



**SAFETY STANDARDS PROCEDURE
FOR MACHINES AND SYSTEMS USING LASER RADIATION IN
LASER PROCESSING DEMONSTRATIONS (CUTTING, WELDING,
OTHERS.)
APPLICABLE IN THE
TARGI KIELCE SA PREMISSES**

1. GENERAL REQUIREMENTS

1.1. All machines using laser technology for laser processing must meet the requirements of the following standards:

- **PN-EN 60825-1** – Laser device safety standard
- **PN-EN ISO 11553-1** – Machine safety – Laser processing machines
- **PN-EN 60204-1** – Machine safety – Electrical equipment of machines
- **Directive 2006/42/EC** – Machines – CE Declaration
- **Directive 2014/35/EU** -regarding electrical safety
- **Regulation of the Minister of Labour and Social Policy** on occupational health and safety regarding work involving exposure to optical radiation (Journal of Laws 2013, item 1619)

1.2. Each machine must have a CE Declaration of Conformity and must come with labels attached in accordance with the requirements of the PN-EN 60825-1 standard:

- warning label according to the pattern:



- explanatory label with hazard warning and class

For example, for class 4, the label, according to the standard, should include the following wording:

LASER RADIATION - AVOID EXPOSURE TO BEAM, CLASS 4 LASER DEVICE



1.3. All work must be carried out according to the manufacturer's instructions and in compliance with the highest safety standards in force in the European Union.

2. OCCUPATIONAL HEALTH AND SAFETY RULES

2.1. Only an authorised and trained operators are granted access to the operating zone of a laser system other than Class 1.

Third parties are permitted if an authorised and trained operator supervises them and the third parties are equipped with appropriate individual protection measures specified in point 3 of the regulations.

2.2. Before starting work, one is obliged to:

- Check the technical condition of the device.
- Verify the security systems' operation.
- Ensure all operators have been adequately trained in health and safety requirements
- Secure the workplace from unauthorised persons' access.

2.3. Each operator must follow the requirements regarding work area marking and apply appropriate safety procedures.

2.4. It is forbidden to stay in the direct area of laser operation without personal and collective protective equipment.

2.5. In case of ~~devices~~ failure or improper operation of a laser device of class other than 1, the operator must immediately stop the process and report the problem to the person they directly report to and then to a Targi Kielce SA employee

3. Personal protection equipment (PPE)

3.1. **Operators** performing a laser processing demonstration at stations with lasers other than class 1 must use:

- **Laser welding safety glasses or face shields with an adequately selected filter according to the laser class** (certified according to PN-EN 207/208:2017-07)
- **Laser-resistant protective clothing**
- **Protective gloves** (if there is a risk of burns or contact with hot metal and/or exposure of hands to direct or reflected laser radiation)
- **Hearing protection** if the noise level exceeds the permissible standards
- **Filter masks** if there is a risk of metal fumes release

3.2 **Third parties located in a designated** laser operation area of laser class other than 1, e.g. those observing a process using a laser of class other than 1 must use:

- **Laser welding safety glasses or face shields with an adequately selected filter according to the laser class** (certified according to PN-EN 207/208:2017-07)
- **Laser-resistant protective clothing**
- **Protective gloves** (if there is a risk of burns or contact with hot metal and/or exposure of hands to direct or reflected laser radiation)
- **Hearing protection** if the noise level exceeds the permissible standards
- **Filter masks**, if there is a risk of metal fumes release

4. MACHINE AND WORK/SHOW AREAS PROTECTION AND SAFETY

4.1. **Laser classification according to PN-EN 60825-1 standard:**

- Class 1 – Safe under normal conditions
 - Class 2 – Safe when accidentally looked at (visible band)
 - Class 3R - Possible eyesight hazard
 - Class 3B – Hazardous to eyesight and skin
 - Class 4 – Highest risk (mandatory shields and closed work areas required)
- Class 4 Lasers** can generate dangerous diffuse reflections, cause skin damage or charring, risk loss of eyesight and pose a fire hazard.

Special care should be exercised when operating lasers in a class other than 1.

4.2. **Mandatory security measures**

Each exhibitor must declare the method of protection used at the live presentations, i.e. an open or closed space according to the following:

- **Protective shields and barriers**
(screens with appropriate laser filter, aluminum sheet cabins, etc.)
- **Work zone closure sensors**
(blocking laser emission when door is opened)
- **Emergency switches** within the operator's range
- **Ventilation and air filters** reducing exposure to fumes
- **Signalling and marking systems** (warning lights, information boards)

Demonstrations of laser processing (welding, cutting, cleaning, etc.) should only take place in a specially designated and marked area where presence and activity are controlled and supervised. This area should be protected with appropriate walls and barriers, protecting both against the entry of people in the vicinity of the laser operation (visitors) and against the escape of the direct and reflected beam outside.

Laser processing demonstrations using class lasers other than 1 are not permitted in open spaces.

5. EMERGENCY PROCEDURES

5.1. In case of uncontrolled laser emission:

- Press the emergency stop button immediately
- Evacuate people from the danger zone
- Notify appropriate technical services

5.2. In the event of an injury:

- Provide first aid
- Call for medical help in case of serious injuries
- Secure the incident scene

5.3. In case of fire:

- Use a fire extinguisher appropriate for the type of fire
- Call fire services
- Evacuate people in the expo hall and leave the building whenever the situation requires it

6. INSPECTIONS ON COMPLIANCE WITH SAFETY STANDARDS.

- 6.1. On the day before the Industrial Spring commencement, i.e. 24.03.2025, exhibitors will be verified by a committee to ensure they meet the guidelines of this *"Safety Standards Procedures for Laser-Using Machines and Systems"*.
- 6.2. The committee consists of specialists in laser technology and representatives of the Targi Kielce.
- 6.3. The committee will carry out regular inspections that also take place on exhibition days.
- 6.4. In cases of non-compliance, the Committee may ban starting the machine until all guidelines are met.
- 6.5. Each machine's activation during the event must be preceded by an inspection and the committee's permission to start the machine.
- 6.6. Any activation contrary to the Committee's decision will be considered a breach of safety rules, resulting in electricity disconnection and financial penalties.

Signature of the person responsible:

Date:.....
place