TÜV SÜD

**Add value.
Inspire trust.**

Explosion protection – ATEX and IECEx

Manufacture explosion-proof equipment and systems to world-class safety requirements.

Your challenges

Combustible dusts and flammable gases, mists or vapours can all contribute to potentially explosive atmospheres in the workplace. For this reason, equipment and systems that are used within or in conjunction with these environments must conform to specific safety requirements. These requirements apply to all explosion-proof equipment and systems including safety, control and regulation devices, and protective components, equipment and systems.

Companies that manufacture explosion-proof equipment and systems for the global market must conform to local standards, while the requirements of the ATEX Directive apply to products intended for the European market. To ensure market access with significantly shorter lead times, it's important to work with a partner that offers a complete one-stop solution for all of your testing, inspection, certification and training requirements, right from the design stage.

What are ATEX and IECEx?

The ATEX Directive is a mandatory requirement within the EU. It establishes a legal framework that manufacturers of products follow to protect employees and property from explosion risk in potentially explosive areas.

IECEx is a system that facilitates international trade in equipment and services for use in explosive atmospheres. It is a worldwide mandatory standard to ensure explosion-proof equipment and systems are safe for use in countries that participate in the IECEx system. IECEx has several Conformity Assessment Systems, one of which is the IECEx Certified Equipment Scheme for equipment and systems. This provides assurance that the products and systems are manufactured and operated according to the highest international standards of safety. To be validated against the IECEx Certified Equipment Scheme, manufacturers need to obtain the Certificate of Conformity (CoC), validation of the technical report (ExTR) and the quality assurance report (QAR).

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Why are ATEX and IECEx good for your business?

Within the European market, manufacturers of explosion-proof equipment and systems must conform to the compliance requirements of the ATEX Directive. For manufacturers participating in the international market, IECEx compliance is a regulatory standard for testing explosion-proof equipment and systems. The test reports of IECEx can directly enable manufacturers to access many other markets worldwide.

How can we help you?

TÜV SÜD's range of services is one of the widest in this sector. Our state-of-the-art laboratories are fully equipped to carry out a range of ATEX and IECEx tests for explosion protection and electromagnetic compatibility (EMC), mechanical and electrical safety, dust and contamination control, environmental simulation, Highly Accelerated Life Test (HALT) and Highly Accelerated Stress Screen (HASS).

Our testing services for ATEX and IECEx

- **ATEX services**

  TÜV SÜD assists manufacturers of equipment, safety/control and regulation devices as well as components to conform to the requirements of the ATEX Directive. We support manufacturers in classifying their products to equipment type, equipment category and other classification requirements found within the Directive.

  As a Notified Body, TÜV SÜD and its partners are able to validate your product's design and issue the required EU Type Examination Certificate to Annex III or a Certificate acc. to Annex IX of the Directive 2014/34/EU. For various product categories, we can also support you with conformity assessments to Annex IV, V, VI, VII

and VIII. In accordance with the requirements of the Directive, our experts support the documentation and localisation of safety procedures for explosive-proof equipment and systems. This documentation extends beyond the operational manual and covers all the requirements of the intended use.

- **IECEx services**

  We test and assess samples for compliance with IEC Standards & Assessment. Once compliance is established, we issue a Test and Assessment Report (ExTR). We also audit manufacturers' facilities and quality system. This includes ISO 9001 assessment and an additional audit according to ISO/IEC 80079-34 Edition 1. To save time, both of these audits can be carried out in one single combined audit. Our experts can also conduct ongoing surveillance audits of your facilities and quality system.

  To add value to your business, the IECEx Certified Equipment Scheme operates an online certificate system. All electronic certificates issued are maintained on the IECEx website, enabling full public access for viewing and printing. Once your business achieves IECEx certification, potential customers can view your certificate to verify your conformity with IECEx. This serves to increase your brand's visibility and enhances your international reputation.

Understanding the difference between IECEx and ATEX

The many differences between ATEX and IECEx can be confusing to manufacturers looking to enter certain markets. For ease of reference, the table on the adjacent page highlights some of the major distinctions.

CATEGORIES	IECEx	ATEX DIRECTIVE
ORGANISATION / MANAGEMENT	▪ Industry representatives: manufacturers, Certification Bodies, explosive equipment end users, regulators and other industry watch groups	▪ Government regulatory body: EU Commission
AIM	▪ Single certification recognised worldwide to certify that hazardous products and services are tested and safe to use	▪ A single compliance standard to promote trade throughout the EU ▪ Ensure safety for explosion-proof equipment and systems, as well as workers using such volatile equipment
VALIDITY / LEGAL	▪ Products with an IECEx certificate are accepted in several countries ▪ Alternatively, a single test report (ExTR) under the endorsement of an EXCB can be sent to any IECEx certifier to issue locally accepted certification	▪ ATEX is the compliance requirement for the EU ▪ It is mandatory within the EU and is also gaining recognition in other markets worldwide
FIELD OF APPLICATION	▪ Electrical and non-electrical products and systems ▪ Gas and dust industries ▪ Service industries such as repair and overhaul	▪ Electrical and non-electrical products systems and machines ▪ Gas and dust industries ▪ Equipment only
STANDARDS USED	▪ International standards only (IEC Standards) ▪ Compliance to standards is mandatory	▪ Any standard harmonised to the Directive may be applied, provided it conforms to the essential health and safety requirements of the Directive ▪ The EU commission approves the list of harmonised standards and allows for interpretation ▪ Compliance to standards is not mandatory but is generally used to assess products
CONFORMITY ASSESSMENT	For IECEx certified equipment programme: ▪ IECEx Test Report and Quality Assessment Report lead to an IECEx Certificate of Conformity (CoC) ▪ This is applicable to all products ▪ CoC is issued via the secured IEC website ▪ All CoC are maintained on the site for the validation of your conformity by the public ▪ Self-certification is not permitted	Declaration of conformity by manufacturer stating that it is in possession of necessary documents and reports. ▪ Certificate issued by Notified Bodies only for category 1 / 2 and M 1 / 2 electrical equipment ▪ Self-certification allowed for category 3 and category 2 Mechanical (manufacturers must deposit or store the technical files of this device for 10 years minimum)
	For IECEx certified services: ▪ Facilities Audit Report and assessment of competencies lead to in an IECEx certificate ▪ Applicable to all services ▪ CoC is issued via the secured IEC website ▪ All CoC are maintained on the site for the validation of your conformity by the public ▪ Self-certification is not permitted	▪ Does not cover service facilities
MANUFACTURER SURVEILLANCE	▪ Certified Bodies maintain the status of the IECEx CoC that is based on the outcome of follow up Quality Audits and Quality Assessment Reports	▪ Notified Bodies conduct regular audits on manufacturers
WORKPLACE REQUIREMENTS	▪ Mandatory reference to national regulations	▪ Directive 1999/92/EC contains special requirements for workers and management

Your business benefits

- **Save money** – by avoiding costly rework and reducing operational inefficiencies.
- **Save time** – by minimising time to market via a one-stop service provider that can combine multiple tests and audits.
- **Minimise risk** – by testing your explosion-proof equipment and systems with TÜV SÜD. Even voluntary testing can help you improve quality and safety.
- **Gain a competitive edge** – with a report or certificate from TÜV SÜD that makes your product more marketable to your buyers and their customers.

Why choose TÜV SÜD?

TÜV SÜD is a widely recognised brand with a reputation for quality and safety that has been developed over many years. We can support all your requirements throughout the design, construction and installation of your explosion-proof equipment, machinery and systems. To ensure consistently high service, we assign a dedicated contact person to project manage all of your testing and certification requirements. Our holistic approach achieves the shortest lead times in the industry, giving your business a real competitive edge.

TÜV SÜD's testing experts actively participate in international advisory bodies and standardisation committees to ensure that our assessment criteria are based on the latest findings. In addition, our internal quality systems and comprehensive advanced training measures guarantee that our experts always apply the

most current knowledge and insights. This industry-leading expertise underpins the wide public awareness and first-class international reputation of the TÜV SÜD brand. Beyond confirming the safety of your explosion-proof equipment and systems, our test reports and certificates meet with the highest level of acceptance by authorities and consumers in the EU and around the world.

Add value. Inspire trust.

TÜV SÜD is a trusted partner of choice for safety, security and sustainability solutions. It specialises in testing, certification, auditing and advisory services. Through more than 24,000 employees across over 1,000 locations, the company adds value to customers and partners by enabling market access and managing risks. By anticipating technological developments and facilitating change, TÜV SÜD inspires trust in a physical and digital world to create a safer and more sustainable future.

Related services

TÜV SÜD provides the following related services:
- CE marking on machinery
- Chemical and industrial hygiene sampling
- Component testing and certification
- EMC laboratory and on-site testing
- SEMI® S2
- U.S. and Canada product certification