

The operation of laser systems requires approval and shall be registered at least 6 weeks before construction begins with Wiesbaden Congress & Marketing GmbH (form "Registration of laser equipment") as well as with the environmental authority of the city of Wiesbaden, Umweltamt (email: laerm-und-luft@wiesbaden.de), Gustav-Stresemann-Ring 15, D-65189 Wiesbaden, telephone +49 611 31-3701.

If during normal operation and/or during the construction phase your laser/LED equipment is allocated to the classes 3R, 3B or 4 in accordance with DIN EN 60825-1, you need a trained laser protection officer pursuant to IEC/EN 60825 and 2006/25 EG/OStrV (national). Please enclose a copy of the qualification of the laser protection officer in the registration as well as a copy of the required certification or classification of the laser equipment by an independent test institute (e.g. TÜV BG-Zert, VDE, BSE, UL, FDA).

1. General: laser equipment in accordance with DIN EN 60825-1 generates extremely intensive radiation that is bundled to a high level of energy density through optical systems. The reduction in energy density is only very low even at a great distance. If a laser beam hits the human eye, the retina can be irreparably damaged. Furthermore, improper use can cause skin burns. The following shall be observed for the use of laser/LED equipment at trade fairs, exhibitions and show events:
2. Only lasers can be used that transmit visible light (wavelength 400 to 700 nm). The output power shall be limited to the minimum absolutely required for the purpose.

Class	Output	Basic concept	Comment	Subject to approval
1	<25 µW	Eye-safe; the open laser beam is harmless or the laser is inside closed housing	No additional protective equipment	
1M	<25 µW	Eye-safe; the open laser beam is harmless provided no optical instruments such as magnifying glass or binoculars are used	No additional protective equipment required if no optical instruments are used	
2	≤ 1 mW	Conditionally eye-safe; the open beam is only in the visible spectral range (400 nm to 700 nm). It is harmless to the eye if exposed briefly (up to 0.25 s).	No additional protective equipment required	
2M	≤ 1 mW	Conditionally eye-safe; like class 2 provided no optical instruments such as magnifying glass or binoculars are used	No additional protective equipment required if no optical instruments are used	

3R	1 bis 5 mW	The open laser beam is harmful to the eye	Danger to the eyes, protective goggles recommended	x
3B	5 bis 500 mW	The open laser beam is harmful to the eyes and, in special cases, to the skin. Diffuse stray light is normally harmless (lasers from CD/DVD burner; laser beam is however not directly open)	Danger to the eyes, protective goggle recommended	x
4	> 500 mW	The open laser beam is very harmful to the eyes and dangerous to the skin. Diffuse stray light can be harmful too. There is a risk of fire or explosion when using this laser beam (material processing, research glass)	Personal protective equipment necessary (goggles, screen)	x

3. Laser equipment shall be allocated to a class (1-4) in accordance with DIN EN 60825-1/11.01 and be marked accordingly.
4. Laser equipment shall comply with the requirements of the German Product Safety Act and the generally accepted rules of engineering. The operation of laser systems shall be in compliance with the requirements of the German occupational health and safety regulations on artificial optical radiation 2006/25/EG / OStrV, DIN EN 60825-1, DIN EN 12254, and for show lasers, the requirements of DIN 56912.
5. The operation of laser equipment of classes 3R, 3B or 4 at trade fair stands is only permitted if these have been inspected for their technical safety before the trade fair begins by a publicly appointed, sworn in expert. If this certification cannot be provided by the exhibitor, Wiesbaden Congress & Marketing GmbH reserves the right to have this inspection conducted for a fee or not to approve operation. Any costs incurred shall be passed on to the exhibitor.
 - 5.1 Where lasers of class 3R to 4 are used, the beam shall be widened by optical equipment such that the output density is reduced to a safe level in all areas in which persons are located. Alternatively, it shall be at a height of 2.7 m above the floor. Laser beams shall only be used if the beam is widened such that a temperature no higher than 80°C is generated by the energy of the direct or reflected beam on any point in the room even under a continuous load. Furthermore, a laser safety officer shall be present at all times.
 - 5.2 The following precautionary measures shall be applied if each of these requirements cannot be complied with: the laser beam shall be guided through solid objects in such a way that persons cannot enter the beam range. In addition, intentionally or unintentionally reflected beams from reflective surfaces (mirrors, metallic surfaces, glasses, bottles) shall not be directed to areas in which persons are located. If this cannot be ruled out or is tolerated during demonstrations, these persons shall be equipped with suitable and tested protective goggles. Persons shall not be able to be in the projection area of the laser during lighting effects operation at show events. This also applies to areas through which the beam is diverted by reflection equipment. There shall be no focussing equipment in the laser area. Unintentional drift, diversion of the beam shall be prevented through non-flammable barriers.
 - 5.3 Laser equipment shall be shielded such that only the useful beam can be emitted.
 - 5.4 Laser equipment shall be installed on a sturdy base and secured against shifting.
 - 5.5 Optical equipment, deflection devices, scanners etc. shall be secured against falling or unintentional movement. The pertinent rules of event technology shall be complied with in such cases.
6. Optical equipment intended for use with lasers shall, insofar as it is not attached to the same, display information from with which the changes to the beam data can be assessed.

7. The calibration of the laser equipment shall be tested before each demonstration. If the calibration is incorrect, the equipment shall be taken out of operation immediately and repaired by a qualified person.
8. The laser equipment as well as the control panels and other control devices shall be inaccessible to unauthorised persons and shall not be started unintentionally by the same (emergency stop switch with key).
9. The operating staff shall be able to view the complete action area of the laser.
10. Laser pointers of category IIIa, IIIA or "3A" in accordance with the American ANSI/CDRH-regulations do not comply with the applicable EN 60825-1 and their use is not permitted.

In the event of a breach of these regulations, Wiesbaden Congress & Marketing GmbH can intervene and demand shutdown of the equipment.

We will be happy to assist you with any general questions.

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