**Add value.
Inspire trust.**

Electrical Safety Testing

Meet mandatory electrical safety requirements worldwide

Your challenges

Electrical and electronic products and devices are essential to almost every aspect of daily life. These products help to make us more efficient and productive at work, and provide us with entertainment when we're at home. However, electrical products can also expose users to risk of electrical shock, whether as a result of poor design, inadequate maintenance or unintended use. Indeed, electrical shock related to the use of electrical and electronic products is the cause of hundreds of deaths and thousands of injuries worldwide each year.

What is electrical safety testing?

Testing electrical and electronic products for electrical safety is intended to identify the potential risk of electrical shock to users. Evaluating a product for electrical safety usually includes the following tests:

- **High voltage test (dielectric withstand test)**
  measures the ability of an electrical product to withstand a high voltage applied between a product's electrical circuit and ground.

- **Leakage current test**
  evaluates whether current that flows between an AC source and ground does not exceed a specified limit.
- **Insulation resistance test**
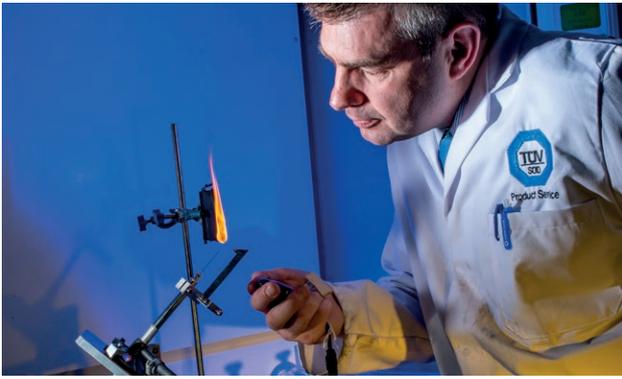 calibrates the quality of the electrical insulation used.
- **Ground continuity test**
  ensures that a clear path is available between all exposed metal surfaces and the power system ground.

In addition to pre-market testing and certification, manufacturers of electrical and electronic products must also conduct production line testing. Depending on certification requirements, production line testing may include some or all of the tests required for certification.

Why is electrical safety testing important?

In addition to achieving compliance with the relevant directives, regulations and standards, full or partial testing of electrical and electronic products and devices enables manufacturers to meet customer requirements. Electrical safety is mandatory for legal access to every major country in the world. It can help prevent unsafe

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products from reaching the market, reducing the number of deaths and injuries, as well as costly product recalls and potential litigation. Manufacturers whose products that have been tested and certified to applicable electrical safety standards send a clear signal to buyers and the general public of their commitment to user safety.

How can we help you?
TÜV SÜD has a wealth of experience in testing the majority of electrical devices. Our experts intimately familiar with the regulatory requirements of the worlds main markets. Their expertise enables us to provide a one-stop solution for all types of testing and a world-leading certification service.

Our electrical safety testing
TÜV SÜD can conduct electrical safety testing in our fully accredited laboratories in the UK. Our engineers are able to test a variety of electrical and electronic equipment and products, including information technology and telecommunications equipment, medical equipment, and industrial, commercial and laboratory equipment.

- **Customers Testing Facility (CTF)**
  In addition to our laboratory testing capabilities, TÜV SÜD engineers can also perform testing at your facility. Our CTF services enable us to schedule testing on short notice, and to complete most testing in just a few days. This provides manufacturers with an opportunity to obtain certification in the shortest possible time.
- **Safety marks and certification**
  We also provide a range of product certifications for the international market, including:
  - TÜV SÜD Octagon Mark
  - GS Mark
  - NRTL / SCC Certification for North America
  - CCC Certification for China
  - Custom Union Certification
  - CBTL - recognised by IECEE

- **Factory inspections**
  For factory inspections we provide:
  - Local inspectors who are native speakers and well versed in regional customs, this being particularly important for overseas inspections
  - Inspectors who are well versed in product manufacture and understand the problems and challenges encountered
  - Inspectors who will offer friendly advice and recommendations where they feel improvement would be beneficial for you
- **Electrical safety pre-test assessment**
  If you are not yet ready for a full electrical safety assessment or you would like to ensure that you are prepared then we offer a pre-test assessment / design review service.

Why choose TÜV SÜD?
The TÜV SÜD brand is world renowned when it comes to testing and certification. Our multidisciplinary team is made up of experts in most areas of electrical safety testing and certification. With our global experience and local presence, we are in a unique position to respond quickly to your testing requirements.

In addition to electrical safety testing, our one-stop solution demonstrates that your products comply to global compliance with relevant EMC, electrical safety and RF exposure standards. To complement these services, we can certify your products for the global market. A certificate from TÜV SÜD is recognised worldwide, granting you fast, hassle-free access to your intended markets.

Add value. Inspire trust.
TÜV SÜD is a premium quality, safety and sustainability solutions provider that specialises in testing, inspection, auditing, certification, training and knowledge services. Represented in over 850 locations worldwide, we hold accreditations in Europe, the Americas, the Middle East, Asia and Africa. By delivering objective solutions to our customers, we add tangible value to businesses, consumers and the environment.

Related services

TÜV SÜD provides the following related services:
- EMC testing
- RF testing
- Electrical Safety Pre-test Assessment