



**Explosive  
atmospheres**

**IECEx**

International Electrotechnical Commission

# IECEX – Explosive atmospheres

## One-stop shop for access to international markets

**You manufacture electrical equipment for use in explosive atmospheres.**

**You want to reach international markets at minimal cost.**

**You want one test, one certificate and one mark.**

**You need the IECEX.**

## What is it?

The IECEX is a global certification scheme based on standards of the International Electrotechnical Commission. It caters for differing countries whose national standards are either identical to those of the IEC or else very close to IEC standards



The IECEX is truly global in concept and practice, reduces trade barriers caused by different conformity assessment criteria in various countries, and helps industry to open up new markets. The goal is to help manufacturers reduce costs and time while developing and maintaining uniform product evaluation to

protect users against products that are not in line with the required level of safety.

As many countries have their own national standards and certification schemes, the movement of Ex equipment between countries is often impeded by the need to re-certify or re-test regardless of previous assessments, which adds to the final cost. Time is wasted by mostly formal, not technical approval procedures, which delays final market access. The aim of the IECEX is to ease international trade of Ex equipment by

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eliminating the need for duplication of testing and certification. It is a voluntary scheme that provides an internationally accepted means of proving that products have been:

- independently tested; and
- produced under strict quality controls audited and under surveillance by an independent IECEx Certification Body.

All this to ensure product compliance with IEC standards.

## **Where do you commonly find Ex equipment?**

Flammable gases, vapours and mists, as well as combustible dusts create potentially explosive atmospheres. So Ex equipment is commonly found within:

- Automotive refuelling stations or petrol stations
- Oil refineries, rigs and processing plants
- Chemical processing plants
- Printing industries, paper and textiles
- Hospital operating theatres
- Aircraft refuelling and hangars
- Surface coating industries
- Underground coal mines
- Sewerage treatment plants
- Gas pipelines and distribution centres
- Grain handling and storage
- Woodworking areas
- Sugar refineries
- Metal surface grinding, especially aluminium dusts and particles

## **Why should I be interested in the IECEx?**

Testing and assessment of Ex products is more complex and time consuming than non-Ex products and thus more costly. The typical time to achieve national certification is 12 months or more. The IECEx Scheme provides two services:

- a) a "fast track" process to achieving certification at national level via IECEx Test Reports, which are accepted by all IECEx Certification Bodies when they issue their national certification.
- b) an International Certificate of Compliance for direct access to markets that do not require separate national certification.

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IECEX Certificates of Conformity are issued online from the IECEX website. These electronic certificates can be viewed, downloaded and printed by anyone with a responsibility or interest in Ex installation safety.



The awarding of an IECEX Certificate of Conformity is a significant achievement for manufacturers, one that provides global recognition of both the product's compliance with IEC standards and the manufacturer's capability to produce in a consistent manner products that meet these globally recognized standards.



Manufacturers not only earn the certificate but must continuously demonstrate that their quality control measures comply with the stringent requirements of the IECEX Scheme with on-going surveillance assessments and audits by IECEX Certification Bodies.

Achieving and maintaining

IECEX Certification sets manufacturers well above the rest. All this leads to a single certification system that is rapidly gaining recognition as the international "centre of excellence" in this specialized field of explosion protection.

The IECEX Scheme's Management Committee manages the operation of the scheme and comprises of members referred to as "participating countries" each with a say in the running of the Scheme.

The IECEX Scheme is also gaining recognition by industries in non-participating countries as well since they understand the benefits the Scheme has to offer. This eliminates multiple product testing and assessment, which removes significant delays and costs, thus allowing industry to be faster and cheaper to market with its products. At the same time, end users can be sure that the product meets minimum, high-quality standards, and need not be concerned with further testing or evaluation of the product.

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## How does it work?

Take the example of a flameproof electric motor manufactured in Germany and destined for use in oil refineries. The manufacturer sends the motor to a German laboratory, which tests it for conformity to IEC standards. The lab conducts the necessary quality audit, based on ISO 9001 requirements, and through their IECEx accepted certification body (ExCB) issues an IECEx Test Report (ExTR) and an IECEx Quality Report (QAR). This makes the manufacturer eligible for an IECEx Certificate of Conformity via the IECEx online certificate system.

The manufacturer now wishes to sell the motor in Australia, Canada and in China. Given that the regulations and standards in Australia accept IECEx Certificates, the German manufacturer sells his product without any further assessment. However for Canada and China local national certification is required. Therefore the manufacturer sends the IECEx documents (ExTR and QAR) to a Canadian and a Chinese certification body in the IECEx Scheme (refer to IECEx website for current listing). The Canadian and Chinese bodies each issue a certificate without testing the equipment because they recognize the German ExCB as one of their peers in the IECEx and have full confidence in the testing and assessment that has already been done. The German manufacturer may now affix the national mark of conformity of the Canadian and Chinese bodies to the motor and is free to export it to both Canada and China.



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## How can I find out more?

Please visit the IECEx website at [www.iecex.com](http://www.iecex.com).  
You may also contact the IECEx secretariat at the following co-ordinates:

Mr Chris Agius  
IECEx Secretariat

286 Sussex Street  
Sydney NSW 2000  
Australia  
Tel: +61 2 8206 6940  
Fax: +61 2 8206 6272  
E-mail: [chris.agius@iecex.com](mailto:chris.agius@iecex.com)  
Web: [www.iecex.com](http://www.iecex.com)

For further information



**International Electrotechnical  
Commission**

3, rue de Varembé, PO Box 131,  
CH-1211 Geneva 20,  
Switzerland  
Telephone: +41 22 919 0211  
Telefax: +41 22 919 0300  
E-mail: [info@iec.ch](mailto:info@iec.ch)  
Web: [www.iec.ch](http://www.iec.ch)