



LASER, LED & LAMP SAFETY TEST HOUSE AND CONSULTING

SERVICES FOR MANUFACTURERS

We support manufacturers to ensure safe products as required by law while at the same time optimizing the functionality of the product.

Test House Laser

- Classification (also prototypes, according to IEC 60825-1 and EN 60825-1)
- Compliance with EN 50689 for consumer laser products

Test House LEDs & Lamps

- Classification (according to IEC 62471 and EN 62471)
- Solar simulators (according to Cosmetics Europe, ISO, FDA)
- Infrared lamps and warming cabins
- UV-solaria (according to EN 60335-2-27)
- Surgical luminaires (according to EN 60601-2-41)
- Ophthalmic instruments (ISO 15004-2, ANSI Z80.36)
- Transmission measurements

Consulting

- Application of standards and of exposure limits concerning complex systems
- Product safety based on regulatory requirements

Risk analysis

- Assessment of the risk of eye- or skin damage
- Risk analysis regarding single-fault condition and safeguard systems
- Computer simulation of injury threshold values
- Safety analysis

LASER, LED & LAMP SAFETY

We have been working as test house and performing research projects in the field of optical radiation safety for more than twenty years.

Our field of work comprises the spectral ranges of UV-radiation, visible light and infrared radiation. We classify lasers, LEDs as well as lamps and we characterize the risk for injury of the eyes or the skin.

Our test house is accredited according to ISO/IEC 17025 as well as accepted as CB testing laboratory according to the IECCE-CB-scheme.

In addition, our test house is one of the few companies that is also approved by Cosmetics Europe for testing UV-lamps used in the cosmetic industry.

Our internationally acclaimed know-how is based on:

- active participation in IEC- and CIE-standardization
- active participation in the bio-effect expert group of ICNIRP
- bioeffect research (publications can be downloaded from our website)



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STANDARDIZATION WORK & RESEARCH

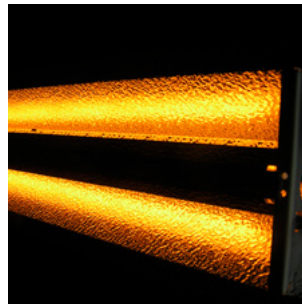
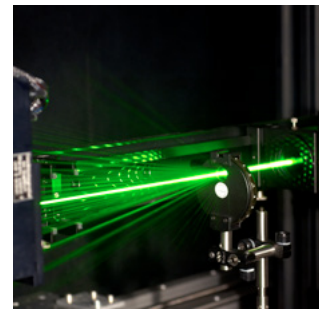
The results of our research projects have contributed considerably to the development of today's test procedures of the IEC 60825-1 as well as to the improvement of the international safety limits for eye and skin for lasers as well as LEDs and lamps. The publications of our experts are considered as reference works in the field of laser safety (see for instance "Laser Safety" by R. Henderson & K. Schulmeister).

The combination of standardization work and research in the field of "bio-photonics" is internationally unique for an accredited test house. The internationally acclaimed expert knowledge is the basis for the correct application and interpretation of the standards and limits, particularly for complex sources (e.g. beam combinations, scanner, pulsed sources) as well as for being able to characterize the risk for injury independently of exposure limits.

We cannot only test the compliance of your product with respect to international standards, we can also perform a risk analysis and characterize the potential for inducing an injury.

For further information and downloads, please visit:

<http://laser-led-lamp-safety.seibersdorf-laboratories.at>



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