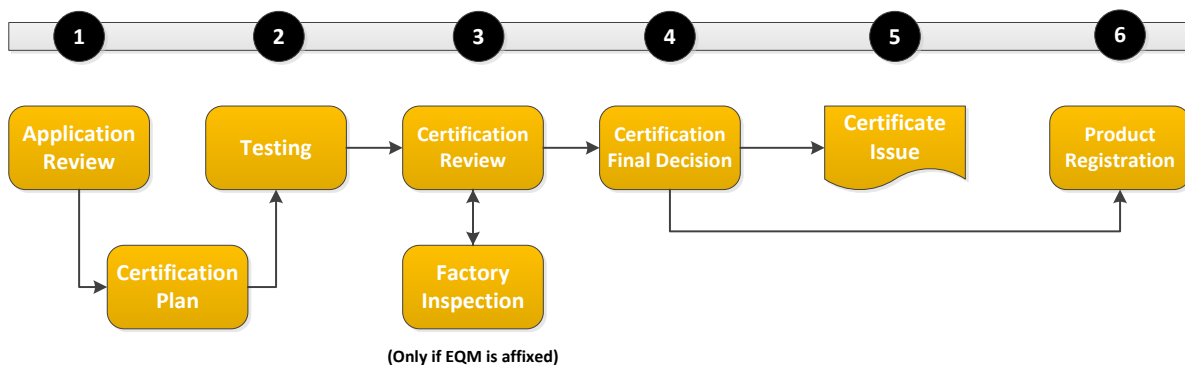
Intertek shall conduct the certification process in accordance with ISO/IEC 17065 mandatory work flow and IECEx ODO1 and ODO2 as indicated in Fig 1.0 below and shall be obliged to conduct an annual technical review and IECEx QAR based on changes to:

- Type - Certified Product
- Revision of IEC standards (Safety)

All certified product shall undergo a full re-test, inspection, and certification at the 3-year point from the date of issue of supporting test reports.

**Figure 1.0: Intertek’s test/certification program for Issuance of ECASEx Certificate of Conformity**

**Fig 1.0: Intertek Internal Certification Process Flow – ISO / IEC 17065 (Ex Equipments)**



**PRODUCT REGISTRATION PROCEDURE**

Ex equipment shall be registered after confirmation that the product is compliant with the requirements of the relevant IEC or (U.A.E.) Standard and by this Technical Regulation. Where the results of test showed that the product is not compliant with the requirements, the client needs to rectify the observed non-compliance(s) and can reapply once rectification is made.

An ECASEx Certificate of Conformity shall be issued upon the fulfilment of all the requirements laid out within this Technical Regulation.

The Notified Body for the ECASEx program shall register the issued certificate onto the ESMA Certificate Registration Database

**Note:** Manufacturers/importers/agents can apply for an ECASEx Certificate of Conformity through the above or any Intertek Electrical & Network Assurance location.

**INTERTEK ACCEPTANCE OF THIRD PARTY TEST REPORTS & CERTIFICATES**

Intertek will accept third party test reports providing that the following conditions are met:

- The report is issued by an IECEx ExTL and Ex certificate by an ExCB, and the report and accompanying certificate is not older than 3 years from the date of issue.
- The reference standards used within the third party report are IEC standard that on review is deemed valid by the Notified Body and covers the national deviations defined within ECASEx Regulation for Electrical Ex Equipment placed onto the market in the U.A.E.
- The reference standards used aren't within one (1) year of being superseded.

Reference standard(s) and protection concepts used are representative of the product and deemed suitable by Intertek.

Upon satisfactory completion of the Testing and Certification or sole Certification program, Intertek shall issue to the customer the ECASEx Certificate of Conformity, which authorizes the applicant also to apply and use the Emirates Quality Mark.

**ECASEx Conformity Marking**

The license to use the ECAS Mark of Conformity (ECAS Mark) is given to companies manufacturing certified products. Below are examples of the ECAS mark to be affixed to certified product. The numerals indicate which Notified Body authorised the use of the mark. The Intertek Notified Body unique reference number is NB-0007.



**INTERTEK ECAS NOTIFIED BODY & SUPPORTING CERTIFICATION BODY LOCATIONS**

**ECAS NOTIFIED BODY**

**Intertek International Ltd Dubai Branch**

Millennium Plaza Tower, 14th & 15th Floors

Sheikh Zayed Road

P.O. Box 26290

Dubai, U.A.E.

Tel: +971 (4) 3178777

Fax: +971 (4) 3316883

**ECAS PROGRAMS – GLOBAL LOCATIONS & CONTACT INFORMATION**

**EUROPE, THE MIDDLE EAST, AND AFRICA**

[intertek.com/contact/ema/](http://intertek.com/contact/ema/)

**NORTH AND SOUTH AMERICA**

[intertek.com/contact/americas/northandsouthamerica/](http://intertek.com/contact/americas/northandsouthamerica/)

**ASIA PACIFIC**

[intertek.com/contact/asiapacific/](http://intertek.com/contact/asiapacific/)



**Conformity marking enforcement timelines:**

Activity	Enforcement Dates
Enforcement of affixing of ECAS Conformity Mark	01 March 2018
Market Surveillance check for correctly-marked certified products	01 March 2018
Self-adhesive labels on Certified Products placed in U.A.E. market	Until December 31, 2018
Enforcement of Printed ECAS Mark (no separate adhesive labels permitted)	January 1, 2019

- The ECASEx Certificate of Conformity shall make reference to the representative ECASEx product characteristics and supplied supporting Technical File in respect to being written in the English language.

**ECASEx Certificate of Conformity, Modification, and Renewal Process**

On a design modification to the product such as a component change, the addition of an alternative component, the addition of new models to the existing certificate, or a change in the manufacturing process which affects the safety or performance of the product, the manufacturer shall in all cases contact the issuing Notified Body. Per that process, the product shall in all cases undergo a Certification Review and Certification Decision to determine that requirements are met.

Per the requirements of the ECASEx Program, Intertek shall contact the client prior to the 3-year ECASEx validity expiry date to verify and confirm that Certificate Renewal is required. If renewal is required:

- The product and Technical File shall undergo a design and technical review to ensure that the Essential Safety Requirements are still being met (One sample required for evaluation)
- The reference standard(s) used for Ex concepts with regards to safety giving a presumption of conformity.
- If no technical changes to the reference standard(s) that affect the product are noted, ECASEx Certificate of Conformity shall be issued – (e.g., new certificate, ECASEx registration database updated, etc.)
- If technical changes to ECASEx Certificate of Conformity are identified either through a design change or due to technical changes in the reference standard(s), the product may be required to be submitted for either full or limited scope of testing
- ECASEx Certificates of Conformity not required beyond the one (1) year validity date shall be withdrawn and the ECASEx registration database updated
- In the event of technical changes to standard(s) which affect safety during the Certificate of Conformity validity period, the applicant will be informed of the technical changes and advised of the appropriate actions to take.

**Misuse of the ECASEx Certificate of Conformity/Emirates Quality Mark and Penalties for Non-Compliance**

Intertek reserves the right to suspend and/or terminate certification based on misuse of the ECASEx Certification in the case of, but not limited to:

- Non-payment of fees
- Altering or defacing the issued Certificate of Conformity
- Placing onto the market a model which has not been ECASEx approved and bears the ECAS EQM
- Placement of non-conforming product onto the market
- Product identified by market surveillance as non-conforming
- Product found to be non-conforming on submittal to a Notified Body for verification of conformity

**Note:** Full terms can be found in the Certification Agreement; these terms are accepted upon signing of the Certification Application Form.

### Technical File Maintenance

Intertek recognizes that changes to a product or manufacturing process can happen at any time. However, the applicant is advised that if design changes are made which warrant document updates, Intertek should be advised, as this makes the technical file review in relation to the product build much easier when carrying out a certificate renewal or when conducting subsequent technical reviews.

## CHALLENGES FOR MANUFACTURERS

Manufacturers/importers/agents within the electrical/electronic industry who import Electrical Electronic Equipment and Devices into the United Arab Emirates are currently experiencing a market/regulatory transition – from requirements to lower their products’ energy consumption levels to achieve greater energy efficiency to regulations enforcing the use of more environmentally-friendly materials in tandem with numerous new testing procedures to certify compliance. All of these changes will consume R&D and engineering talent, involve the dedication of additional time and resources as well as potential investments in product redesign, and require attention to new testing procedures in order to ensure product compliance by the specific dates. Manufacturers/importers/agents may need to source new materials, pursue new safety certifications, reassess their entire manufacturing process, and re-test units – all potentially time-consuming and tedious processes required to ensure that their product is compliant by the specified deadlines.

As part of a proactive response to these industry dynamics, manufacturers/importers/agents are encouraged to plan for the changes by understanding the new standards and procedures required by regulatory bodies, how they apply to their products, and whether their products do or don’t comply. As such, manufacturers are encouraged to be proactive to help ensure a smooth, accurate, and executable transition to the new standards/regulations as well as to plan out the necessary redesign and/or certification activities they’ll need to undertake to ensure their product’s compliance and ability to be placed in the U.A.E. market.

## INSPECTION AND MARKET MONITORING

- Ex Equipment is being inspected at Port of Entry. Only consignments having valid ECASEx Certificates and valid EQM are allowed to enter the country.
- Consignment without the ECASEx Certificate of Conformity can be held in quarantine. Ports and Customs authority shall coordinate with ESMA whenever a consignment without ECASEx certificated is observed. Appropriate action shall then be taken by both ESMA and the Ports and Customs Authorities.
- Products manufactured in U.A.E. are monitored in the factory, warehouses, and in retail shops. Only products with ECAS Registration are allowed to be traded in the U.A.E.
- Registered products being delivered to U.A.E. shall be inspected to ensure continuous compliance. ESMA reserves the right to inspect and conduct inspection of the product being distributed in the market. ESMA shall conduct a regular monitoring of product where ESMA shall take samples either at the retail shops or the manufacturer’s warehouse for independent testing. The result of the test(s) shall be the basis whether to continue or stop the registration of the product.
- ESMA also reserves the right to conduct factory inspection at any time to ensure full compliance of the product. Among other things, the factory inspection shall include the process and verification of the product and the manner in which the product is carefully inspected and handled.
- All fees related to market sampling and testing shall be paid by the manufacturer/supplier.

## MARKET ACCESS TO THE UAE THROUGH ECAS AND EQM

The ECAS program scope includes multiple industry sectors from Electrical, Electronic, and Gas Appliances, Machinery, Automotive, Building and Construction, Cosmetics, and Food in the form of issued technical regulations, under the ECAS banner and regulated by the appointed government body, Emirates Authority for Standardization and Metrology (ESMA).

Intertek has been appointed in the UAE as a Notified Body for for Low Voltage Equipment (LVE), Energy Efficiency Standards Labelling (EESL), lighting regulation, regulation for restriction of hazardous substances (RoHS) and equipment used in explosive atmospheres (ECAS Ex), Cosmetics, Perfumery and Personal Care Products (TR UAE GSO 1943) and is authorised to issue the mandatory Certificate of Conformity and/or Quality Mark on behalf of ESMA.

Visit our [website](#) to download guidance documents on the following ECAS regulations:

- Low Voltage Equipment (LVE)
- Energy Efficiency Standards Labelling (EESL)
- Lighting Regulation
- UAE Regulation for Restriction of Hazardous Substances (RoHS)
- ECAS Ex (Regulation of equipment used in Explosive Atmospheres)
- ECAS for Cosmetics and Perfumery Products

Intertek offers a variety of [Conformity Assessment Programmes](#) worldwide to ensure that products are fully tested in a recognised laboratory and a certificate issued before they are shipped to the client country.

### **THE CRITICAL ROLE OF THIRD PARTY QUALITY ASSURANCE**

In the changing U.A.E. market for electrical equipment, sub-assemblies, or components to be installed in potentially explosive atmospheres, the ability for a manufacturer/ importer/ agent to certify that its products comply with all relevant UAE.S standards helps meet corporate sales targets and assures end users that those products comply with performance, safety, and energy standards and are qualified for specific end-use applications. Because specific standards and submission procedures can be very tedious and precise to administer but are highly critical to a company's growth and sales objectives, manufacturers/ importers/ agents are advised to avail themselves of a skilled third-party testing organization with expertise in the standards-setting, testing, and compliance processes to ensure maximum success.

Accredited third-party safety and performance testing organizations like Intertek can help take the guess-work out of the all-important process of testing and the pursuit and successful achievement of compliance. Intertek's possession of and investment in the highest-tech and most precise and capital-intensive testing equipment ensures consistent testing procedures and accurate results, while their demonstrated expertise in the unique details and current requirements of all industry certification programs and initiatives globally assures manufacturers/importers/agents of the utmost in quality coverage and representation. Along with the relationships they've established with all of the industry's key certifying organizations over the years, Intertek's exceptional understanding of and experience with the broad range of products, industries, standards, and testing procedures worldwide can proactively support a manufacturer's compliance while delivering security and peace of mind to both manufacturers and customers alike.





TOTAL QUALITY. ASSURED.

Intertek is a leading Total Quality Assurance provider to industries worldwide. Our network of more than 1,000 laboratories and offices and over 43,000 people in more than 100 countries, delivers innovative and bespoke Assurance, Testing, Inspection and Certification solutions for our customers' operations and supply chains. Intertek Total Quality Assurance expertise, delivered consistently with precision, pace and passion, enabling our customers to power ahead safely.

#### FOR MORE INFORMATION



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