

Product Certification Services CE Marking under ATEX Directive and IECEx



TÜV NORD GROUP
Excellence for your Business



About TÜV India

With over 14,000 employees, TÜV NORD GROUP is one of the largest independent technical service providers, offering its advisory, service and inspection expertise in over 70 countries throughout the world. Areas of activity include Industrial Services, Infrastructure, Certification, Testing, Product Certification, Mobility, Training, and IT. TÜV NORD GROUP occupies a unique position in the sector based on its work in the fields of natural resources and aerospace and is firmly committed to its guiding principle and watchword: **“Excellence for your business”**.

TUV India Pvt. Ltd. was established in 1989 as part of the TÜV NORD GROUP, one of the first Certification Bodies to start operations in India; since then, it has been closely associated with the quality revolution in India. With over 500 employees in more than 25 locations and laboratories across India, TUV India is never far from its customers.

TUV India offers diverse range of technical services to its large clientele which includes leading corporate houses, public sector organizations, and small and medium scale enterprises.

Broad Areas of ATEX Certification

- There are two ATEX directives (one for the manufacturer and one for the user of the equipment):
 - ATEX equipment directive (2014/34/EU), equipment and protective systems intended for use in potentially explosive atmospheres
 - ATEX workplace directive 1999/92/EC, Minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres

■ What is explosive atmosphere and where it can be?

Explosive atmospheres occur when flammable gases, mist, vapours or dust are mixed with air. The amount of a substance needed to create an explosive atmosphere depends on the substance in question. The area where this possibility exists is defined as a potentially explosive atmosphere. These atmospheres can be found throughout industries, from chemical, pharmaceutical, oil & gas, food, power and wood processing. The areas may also be known as **“hazardous areas”**.

The ATEX DIRECTIVES were adopted by the European Union (EU) to facilitate the free trade between the member states by aligning the technical and legal requirements for products intended for use in potentially explosive atmospheres.

■ Classification of Zone

Areas classified into Zones (0, 1, 2 for gas-vapour-mist and 20, 21, 22 for dust) must be protected from effective sources of ignition.

Equipment and protective systems intended to be used in zoned areas must meet the requirements of the directive.

- **Zone 0/20 requires category 1 equipment:** equipment or protective systems that guarantee a very high level of protection;
- **Zone 1/21 requires category 2 equipment:** equipment or protective systems that guarantee a high level of protection;
- **Zone 2/22 requires category 3 equipment:** equipment or protective systems that guarantee a normal level of protection.

■ In very broad terms, there are three preconditions for the directive to apply the equipment:

- Must have its own effective source of ignition
- Be intended for use in a potentially explosive atmosphere (air mixtures)
- Be under normal atmospheric conditions

■ ATEX DIRECTIVE 2014/34/EU SERVICES



EU Type Examination

EU type examination is the part of a conformity assessment procedure in which a notified body examines the technical design of a product and verifies and attests that the technical design of the product meets the requirements of Directive

EU type examination may be conducted in either of the following manners:

- Examination of a specimen, representative of the production envisaged, of the complete product (production type).
- Valuation of the competence of the technical design of the product through examination of the technical documentation and representative of the production foreseen, of one or more critical parts of the product (combination of production type and design type)
- Assessment of the adequacy of the technical design of the product through examination of the technical documentation, without examination of a specimen (design type)

Production Quality Assurance

To enable the issue of an ATEX product certificate, the manufacturer must also hold a valid Quality Assurance Notification (QAN). The manufacturer must comply with the Directive 2014/34/EU applicable to different zones of the equipment, whether it is planned mass or limited production, and whether you maintain an ISO 9001 compliant Quality Management System.

The ATEX Quality Assurance is a mandatory requirement with a QAN Certificate issued for 3 Years periodically. A surveillance audit will take place approximately every 18 months (12 months if ISO 9001 certification is not held)

Verification of Equipment

Equipment verification under ATEX directive is the process of verifying the design of equipment, as per required specifications.

The Equipment Verification certificate combines a type-examination certificate and product verification certificate.

Steps for verification of equipment:

- Examination and testing of equipment on site by a certification body
- Verification of the quality management process (verify design) of the equipment
- Certificate is issued declaring the one unit that received an evaluation is compliant

Storage of Technical Files

Under the ATEX directive, the technical files should be stored with notified body in electronic media or hard copies as well and is significant in order to retrieve the data in future any time.

ATEX Voluntary Services

Many manufacturers and customers of equipment, find the provision of some form of certification useful, particularly when it is a contract requirement with their own customer.

Where a manufacturer wishes a third party input but without going for certification, a review of the manufacturer's technical file is carried out and a statement of conformity is issued for the technical file review

International Certification System (IECEx) Scheme



The objective of the IECEx System is to ensure international trade in equipment and services for use in explosive atmospheres, while maintaining the required level of safety.

- Reduced testing and certification costs to manufacturer
- Reduced time to market
- International confidence in the product assessment process
- One international database listing
- Maintaining International Confidence in equipment and services covered by IECEx Certification

IECEx System is accepted in many countries and aims to be the world approval system for electrical equipment to be installed in potentially explosive atmospheres.

IECEx is a "Conformity Assessment Tool" providing confidence that products, services and personnel covered by an IECEx certificate meet the specified requirements/ specifications.

• Upgraded safety and enhanced confidence

Enhances the hazard confidence that persons working in Ex environment are well protected from Ex hazards that equipment, installations and systems are manufactured and operated including maintaining in compliance with IEC International Standards.

• UN Confirmation

The United Nations, via UNECE, has confirmed IECEx as the internationally-recognized certification system for promoting the safety of equipment, services and personnel associated with devices, systems and installations used in explosive environments.

• Instant Verification

To verify all issued IECEx Certificates instantly on www.iecex.com or on the IECEx app for tablets and smart phones (iOS and Android)

IECEX Certified Equipment Scheme

- IECEX ExTR (Test Report)
- IECEX QAR (Quality Assessment Report)
- IECEX CoC (Certificate of Conformity)

To Obtain IECEX Certificate

The product manufacturer prepares an application

Submits it to the certification body

Samples of the equipment will be tested by a laboratory

A factory inspection will also be organized to assess manufacturing competences to manufacture products identical to the product tested

Ongoing periodic audits (factory inspections) ensure that the stringent standards are being maintained by the manufacturer over time

Some of the industries covered by the range of ATEX and IECEX System include:

- Refineries including Oil, Gas, Sugar, etc
- Coal Mining
- Gas Pipelines and Distribution centers
- Aviation, Refueling and Hangars
- Automotive Refueling stations or Petrol/Gas stations
- Offshore Platform Rigs and Processing Plants

Why ATEX Certification?

- Fast european market access for your product
- Competitiveness in more markets
- Send a signal to potential clients that safety is your major focus
- Get higher ratings when you are evaluated by retailers and importers
- Improved reliability – market leading third party proof of product conformity

Who can benefit from this certification?

- Manufacturers planning to target global market especially Europe for equipment to be installed in explosive environment
- Manufacturers who believe in manufacturing world class quality product and who want to get it endorsed through a neutral third party & use it as marketing tool

Our Services Portfolio

- Laboratory Services
- Industrial Services
- Automotive Services
- Sustainability Services
- Product Certification
- Management System Certification
- Food Safety Certification and Inspection
- Electrical & Electronics Product Testing
- Training
- IT Services
- Infrastructure
- Renewable Energy

Our Slogan

Making our world safer

TUV India - Product Certification

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