

Factsheet

Emissions of LED and lighting systems

LED and lighting systems

The operation of high-energy or high-performance LED and lighting systems, such as larger video screens, and the utilisation of powerful lighting units, must be agreed with Messe Frankfurt Venue GmbH's Technical Project Management Fairs department (V 31).

In the event that your LED equipment, during normal operation and/or during the set-up phase, corresponds to Risk Group 2 or 3 in accordance with DIN EN 62471 or if this equipment poses dangers comparable to those for lasers of Class 3R, 3B or 4, notification thereof must be provided in writing (Registration form for devices with LED emitters and/or powerful LED spotlights/systems form).

In the interests of all exhibitors and visitors, the emissions resulting from these systems or products are to be configured such that there is no glare outside the boundaries of the exhibitor's stand, and that there is no negative impact on the appearance of neighbouring stands.

In the event that there is a negative impact on neighbouring stands, the positioning of the spotlights must be corrected and/or the luminous intensity of LED screens must be reduced accordingly.

LED and lighting systems with higher electrical power and radiation:

In order to perform the required hazard assessment pursuant to OStrV and accordance with TROS IOS, Part I of hazards arising from incoherent (broadband wavelength range) artificial optical radiation, which also includes LED lights, German occupational health and safety regulations [OStrV] and the following standards and regulations will be applied.

- Directive 2006/25/EC (artificial optical radiation) /non-binding guidelines for Directive 2006/25/EC
- DIN EN 14225-1/-4 "Incoherent optical radiation"
- DIN EN /IEC 62471 "Photobiological safety of lamps and lamp systems"
- IEC/PAS 62717:2011 "LED modules for general lighting – performance requirements"
- TROS IOS "Incoherent optical radiation"
- Classification DIN EN 62471 "Photobiological safety of lamps and lamp systems"
- DGUV Information 215-314 (formerly BGI 810-4)

| Risk Group | Potential hazard | Significance |
|---------------------|------------------|---|
| Exempt Group (RG 0) | No risk | Eye-safe; the LED is safe even for long-term exposure (eight-hour working day) at the reference distance |
| RG 1 | Low risk | Eye-safe; the LED does not pose a hazard due to normal behavioural limitations on exposure. |
| RG 2 | Moderate risk | Eye-safe under certain conditions; as a result of reflexive turning away (for bright sources of light) or thermal discomfort arising from limited exposure, this LED does not normally pose a hazard. |
| RG 3 | High risk | This LED is dangerous for eyes even with limited exposure at the reference distance. |

Equipment and products must be certified in accordance with the German Product Safety Act [ProdSG], and must also be labelled in accordance with DIN EN /IEC 62471.

The relevant hazard analyses from the manufacturer, including specifications of exposure times and values, must be kept at the stand.

If you have any questions, please do not hesitate to contact us.

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Registration form for devices with LED emitters / powerful LED spotlights/systems

Event:

Hall / stand number:

Information on devices with LED emitters / powerful LED spotlights/systems from Risk Groups 2 and 3 (incoherent optical radiation sources) that can pose a danger and which are subject to classification pursuant to DIN EN / IEC 62471 ("Photobiological safety of lamps and lamp systems"), OStrV ("German occupational health and safety regulations on artificial optical radiation – OStrV") and TROS IOS.

Risk Group 2 Risk Group 3 Other

For Risk Groups 2 and 3 the constructor must carry out a hazard assessment pursuant to OStrV and in accordance with TROS IOS, Part 1. The constructor is responsible for carrying out the hazard assessment. Insofar as the constructor does not possess the necessary expertise, they must consult with an expert (e.g. with suitable occupational health and safety technicians or knowledgeable individuals in accordance with Section 5 of the OStrV).

1. The type, scope and duration of the exposure to artificial optical radiation:

2. The wavelength range of the artificial optical radiation:

3. The threshold values specified in Section 6 of the OStrV and TROS IOS:

4. The manufacturer's specifications for optical radiation sources and other equipment:

5. Hazard assessment performed by:

The exhibitor must keep the hazard assessments available on site.

Place, date: _____ Signature: _____