



Republika e Kosovës
Republika Kosovo - Republic of Kosovo

Ministria e Arsimit Shkencës dhe Teknologjisë
Ministarstvo Obrazovanja, Nauke i Tehnologije
Ministri of Education, Science and Technology

Educational Buildings Infrastructure Department

**GUIDELINE FOR MAINTENANCE AND PROTECTION
OF EDUCATIONAL BUILDINGS**



Republika e Kosovës
Republika Kosova-Republic of Kosovo
Qeveria - Vlada-Government
Ministria e Arsimit e Shkencës dhe e Teknologjisë- Ministarstvo za Obrazovanje, Nauke i
Tehnologija--Ministry of Education Science and Technology
Kabineti i Ministrit/Kabinet Ministra/Cabinet of the Minister

Numër: 306/04-B
Datë: 15.04.2015

Ministri i Arsimit, Shkencës dhe Teknologjisë, në mbështetje të nenit 8, 10 dhe 11 të Ligjit nr. 06/L - 113 për Organizimin dhe Funksionimin e Administratës Shtetërore dhe të Agjencive të Pavarura, (Gazeta zyrtare, nr. 7/ 01 mars 2019), nenit 8 paragrafi 1.4 të Rregullores nr. 02/2011 për fushat e përgjegjësisë administrative të Zyrës së Kryeministrit dhe Ministrive (22.03.2011), nxjerr:

V E N D I M

1. Miratohet Udhëzuesi për mirëmbajtje dhe mbrojtje të objekteve arsimore.
2. Vendimi hyn në fuqi me nënshkrimin e tij.

A r s y e t i m

Duke u mbështetur në dispozitat e cekura më lartë si dhe me qëllim që të shërbej si udhëzues për të gjithë ata që janë të përfshirë në procesin e mirëmbajtjes dhe mbrojtjes së ndërtësive arsimore në mënyrë që të kenë përvojat dhe praktikën e mira në mbrojtjen e objekteve arsimore nga degradimi gradual, u vendos si në dispozitiv të këtij vendimi.

Vendimi u dërgohet:

1. Kabineti të Ministrit/MASHT;
2. Zyra së SP/MASHT;
3. DAP/MASHT;
4. Arkivi.



ENTRY

The guideline for maintenance and protection of educational buildings is drafted based on the strategic plan of education (PSAK 2017-2021) in Republic of Kosovo. The guide is also in function of implementation of the legislation in force for maintenance and protection of the educational institutions of all levels. The drafting of the **guidelines for maintenance and protection of educational facilities** has been carried out by MEST officials of all fields which are engaged by the decision number 2-1788 of the date 14.09.2018 by MEST secretary general. They are:

Isuf Gashi - head of division for planning and standards of school spaces

Fatmir Bytyqi - political adviser to the minister

Naim Demiri - acting head of division for project and school buildings management

Bajram Beqiraj - project management officer

Rina Ponosheci - school space planning officer

Musa Shala - official for school space norms and standards

Fehmi Krasniqi - curriculum officer

Sahit Berisha - official for cooperation with MED, parents and students

Leonora Shala - coordinator for health promotion schools

Habib Aliu - education inspector

Hazbije Lahu - official for statistics

Burim Gashi - higher education officer

Elhame Shabani - official for drafting and harmonizing legislation

Jonuz Salihaj - Director of the Directorate of Education in Prishtina

Skender Susuri - Director of the Directorate of Education in Prizren.



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Ministria e Arsimit e Shkencës dhe e Teknologjisë- Ministarstvo za Obrazovanje, Nauke i
Tehnologiju--Ministry of Education Science and Technology

Zyra e Sekretarit të përgjithshëm/Kancelarija Generalnog Sekretara/Office of the General
Secretary

Numër: 2-1766
Datë: 14.08.2018

Sekretari i përgjithshëm i Ministrisë së Arsimit, Shkencës dhe Teknologjisë, në mbështetje të
nenit 38 të Ligjit nr. 03/L-189 për administratën shtetërore të Republikës së Kosovës, (Gazeta
zyrtare nr. 82, 21 tetor 2010), nenit 17 të Rregullores nr. 02/2011 për fushat e përgjegjësisë
administrative të Zyrës së Kryeministrit dhe ministrive më 22.03.2011 dhe në bazë të kërkesës
me nr. 5-1-1788 e dt. 24.08.2018 nxjerr:

V E N D I M Për emërimin e grupit punues

1. Emërohet grupi punues për hartim të udhëzuesit për mirëmbajtjen dhe ruajtjen e hapësirave
shkollore, me këtë përbërje:

- 1.1. Isuf Gashi – Udhëheqës i divizionit për planifikim dhe standarde të HSH, kryesues;
- 1.2. Fatmir Bytyqi – Këshilltar politik i Ministrit – MASHT, anëtar;
- 1.3. Naim Demir – ud. Udhëheqës i divizionit për M.P.O.SH, anëtar;
- 1.4. Bajram Beqiraj – Zyrtar për menaxhimin e projekteve, anëtar;
- 1.5. Rina Ponoseci – Zyrtar për planifikim të hapësirave shkollore, anëtar;
- 1.6. Musa Shala – Zyrtar për norma dhe standarde të hapësirave shkollore, anëtar;
- 1.7. Fehmi Krasniqi – zyrtar për planprogram, anëtar;
- 1.8. Sait Berisha – zyrtar për bushkëpunim me DKA, Prindër dhe nxënës, anëtar;
- 1.9. Leonora Shala – koordinatore për shkollat profesionale të shkollat prof. të shëndetit,
anëtare;
- 1.10. Habib Ali – Inspektor i Arsimit, anëtar;
- 1.11. Hazbije Lahu – Zyrtare për statistika, anëtare;
- 1.12. Burim Gashi – Zyrtar për cilësi në Arsimin e Lartë, anëtar;
- 1.13. Elham Shabani – Zyrtare për hartim dhe harmonizim të legjisllacionit, anëtare;
- 1.14. Jonuz Salihaj – Drejtor i DKA-së në Prishtinë, anëtar;
- 1.15. Skender Susari – Drejtor i DKA-së në Prizren, anëtar.

2. Vendimi hyn në fuqi me nënshkrimin e tij.

A r s y e t i m

Duke u mbështetur në dispozitat e cekura më lartë, si dhe në bazë të kërkesës me
nr.5-1-1788 e dt. 24.08.2018 për emërimin e grupit punues për hartim të udhëzuesit për
mirëmbajtjen dhe ruajtjen e hapësirave shkollore, u vendos si në dispozitiv të këtij vendimi.

Vendimi u dërgohet:

1. Të lartpërmendurve;
2. Zyrës së SP/MASHT;
3. DPAP/MASHT
4. Arkiv.





What does the maintenance of educational buildings mean?

Maintenance is daily and continuous activity at school. It is legal responsibility that should be organized systematically and proactively. Building maintenance can also be defined as any undertaken work in order to repair each part of the building, its services and surroundings to an acceptable standard for maintaining its usable and value.

Buildings which are maintained can be used productively and consistently throughout its life, while not maintained buildings are gradually degraded and became unusable before the demolition. Maintenance should be understood differently comparing with the renovations which are usually large in the level of the activity, investment and time. The

purpose of this document is to guide responsible persons of scientific educational institutions and research institutes to create conditions and spaces according to the guide for norms and standards of educational buildings of all levels supported with European standards (ISO).



The dedication

This guide serves as a counselor to the responsible officials of pre-university, university and municipal institutions owned by pre-university education and to the MEST as the founder of the educational institutions.

The purpose

This document aims to:

- To share gained knowledge, experience, good practices and responsibilities for maintenance of the educational and scientific institutions.
- To increase efficiency and quality level of hygienic, technical and construction maintenance which results in lower operating costs.
- To increase awareness for buildings users and the community in creating healthy environments based on the standards .
- To achieve good and safe level of the required space according to the guide for norms and standards of school buildings according to European standards and the opportunity for full

implementation of educational curricula at all educational levels.

The maintenance of the educational, scientific and research institutional buildings protect and saves capital investments extending the duration of building functionality.

Information about school buildings

- There are total 1172 public pre-university public education buildings in Kosovo.
- There are total 42 public university education buildings at 7 universities.
- By 1970, there were 273 primary and secondary school buildings in Kosovo.
- Meanwhile, 451 primary and secondary school buildings were built from 1971 to 1999.
- After 2000, there are 402 primary and secondary school buildings in Kosovo that are built.
- There are 271 school buildings built with massive walls and 901 school buildings of pre-university education in Kosovo built with system of reinforced skeleton (description of the situation).
- There are 22 buildings of higher education in Kosovo built up to 1970 and 20 buildings with system of reinforced skeleton (description of the situation).
- There are approximately 900 primary and secondary school buildings in Kosovo with non-functioning toilets.
 - Their heating system is as follow:
 - a/ central heating.....36 buildings
 - b/ own heating.....489 buildings
 - c/ with oil.....84 buildings
 - d/with coal127 buildings
 - e/ solar heating.....5 buildings
 - f/ other37 buildings
 - g/ stove heating.....340 buildings
 - There are 405 primary and secondary school buildings in Kosovo with water supply from the well.



HYGIENIC MAINTENANCE OF INTERIOR SPACES

Hygiene and sanitary maintenance means hygiene cleaning of all educational and scientific buildings, sanitary joints including furnitures and other equipment.

Hygiene and cleaning include the activities of responsible people for creating healthy environments for the education and scientific process with the possibility of effective implementation of the educational curricula.

For timely and proper maintenance some general rules must be respected initially. These rules should be managed by the institution's management through the informing factors such:

- Keeping all the premises of the institutions clean and well-ordered;

- School spaces to be closed when not in used;

- No user of the institutions to lean on the walls.

- Furnishings should be at a distance from the walls and not to touch them.

- Garbage to be thrown in the containers, not on the floor nor in the school yard.

- Toilets should not be used when there is no water (to provide alternative water supply)

- Anything to throw in the toilet elements such gutters or sinks.

- Always to close faucet after cleaning.

Responsibilities for hygiene of educational buildings

Cleaning of educational buildings spaces is carried out by the technical workers or organizations engaged in cleaning services based on internal regulations of educational and scientific institutions and municipal regulations as well.

Cleaning on a weekly basis or periodically is carried out on the whole premises. Also cleaning can be done by the community and students.

Cleaning materials are provided based on municipal, educational and scientific regulations for educational buildings. They must be ecologically and healthy, according to the European standards dedicated for

proper cleaning without any harmful chemicals.

Cleaning is carried out according to the municipal regulations for technical staff in compatible quantities.

Cleaning in toilets and laboratories is done continuously, while daily cleaning is done in all internal spaces such as rooms, laboratories, multipurpose spaces, halls, horizontal and vertical communications, stairs, slopes and elevators.

While general cleaning of the educational and scientific buildings is carried out weekly.

Monthly cleaning is conducted in outdoor areas such as yards of educational and scientific institutions, including playgrounds, as well as green areas during necessary natural periods.

The evaluation and control of the cleaning level is carried out according to internal regulations and managerial

competencies of the management of educational and scientific institutions. It is preferable to be done daily and weekly evaluation.

The inspection is also carried out by the sanitary inspectorate on a periodic basis.

The cleaning and hygiene costs are provided by the specific grant for student planned by the government, but it could be provided by various donors of goodwill.

What does the cleaning and hygiene within the school building include?

Within the educational and scientific buildings are cleaned:

- * floors,
- * windows,
- * doors,

- * walls,
- * furnishings (cupboards, showcases, benches, chairs, sinks), tables, lighting fixtures, plugs, radiators and other equipment, which are included within the cleaning norms.

The cleaning is carried out in all premises which are built within the educational and scientific buildings such as: educational and scientific spaces, laboratories, workshops, cabinets, toilets for students, professional, educational and administrative staff including dining and sports halls, auxiliary spaces (heating, warehouses for heating materials and warehouses for administrative and common spaces).

Within the buildings of educational and scientific institutions are also cleaned the heating installations as different pipes in all spaces during the connection of the heating network, as well as heaters, water and

catchment installations at the entrance of the premises and completely.

Outdoor cleaning is carried out in the green areas, alleys and in the open fields for sports and recreation altogether with courtyard fences of educational and scientific buildings

-- Cleaning methods and materials

1. Cleaning method of the floors made from PVC or rubber

Cleaning problem solving of the floors made from PVC or rubber		
Issue	Cleaning method	Necessary item
Cleaning the stains from pencils with ink tomato sauce, grease, etc.	The stains are cleaned with hot water mixed with cleaning components; Surface of the floor is cleaned with cloth and polished according to the manufacturer's floor instruction.	Cloth; Cleaning components;
Cleaning the stains from rust.	Stains from rust are cleaned with water mixed with cleaning components; Surface of the floor is cleaned with cloth and polished according to the manufacturer's floor instruction.	Components for rust cleaning; cloth;

2. Cleaning method of the water gutters of the building

Cleaning problem solving of water gutters		
Issue	Cleaning method	Necessary items
Blockage of horizontal gutters from leaves, boughs and other wastes.	Cleaning gutters and elimination of collected waste; Removal of collected sand and sludge; Washing gutters with water pipes of high capacity.	Ladder; Gloves; Waste collection tools (sacks, baskets, bags); Pipe.
Blockage of horizontal gutters from leaves, boughs and other wastes.	Cleaning gutters and elimination of collected waste; Removal of the frosted birches or various leaves; Washing gutters with water pipes of high capacity.	Ladder; Gloves; Waste collection tools (sacks, baskets, bags); Water pipe.

3. Cleaning method of the building yards

Cleaning problem solving of the yard of educational and scientific buildings		
Issue	Cleaning method	Necessary items
Fallen leaves	Collection and removal of the leaves from the school yard.	Garden raker; Bags; Gloves.
Maintenance of grassy areas	Scything of grassy areas; Irrigation of grassy areas; Removal of fallen leaves and boughs; Raking the grass to eliminate dry grass, leaves etc.	Garden raker; Bags; Gloves; Scythe; Scissors for grass.

Waste treatment:

The waste are collected at the certain places not causing any health hazard and easily to be transported outside the educational and scientific areas.

Local waste collection is carried out within the building and the yard of the buildings of educational institutions with equipment of small volume at short distances that do not exceed 15 m².

MAINTENANCE AND REPAIR OF EDUCATIONAL AND SCIENTIFIC BUILDINGS

A/ Maintenance of constructed buildings

Maintenance of constructed educational and scientific building means the prevention of depreciation, damage and defects in the building during its use under the influence of the occupation of areas and installations within the building.

Maintenance of newly constructed buildings begins after taking ownership by the relevant institution or municipality. Long-lasting and functional building needs proper

management and timely and professional maintenance.

For timely and proper maintenance of the buildings some general rules must be obeyed initially. These rules should be guided and managed by the institution management through the informative advising such:

- Nothing to be climbed or punctured on the walls, especially on the outer walls.
- To open and close faucets carefully and not to tight them in inadequate direction.
- Doors and windows to be closed carefully.
- To not throw rocks, stuff or balls on the roof.
- To not insert nails into the interior walls, thing that should be carried out only by the responsible persons.
- Animals to be kept away from the schoolyards, especially from the water sources.

- All cases should be reported to the maintenance staff or teacher in charge (responsible persons).

- Maintenance of constructed buildings is divided into:

1. Maintenance of technical aspects of functional elements which includes:

- Construction - replacement of damaged door and window handles along with opening and closing mechanisms, assembling of different materials on the floor, doors and protective woods on walls and other spaces.

- Water supply and sewage installations - replacement of water supply network valves in toilets, water batteries, external dirty water valves, sanitary (sink, toilet seats etc).

- Electrical installations - replacement of lighting stuff, plugs, damaged or broken electrical keys etc.

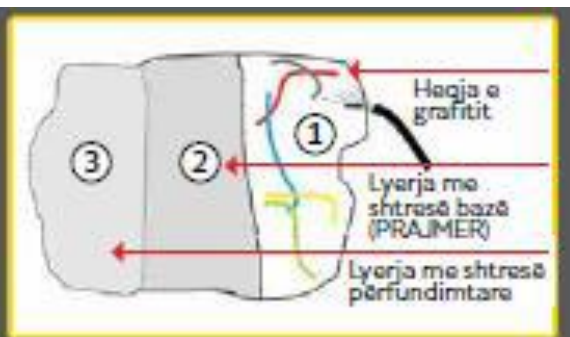
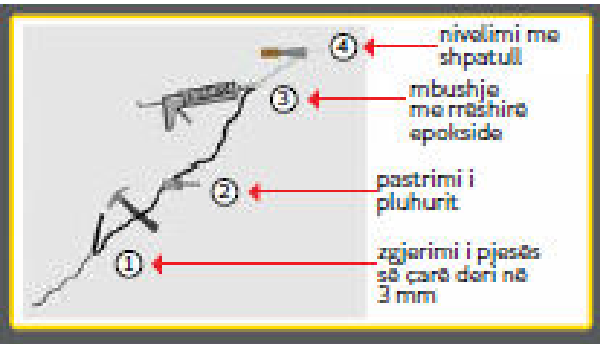
- Heating installations - replacement of valves, heaters, thermal pumps, boilers, fuel tanks and other phasic parts.

2. Construction and infrastructure maintenance includes:

- ✚ Partial or complete painting of interior walls and facades in case of moisture and mold,
- ✚ Painting with the corresponding color of wooden or metal structures in the building in periodic stages,
- ✚ Avoiding cracks that appear on the interior or exterior walls as a result of various temperatures, lack of dilation or positioning of the building which are not constructed on the ground,
- ✚ Replacement of a limited number of the doors that are damaged over time or violently used,
- ✚ Placing last layer of the floor on partially damaged parts in a small spaces, not more than 3 spaces,
- ✚ Replacing any broken glass,
- ✚ Adjusting coverings made from tin or bricks in professionally mastery when damaged from the wind, frosts or other atmospheric impacts,
- ✚ Removal sand and collected waste as leaves and birches, adjustment of horizontally and vertically gutters when damaged from the improper connection or by the frosts, as well as mechanical damages for limited cases,
- ✚ Repair of the exterior and interior windows,
- ✚ Testing lighting conductor periodically,

- ✚ Adjustment of the lightning conductor on the sloping roof or vertically on the walls which are damaged mechanically or by the nature,
- ✚ Connection of damaged electrical installations by covering or insulating different electrical boxes from possible physical contact,
- ✚ Strengthening connections and tighten up joints of network heating installations, etc.









Functional technical damages in limited construction and infrastructure with small financial amount that can be carried out at the municipal level or by the corresponding institutions with the engagements of professional mastery.

By the findings of competent officials at municipal and MEST level for the damages whereby it is considered necessary for complete renovation of the buildings or substantially that exceed buildings maintenance, they may be potential for capital investments by the municipal and MEST capital investment budget.

Maintenance financing of the educational buildings is provided through the government grants for the municipalities based on generated or own school incomes(vocational schools) as well as by donors of goodwill of the community through the educational and

scientific institution or municipalities of pre-university education.

Maintenance level of the education and scientific buildings is checked by the professionals of corresponding fields according to repaired positions, engaged in co-operation with the management of institutions or by competent professionals within the municipalities.

Contractual maintenance of constructed educational and scientific buildings

Contractual maintenance of constructed educational and scientific buildings includes contracting works with economic operators from municipalities or scientific institutions to carry out works which have been assigned as

maintenance in the construction and infrastructure aspects which considerably are the most damaged. Not complete repair of the building is included except few repair positions.

The maintenance of contracting constructed buildings should be carried out in coordination with the management of educational and scientific institutions as long as it does not impede the educational and scientific process.

The maintenance and repairs with large volumes in the buildings are planned, so works begin at the end of the previous year, before commencing school and academic year.

Positions of contracting maintenance includes painting surfaces of interior walls or facades with sufficient quantity for entire building or replacement of significant number of doors, sanitary, water supply and sewage

valves, significant number of lighting stuff, phasic parts, heating system valves, significant number of heaters and functionality of these types of installations in the building

Likewise, the positions of the last layer of the floor, the insulation on the ceiling or in the facade, establishing new internal network installation as well as the insulation of the toilets and assembling of tiles and their functionality.

Financing is provided through the municipalities which develop procedures of the contracts according to the procurement and planning law through own investments of educational institutions of the vocational schools and special procedures and plans of scientific education financed by the municipality and scientific institutions or donors of goodwill of the corresponding institutions.

Functionality level of the contractual maintenance of repaired positions is carried out by the competent professionals of corresponding fields according to repaired positions, engaged by municipal level, educational or scientific institutions in cooperation with the management of the institutions.

2/ Repairs on educational and scientific buildings

Technical and construction repairs on educational and scientific buildings include mastery works for maintenance:

1. Technical aspect
2. Above mentioned construction and infrastructure aspect.

Initially several monthly checking should be done within the educational and scientific buildings before planning activities in order to carry out necessary repairs:

Controls in the yard:

- Checking waste from different gutters and their damage.

- Checking sewers and their functionality.
- Checking pipes, joints and springs within the water supply system.
- Checking the yard fence.

External building checking:

- Checking facade walls and shelters for not becoming bird nest or graffiti.
- Checking roofs for removal waste and leaves.
- Checking roofs made by tin for avoiding lack of bolts or other damage.
- Checking external ceilings for signs of moisture.
- Checking the external lighting equipment, are they functional.
- Checking shadows are they fixed and secured from strong winds.

Control within the buildings:

- Checking ceilings for signs of moisture.

- Checking floors for avoiding cracks, swellings and other damages.
- Checking doors and handles, do they close properly.
- Checking total number of keys.
- Checking windows, do they close properly.
- Checking functionality of toilets.
- General checking of water springs, siphons, catchments and valves to avoid leakage.
- Checking electrical fuses, sockets and lamps, are they functional.
- Checking proper functionality of electrical fuses.
- Checking furnitures for various damages.
- Checking of heating system.

Constructive and infrastructure repairs should be done yearly.

Minor repairs can be carried out with engagements of professional staff at institutional or municipal level to the amount allowed by the law on procurement and finance, whilst when dealing with significant quantities they are carried out according to contract by the municipalities or corresponding institutions.

In the tables we give examples of solving the functional problems that occur during the functioning of educational and scientific buildings and technically repairs methods occurred mostly at some positions:

1. Problem solving when using doors and windows

Problem solving when using doors and windows		
Occurred problems	Undertaken activity	Necessary tools
Difficult functioning mechanisms;	Squeezing;	Hexagonal key;
Malfunctioning of closing mechanism;	Replacement with new ones:	Screwdriver; Hammer;
Glass humidity;	Covering with silicon;	Screwdriver; Hexagonal key; Wooden hammer;
Broken handles;	Replacement;	Screwdriver; Hexagonal key; Drilling borer;

2. Solving problems in malfunctioning of water gutters

Solving problems in malfunctioning of water gutters		
Occurred problems	Undertaken activity	Necessary tools
Damage to gutters, cut gutter (when missing a piece module) improper spillage of atmospheric water;	Damaged parts and holders must be replaced with; Defining the length of damaged part; Removal of gutter holders and damaged part; Assembling new parts of the gutter and strengthening with new holders;	Drilling borer; Silicon; Screws;

Gutters crack during the winter because of icing of atmospheric water;	In case of leakage from the gutters, it's necessary: Detecting site of leakage; Painting with silicon; Leveling horizontal gutters in case of water accumulation;	Drilling borer; Silicon; Nails;
Damage of walls surface and ceilings because of water accumulation in the gutters;	Repairing or cleaning gutters; Cleaning stains on the walls and ceilings from humidity; Painting stains with one layer; Painting walls and ceilings;	Drilling borer, Silicon; Nails;

3. Repair of cracks on walls and removal of graffiti

Solving problems of cracking walls and removal of graffiti from facade.		
Occurred problems	Undertaken activity	Necessary tools
Wall cracking;	Cleaning the base; Checking depth of cracks; Filling the slit with resin or varnish; Leveling with spoonbill to avoid swellings; Painting;	Wall scratchy cleaners; Paintbrush; Sponge;
Graffiti on facades;	Cleaning the surface; Base paint, respectively bonding layer of substratum; It is necessary to apply final painting after base painting; The color should be well applied and	Sponge;

	characterized by high water resistance and durability under different climatic conditions;	
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4. Avoiding occurred humidity and mold on walls and ceiling

Resolving humidity problems and painting walls and ceilings which have humidity stains		
Occurred problems	Undertaken activity	Necessary tools
Presence of moisture on ceilings and interior walls; Presence of	Detecting the cause of humidity; Treatment of the cause: roof and gutters repair, waterproofing and removal of passageway humidity;	Ladder; Drilling borer; Silicon; Nails;

moisture in the floor;		Gloves;
Painting of stained and moisture interior walls;	Surfaces are cleaned to remove dust from the walls; Painting wall applying equal quantity of color; During the final painting of the surfaces paintbrush should move up and down and vice versa whereby the wall surface receives a balanced appearance; Time interval from the first to second application of the layer should be from 4 to 6 hours;	Half wet rag; Wall cleaners; Brush; Sponge;



VINI RE!

Lyerja e mureve të brendshme bëhet në interval kohor prej tre deri në pesë vjet.

Muret duhet lyer me bojëra të ndritshme ndërsa tavanet me bojë të bardhë.

Boja mbrojtëse e mureve aplikohet në lartësi prej 1,2 metrash.

KUJDES ÇFARË BOJËRASH BLINI!

Ato duhet:

- ▶ Të jenë me bazë uji;
- ▶ Të mos përmbajnë aceton, amoniak apo formaldehidit;
- ▶ Të mos përmbajnë metale të rënda dhe kompozime organike të paqëndrueshme.

5. Repair of damaged PVC and rubber floors

Solving problems of damaged PVC and rubber floors		
Occurred problems	Undertaken activity	Necessary tools
Detachment parts of PVC or rubber floors;.	It is necessary to inspect the PVC or rubber floor; If there are detached parts it is necessary placement of bonding tools between the PVC or rubber floor with current floor. This could be done after the cleaning of current PVC or rubber damaged layer;	Wall cleaners; Roller;
Damaged surfaces as a result of irregular replacement of furniture layers (desks	Placement of bonding tools between the PVC or rubber floor and current floor; It is applied with rollers to avoid	Wall cleaners; Roller; Drilling borer;

and chairs).	excess of material and with the pressure of bonding tools; Placement of heavy stuff which should stay 12 hours for better fusion; The final painting is applied to make possible fusion of two parts for avoiding detach of damaged parts.	
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6. Repairment of sanitary equipment in toilets

Solving problems of sanitary equipment in toilets		
Problems occurred	Undertaken activity	Necessary tools
Repair of the toilet cassette where there is constantly leak of little water into the shell;	There are two methods of boiler repair: To remove boiler's cover if the water flows out of water pipe. This indicates that defect is with filler; Pull the float up and if the water stops flowing only water level adjustment is needed, without changing anything; But, if the water leaks after the float is pulled manually, the valve must be repaired or replaced; The water supply initially must be disconnected (the valve to be closed before the flexible pipe) and to dismantle the part of the valve, afterwards to replace	Pincer; Screwdriver Screws;

	with new one.	
Repair of water conductor;	There are three methods to discharge the water conductor in the sink: Discharging tool – should not be used in case of total blockage of the pipes; Always should be followed manufacturer's instructions; Use of vacuuming rubber – when using the rubber the sink must have water; Put the rubber over the conductor of the sink and move handle up and down; The rubber must be in the middle of the conductor at all times in order to be static; Siphon cleaning - First release the siphon with the appropriate key then remove it. Then get a dish to collect water which will be discharged. Afterwards place new siphon. When changing the siphon, check	Pincer; Screwdriver; Vacuuming rubber; Screws;

	if rubbers are tight properly and strong, since if they are not tighten well and they are soft cannot stand causing outflow of the water from siphon.	
Repair of taps and valves;	Replacement of rubbers; Replacament of valves; Replacement of taps.	Pincer; Screwdriver; Screws.

7. Repairs of the heating network

Solving problems of heating network		
Problems occurred	Undertaken activity	Necessary tools
Water leakage from the joint parts to the pipes	Defect isolation with valve closure; Cooling the system; Extraction of water from the system	Set of screwdrivera, hexagonal keys and pincers;

of network, from ventilators and fittings	(if necessary); If system is filled with antifreeze, then it is necessary to be collected and retained; Replacement of joint parts and valves;	Iron saw; Adhesive material: glue, ropes; phone stripe, adhesive tape; Working and safety clothing, shoes, gloves and glasse;
Leakage from the pipe;	Replacement of one part or Replacement of one part or completely pipe (decision is taken immediately); Placement of the new pipe; Attaching new pipe with current installation(if the pipe is made of steel the joint is screwed or by combined, if the pipe is made of copper joint is done with adhesiveness, if it is casing then the whole tube is replaced); After repair the casing is tested in cold in hydrostatic pressure by 50%	Set of screwdrivers, hexagonal keys and pincers; Wired brush; Iron saw; Adhesive material: glue, rope, stripe; Brush, roller for painting; Working and safety clothing, shoes, gloves and glasse.

	more than working pressure; After testing, anti-corrosion protection is installed and that part of the installation should put into operation;	
Leakage from the radiator;	Shut off the radiator valves and dismantle the entire radiator; If radiator is made by steel, damaged parts should be replaced with new ones, while other radiators should be replaced with new ones; Washing and testing with hydrostatic pressure 50% more than working pressure before installation; Installation; Release of air through the thermo-regulating valve;.	Set of screwdrivera, hexagonal keys and pincers; Adhesive material; Working and safety clothing, shoes, gloves and glasse.

8. Repairs during yard maintenance

Solving problems of yard maintenance within educational and scientific buildings		
Problems occurred	Undertaken activity	Necessary tools
Maintenance of trees, shrubs and fences;	Removal of dry branches; Regular pruning of the fence and its shaping; Regular cut of trees.	Electric machine of fence shaping; Scissors for fencing and pruning; Raker; Gloves;
Maintenance of school yard fence;.	The fence should be painted in time interval of 3 to 5 years; Regular painting of door latches and door handles at the entrances;	Brush; Gloves.

3/ Maintenance and repairs of the furniture within educational buildings

-- What does furniture maintenance and repairs mean?

Furniture maintenance and repairs within the educational and scientific buildings means proper handling and repairing of damaged chairs, desks, sinks of various laboratories, showcases and cupboards, as well as other items for teaching and works in the laboratory in order of fully implementation of educational curricula.

Responsible staff for furniture within the educational buildings

When supplying and receiving inventory and furniture owned by the educational and

scientific institution, responsible for its treatment and maintenance is corresponding institution who owns inventory and furniture in general and for each user individually.

Repaired or assembly of detached parts of the furniture that can be re-functioning with practical work by the institution with the engagement of a professional worker or in coordination with any vocational school, where at the same time is carried out vocational training of assembly and repair of the furniture of corresponding educational and studying fields.

Large repairs can be carried out at the municipal level, as well as by the community of goodwill.

Financing of the maintenance and repairs of the furniture within the educational and scientific buildings can be carried out through the municipality incomes, by the budget of municipality grants for every student of pre-

university education or by the donors of goodwill.

The level of maintenance and repair of furniture in educational buildings is checked by the commission which is engaged within the institution and composed with professional workers within the management of the educational and scientific institutions.

Longevity of the furniture within the educational and scientific buildings depends of its type and could be from 5 to 7 years.



PROTECTION OF THE ENVIRONMENT AND EDUCATIONAL BUILDINGS

Physical protection of the educational and scientific spaces

Protection against external attacks means protection of educational and scientific buildings and protection of the outer spaces of the yards from external impacts of the traffic or from other activities within the residences:

Necessary walls (various fences) and configuration of the terrain within the yards can protect protection from the roads with heavy traffic flow and developments within the residences apart of educational and scientific activities.

Likewise, users protection is carried out through temporary fence within the yard which is marked in case of any obstruction, ruins of former buildings or workplace which remained open.

Within the building, protection is considered possession of lightning conductors, evacuation stairs in case of fire and possession of hydrants inside and outside of the building.

Protection against possible defects in the building or in case of fire includes equipping buildings with necessary hydrants at proper distances, equipping with doors against fire at proper distances within the parts of the building, equipping with an evacuation plan and notification signs in an emergency which must be located in visible places in the building.

Protection against harmful building materials

Protection from unhealthy radiation material includes; non-application of imitation floors with unhealthy radiation such as PVC floors of radiation materials, use of motor oils which are harmful for user's health is forbidden in any way for wooden floors, use of radiation hazardous covers for user's health such as laminated flat or undulating which need to be replaced immediately.

Protection against depreciated and hazardous materials and equipment includes equipping of the educational and scientific buildings with protective item for laboratory, cabinetes and workshops for work protection, checking their functionality during the concretization process in fully implementation of curricula for all educational levels. Equipping

environments with flooring, inventory and with materials that meet safety requirements depending on the function performed on them.

Protection with electrical and gas equipment during learning process in the workshops and laboratories must be done through automatic equipment according to the norms of the European manufacturers in order of improper use of the equipment and energy all equipment and supplies are automatically disconnected.

Protection from excessive insulation or lack of light within the building

Creating external and internal barriers to radiation without obstructing natural light which means placing different barriers of the sun such various indoor curtains. These are made of different materials depending of the space and must be placed on the windows of classrooms from the outside, sun barriers made of horizontal pieces of glass with aluminum frames and profiles which are horizontally placed and designed as stairs profile of sloping aluminum etc.

Sufficient lighting in all areas of educational and scientific buildings means sufficient natural light in all spaces reached from the windows where there is communication or a significant number of students and children or through the various

lanterns on the ceiling coverings in ground floor of buildings or on the upper floors.

In case of lack of natural lighting or inability to install windows for the secondary auxiliary spaces, because in the classrooms having natural light is compulsory (see the school buildings norms and standards guide), then artificial lighting system is installed in the secondary environments with sufficient and easily switch on light bulbs.

Protection from potential natural hazards

Protection of the buildings from natural occurrences is activated through protective mechanisms of water collection in the yard in case of floods or blockage of water system in case of explosion within the building. Possession of buildings with first aid equipment or other tools such as door

demolition tools in case of blockages, the opening of canals in case of floods, floodwater transmission equipment and emergency medical equipment in case of lightning strikes or fire consequences, as well as fire extinguishers in case of evacuation which are placed at certain distances to the building.

Employees protection during the maintenance process

Working tools for maintenance staff should be available to every educational and scientific institution which are used from competent staff for repairing and maintenance of the educational and scientific institutions, and by the person who will carry out technically repairs and maintenance of the educational and scientific buildings, as well as in terms of construction and infrastructure

aspect, even those for protection in case of natural and human disasters within the buildings.

Maintenance and functionality of the sanitary joints within the educational and scientific buildings with public-private partnership engagement

Until the relevant legal basis is established, the issue of public-private partnership related to the maintenance and functionality of educational and scientific buildings should be developed on the current functional legal basis.