

Pursuant to Article 7, paragraph 2 of the Law on Occupational Safety and Health (“Official Gazette of the Republic of Serbia”, no. 101/05),  
the Minister of Labour, Employment and Social Policy hereby adopts the

**RULEBOOK**  
**amending the Rulebook on preventive measures for safe and healthy work**  
**in the use of work equipment**

Article 1

The full stop at the end of Article 2, item 6 of the Rulebook on preventive measures for the safe and healthy work in the use of work equipment (“Official Gazette of the RS”, no. 23/09) shall be replaced by the semicolon.

After item 6 a new item 7 shall be added, worded as follows:

“7) the work at heights which includes the use of work equipment shall refer to any work activity involving the risk of falling from a height of more than two metres from the ground due to the fact that the workspace is not protected against falling from heights.”

Article 2

After Article 6 a new Article 6a shall be added, worded as follows:

“Article 6a

Employers shall be obliged to provide the measures for safe and healthy work in the use of work equipment set out in the Overview of general measures (Addendum 1) and Overview of measures in the use of work equipment (Addendum 2).

The Overview of general measures (Addendum 1) and Overview of measures in the use of work equipment (Addendum 2) shall be attached to this Rulebook and form its integral part.

Article 3

The Rulebook on measures and regulations on the safety at work in the use of work tools (“Official Gazette SFRY”, no. 18/91) on the effective date of this Rulebook.

Article 4

This Rulebook shall enter into force on the eighth day from the date of its publication in the “Official Gazette of the Republic of Serbia”.

Number 110-00-00020/2012-01

In Belgrade, 25 December 2012

MINISTER

Jovan Krkobabić, Ph. D.

## Overview of general measures

### 1. General note

1.1. General measures in the use of work equipment shall apply to any work equipment.

### 2. General requirements for work equipment

2.1. Control devices of the work equipment affecting safety must be clearly visible and recognisable and appropriately marked when required.

2.1.2. Control devices must be located outside the danger zone to prevent any additional hazards their use may cause, except in the case when it is required for certain control devices. Control devices must not cause any danger that would result from their inadvertent use.

2.1.3. If necessary, from the main control position, the operator must be able to ensure that no one is present in the danger zone. If this is not possible, the warning signal, visual and/or sound, must be automatically activated every time the machine is started. Any exposed employees must have sufficient time and possibility to avoid the hazards caused by starting or stopping the work equipment.

2.1.4. Control systems must be safe and chosen by taking into account any failures, faults or limitations that may be expected in the planned usage circumstances.

2.2. Starting the work equipment must be possible only by deliberately activating the devices provided for this purpose.

2.2.1. The same requirement shall apply in the following cases:

1) restarting the work equipment upon its stoppage for any reason;  
2) making significant changes to the operating conditions (e.g. speed, pressure, etc.) provided that the restart of work equipment and significant changes to the operating conditions should not cause any danger to employees.

2.2.2. This requirement shall not apply to the restart of work equipment or any changes to operating conditions resulting from a normal operating cycle of an automatic device.

2.3. Any work equipment must be fitted with a control device for a full and safe stopping.

2.3.1. Each workstation must be equipped with a control device for stopping some or all of the elements of work equipment, depending on the type of danger, so that the work equipment remains safe. The control devices for stopping the work equipment should have priority over the control devices for starting the work equipment. When the work equipment or its potentially dangerous parts are stopped, the power supply of its related starters must be interrupted.

2.4. Where possible and dependant on the threat posed by the work equipment and its normal stopping time, the work equipment must be fitted with a device for stopping it in case of emergency.

2.5. Work equipment which poses a risk related to falling or ejecting the objects during work must be fitted with an appropriate safety device in proportion to the risk which it is exposed to.

2.5.1. Work equipment which poses a risk due to an emission of gasses, vapours, liquids or dust must be fitted with appropriate devices for a containment and/or disposal of hazardous substances near the source of danger.

2.6. Work equipment and its parts must be stabilised by fixing or any other means, when necessary for the safety and health of employees.

2.7. In the event of any risks of breakage or destruction of work equipment parts representing a severe danger to the safety and health of employees, it is necessary to take appropriate protection measures.

2.8. In the event of any risks of a mechanical contact with moving parts of the work equipment which may lead to injuries, these parts must be fitted with the protectors or devices that prevent an access to the danger zone or stop the movement of dangerous parts before entering the danger zone.

2.8.1. The protectors and protection devices:

- 1) must be of a robust construction;
- 2) must not cause additional hazards;
- 3) must be such as not to get easily removed or disabled;
- 4) must be placed at the appropriate distance from the danger zone;
- 5) should minimally interfere with an overview of production processes;
- 6) must be such as to allow the activities necessary to mount or replace the parts during maintenance where the access is limited only to those areas where the work activities have to be done, and if possible, without removing the protector or protection device.

2.9. Areas and places where work on the work equipment is done or maintenance of the said equipment must be adequately lighted in accordance with the type of activity to be performed.

2.10. Parts of the work equipment that are exposed to very high or very low temperatures should, where necessary, be protected in order to avoid the risky situation of employees coming into contact or approach too close.

2.11. Warning devices on the work equipment must be unambiguous, easily visible and understandable.

2.12. Work equipment may be used solely for performing the activities under the conditions in accordance with its intended purpose.

2.13. It must be possible to carry out the maintenance operations when the work equipment is stopped. If this is not possible, then it must be possible to take appropriate protection measures for carrying out such operations or to perform such operations outside the danger zone.

2.13.1. If any work equipment has the maintenance book, it must be up to date.

2.14. Any work equipment must be fitted with the devices to interrupt the power from any energy sources which must be clearly distinguishable.

2.14.1. Reconnection with power sources must be made in such a manner it does not pose any risks to employees.

2.15. Work equipment must have signs and warning devices to ensure the safety and health of employees.

2.16. Employees must be provided with safe access to any areas intended for production, adjustment and maintenance of work equipment and must be enabled to safely reside in them.

2.17. Any work equipment must be appropriate in order to protect the employees from the risk of fire, overheating or release of gases, dust, liquids, vapours or other substances produced, used or stored in the work equipment.

2.18. Any work equipment must be appropriate in order to prevent the risks of explosion of work equipment or any substances produced, used or stored in the work equipment.

2.19. Any work equipment must be adequate in order to allow for the safety of employees exposed to the risk of direct or indirect contact with installations and equipment under voltage.

### **3. Additional requirements for certain categories of work equipment**

3.1. The requirements for moving work equipment, regardless of whether the work equipment is self-propelled or not.

3.1.1. Work equipment used for riding purposes must be fitted in such a way as to reduce the risks to employees during the ride.

- 3.1.1.1. These risks must include the risks of coming into contact with the wheels or rails or getting gripped by them.
- 3.1.2. When there is a possibility of accidental blocking of moving parts of work equipment and its associated parts, and/or anything dragging, and which may pose certain risks, such work equipment must be fitted or adjusted in a manner to prevent the blocking of moving parts of the work equipment.
- 3.1.2.1. When impossible to avoid such blocking, it is necessary to take any measures to avoid any adverse effects on employees.
- 3.1.3. Where the drive shaft for power transmission among moving parts of the work equipment may be contaminated or damaged while dragging on a surface, there must be the means of securing it.
- 3.1.4. Work equipment used for riding purposes must be designed in such a way that under normal conditions of use the risks arising from its tossing and turning are limited by:
- 1) protective structure which will ensure that the work equipment cannot tilt or fall over;
  - 2) structure which provides sufficient space among the employees managing the work equipment in case the work equipment may tilt or roll over;
  - 3) some other device with similar effects.
- 3.1.4.1. Protective structures may be an integral part of the work equipment.
- 3.1.4.2. Protective structures are not necessary when the work equipment is fixed during operations or when designed not to allow the rollover.
- 3.1.4.3. Where there is a risk of employees managing the work equipment to be crushed between the work equipment parts and the surface in case of the work equipment rollover, a special protective structure must be installed to prevent this.
- 3.1.5. A self-propelled mechanical-drive vehicle containing one or more employees must be adapted or equipped to limit the risk of rollover by:
- 1) setting up a driver cabin;
  - 2) establishing a protective structure to prevent rollover;
  - 3) establishing a construction that provides, in case a self-propelled mechanical-drive vehicle rolls over, enough space between the surface and certain parts of self-propelled mechanical-drive vehicle and the employees in it;
  - 4) establishing a structure which provides that an employee in the driver's seat cannot be pinched by the parts of a self-propelled mechanical-drive vehicle that rolled over.
- 3.1.6. Self-propelled work equipment which when started may cause risks to persons must meet the following requirements:
- 1) it must have the devices which prevent accidental rollover of equipment;
  - 2) it must have proper devices to reduce the consequences of a collision where more than one moving part of the equipment are simultaneously moving on the rails;
  - 3) it must have the device for braking and stopping when required by safety margins, and in the event of failure of the main controlling device, a control device must be provided in case of emergency with fully independent and easily accessible controls for slowing and stopping;
  - 4) if the driver's view is limited in such a way as to affect the safety, it is necessary to incorporate appropriate assistive devices that will allow for better visibility;
  - 5) work equipment designed for use at night or in dark places must be fitted with adequate lighting for work performed and must provide sufficient employee safety;
  - 6) work equipment which poses a risk of fire, either alone or in terms of anyone\anything dragging and\or carrying it, or may endanger employees must be equipped with appropriate fire extinguishers if such equipment is not available near the location where the work equipment is used;

7) work equipment with remote control must be fitted with devices for automatic and immediate stopping the moment it comes out of the controlled area;

8) work equipment with remote control which under normal circumstances may cause a risk of crushing or injury must be fitted with the devices protecting against this kind of risk, unless there are other appropriate risk control devices.

### 3.2. Requirements for the operation of lifting equipment

3.2.1. When the work equipment used for lifting is installed, it is necessary to ensure its strength and stability during use, while particularly taking into account the burden to be lifted and existing strain at the point of its installation or attachment to the structure.

3.2.2. Machines for burden lifting shall be clearly marked with the allowable working load and, where necessary, there must be a plate on them indicating the working load for each machine configuration.

3.2.2.1. Lifting equipment shall be marked in such a way as to enable the identification of characteristics essential for safe use.

3.2.2.2. Work equipment which is not designed for lifting people, but could be misused for this purpose, shall be marked with a clear and indelible warning against lifting persons.

3.2.3. Permanently installed work equipment shall be designed to reduce the following burden-related risks:

- 1) of hitting employees;
- 2) of dangerous moving or free fall (in terms of preventing them);
- 3) unexpected fall.

3.2.4. Work equipment for lifting or moving the employees shall be such as to:

- 1) prevent the risk of basket fall, where existent, by using appropriate devices;
- 2) prevent the user from falling out of the basket where existent;
- 3) prevent the user to be pinched, caught, entrapped or hit especially through an accidental contact with objects;
- 4) ensure that persons entrapped in the basket in the event of an accident are not endangered and may be freed.

3.2.4.1. If it is not possible to avoid the risks referred to in item 1 by taking any safety measures due to the differences of positions and heights, it is necessary to incorporate a suspension rope with an increased safety coefficient that needs to be checked on a daily basis.

## **Addendum 2**

### **Overview of measures in the use of work equipment**

#### **1. General note**

1.1. The requirements laid down in this Addendum shall apply in the event of any risks in the use of proper work equipment.

#### **2. General requirements in the use of work equipment**

2.1. Work equipment must be mounted, installed and used in such a way as to reduce the risks to users and other employees by providing sufficient space between the moving parts of work equipment and fixed or moving parts surrounding it and allowing any forms of energy and substances used or generated to be entered or removed safely.

2.2. Work equipment must be mounted or dismounted under safe conditions, particularly respecting the instructions of the manufacturer.

2.3. Work equipment which may be struck by lightning while used must be protected by appropriate devices or means against lightning strikes.

### **3. Provisions regarding the use of mobile, self-propelled or not self-propelled equipment**

3.1. Self-propelled work equipment may be used only by employees qualified for the safe use of such equipment.

3.2. If self-propelled work equipment is moving through the workspace, one must adhere to the prescribed measures for speed, width of traffic areas, condition of surface and slope.

3.3. Organisational measures must be taken to prevent employees going on foot from entering the workspace of self-propelled work equipment.

3.3.1. If works can be executed only in the presence of employees going on foot, then appropriate measures must be taken to protect the employees against any injuries the self-propelled work equipment may cause.

3.4. Employee transport on mobile mechanical-drive work equipment shall be allowed only if there are adequate safety devices for this purpose. If works are performed during transportation, it is necessary to adjust the speed of movement.

3.5. Mobile work equipment with an internal combustion engine must not be used within work areas unless provided with a sufficient amount of fresh air so as not to cause any danger to employee safety and health.

### **4. Provisions regarding the use of work equipment for lifting loads**

#### **4.1. General considerations**

4.1.1. Work equipment which is mobile or can be dismounted and which is designed for lifting loads must be used in such a way as to ensure its stability during use in any foreseeable conditions, taking into account the state of the surface.

4.1.2. Lifting persons by using the work equipment shall be allowed by using the lifting equipment designed for this purpose.

4.1.2.1. Exceptionally, the work equipment which is not designed for lifting persons may be used for this purpose provided that adequate measures are taken to ensure the safety and health at work.

4.1.2.2. When employees are on the work equipment designed for lifting loads, the control position must be filled at all times. Persons who are lifted must be equipped with reliable means of communication. In the event of an emergency, their safe evacuation must be ensured.

4.1.3. The measures must be taken to ensure that employees are not located under a hanging burden, except in the case when the work cannot be done in a different manner.

4.1.3.1. The load must not be transmitted over unprotected workplaces where employees are present.

4.1.3.2. In case this is not possible due to the nature of work, other measures must be applied to provide the adequate employee safety.

4.1.4. Equipment for lifting loads must be selected according to the characteristics of the load to be transferred, tightening points, fixing and atmospheric conditions, taking into account the manner and path of lifting. Equipment for lifting must be clearly marked so that users can get familiar with its characteristics when the equipment is not dismounted after use.

4.1.5. Equipment for lifting must be stored in a manner that ensures its non-damaging and permanent reliability.

## 4.2. Work equipment for lifting non-managed loads

4.2.1. When two or more elements of the work equipment for lifting non-managed loads are mounted or placed on the site so that their radiuses overlap, the appropriate measures must be taken to avoid the collision of loads and/or equipment parts themselves.

4.2.2. When the mobile work equipment is used for lifting non-managed loads, the appropriate measures must be taken to prevent its tilting, tumbling, moving or slipping. There must be controls undertaken to ensure that these measures are properly implemented.

4.2.3. If the operator of work equipment designed for lifting non-managed loads is not provided with direct visibility of the entire path of the load, either directly or with the aid of an extra device providing the necessary information, a qualified person must communicate with the operator in order to direct him/her, and in addition, the organisational measures must be taken to prevent the collision of the loads which might endanger the employees.

4.2.4. Work must be organised in such a way as to provide a safe manual binding and removal of the load, and especially to provide the employees with direct or indirect control over the work equipment.

4.2.5. Any lifting operation must be properly planned, appropriately supervised and conducted so to ensure the safety of employees.

4.2.5.1. In particular, if loads must be lifted by simultaneously using two or more parts of the equipment for lifting non-managed loads, a procedure must be established and implemented to ensure good coordination between operators.

4.2.6. If the work equipment designed for lifting non-managed loads cannot hold the load in case of complete or partial interruption of power supply, appropriate measures must be taken to avoid employee exposure to risks that may result from such events.

4.2.6.1. A hanging load should not be left unattended, unless it is forbidden to access the danger zone while the hanging load is hanging safely and securely holding itself.

4.2.7. The outdoor use of the work equipment designed for lifting non-managed loads should be aborted when weather conditions deteriorate to the point of endangering the safe use of the work equipment and exposing employees to risks. Appropriate measures must be taken to avoid the tumbling of equipment as well as any risks to employees.

## **5. Provisions regarding the use of work equipment for temporary work at height**

### 5.1. General provisions

5.1.1. If a temporary work at height cannot be done safely and under appropriate ergonomic conditions from an adequate surface, there should be selected the work equipment most suitable for the provision and maintenance of safe working conditions. A preference should be given to collective over individual measures of health and safety at work. Work equipment dimensions should be in line with the nature of the work performed and predictable loads, as well as to allow safe passage.

5.1.1.1. An access to a temporary workplace at a height requires the most appropriate means according to the frequency of passage, height to be reached, and duration of works. The selected choice must provide the evacuation in an emergency. A passage in both directions between the means of access and platforms, floors or passages must not cause additional risks of falling.

5.1.2. Ladders may be used in the workplace for work at heights only in cases when, pursuant to item 5.1.1., the use of other safer work equipment is not justified due to the low risk and short duration of use or existing dangers and hazards in the workplace which an employer cannot change.

5.1.3. A rope access and techniques of placing the rope may be used only in cases where it is, according to the risk assessment, clear that the work can be done safely and without using other, safer work equipment.

5.1.3.1. Taking into account the risk assessment depending on the duration of the works and ergonomic constraints, there must be provided a sitting place with appropriate equipment.

5.1.4. Depending on the type of work equipment selected on the basis of the foregoing, appropriate measures must be taken to reduce the risk to employees to the minimum essential for those particular types of equipment. If necessary, there must be ensured the installation of safety barriers to prevent falls. The said barriers must be of an appropriate configuration and solid enough to prevent or stop the falls from heights, and to prevent employee injuries as much as possible. Safety barriers for preventing falls may be interrupted only at the sites for accessing ladders or stairs.

5.1.5. When performing a specific task requires the temporary removal of safety barriers for preventing falls, the appropriate measures for health and safety at work must be taken. The task may not be performed unless such measures are taken. When the task is completed, either permanently or temporarily, the safety barriers for preventing falls are re-installed.

5.1.6. A temporary work at height may be done only when weather conditions do not jeopardize the safety and health of employees.

## 5.2. Special provisions regarding the use of ladders

5.2.1. Ladders must be placed so as to ensure their stability during use. Portable ladders must be placed on a stable, solid, immobile support of an appropriate size so that the crossbars remain horizontal. Hanging ladders must be securely fastened, with the exception of rope ladders, so as not to move or swing.

5.2.2. Supports of portable ladders must be secured against slipping during use by fixing the anti-slip devices on the upper or lower sides, or by any other method with the same result. The ladders used for access must be long enough to protrude above the platform to which the access is made, unless other measures are taken to ensure a firm grip. Collapsible ladders and folding ladders must be used so as to prevent the movement of different parts in relation to one another. Movable ladders must be prevented from moving before stepping on them.

5.2.3. Ladders must be used in such a manner that a safe grip and secure support are available to employees at all times. In particular, if the load is manually transferred on the ladder, that should not prevent a safe grip.

## 5.3. Special provisions regarding the use of scaffolds

5.3.1. If the data with calculations for the selected scaffold are not available or when such data do not refer to the construction under consideration, the calculations of strength and stability must be made in the event that the scaffold is not installed in accordance with the established mounting order.

5.3.2 Depending on the selected scaffold type, a competent person has to develop a project for mounting, use and dismantling. The project may be in the form of a typical project, amended with the positions related to specific details of the said scaffold.

5.3.3 It must be prevented that the supporting elements of the scaffold are on a slippery surface by fixing, providing an anti-slip device or other means with the same result, and a bearing surface must withstand the loads which it is exposed to. The stability of the scaffold must be provided. An accidental starting of the scaffold on wheels must be prevented by appropriate devices during work at height. The transportation of scaffold is prohibited when the employed are on it. The transportation of scaffold of more than 5 m is prohibited.

5.3.4. Dimensions, shape and arrangement of the scaffold working levels must comply with the nature of the work performed and be suitable for the load carried, as well as to allow safe operation and movement. The scaffold working levels must be mounted so that their components do not move while in regular use. There must be no dangerous gaps between the elements of working levels and vertical safety barriers for the prevention of falls.



5.3.5. When parts of the scaffold are not ready for use, for example during the mounting, dismantling or alterations, they must be marked with warning signs and equipped with devices that prevent access to the danger zone.

5.3.6. Scaffolds may be mounted, dismantled or significantly altered only by being examined by qualified persons and such a task may be performed by employees designated for it pursuant to Article 8 of this Rulebook, particularly in relation to:

- 1) understanding the project for mounting, dismantling or altering the scaffold;
- 2) safety during the mounting, dismantling or altering the scaffold;
- 3) measures to prevent the risk of persons or objects falling;
- 4) safety measures in the event of changes in weather conditions which could adversely affect the safety of the scaffold;
- 5) allowable load;
- 6) any other potential risks related to the mounting, dismantling or altering the scaffold.

5.3.6.1. A qualified examiner and designated employees must have the project for mounting and dismantling referred to in item 5.3.2, including written instructions which are an integral part of the project.

#### 5.4. Specific provisions regarding the use of ropes and rope installation techniques

5.4.1. Accessing the use of ropes and rope installation techniques shall comply with the following conditions:

1) the system must consist of at least two separately attached ropes, where one serves as a means of access, descent and support (working rope) and the other as backup (security rope);

2) employees must be provided with appropriate protective belts which must be used and which should be linked to the security rope;

3) working rope must be equipped with devices for safe lifting and descending and it must have a system for fall protection which prevents users from falling in case they lose control over their movements. The safety rope must be equipped with a mobile system for fall protection which monitors the movement of employees;

4) tools and other equipment used by employees should be attached to their belt or seating or by some other appropriate means;

5) the work must be properly planned and supervised so that employees can be promptly rescued in the event of an emergency;

6) employees must be provided with the appropriate training pursuant to Article 12 of this Rulebook in relation to the projected works, and especially the rescue procedures.

5.4.1.1. Exceptionally, if based on the risk assessment using the other rope may pose risks arising from its use, the use of one rope may be allowed provided that the appropriate measures for health and safety at work are taken.