

## On your mark! For safety, quality and sustainability.

Especially where consumers expect it from you – in international markets and sensitive environments.

#### Safety

Products are marketable only when they are safe and when the end users know that they are reliable. Insurers insist on measures that ensure product safety as well. To increase your competitiveness, always opt for safety testing by an independent third party institution. Provide your customers with a clear guidance, for example in the form of the TÜV Rheinland GS mark, which is recognized worldwide. It signals safety. For this reason, we are the right institution to test and certify your product.

#### Quality

The motto is "safety first", because safety is the basis for further tests that carefully examine quality attributes such as ergonomic correctness, ease of use, durability, ease of care or lownoise design. These requirements are based on relevant consumer demands and longtime experience in quality

#### Sustainability

Sustainability means for example to reduce carbon dioxide emissions, to conserve resources and to responsibly use finite raw materials. We are committed to sustainable solutions. Our experts specialize in testing and certifying environmental friendliness and process safety. We assist companies of all kinds on their way to a resourceconserving and cost-effective orientation

of their business. Whether testing for harmful substances, recyclability, energy efficiency, life cycle analysis or Green Product certification - our services will increase the trust in your products.

www.tuv.com ID 0000000888

#### **Market Access Services**

TÜVRheinland

CERTIFIED

With our expertise in market access services, TÜV Rheinland helps you to enter new markets for your products. Our experts know all market-specific requirements for approval and offer a one-stop service – for fast access to international markets and for a quick launch of your products.



Precisely Right.

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# Our product tests – bright ideas for the truly challenging situations.

The comprehensive product testing and certification program for lights, lamps and LEDs offered by TÜV Rheinland LGA Products GmbH.



### Your product merits our tests and certifications.

You can be proud of your product. Still, the requirements for safety and performance are strict. For your product to be successful and for the performance claims to be verified, the product needs to be in compliance with regard to safety, quality and suitability. We understand this. And we take care of it.

The experts of TÜV Rheinland LGA Products GmbH use their extensive technical knowledge to perform tests and certifications. As the leading provider of testing and certification services in the world, we have been assisting our clients with their products for over 140 years. We stand for safety, quality and efficiency at the intersection of man, technology and environment.

We are always impartial and independent and take regulatory requirements performance characteristics and consumer needs into account. All this greatly benefits you and your product because you reduce development costs and returns, acquire new target groups, improve customer retention, increase sales and get a faster access to international markets. Our worldwide network of experts works together

with international certification bodies and performs tests according to the applicable regulations. Product safety and product quality thus are validated. Comprehensive service, complete industry solutions with individual teams and regular contact persons assist you with the development of your product from prototype to market launch. We will help you analyze demands and goals. With tests at an early stage, you will be able to have a decisive influence on success factors.

Our test mark helps you to market your products convincingly and credibly. Wherever in the world -TÜV Rheinland is your one-stop solution for safety and quality.

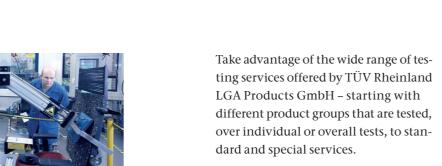
## The TÜV Rheinland Test Mark

Consumers want the guaranteed trustworthiness of an independent third party. The combination of the TÜV Rheinland test mark and the online certificate database Certipedia offers your customers an easy, fast and transparent way to review product characteristics. Certipedia is a unique platform. It shows your products and services as well as their competitive advantages at a glance. Descriptive test mark keywords convey clear messages to your customers. Thanks to the individual test mark ID and QR code, your customers can immediately see the product test specifications online. In addition, you can incorporate your test mark very effectively into your product communication strategies.



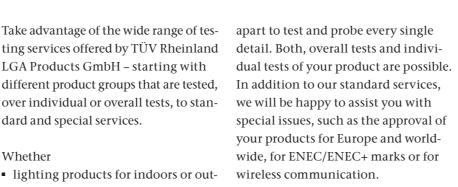






Whether





One thing we can safely say:

show all its performance characteristics.

doors, for commercial or industrial

applications or for residential use

connected to the electrical grid or

lights, LEDs, energy saving lamps

• LED modules, lighting controllers,

our test engineers are very thorough

and take lights, LEDs and components

ballasts or motion detectors

battery-operated

or LED retrofits

Your lighting has many good qualities.

Our extensive product tests will verify this for you. They cover aspects

such as safety, durability, sustainability and quality. So your product can

With the ENEC mark, the manufacturer demonstrates compliance of his products with European standards. The ENEC+ mark verifies the product performance claims initially made by the manufacturer. To be awarded an ENEC+ mark, a product must carry the ENEC mark. As a member of The Connected Lighting Alliance (TCLA),

we are specialists for wireless lighting solutions. It is the mission of the TCLA to promote the introduction and development of innovative open-standard wireless solutions for lighting systems. TÜV Rheinland LGA Products GmbH is your contact partner for the testing and certification of your products.





#### Certification and test mark



Upon successful testing and certification, the provider receives a certificate and the right to use the test mark for a specified limited time. We assist you with selecting your testing requirements. Our tests can be individually expanded to include other test criteria. Ask for our documents. Don't hesitate to contact us.

#### **Electromagnetic Compatibility**

Lamps and lights cause interference emissions through electromagnetic waves. Manufacturers who want to successfully market their lighting products must ensure compliance with the EMC directive. As international testing service provider and Notified Body of the Federal Network Agency, we are authorized to perform EMC tests to ensure compliance with European and international standards – both in our test laboratories, equipped with complex technology, and also with portable equipment.

#### **Electrical Safety and Measurement** of Photobiological Safety

LED lights have grown in popularity nowadays, both in the professional and private domain. With the TÜV Rheinland test mark you verify electrical and photobiological safety, compliance with the minimum requirements of the low voltage directive and with the exposure limit values of the European directive.

#### **EC Directives for Energy Consump**tion Labeling and Energy Efficiency

Climate change, a shortness of resources and high energy costs make the efficient use of energy essential. Our energy label shows that your products are environmentally friendly and conserve energy, and also meet all market requirements. This gives your conserve energy, and also meet all market requirements. This gives your product a competitive advantage and provides valuable guidance for consumers

#### Compatibility and Ease of Integration of Home Automation Networks

Key home automation elements (smartphones/tablets) conveniently control the energy supply of audio, video and lighting systems and help to save costs. The compliance with applicable standards is an important requirement for these smart home technologies. We assist you with comprehensive tests and certifications of those products with new technologies such as KNX, IP500, Bluetooth, ZigBee, Wi-Fi and many more.

### Performance Characteristics/

The usability of a product is defined by its efficacy, efficiency and safety. We determine the context of use, test representative samples of the product documentation, analyze the results and prepare final reports. Among other features and functions, we test performance, dimmability, life span and measurements related to lighting

#### Access to International Markets

No matter what products you sell - each country has its own specific approval requirements. Take advantage of our extensive experience and our one-stop service: international product approvals and Market Access Service, conformity assessments, energy efficiency regulations, EMC regulations and other standards. Your benefits: faster access to markets, increased sales and higher profits. Secure your access to the market in the EU, the EFTA countries and many other countries in the world with only one test and certification procedure.

#### **Environmental Simulation Testing**

Early, application-oriented and comprehensive testing of your products for mechanical and climate strength (e.g. for resistance to climatic conditions and to corrosion) will yield important insights already in the product development phase that will critically influence the quality of the series products.

#### With us you are always up to date.

Conferences at regular intervals will keep you informed about any news, changes and trends related to lighting products. Visit us on the Internet. www.tuv.com