



ατίτοκα

HEALTH AND SAFETY MANUAL



I. MEASURES PRIOR TO STARTING THE WORK

Before production of works General Director of **ATITOKA** nominates by order the persons responsible for observance of norms and rules of health and safety procedures and requirements of fire safety.

Their qualification is confirmed by corresponding certificate including knowledge on fire safety, electric safety, rules of carrying out construction and fit-out works. Before works begin workers are given instruction on health and safety with written record in special book, also the personnel of the company passes education on health and safety according to «Order of education on worker's protection and monitoring knowledge on requirements for workers health and safety of organizations» proved by order of Labors Ministry and Social Development RF and Education Ministry RF N1/29 on 13 of January 2003, and also according to requirements of local standard «ISM. Human Resources» ((local standard) СТП ИСМ-3.2-009)

Workers who did not pass training on health and safety are not permitted to fulfill works. All workers are equipped with overalls, safe shoes, and necessary means of individual protection, properly functioning tools, inventory ladder and means of paving. All persons on construction site should wear safety helmets.

Working place should be kept clean, keeping of blanks, materials, tools, production wastes should be ordered and correspond to health and safety.

Strictly forbidden to keep and store on working place unused materials, production wastes etc, block up pass ways of approaches and exits.

To provide first medical aid on construction site the presence of complete medicine box is to be provided.

Subcontracted organization should present a copy of order on nomination of persons responsible for observation of health and safety norms and regulations, requirements of fire safety and their contact telephones.

Copies of worker's certificates for personnel working in higher danger conditions should be presented.

Instruction in compulsory order should be made with corresponding records in register instruction book.

The instruction of workers of subcontracted organization on working place is fulfilled by authorized person of this subcontractor organization.

For works where higher safety demands are employed the project-oriented instruction is necessary.

ATITOKA provides brief instruction for subcontractor organizations and visitors, where the politics of **ATITOKA** in the field of health and safety with considerable risks on construction sites is presented.

Subcontracted organization should provide workers, according to requirements of health and safety, with overalls, safe shoes and other necessary means of individual protection, safety rigs, functional tools, inventory ladders, and means of scaffolding. It is forbidden to work without overalls, safe shoes and other necessary means of individual protection.

II. MEASURES DURING CARRYING OUT CONSTRUCTION AND FIT-OUT WORKS

1. Safety requirements when preparing concrete underlying layer and screed works

When making concrete underlying layer and screeds the following unsafe and harmful factors may take place:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- vibration;
- moving transport, mechanisms and their parts;
- higher voltage in electrical circuit, when short-circuited may traumatize worker;

For protection from slurring and provision of safety work procedures workers should use overalls, safety shoes and other means of individual protection.

To protect skin of hands from applied solutions one should use protective gloves.

To forestall head trauma in the case of accidental falling from height during works one should use safety helmet.

When working on slopes more than 20 degree and also with absence of protection enclosures on high sited working place one should use safety belt.

Works with electrical devices is to be fulfilled using insulating gloves.

Works with rock breakers is to be done using anti-vibration gloves and protecting spectacles.

2. Safety requirements when making floors of natural stone and of ceramic tiles

In the process of laying floors of natural stone and ceramic tiles the following dangerous and harmful factors may take place:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuited may traumatize worker;

For protection from slurring and provision of safety work procedures workers should use overalls, safety shoes and other means of individual protection.

To forestall head trauma in the case of accidental falling from height during works one should use safety helmet.

Moreover, to treat stones and ceramic tiles one should use respirator and protective spectacles, but when treating with acid — resin boots and aprons. Fulfill treatment (sawing, grinding, and polishing) of decorating stones in specially allocated places using machine tools or automatic tools. It is forbidden to treat stones on scaffolds and gangways.

Cutting of stones and tiles must be fulfilled with enclosure of abrasive ring. In premises dry processing of stones is produced with exhaust systems. Process of cleaning surfaces with metallic brushes and other tools and appliances should be fulfilled with protective spectacles, but when acid added to cleaning process then its concentration should be not more 5%. Use manual electric instrument with double isolation.

3. Safety requirements when laying linoleum

In the process of laying floors of linoleums arise the following dangerous and harmful factors:

- high level of gas and dust in working zone;
- sharp edges, spews and undulations on the surface of materials and tools;
- glue and mastic resin.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used.

4. Safety requirements when installing false floor

In the process of laying false floors arise the following dangerous and harmful factors:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used.

Works produced with radial saw for cutting tiles of false floors envisage use of protective spectacles or face shield to avoid eyes trauma.

5. Safety requirements for plastic slabs partition works.

If mounting carcass-sewing partitions and plastic slabs arise the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuited, may traumatize worker;
- rotating pieces and units of electrical equipment;
- excess noise and vibration if working with abrasive tool.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used.

Working places and passages to them on height 1.3 m and more and at distance 2 m from the border of height difference are barred by temporary inventory protection enclosure according to GOST 12.4.059-89. When impossible to use protective barriers or in case of short period works the works may be produces with safety belt.

Use manual electric tool with double isolation.

At excess noise one should use protective means (earplugs, headphones).

At high vibration of electrical tool one should check the balancing of moving parts, backlash in drum bearing.

When working with electric cutter, perforator, and radial saw, one should inevitably use protective spectacles or face shield and also protective hulls.

6. Safety requirements for claddings of premises by ceramic tile

When premises are clad by enamel tile the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuited may traumatize worker;

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used. Moreover, in the process of ceramic tile treatment one should use respirator and protective spectacles and when applying

acid — resin boots, gloves, and aprons. Process of cleaning surfaces with metallic brushes and other tools and appliances should be fulfilled with protective spectacles, but when acid added to cleaning process then its concentration should be not more 5%. Use manual electric instrument with double isolation.

7. Safety requirements when mounting sanitary-technical systems

When sanitary-technical systems are mounted the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuited may traumatize worker;
- falling of highly placed materials and tools.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used.

The work with the help of electric or pneumo-polishing machine should be fulfilled with protective spectacles or face shield.

Bending of steel or plastic pipes and cutting cast-iron pipes is to be done on the floor level. There is not allowable to fulfill these operations on scaffolding means and without protective spectacles.

Use means of paving when pipes are to be mounted.

Fulfill blowing-down and tests of pipelines and sanitary-technical equipment with the help of hydraulic presses with the head of works present.

Mounting of inner sanitary-technical equipment requires systematic winding of premises when materials containing harmful substances are used and gas and electrical welding operations. When necessary ventilation in working zone is not present, then the means of individual protection should be used.

8. Safety requirements when installing door sets

When door set is mounted the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuited may traumatize worker;

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used. Use manual electric tool with double isolation. Use scaffolds for works at height.

9. Safety requirements when carrying out electrical works

When electrical works are done the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuiting may traumatize worker;
- flying solid particle (e.g. when punching holes);
- lack of work places illumination.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used. Use manual electric tool with double isolation. Use scaffolds for works at height.

When working with cutting tools and perforators use protective spectacles or face shield, use protective envelopes. In case of light deficiency, use portable illuminator.

Works under voltage is to be produced only by special work permit.

10. Safety requirements when installing suspended ceiling

When installing suspended ceiling the following dangerous and harmful production factors arise:

- excessive air dust and gas content of working zone;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuiting may traumatize worker;
- falling of higher lying tools.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

In the process of works execution protective gloves should be used. Use manual electric tool with double isolation. Use scaffolds for works at height.

When working with cutting tools and perforators use protective spectacles of face shield, use protective envelops.

In case of light deficiency, use portable illuminator.

11. Safety requirements when carrying out painting works

When painting the following dangerous and harmful factors arise:

- excessive air dust and gas content of working zone;
- harmful substances and vapors are liberated during dyes drying;
- slurring skin integument and overalls by chemical compositions, dust, aerosol;
- arrangement of working place at height difference 1.3 m and higher;
- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuiting may traumatize worker;
- high fire- and explosive-danger of many coating compositions.

To prevent slurring and provide safe process of work workers should use overalls, safety shoes and other means of individual protection.

To prevent head trauma from falling things one should wear protective helmet during execution works.

To protect hand skin from applied coating compositions one should use protective spectacles, when cleaning plastered surfaces - respirators.

During pouring-over and pouring coating compositions one should use protective spectacles of close type.

Use scaffolds for works at height.

12. Safety requirement when carrying out works at heights

Works at height altitudes include work made at height 1.3 m and more from ground, floor structure or working floor from step ladders, ladders, work platform, scaffolds, areas and also from elements of building structures and buildings at distance not more than 2 m from the border of height difference.

During works at height altitudes worker may experience the following dangerous and harmful industrial factors:

- dilapidating constructions (ladders, step ladders, work platform, scaffolds and other additional equipment);
- falling subjects, tools, materials etc;

- high sliding (result of icing, moistening, fouling surfaces of ground, floor, traps, step ladders, ladders, working platforms, scaffolds etc);
- moving transport, self-propelling mechanisms, moving items, materials;
- lack of working place illumination.

For protection from influence of dangerous industrial factor, persons fulfilling work at height should use means of individual protection (safety belts, safety helmets, anti-sliding shoes etc). For head trauma prevention from falling things during work the worker should use safety helmet.

Execution of works at height there are used scaffolds.

At height of working scaffold 1.3 m and higher over the perimeter of scaffold the protective envelop is done, but in case of impossibility of their installation, works are done with the help of safety belt.

During work one should use only functional manual tool. Manual knocking and cutting tool have handles made of dry wood, hard and viscous sort without snags. All wooden handles should be smoothly treated and do not have burns.

13. Safety requirements when carrying out welding works

When welding is done the following dangerous and harmful industrial factors arise: ■

excessive air dust and gas content of working zone;

- sharp edges, corners, sticking pins and their parts;
- higher voltage in electrical circuit, when short-circuiting may traumatize worker;
- ultraviolet visible radiation of welding arc;
- sparks and sprays, outbreak molten slag and metal.

To provide secure execution of works welders are provided with canvas dress with fire protective soaking, special shoes and welder's gloves (wrists).

To protect face and eyes the face shield is used and special light filters.

To prevent head trauma from falling things one should wear protective helmet during execution works.

Before work the welder should get work permit from head.

Electrical welding at height should be done from working frames or scaffolds with barriers. It is forbidden to produce works by accommodation ladder.

14. Safety requirements when carrying out works with the use of mechanical manual tools

Manual tools should satisfy the following requirements:

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- bench hammers and about-sledge should have uniform, slightly embossed surface, securely set on handles, wedged with mild steel notched wedges;
- hatchets should have plane un-notched surface of cutting edge and securely set on handles of special form (axe handle) wedged with mild steel notched wedges;
- handles (grips) of spades should be securely fastened in holders, the embossing from the holder part of grip should be cut tilted to the spade plane. Handles should be made from dry wood, hard leaf-sort of trees and have smooth surface;
 - all pushing tools that have sharpen ends for handles (files, sews and other) should be provided with wooden handles corresponding tool sizes with bondage (stretch) rings safeguarding handles from cracking;
- tool for drilling and reaming holes (twist drills, rose head countersink bits, countersink, reamers), tool for thread cutting (thread cutter, screw dies, tap-wrenches) should be correspondingly edged and, when keeping and exploitation to be secured from knocks, dent etc and use strictly purposefully with provision of technological requirements when in use;
- spans of wrenches should correspond to sizes of nuts and bolts and do not have cracks and notches, working surface of wrenches should not have knocked or pressed facets, and handle notches. it is forbidden the use of pads between span of wrench and facets of nuts and extend wrenches by adding the other one or set the pipes on them or other levers if it is not envisaged by wrench design;
- extend lever of wrench is possible for special mounting spanners designed for work with increased shoulder of force;
- adjustable spanners should have increased gaps in moving parts;
- when working with chisels and other manual tools and other materials workers should be provided with protective spectacles with unbreakable glass or grid.

15. Safety requirements when carrying out works with the use of electrical manual tools

Works with electrical tool can be fulfilled by persons not younger 18 years who passed special tutoring, passed corresponding examination and have corresponding record in certificate.

To electrical tools one can relate electrical grinding and cutting machines, electrical screwdrivers, electrical hammers etc.

Electrical tool fed from electric socket should be provided with dismountable flexible cable (cord) with plug.

Cable, in place of connection, should be protected from wearing and over-bending of elastic pipe of isolation material of length not less than 5 diameters of cable. When the electrical tool is issued for works it has to be monitored visually, checked on grounding and completeness of metallic part, outer coating of cable and wire, fastening them to the body of tool.

When defect is found the tool has to be repaired. Connection of the electrical tool to voltage about 42 V to electrical main through transformer, resistor or potentiometer is forbidden.

Electrical wiring to instrument with electrical drive should be protected from accidental damages.

During work there is forbidden to strengthen and over-bend stretching cables, allow their crossing with metallic cords and steel cables, electrical cables and wires that are under voltage, leave unguarded, pass it to persons that do not have right on it use. In premises with high danger, and outer premises, when working with electrical tools, the voltage should be not more than 42 V.

Works with electrical instrument should presume the following requirements:

- produce work in resin dielectric gloves, dielectric overshoes or on dielectric carpet; do not connect tool to switchgear if safe socket connection is absent;
- protect wire that feeds electrical tool from mechanical damages;
- do not carry tool over wire, use handle for this purpose;
- do not make any repair and immediately send it to repair man;
- do not make changes of cutting tools until full stop of motor; during breaks in work or stop energy feeding one should switch off tool from main; do not work from lean-to ladder;
- do not pass tool other persons even for short time; do not make repair of wires and socket connections; do not remove shaving and cuttings until full stop of tool.

III. FIRE SAFETY MEASURES

At building site one should fulfill measures on provision of fire safety according to "Rules of fire safety in RF" (PPB 01-03).

Workers are permitted to execution of works only after passing instruction on fire safety, and in case of specific of the work changed, pass additional instruction on prevention and extinguishing possible fires in the order of the issued by administrator. Responsible persons for fire safety are determined by factory manager. Persons in established order, nominated responsible for fire safety, should fulfill timely work on requirements of fire safety, prescriptions, decrees and other lawful demands of state inspectors on fire supervision and other officials.

Organizational measure on provision of fire safety:

- in all premises at visible places one should hang plates with telephone number call for fire-fighting service "01";
- rules of fire using on the territory of open building site and carrying out temporary fire hazardous works established by "Instruction on the order of carrying out fire and welding

works on objects of company **ATITOKA** and also "Instruction on measures of fire safety";

- disposing of flammable wastes and garbage fulfill in containers for wastes and by filling carry it out of building site;
- switching off electrical installations and electrical devices at the end of working time is implemented by employee who leaves premises last, after that the premises are closed and keys are passed to office. Set of keys from premises should also be in guard office;
- install fully completed fire panels;
- install fire extinguisher in each domestic and store premises. Places of fire extinguishers installation should be accessible and marked by information sign "Fire extinguisher";
- in places of execution of fireworks one should install fire extinguishers and remove flammable materials on distance 10 m ("Instruction on order of carrying out fire and welding works"). Fire extinguishers should be powder-like or carbon-dioxide-like by volume 5-10 liters;
- electrical items and panels should be mount on inflammable basis;
- one should not allow passage of transit electrical wires through store premises;
- doors in stores should be made inflammable with degree of fire resistance 0.6 hour;
- develop evacuation plans and hang them on visible places;
- wooden shelves in stores are treated by fire-protective composition.

1. Behavior of staff at fire detection:

1.1. Each worker who found fire or sign of fire should:

- immediately report of it by telephone 01 in fire-fighting service and name address of object, place of fire appearance, one's own surname;
- undertake measures on evacuation of people, fire extinguishing and safety of material valuables.

1.2. Person in charge should:

- in case of life threat organize their saving;
- when necessary, switch the electrical main (switching off electrical equipment in case of fire is made by duty electrician);
- stop all works that are not connected to fire extinguishing;
- organize meeting of subdivisions of fire-fighting service.

On arrival of fire-fighting service the head is responsible to inform the head of fire extinguisher about constructive and technological peculiarities of object. Make instruction to staffers engineers and monitoring of knowledge over fire-technical minimum in specialized educational center. Responsible for fire safety of engineers passed certification carries out anti-fire instructions with workers making records in book of instructions by affirmed instructions. Period of passing anti-fire instructions with workers establish as one in five month, and also after change of working specifics.