

 SATBAYEV UNIVERSITY	NON-PROFIT JOINT-STOCK COMPANY "K.I. SATBAYEV KAZAKH NATIONAL RESEARCH UNIVERSITY "	
QMS documents level 3	Edition No. 3 from " ____ " _____ 2023	P029SH.06-10.8.03-2023

INSTRUCTIONS

**on fire safety measures in warehouses and garages
and open parking lots, carrying out electric welding work and
other hot work**

(FSI 03)

P029SH.06-10.8.03-2023

Almaty 2023

PREFACE

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3 APPROVED by the decision of the Board dated "18" 04_2023 No. 6

4 ENTERED instead of edition No. 2 of 02/21/2019

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1 General requirements

1.1 This instruction was developed on the basis of the “Fire Safety Rules in the Republic of Kazakhstan” and other regulatory documents; it establishes fire safety requirements for buildings and warehouse premises, (archives) garages and open parking lots, as well as when carrying out electric and gas welding work and other hot work.

1.2 When maintaining warehouse premises, employees must be guided by the rules and regulations in the field of fire safety, and these Instructions.

1.3 Workers must know the rules and regulations for the storage and warehousing of substances and materials, taking into account indicators of fire hazard, toxicity, and chemical activity.

1.4 All employees are allowed to work only after undergoing introductory and primary fire safety briefings at the workplace.

1.5 Workers must be trained in how to operate a fire extinguisher and fire hydrant in case of fire and know the location of their installation, which is indicated by signs.

2 Fire safety requirements:

2.1 To the storage facilities

2.1.1 Signs must be posted on the doors on the outside indicating the explosion and fire hazard category of the warehouse, telephone number, surname and initials of the person responsible for the fire safety regime of the premises.

2.1.2 Placing warehouses in premises through which transit electric cables, gas and other communications pass is not permitted.

2.1.3 In premises intended for storing inventory items, the installation of change houses, rooms for eating and other ancillary services is not allowed.

2.1.4 Warehouse premises must be kept clean. Remove packaging material daily as it accumulates.

2.1.5 Devices designed to disconnect the power supply must be located outside the warehouse on a wall made of non-combustible materials.

2.1.6 Emergency lighting in warehouses, as well as the operation of gas stoves, electric heating devices and the installation of plug sockets are not allowed.

2.1.7 Upon completion of work, the person responsible for the fire safety regime of the premises, or the last employee to leave, must:

- 1) check the fire safety condition of the premises;
- 2) de-energize electrical equipment
- 3) close the windows;
- 4) leave the room and close the door;
- 5) turn off the lights.

3 Fire safety requirements:

3.1 To storage of materials

3.1.1 The distance to stored materials and equipment should be: from lamps at least 0.5 meters, 0.2 meters to the surface of flammable building structures; from sprinklers and nozzles of automatic fire extinguishing systems at least 1 m; fire detectors at least 0.6 m.

3.1.2 When storing on racks and storing in containers, racks and containers must be made of metal.

3.1.3 Wooden structures inside warehouses are treated with a fire retardant compound.

3.1.4 When storing without racks, materials must be stacked. On the contrary, the doorways of warehouse premises must have free passages with a width equal to the width of the doors, but not less than 1 meter, and every 6 meters there must be longitudinal passages with a width of at least 0.8 meters.

3.1.5 Storage and use of substances and materials in warehouse premises should be carried out taking into account the possibility of their joint storage based on quantitative accounting of fire hazard indicators, toxicity, chemical activity, as well as the uniformity of fire extinguishing agents.

3.1.6 Storage of flammable or non-combustible materials is not allowed in flammable containers in rooms on basement and ground floors that do not have windows with pits for smoke removal, as well as when common staircases of buildings are connected to these floors.

3.1.7 Storage areas for flammable and combustible liquids, gas cylinders, explosives and other explosive and fire hazardous substances and materials are subject to mandatory approval by the person responsible for ensuring fire safety. Storage areas must be marked with signs.

3.1.8 Containers (bottles and other containers) with flammable and combustible liquids, cylinders with flammable gases, as well as aerosol packaging must be protected from sunlight and other thermal effects.

3.1.9 In warehouse premises it is prohibited:
store flammable liquids and combustible liquids in glass containers with a capacity of more than 1 liter, as well as those not marked with warning signs "Flammable", "Do not spray near fire";

leave plugged-in electrical appliances unattended;

store together in the same section with rubber or any other materials, regardless of the homogeneity of the fire extinguishing agents used.

carry out fire and other fire-hazardous work without a work permit (permit) and when there are persons in the premises who are not involved in carrying out these works;

smoke. Use an open source of fire;

use wires with damaged or lost protective properties insulation;

store flammable and combustible liquids, explosives, gas cylinders, goods in aerosol packaging, celluloid and other explosive and fire hazardous substances and materials in basements and basements;

clutter up escape routes, passages and approaches to fire hydrants and fire extinguishers with furniture, equipment and other objects.

4 Fire safety requirements:

4.1 To garages and open parking lots

4.1.1 Responsibility for fire safety, timely implementation of fire safety measures, maintenance of fire extinguishing means in good condition and suitability for use rests with the head of the vehicle fleet of NPJSC KazRNTU»

He is obliged:

4.1.2 Ensure compliance with the established fire safety regulations and monitor the maintenance of escape routes.

4.1.3 Monitor the serviceability of heating, ventilation, electrical installations, and process equipment and take measures to eliminate detected faults that could lead to a fire.

4.1.4 Ensure that fire extinguishing, communication and alarm equipment is maintained in good working order and is always ready for action.

4.1.5 Organize and conduct fire safety training for persons working in the garage (at least once a year).

Everyone working in the garage must:

4.1.6 Clearly know the fire danger of the garage and escape routes.

4.1.7 Strictly follow the established rules and instructions on fire safety measures.

4.1.8 Avoid actions that could lead to a fire.

4.1.9 Know the location of fire extinguishing equipment and be able to use them practically.

5 Fire safety requirements:

5.1 To prevent fire or combustion

5.1.1 When placing cars in a garage, the distance between cars, as well as between cars and garage structures, must be at least 0.3-0.8 m, depending on the category of the car.

5.1.2 The garage must be provided with serviceable and suitable fire extinguishing means:

1) fire extinguishers. Fire extinguishers are checked at least once a year.

2) fire hydrants. Each fire hydrant must be equipped with a hose, barrel, valve, nuts and tested for functionality at least once every 6 months, with the test results documented in a report;

3) fire shield. Fire extinguishers, shovels, buckets, a crowbar, a hook, asbestos or felt sheets, an extract from the fire safety rules, a sign with telephone numbers of the fire department and the names of officials responsible for fire safety should be compactly placed on the fire shield. The fire shield is installed in a visible and easily accessible place, if possible, closer to the exits;

4) a box with dry sifted sand. The box is equipped with a scoop, must be painted red and close tightly, with the inscription "Sand in case of fire."

5) asbestos fabric, felt (felt) must be stored in a metal case with a lid painted red, periodically (at least once every 3 months) dried and cleaned of dust.

5.1.3 The use of garages and open parking lots for purposes other than their intended purpose (storage of flammable materials, gas cylinders, establishment of repair shops, painting booths, etc.) is not permitted.

5.1.4 Garages and open storage areas for vehicles must be kept clean. Spilled fuels and lubricants are covered with sand and cleaned up immediately.

5.1.5 Places where vehicles are placed must be provided with towing ropes and rods at the rate of one cable (rod) per 10 cars.

5.1.6 In the garage it is prohibited:

install cars in quantities exceeding the norm, violate the way they are arranged, reduce the distance between cars and between cars and elements of the garage;

block exit gates and driveways;

keep cars with the neck of the gas tank open, as well as in the presence of a fuel leak;

use firefighting equipment and supplies for household, industrial and other needs not related to firefighting;

arrange temporary electrical wiring, hang any objects on electrical wires and switches;

dry materials, rags, etc. on heating devices and pipelines.

refuel vehicles and drain fuel from tanks;

use blowtorches, torches and other types of open fire to warm up the engine and illuminate dark places;

store containers containing flammable and combustible liquids;

leave oiled ends, rags, cotton wool and protective clothing on and around the car;

leave cars with the ignition on;
allow dirt and oil to accumulate on the engine and its crankcase;
use gasoline and other flammable liquids to wash the engine, car body and hands;

refuel cars. Vehicles should only be refueled at a gas station;
smoking in places not equipped for this;
carry out fire and other fire hazardous work in the garage premises without obtaining the appropriate permit to carry out these works;
use electric lamps with incandescent lamps without protective shades;
recharge batteries directly on vehicles, as well as in rooms not suitable for these purposes.

5.7 Upon completion of work you must:
remove oily wiping ends, rags and other flammable waste from the premises, as well as spilled flammable liquids and oils in the premises and inspection pits;
turn off electrical appliances and devices from the mains;
close windows, vents, doors and other openings leading outside or into adjacent rooms, as well as hatches, shafts, etc.;

check the room to see if the escape routes are blocked with equipment or other objects, and if there is a smell of burning or smoke.

6 Fire safety requirements:

6.1 To carry out electric and gas welding work

6.1.1 This Instruction provides the basic fire safety requirements that must be met when carrying out electric and gas welding and other hot work in the building, premises and territory of NPJSC "KazRNTU"

6.1.2 Responsibility for ensuring fire safety measures during welding and other hot work rests with the person responsible for hot work.

6.1.3 A permit must be issued for carrying out electric gas welding and other hot work in buildings and premises (Appendix 1). The permit is issued by the person responsible for the fire safety of the building, and approved by the management of the Infrastructure Management Department.

Note: In case of accidents, welding work is carried out under the supervision of the work supervisor without issuing a work permit.

6.1.4 Only specially trained personnel who have the appropriate qualifications and have mastered the minimum fire safety program are allowed to carry out welding and other hot work.

6.1.5 The location for welding and other hot work must be agreed upon with the occupational safety and health and fire safety service.

6.1.6 The person responsible for carrying out hot work (work manager) is obliged to instruct the direct performers of this work about fire safety measures, familiarize them with the working conditions, and make an appropriate entry about this in the work permit.

6.1.7 Permission to perform temporary hot work or high-risk work is issued only for a work shift. When carrying out the same work, if it will be carried out over several days, a repeated work permit from the unit is not required. In these cases, the next day after the re-examination for the specified work, the permit is extended, about which a corresponding entry is made in it.

7 Fire safety requirements:

7.1 To hot work

7.1.1 Hot work areas should be provided with primary fire extinguishing equipment (fire extinguisher, box with sand and shovel, bucket of water, etc.).

7.1.2 In order to prevent hot metal particles from entering adjacent rooms, adjacent floors, etc. All inspection, technological, ventilation, installation and other openings (openings) in ceilings, walls, partitions of rooms where hot work is carried out must be covered with non-combustible materials.

7.1.3 Building structures, flooring, finishing and cladding located within the specified radii, as well as insulation and parts of equipment made of combustible materials, must be protected from sparks by metal screens, asbestos sheeting or other non-combustible materials and, if necessary, watered.

7.1.4 In rooms where hot work is performed, all doors connecting these rooms with other rooms, including vestibule doors, must be tightly closed. Room windows, depending on the time of year, room temperature, duration, volume and degree of danger of hot work, should be open whenever possible.

7.1.5 Premises in which there may be accumulation of vapors of flammable, combustible liquids and combustible gases must be ventilated before carrying out hot work.

7.1.6 The place for welding and cutting work in buildings and premises in the structures of which flammable materials are used must be fenced with a continuous partition made of non-combustible material. In this case, the height of the partition must be at least 1.8 m, and the gap between the partition and the floor is no more 5 cm. To prevent the scattering of hot particles, the specified gap must be fenced with a mesh made of non-combustible material with a mesh size of no more than 1.0 x 1.0 mm.

7.1.7 Carrying out hot work without taking measures to exclude the possibility of a fire is strictly prohibited.

7.1.8 You can begin hot work only after meeting all fire safety requirements (availability of fire extinguishing equipment, appropriate preparation of the

workplace and performers for work, thorough inspection and elimination of all violations that could lead to a fire, etc.).

7.1.9 During the period of hot work, the responsible person must establish control over the compliance of the performers of these works with fire safety measures.

7.1.10 When carrying out hot work, it is prohibited:

- 1) start work with faulty equipment;
- 2) perform hot work on freshly painted structures;
- 3) use clothes and gloves with traces of oils, fats, gasoline, kerosene and other flammable liquids;
- 4) allow students and employees to work independently, who do not have the appropriate qualifications and certificates of completion of the fire-technical minimum;
- 5) allow electrical wires to come into contact with cylinders compressed, liquefied and dissolved gases;
- 6) simultaneous carrying out of hot work during installation waterproofing and vapor barriers on the roof, gluing floor coverings and finishing premises using flammable adhesives, varnishes, mastics and other flammable materials.

7.1.11 Carrying out hot work on building elements made of light metal structures with flammable and low-flammable insulation is not permitted.

7.1.12 During breaks in work, as well as at the end of the working day, the welding equipment must be disconnected, including from the electrical network, the hoses must be disconnected and freed from flammable liquids and gases. Upon completion of work, all apparatus and equipment must be removed to specially designated premises (locations).

7.1.13 Gas cylinders during their storage, transportation and operation must be protected from sunlight and other heat sources. Cylinders installed indoors must be located at a distance of at least 1 m, and from heat sources with open fire - no less 5 m. The distance from the burners (horizontally) to cylinders with oxygen and flammable gases must be at least 5 m. Storing oxygen cylinders and cylinders with flammable gases, as well as paints, oils and fats in the same room is not permitted.

7.1.14 When handling empty cylinders of oxygen or flammable gases, the same safety precautions must be observed as with filled cylinders.

7.1.15 After the completion of hot work, the performer (responsible, senior performer, foreman), as well as the person responsible for carrying out these works (work manager), is obliged to carefully inspect the place where the hot work is being carried out, the underlying premises, platforms and floors, adjacent premises and ensure acceptance measures to eliminate the possibility of fire.

7.1.16 The person responsible for the fire safety of the building or another official responsible for the fire safety of the premises must ensure that the hot work site is inspected within 3 hours after completion.

7.1.17 Hot work must be stopped immediately upon the first request of the representative for occupational safety and health, the management of the unit or the person responsible for fire safety of the building or premises.

7.1.18 When carrying out gas welding or gas cutting work, the following is prohibited:

- 1) warm frozen valves, gearboxes and other welding parts installations with open fire or hot objects;
- 2) allow contact between oxygen cylinders, reducers and other welding equipment with various oils, as well as oil-soaked clothing and rags;
- 3) purge the hose for flammable gases with oxygen and oxygen hose with flammable gases, as well as interchange hoses during operation;
- 4) use hoses whose length exceeds 30 m, and when production of installation work -40 m;
- 5) twist, pinch or break gas supply hoses.

7.1.19 Installations for electric welding must meet the requirements of the relevant sections of the Rules for the Construction of Electrical Installations, the Rules for the Technical Operation of Consumer Electrical Installations and the Safety Rules for the Operation of Consumer Electrical Installations, and other documents taking into account the requirements of this Instruction.

7.1.20 It is not allowed to use wires without insulation or with damaged insulation, or to use non-standard electrical fuses.

7.1.21 Welding wires should be connected using crimping, welding, soldering or special clamps. The connection of electrical wires to the electrical holder, the product being welded and the welding machine must be done using copper cable lugs secured with bolts and washers.

7.1.22 Wires connected to welding machines, distribution boards and other equipment, as well as to places of welding work, must be reliably insulated and, where necessary, protected from high temperature and mechanical damage.

7.1.23 Steel or aluminum busbars of any profile, welding plates, racks and the welded structure itself can serve as a return conductor connecting the product being welded to the source of welding current, provided that their cross-section ensures safe current flow under heating conditions. The connection between individual elements used as a return conductor must be made using bolts, clamps and clamps.

7.1.24 The use of a grounding or grounding network, as well as metal structures of buildings, communications and technological equipment, as a return conductor is not permitted. In these cases, welding must be done using two wires.

7.1.25 When carrying out electric welding work in fire-hazardous premises, the return conductor from the welded product to the current source is carried out only with an insulated wire, and in terms of insulation quality it should not be inferior to the direct conductor connected to the electrical holder.

7.1.26 The design of the electric holder for manual welding must ensure reliable clamping and quick change of electrodes, and also exclude the possibility of a short circuit of its body to the part being welded during temporary breaks in work or if it accidentally falls on metal objects. The handle of the electric holder must be made of non-flammable dielectric and heat-insulating material.

7.27 The electric welding installation must be grounded during operation. In addition to grounding the main welding equipment in welding installations, the terminal of the secondary winding of the welding transformer to which the conductor leading to the product (return conductor) is connected should be directly grounded.

8 Actions of personnel in case of fire

8.1 In the event of a fire, you must:

1) notify those working in the premises, inform the security service, manager or other officials;

2) immediately report this to the fire department by phone “101” (in this case, you must provide the address of the facility, the location of the fire, and also provide your last name);

3) stop all work, disconnect electrical equipment;

4) if it is not life-threatening, take measures to extinguish the fire using available fire extinguishing means;

5) if it is impossible to organize fire extinguishing, immediately leave the premises.

8.2 Use of primary fire extinguishing agents in case of fire.

8.3 Powder fire extinguisher is used to extinguish fires

(combustion of flammable liquids, flammable gases, electrical installations under voltage up to 1000 volts, as well as alkali metals and vehicles).

8.4 To use a fire extinguisher, it is necessary to remove the seal, pull out the pin, point the nozzle at the source of the fire at a distance of at least 1-2 meters from the leeward side and press the lever.

Annex 1

Permit for hot work

" ___ " _____ 20__

An object _____

Issued by _____ in that
he

(FULL NAME)

production allowed _____

(specify specifically what kind of hot work and location)

after performing the following measures to ensure fire safety of work:

The permit is valid from " ___ " hour. " ___ " _____ 20__ to " ___ " hour.
" ___ " _____ 20__

Chief Engineer _____
(signature)

The permit was extended from " ___ " hour. " ___ " _____ 20__ to " ___ " hour.
" ___ " _____ 20__

Chief Engineer _____
(signature)

Production _____
(specify what kind of work)

Work is carried out subject to the following additional fire safety requirements:

Permit extended:
from " ___ " hour. " ___ " _____ 20__
to " ___ " hour. " ___ " _____ 20__

Instructions on fire safety measures and implementation of the measures proposed
in the permit were received by: _____
(signature of the person carrying out the work)

Change registration sheet _____

Serial number	Section, subparagraph of the document	Type of change (replace, cancel, add)	Number and date of notification	Changes made	
				date	Signature