Your Key to Global Market Access

Compliance Testing & Certification Services

In today’s challenging world, the choice of a regulatory testing and compliance service partner can make the difference between success and failure. The global network of technical experts at TÜV Rheinland will put their local market knowledge to work for you, giving you streamlined solutions, faster market entry, and an internationally respected mark to help you maximize your market opportunities when you get there. You can’t afford last minute regulatory surprises. TÜV Rheinland — with its long standing history of superior engineering expertise and vast portfolio of solutions — will help you meet critical global rollout schedules, saving time and money.

www.ind.tuv.com
## Business Stream: Products – Electrical Services

### IT, Telecommunication & Office Equipment

The Product Category of IT, Telecommunication / Office equipment covers the following products:

- Radio-/Telecommunications equipment, Notebooks, Printer, PDAs, Switching Power Supply, Visual display terminal, Uninterruptible power supply (UPS), Charging station, Scanner, Copier, Paper Shredder, Laser, etc.

### Household Appliances

The Product Category of Household appliances covers the following products:

- All kinds of appliances
- White Goods: Refrigerators, Washing Machines, Water Heaters
- Brown Goods: Kitchen Appliances (Mixers, Grinders, Toasters), Hair Dryers, Iron Boxes, etc.

### Lab Equipment

The Product Category of Lab Equipment covers the following products:

- Measuring equipment
- Monitoring equipment
- Control equipment
- General electrical equipment used in labs

### Luminairs / LED

The Product Category of Luminaries / LED covers the following products:

- Luminaries (Indoor / Outdoor)
- Self Ballasted Lamps
- LED Based Lighting Assemblies
- Photo-Biological Hazards of LEDs
- Electronic Control Gears
- Ballasts
- Electronic Switches
- Dimmers

### Audio / Video

The Product Category of audio / video covers the following products:

- TV’s
- Audio amplifier
- Video games
- Image processor
- Set top box
- Electronic music system

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## Compliance to Low Voltage Directive 2006/95/EC for CE Marking

**SCOPE OF THE “LOW VOLTAGE” DIRECTIVE**

The Directive applies to all electrical equipment designed for use with a voltage rating between 50 and 1000 V for alternating current and between 75 and 1500 V for direct current. Voltage ratings refer to the voltage of the electrical input or output, not to voltages that may appear inside the equipment.

The term “designed for use with a voltage range” shall be understood as equipment having either a rated input voltage or a rated output voltage inside this voltage range. Internally there may be higher voltages.

**Services Rendered:**

- Compliance Report for the applicable EN standards
- Certificate of Conformity (CoC) for the applicable EN standards
- Certificate of Conformity (CoC) for the Low Voltage Directive
Concept of CB Certification

The IECEE CB Scheme is the world’s first truly international system for mutual acceptance of test reports and certificates dealing with the safety of electrical and electronic components, equipment and products. It is a multilateral agreement among participating countries and certification organizations. A manufacturer utilizing a CB test certificate issued by one of the accepted National Certification Bodies (NCBs) can obtain certification marks of the latter, within their scope of adherence, in the countries where the accepted NCBs are located.

The main objective of the Scheme is to facilitate trade by promoting harmonization of the national standards with international Standards and cooperation among accepted NCBs worldwide in order to bring product manufacturers a step closer to the ideal concept of “one product, one test, one mark, where applicable’.

Services Rendered:
- CB Certification along with CBTest Report

TÜV Rheinland Bauart mark

The TÜV Rheinland Bauart mark shows that the product has been inspected by TÜV Rheinland and has been found compliant with the relevant safety standards. Affixing this mark increases consumer confidence on the product in the marketplace. The TÜV Rheinland Bauart mark is available for final products as well as individual components. Factories that produce TÜV Rheinland Bauart mark certified products, undergo periodical inspections to assure that manufacturer is able to maintain the specifications of the certified product in its production.

TÜV Rheinland GS Mark

The TÜV Rheinland GS Mark has its roots in the German equipment safety law. The literal translation of Geprüfte Sicherheit (GS) is “approved safety.” This voluntary mark signifies a product’s electrical safety aspects have been third-party evaluated, tested and certified that continuous production control is maintained. Conversely, CE Marking indicates a self-declaration and does not prove compliance. For most products sold in the EU, the use of CE Marking and a Declaration of Conformity are mandatory but provide no marketing value.

With the exception of some high risk products, most products can be self-declared by the manufacturer to meet the Essential Requirements for EU access but the marking is not an approval, certification or quality mark; nor is it a marketing tool. When manufacturers fail to conduct voluntary safety and quality testing, toasters catch fire, drills overheat and irons burn out or worse.

The TÜV Rheinland GS Mark goes far beyond the CE Marking, providing desirable third-party certification and a distinctly competitive marketing advantage.

cTÜVus Mark

cTÜVus Mark — U.S. and Canadian Product Approvals

With constrained budgets and tight development timelines, your Nationally Recognized Testing Laboratory (NRTL) choice is critical. TÜV Rheinland is a leading certification organization for North American market because of its client-oriented way of doing business. The TÜV Rheinland work-flow process reduces test-cycle time and lowers overall costs.

The cTÜVus mark is accredited by OSHA (NRTL) for the U.S. and SCC for Canada. The cTÜVus mark is recognized as equivalent to any NRTL marks throughout the U.S. and Canada. Safety testing conducted to applicable U.S. and Canadian standards and in most cases can be combined with testing for other countries.
Compliance being the last step of a product's design phase, failure at this juncture would have a direct impact on time to market goals of the company.

So the question is at what phase of the product's design a compliance activity has to be initiated?

“Prevention is better than cure” a well said statement can be associated to this situation. Involving TÜV Rheinland at the drawing board when the team plans for a product's concept would be the right answer to this question. Involving TÜV Rheinland at various stages of the product's design yields following benefits:

Stage 1: Pre-Regulatory Services: Product at concept stage
- Identifying market's technical barriers (Country / Regional certification; Mandatory / Voluntary Certification)
- 1st level information on types of certifications for the targeted markets (Safety, EMC, Wireless, Type Approval, License Marks, In-Country Testing, Pre-shipment / Post-shipment inspection, etc.)
- Identification of applicable standards based on product's functionality and end application
- New market research support - A documented information covering all of the above details for a specific country where a manufacturer would like to place their product

Stage 2: Pre-Compliance Services: Product at its 1st Proto-type stage
- Re-visit to the identified standards during the Pre-Regulatory Services, after witnessing the actual functioning of the Proto-type and understanding the final end application
- Reviewing the product's design to meet standards pre-laid design norms
- Identification of critical components and its certification requirements
- Review of documents such as labels (rating / warning), installation / user / service / maintenance manuals to confirm the minimum information documented as per relevant standards and end country requirements

Stage 3: Pre-Certification Services: Final Proto-type meeting above Stage 2 requirements
- Select critical tests to check product's in principle compliance to standard
- Availing lab's facility for development work (multiple rounds of testing) for design changes to meet standard test limits / compliance guidelines
- Testing the product for all applicable tests in the same sequence, test criteria as the product would be tested in final compliance program; giving the advantage to customer if the product meets the standard requirements at the 1st go, considering the same as final compliance for necessary certification activity

Other Services

Reliability Testing

Reliability tests are a series of tests that are used to analyse the functionality and breakdown phase of any electrical gadget in various environmental conditions, during transportation, storage, handling and operation. These conditions could include very high or low temperatures, very high or low humidity, huge and rapid variations in temperature, salt spray and salt fog, wet environments, fungus, vibrations (airborne and structural) and accelerations. Reliability tests help us accelerate the aging process of the product, predict its lifecycle and analyse modes of failure. It enables us to improve upon the product's design and implement the same in the product so as to minimize lead time and thereby reduce the cost of production. They may be performed at various stages to rectify potential defects; from prototype to final production (as per the manufacturer’s requirement).
Temperature & Environmental Test
• Cold Test
• Dry Heat Test
• Damp Heat (Steady State Humidity/ Cyclic Humidity) Test
• Thermal (Shock) Cyclic Test
• Salt Fog/Salt Mist/Combined Salt/ Humidity Cyclic Test

Mechanical Endurance Test
• Vibration and Shock Testing
• Impact Hammer Test
• Free Fall Test
• Key Pad Endurance Test

Ingress Protection Test (IP 1x- IP 6x and IP x1 – IPx8)
• Degree of protection against access to hazardous parts
• Degree of protection against access by solid foreign objects
• Degree of protection against water

Flame Tests
• Glow Wire Test
• Needle Flame Test
• Tracking Index Test
• Flammability Test

EMI / EMC
In order to prevent all electric or electronic devices transmitting and receiving electromagnetic waves causing interferences with other electronic or electrical equipment, electric devices have to adhere to EMC guidelines and must carry the CE, FCC or Country Specific marks. Anybody willing to bring such products into the European Union market has to comply with the EMC directive 2004/108/EC. Similar requirements also exist in other global markets like FCC compliance for USA and Industry Canada regulations for Canada.

TÜV Rheinland India as an independent Testing and Certification agency having all necessary national and international accreditations (NABL, FCC & IC Listed facility) to provide EMI/EMC testing services. It offers one stop shop in-house services for the products ranging from Commercial, Industrial, Electronic Sub-Assemblies for Automotive, Consumer Electronics, Household, Medical, Lighting, Wireless and others for any country requirement with state of the art 10 meter anechoic chamber.

Wireless
Wireless products – be they laptops, phones, medical devices, or any of hundred other things – must undergo extensive global testing and certification procedures to be marketed for international and country-specific standards.

TÜV Rheinland can help you achieve this by conducting in-house testing, managing complicated international approval tasks, and interacting directly with the many certification authorities. We offer wireless testing and international approvals for a number of wireless technologies ranging from Wi-Fi/WLAN, Zigbee, Bluetooth, RFID, GSM, GPRS, LTE etc

RoHS - Restriction of Hazardous Substances
• Analysis of Lead, Cadmium, Mercury, Hexavalent Chromium, PBB’s & PBDE’s : We can take up testing of products, sub assemblies, parts and raw materials to verify compliance and issue compliance test report by interpreting against requirements of directive
• RoHS certification and issue attestation of conformity / COC
• RoHS Factory Inspection / Process Certification
• TÜV RoHS Mark
• Training / Awareness on RoHS

REACH - Registering, Evaluating and Authorizing Chemicals
The REACH system or “Registration, Evaluation, Authorization, and Restriction of Chemicals” is based on the principle of direct industry responsibility. According to the principle “no data, no market” companies can only launch on the market or use them if these chemicals are properly registered. We can provide consulting for manufacturers, distributors, and importers on all matters to do with the requirements of this directive. Incidentally as an EU regulation, REACH fully applies in all member states.
Aiming for New Destinations

Get going! Today, you can gain access to all the key markets in the world from the value-added, documented safety and quality – for your products, systems or services.

We will be delighted to work with you, offering a wide range of testing, inspection and certification services.

The TÜV Rheinland Group Worldwide

- Founded in 1872
- At 500 locations in 65 countries
- More than 18000 employees
- More than 39 industries across 6 business streams
- More than 2,500 services across all sectors

Our Business Portfolio

- Industry Services
- Mobility
- Products
- Lifecare
- Training & Consulting
- Systems

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