

ESTONIAN MARITIME ACADEMY'S WELDING WORKSHOP (MA2-013) RULES FOR INTERNAL ORDER AND OCCUPATIONAL SAFETY

- [Estonian Maritime Academy](#)

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- [Form V5-1/0 Internal Work Procedure and Occupational Safety Rules Review Sheet](#)

1. General safety requirements

1.1. Everyone must undergo occupational safety instruction before commencing work in the Welding Workshop. A person who has completed occupational safety instruction confirms, by signature, that he/she has read the regulations and the requirements set out in it and undertakes to comply with them. ([Form V5-1/0](#)).

1.2. Occupational safety instruction shall be conducted in accordance with the Internal Work Procedure and Occupational Safety Rules of the Welding Workshop, the requirements of which must be adhered to by all the persons in the workshop.

1.3. During the occupational safety instruction, the persons commencing work in the workshop will be informed about the Internal Procedure and Occupational Safety Rules, the risk factors in the work environment and the use of personal protective equipment, ergonomically correct working positions and techniques, work procedures, fire and electrical safety requirements, the locations of first aid equipment and fire extinguishing equipment, the safety signs used at the workplace and the locations of the

emergency exits and routes.

1.4. Occupational safety instruction is conducted by a supervisor/lecturer.

1.5. The lecturer responsible for the laboratories and workshops of the Centre of Maritime Education and Training is responsible for the maintenance of the equipment of the Welding Workshop.

1.6. An access card is required to enter the workshop; students are allowed to enter only with the permission of the supervisor/lecturer.

1.7. Users of the workshop are required to promptly inform the supervisor/lecturer and other workshop users of any detected deficiencies or equipment malfunctions. Working with malfunctioning equipment is prohibited; in the event of a hazardous situation, work must be halted immediately.

1.8. Users of the workshop are not permitted to operate independently any equipment without prior safety instruction and approval to commence work granted by the supervisor/lecturer. If you have any doubts or questions, please contact the supervisor/lecturer.

1.9. If you notice another workshop user engaging in improper or prohibited behaviour, you should inform him/her and, if necessary, also notify the supervisor/lecturer thereof.

1.10. It must be safe to work in the workshop; it is recommended that you move around in the workshop only when necessary and without haste, so as not to disturb others. Move with caution to avoid slipping or falling, as well as to prevent injuries and damage to workshop equipment. Engaging in activities that interfere with studies in the workshop is prohibited.

1.11. The working environment must be organised to ensure safe and ergonomic working conditions. Remove unnecessary and disturbing objects from the work area.

1.12. In the event of failure to comply with the requirements set out in the Internal Work Procedure and Occupational Safety Rules, the workshop user shall be immediately removed from the work being performed. In the event of repeated non-compliance, the workshop user shall be removed from all works.

1.13. Any material damage to the university resulting from the intentional violation or negligence in the fulfilment of the requirements set out in the Internal Work Procedure and

Occupational Safety Rules shall be compensated in full by the person who caused the damage.

1.14. The supervisor of the work/lecturer shall be informed immediately of any accident/injury or fire occurring during work. Appropriate measures must be taken depending on the accident.

1.15. In case of an accident involving a victim, the victim shall be removed from the danger zone, and if necessary, first aid providers or an ambulance (phone number 112) must be called, and it must be ensured that first aid is provided to the victim.

1.16. In the event of a serious accident, the inviolability of the workplace and equipment shall be ensured until the arrival of the chief working environment specialist, the representative of the Labour Inspectorate or the police, and until obtaining permission from them to resume work.

1.17. If it is not possible to ensure inviolability of the workplace and equipment, their condition at the time of the accident must be recorded.

1.18. In case of a serious and imminent risk of an accident, actions shall be taken by applying one's knowledge and available technical means to prevent potential consequences, even if it is not possible to immediately contact the supervisor/lecturer.

1.19. In case of a serious or unavoidable risk of an accident, the persons performing work must leave the workplace quickly and safely; a person who leaves without permission must not be punished or placed at any disadvantage.

1.20. In case of fire, safety of people and their quick evacuation or rescue from the danger zone must be ensured.

1.20.1. A person who discovers fire is obliged to immediately call the emergency number 112 and provide the following information to the rescue centre:

1.20.1.1. the exact address where the fire is located, details on what is burning, and the person reporting the fire;

1.20.1.2. answers to the questions asked by the rescue official;

1.20.1.3. the person must not end the call until permission to do so is granted.

1.21. As far as possible, begin extinguishing the fire using basic fire extinguishing equipment and close the doors and windows to prevent the spread of fire.

1.22. When the rescue team arrives at the scene, the person who discovered the fire or the representative of the possessor of the site shall inform the head of the rescue team of the following:

1.22.1. the source and extent of the fire;

1.22.2. the potential hazard to people;

1.22.3. other potential hazards arising from the fire (explosions, hazardous chemicals, electrical equipment, etc.).

2. Specific safety requirements for welding

2.1. To work in the Welding Workshop, one must understand the theoretical basis of welding processes, be aware of health hazards, and know how to use protective equipment to prevent health damage.

2.2. Arrange the work area, check the lighting, and ensure that there are no combustible objects or structures in the immediate vicinity of the work area.

2.3. Perform welding work only in the designated area.

2.4. Welding involves working with an open flame requiring measures to prevent fire, minimize its likelihood, quickly detect it, prevent its spread, and promptly extinguish it.

2.5. Any ignited sparks or other hot components must be promptly extinguished.

2.6. Special protective clothing, shoes and gloves made of non-flammable and spark-proof material (canvas, leather) must be worn when working. Make sure that the protective clothing is properly buttoned, and that hands, clothing, and shoes are dry. Work clothes, including gloves, must be free from oil, grease, petrol, and any other residues of flammable liquids.

2.7. Do not handle hot metal, electrode pieces, and production waste without gloves.

2.8. Do not wear contact lenses while welding.

3. Safety requirements before commencing work in the workshop

3.1. Before commencing work, check the welding equipment, gas cylinder connections, electrical measuring instruments, wiring, and grounding. Report any malfunctions of electrical equipment to the instructor/lecturer; do not attempt to fix electrical malfunctions on your own. Working with faulty welding equipment is prohibited.

3.2. Before commencing work, check the availability and location of basic fire extinguishing equipment.

3.3. Turn on ventilation.

3.4. The workpiece must be at a safe distance from any combustible materials.

3.5. If the workpiece is covered with a flammable coating, it must be removed before welding.

3.6. To disconnect a manual welding device from the power supply, it must be equipped with a safety device, as well as an overcurrent protection and a welding current indicator (an ammeter or a scale on the welding current regulator).

3.7. Laboratory equipment and instruments must only be used for study and research purposes.

3.8. Storing and using objects and substances (including foodstuffs and beverages) not related to the laboratory's activities is prohibited.

4. Safety requirements while working in the workshop

4.1. It is prohibited for an arc welder to work without a protective helmet and a welding mask equipped with a special dark glass or auto-dimming light filter or a face shield during welding; auxiliary workers must wear, in addition to a helmet, also safety glasses fitted with a light filter.

- 4.2. It is prohibited to keep flammable materials (e.g. matches, a lighter) in your pockets during welding.
- 4.3. Keep your head out of the welding fumes.
- 4.4. Select the appropriate distance and position for the torch during welding operations. When holding the welding gun, ensure that the contact tip to workpiece distance matches the diameter of the electrode (welding wire). It should be 5-8 mm in case of a welding wire with a diameter of 0.6 mm and 7-10 mm in case of a welding wire with a diameter of 0.8 mm.
- 4.5. Disconnect the welding power source from the mains for temporary work breaks.
- 4.6. Always wear safety glasses while removing weld slag with a hammer or wire brush.
- 4.7. If any deficiencies in the work area or welding equipment malfunctions are detected during work, halt the work immediately and inform the supervisor/lecturer. You can resume work after the supervisor/lecturer has given the corresponding order or permission.
- 4.8. Do not weld coated metal or metal containing lead, graphite, cadmium, zinc, chromium, mercury or when no respiratory protection is available.

5. To prevent electrical hazards:

- 5.1. it is prohibited to touch uninsulated electrical parts of the equipment;
- 5.2. keep your clothing and body dry;
- 5.3. check the power cords regularly;
- 5.4. do not remove the safety devices from the equipment;
- 5.5. do not operate the equipment with the case removed or open;
- 5.6. immediately halt work if you experience even the slightest electric shock. Do not use the equipment until the problem has been identified and eliminated;
- 5.7. disconnect the device from the mains before performing maintenance work.

6. After finishing work, you must:

- 6.1. thoroughly check the work area to ensure there is no risk of fire;
- 6.2. disconnect the welding equipment from the power supply;
- 6.3. turn off ventilation;
- 6.4. arrange the wires and protective devices and position them in the designated location;
- 6.5. tidy up the work area.