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SAFETY REQUIREMENTS FOR WORKING AT A HEIGHT

1 GENERAL PROVISIONS

- 1.1 These guidelines are an internal document that establishes a uniform procedure for the organisation and safe performance of work using ladders, masts and safety harnesses (equipment for working at a height) in the territory of Viru Keemia Grupp and its subsidiaries (hereinafter the Group) in order to ensure the safety of employees performing these works, and persons present in the zone of performance of these works.
- 1.2 The requirements of these guidelines do not cancel the need to comply with the requirements of the applicable legal acts of the Republic of Estonia.
- 1.3 These guidelines have been developed in cooperation with SkyProff OÜ.
- 1.4 Persons who have reached the age of 18, who have been trained in safe methods and techniques for performing work at a height and who have no contraindications for health reasons, are allowed to work at a height.
- 1.5 The inspection of ladders, stepladders and scaffolding shall be carried out by responsible persons appointed by the owner in accordance with Annex 1.
- 1.6 The inspection of ladders, stepladders and scaffolding shall be recorded in the inspection log. The inspection log must comply with Form 1.
- 1.7 All the persons involved in the performance of works at a height shall bear responsibility for a failure to comply with these guidelines.
- 1.8 The guidelines include the following annexes and forms:
 - Annex 1. Procedure for checking the condition of ladders and work platforms.
 - Form 1. Inspection log for ladders and work platforms.

2 TERMS AND DEFINITIONS

- 2.1 **Work at a height** – involves risks associated with the possibility of an employee falling from a height of 2 metres or more.
- 2.2 **Scaffolding** – a multi-tiered structure designed to organise work on different levels.
- 2.3 **Ladder** – a structure designed for people to move at a height and create temporary workplaces.
- 2.4 **Work platform** – a single-tiered structure designed for the performance of work that requires movement along the area of work.

3 RISKS RELATED TO WORK AT A HEIGHT

3.1 The main dangerous risk factor of working at a height is the location of the workplace at a considerable height relative to the ground (floor) and the possibility of employees falling from heights or the possibility of objects falling onto employees.

3.2 Causes of employees falling from heights:

Technical – absence of guards, safety belts (harnesses), insufficient strength and stability of scaffolding, work platforms and ladders.

Technological – shortcomings in the organisation of work, incorrect technology of performance of work.

Psychological – loss of self-control, impaired coordination of movements, carelessness in activities, negligence in the performance work.

Meteorological – strong wind, low and high air temperatures, rain, snow, fog, slipperiness.

3.3 Possible causes of objects falling onto employees:

- the fall of loads being moved by lifting machinery due to breakage of lifting gear, improper slinging (tying), pieces falling out of a load;
- the fall of mounted structures due to the non-conformity of structural technology, the non-conformity of connection dimensions and surfaces, or an incorrect sequence of technological operations;
- the faults of building structures due to design errors, faulty prefabrication technology of assembled structures, poor quality of construction and installation works, incorrect operation;
- the fall of materials, structural elements, equipment and tools due to violation of safety rules – the absence of a side board at the edge of the work platform on the scaffolding.

4 GENERAL PART

4.1 Failure to comply with the guidelines may cause serious and/or even fatal injury. Improper or inappropriate use of equipment in working at a height may cause injury to the performer of work or other persons, or even result in a fatal accident.

4.2 **Before starting work, carry out a risk assessment:**

- make sure the working environment is safe;
- sufficient lighting;
- the base is non-slip, even and stable;
- the wind speed does not exceed 10 m/s (the allowed wind speed may vary, depending on the type of work at a height and the equipment used).

It is important that you yourself are able to assess the potential risks which may make working at a height dangerous. If necessary, involve a manager in the risk assessment.

4.3 Use the equipment for working at a height only for the purposes and in the manner specified in the user manual. Calculate the height of falling correctly so that in the event of a fall, you can avoid hitting the ground or structures below you. Use a fall absorber with a lanyard of the correct length.

4.4 It is prohibited to independently repair equipment for working at a height.

4.5 It is prohibited to reconstruct equipment for working at a height on your own initiative.

4.6 It is prohibited to dismantle any parts of the equipment for working at a height or block their functioning.

4.7 When working at a height, use clean and non-slip **safety shoes / when working on masts – dielectric safety shoes, a safety helmet** with a four-point chinstrap (compliant

at least with standard EN397) and an appropriate **full set of fall protection equipment**, and, if necessary, a reflective vest, protective gloves/mittens and safety goggles that provide front and side protection from particles and splashes generated during work.


- 4.8 The work area must be sufficiently well lit to ensure the safe performance of work tasks.
- 4.9 Perform work tasks calmly, do not rush. Working at a height is dangerous for people who are afraid of heights. Entrust work at a height only to people who are not afraid of heights.
- 4.10 For work at a height greater than 2 meters and for durations longer than 30 minutes, scaffolding, a basket lift, or safety railings and safety nets should be chosen over personal protective equipment when selecting fall protection equipment. Safety railings and safety nets must be installed in places where the height of a possible fall is at least 2 meters, including on scaffolding and work sites, as well as on the open sides of walkways. The minimum safety railing setup is a footrail, a handrail at a height of 1 meter and an intermediate support between them at a height of 0.5 m. The intermediate support can also be replaced with appropriate panels or safety nets.
- 4.11 Never work at a height alone!

5 LADDERS

5.1 The choice of ladders and their types

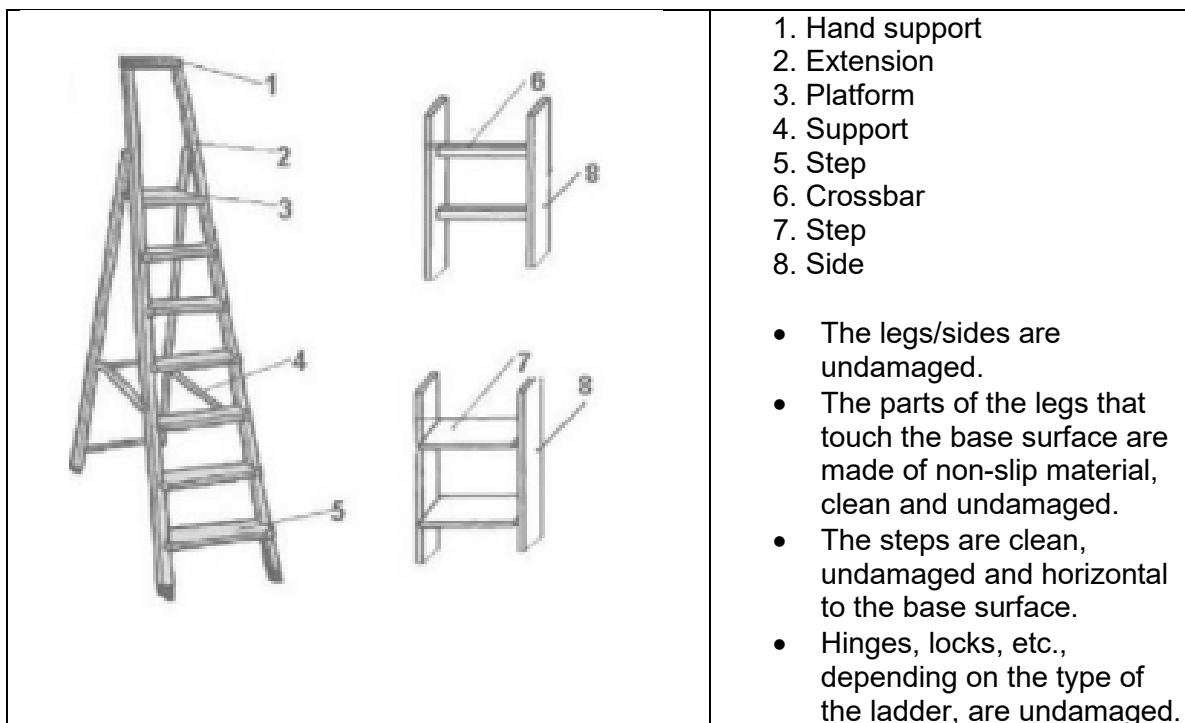
5.1.1 For temporary work at a height of at least 2 m above the ground, ladders may be used as a workplace only in exceptional cases, if the use of other, safer equipment, including scaffolding, work platforms or hoists is inexpedient because of the low level of risk, short duration of use (less than 30 minutes) or existing features on site which the employer cannot change.

5.1.2 These safety guidelines apply to the following types of ladders:

			
Leaning ladder	Stepladder	Folding ladder	Combination ladder

5.2 Before starting work

- 5.2.1 Move a long ladder with a colleague, holding the ladder by its ends. When moving the ladder, ensure the safety of surrounding people and objects.
- 5.2.2 If the ladder cannot be leant firmly against a wall/structure, choose a folding ladder or stepladder.
- 5.2.3 For electrical work, only use ladders that do not conduct electricity (EN 50528).
- 5.2.4 Make sure that by the time of use the ladder has been checked (the ladder must be checked once in a calendar month, otherwise it must not be used) and is in a good condition (no breakage or defects).
- 5.2.5 Before starting work, carry out the following inspection:



1. Hand support
2. Extension
3. Platform
4. Support
5. Step
6. Crossbar
7. Step
8. Side

- The legs/sides are undamaged.
- The parts of the legs that touch the base surface are made of non-slip material, clean and undamaged.
- The steps are clean, undamaged and horizontal to the base surface.
- Hinges, locks, etc., depending on the type of the ladder, are undamaged.

5.3 During work

- 5.3.1 Always place the ladder on a firm and level base. If the ladder cannot be installed so that it is stable, its use should be abandoned and other, safer access options (hoist, scaffolding) should be used. When installing the ladder, be careful not to damage wires or electrical equipment. Metal ladders conduct electricity. Stay away from hazardous places that are under voltage.
- 5.3.2 Do not exceed the permissible load capacity of the ladder, EN 131 – 150 kg.
- 5.3.3 Position the ladder at the work site so that you do not have to bend over, which could cause the ladder to fall or sink down. Avoid sudden movements.
- 5.3.4 As you move up a ladder, stay facing the ladder and take one step at a time.
- 5.3.5 Make sure that the ladder is at least 1 metre above the surface on which it rests. This rule applies to ladders that are used as a means of access and are not permanently attached.
- 5.3.6 Always keep your tools in a special bag or pocket. Do not hold tools in your hands when moving up and down ladders.
- 5.3.7 Do not change the position of the ladder while you are on it.
- 5.3.8 When using a stepladder, make sure it is fully extended and the intermediate bracket is secured.
- 5.3.9 Position a leaning ladder at a 70-degree angle by resting your toes on the base of the ladder and grasping the sides at shoulder level with your hands.
- 5.3.10 When moving up/down a ladder, you must have 3 points of contact with the ladder – 1 hand and 2 feet or 2 hands and 1 foot. When working, both feet must stand on the same step. **Work that requires the simultaneous use of two hands cannot be safely performed from a ladder!**

For measuring angles, you can install a special app (e.g. Angle Meter) on your smartphone.






Correct use –
3 contact points



Incorrect use –
excessive stretch and missing 3 contact points

- 5.3.11 It is prohibited to stand above the third crossbar or step.
- 5.3.12 If you need to install a ladder in front of a door or in a similar location, make sure the door is securely blocked, locked, or guarded.
- 5.3.13 Ensure that all locks on the ladder are properly fastened to secure the ladder in place.
- 5.3.14 Make sure your body weight rests between the sides of the ladder.
- 5.3.15 A lockable multi-part ladder and an extension ladder must be used so that the different parts of the ladder remain stationary in relation to each other. A movable ladder must be secured in a fixed position before stepping on it.
- 5.3.16 You must not work more than 30 consecutive minutes or more than a third of the length of a working day while standing on a ladder.
- 5.3.17 If you notice that the ladder has any structural defects, stop using it immediately and notify the person directly responsible for the ladder.
- 5.3.18 As a rule, you must not work on a ladder longer than 5 metres.
- 5.3.19 Only one person can be on a ladder at a time.

6 HARNESS

Fall arrest harness P30N (fire resistant)	Fall arrest harness with positioning belt P50NX (fire resistant)	Fall arrest harness P03S
		
<p>With attachment points at the front and rear.</p>	<p>With attachment points at the front and rear as well as attachment points for positioning on the waist belt. The positioning belt allows you to attach yourself to masts and fixed ladders.</p>	<p>With front and rear attachment points for anti-fall system 'A' and a work seat.</p>

6.1 Using a harness



- 6.1.1 See where you can safely attach a fall absorber with a safety lanyard. If possible, evaluate the strength of the attachment point and make sure it can support a weight of at least 1500 kg.
- 6.1.2 Make sure that the fall absorber with a safety lanyard does not rub against sharp edges during work, as this can damage it and it may break when absorbing a fall.
- 6.1.3 To ensure safety and reliability, only use fall protection equipment and parts that are certified and designed for the work to be performed.
- 6.1.4 The maximum weight of the user together with tools must not exceed 140 kg.
- 6.1.5 Use only clean and proper fall protection equipment. Dirty, unclean harnesses, cables and carabiners are not safe and wear out quickly.
- 6.1.6 When new fall protection equipment is put into service, check the presence of a document that indicates the product, its serial number, year of manufacture and date of first use.
- 6.1.7 Inspect fall protection equipment at the frequency specified by the manufacturer; this must be done by a competent person (e.g. equipment seller).
- 6.1.8 Make sure that the harness: straps, seams, buckles and joints of the fall absorption system are undamaged and clean, and that metal parts show no sign of corrosion.
- 6.1.9 Put on the safety harness (shoulder, waist and hip straps). Adjust the tension of the harness straps to your body size. The part of the harness intended for the legs should be fastened with such force that it does not hinder free movement or compress the veins.
- 6.1.10 Make sure the carabiners are undamaged and in good working order.
- 6.1.11 Make sure that the tools necessary for your work are secured to you so that they cannot fall down. If necessary, attach the tools to you with a cord or in some other way. Do not attach heavy tools or a tool bag weighing more than 5 kg to you. Heavy tools should be pulled up behind you with an additional cable.
- 6.1.12 Do not work at a height alone. You must be trained in rescue procedures.

6.2 After completion of work

- 6.2.1 Remove your fall protection equipment. If the kit gets dirty, wash it with warm soap water and dry it at room temperature. If necessary, clean the carabiners and lubricate them with silicone oil.
- 6.2.2 Tidy up your workplace.
- 6.2.3 Put the equipment for working at a height in the place designated for this (in a clean container or in a cabinet where it will be protected from damage due to exposure to the environment).

- 6.2.4 Remove protective clothing and personal protective equipment. Put your reusable personal protective equipment and work clothes in a place designated for this. Dispose of disposable protective equipment in a place designated for this.

7 USE OF SCAFFOLDING

7.1 Before starting work on a scaffold, make sure that:

- 7.1.1 The scaffolding was installed in accordance with the requirements, and the installation was carried out by workers who have been trained accordingly.
- 7.1.2 The guardrails on the scaffolding are located horizontally, with the legs of the support poles resting on the base and fixed.
- 7.1.3 If the scaffolding is installed on the ground, there are load-distributing pads under the legs of the support poles.
- 7.1.4 The scaffolding has the necessary guardrails, both on the working platforms and in the walkways:
- Guardrail at a height of 1 m from the surface of the working level/walkway,
 - Foot rails at ankle height,
 - Intermediate supports between them.
- 7.1.5 If guardrails are not available, fall protection equipment (a harness with a fall absorber) should be used. See clause 6 of these guidelines.
- 7.1.6 If scaffolding is used, it should be installed in such a way as to ensure stability, with safety barriers or guardrails at dangerous openings to prevent falls (handrails at a height of at least one meter, foot rails, and intermediate supports at a height of 0.5 m). Scaffolding components must be undamaged, made of durable material and fixed in accordance with the manufacturer's instructions. The distance between the wall and the scaffolding should generally not exceed 30 centimeters. If the distance between the scaffold platform and the facade exceeds 30 centimeters, the scaffolding must also be equipped with internal guardrails. The base on which the scaffolding is placed must have sufficient load-bearing capacity.
- 7.1.7 If the scaffolding is designed as freestanding, it is necessary to check the fastenings that attach the scaffolding to the main structure. Inspect the fasteners: they must be intact and must not move under your hand.
- 7.1.8 If a ladder is used to move to a higher level, its upper end must be secured and it must be at least 1 meter above the level surface. The angle of inclination of the ladder must be 70 degrees.

NB! If the above requirements are not met, this should be reported to your immediate manager and the use of scaffolding in this case is prohibited.

7.2 During the performance of work:

- 7.2.1 The work platforms and ladders of scaffolding must be periodically cleaned of debris during work and daily after work, in winter time – of snow and ice and if necessary, sprinkled with sand.
- 7.2.2 It is prohibited to throw dismantled parts of equipment (pipes, parts of cladding, insulation, etc.) or debris from a height. Dismantled equipment parts and debris must be removed mechanically in closed boxes and containers or along closed chutes.
- 7.2.3 Scaffolding that has not been worked on for a month or more, or after rain or thaw during the cold season that has caused a deformation of its base, must be repaired and again approved for use.
- 7.2.4 Work on several tiers on the same vertical without intermediate protective planking between them is not permitted.
- 7.2.5 Protective planking is optional in cases where the performance of work and human and vehicle traffic is not foreseen under or near the scaffolding.

- 7.2.6 In the case of work of multi-tiered nature, platforms, decks, scaffolding and ladders must be equipped with protective screens of sufficient size and strength to protect against falling objects.
- 7.2.7 Loads are lifted onto scaffolding using blocks, jibs and other means of low mechanisation. The load-handling openings must have guardrails on every side.
- 7.2.8 Scaffolding inspections are carried out regularly at the times stipulated in the manufacturer's certificate, as well as after exposure to extreme weather conditions, as well as in the case of other circumstances that may affect its strength and stability.
- 7.2.9 When scaffolding is operated by the Group's employees, the scaffolding is inspected before each work shift by the person responsible for the performance of the work.
- 7.2.10 When scaffolding is operated by the employees of a contractor, the scaffolding is inspected before each shift by the performer of the work (foreman).
- 7.2.11 During the inspection, attention must be paid to the presence or absence of defects of and damage to the structural components of the scaffolding, which affect their strength and stability; the presence of the necessary guardrails; suitability of the scaffolding for further work.
- 7.2.12 If a deformation of the scaffolding is detected, it must be removed.
- 7.2.13 Partial dismantling of scaffolding is not allowed.
- 7.2.14 Access for unauthorised persons (who are not directly involved in the work in question) to the area where scaffolding is installed or dismantled must be closed.
- 7.2.15 Scaffolding located at entrances to a building shall be equipped with protective canopies with solid side cladding to protect against objects accidentally falling from above.

8 WORK ON MASTS

In performing the work:

- 8.1 Check the presence and condition of ladders or steps, as well as guardrails;
- 8.2 While on a mast, it is necessary to use a safety harness and be strapped in;
- 8.3 Organise the workplace in accordance with the nature of the work to be done, clearing it from foreign objects;
- 8.4 In winter, clear the workplace of snow and sprinkle sand on slippery areas;
- 8.5 Make sure that there are signs and plates that indicate the load-bearing capacity of the protective components; make sure that neither the employee nor the nature of his/her work causes a heavier load than the one prescribed;
- 8.6 Check the sufficiency of lighting in the entire work area (at each height, etc.);
- 8.7 Do not exceed the rated load limits for the mast and its parts or allow people to congregate in one part of the mast;
- 8.8 It is prohibited to independently remove guardrails and bend over guardrails;
- 8.9 Try not to disturb or distract those working with you;
- 8.10 Be careful, follow the signals of those working with you and the warning signs;
- 8.11 It is forbidden to jump down from the mast from any height;
- 8.12 Work on the mast should be suspended in the case of rain, thunderstorm, strong wind (more than 12 m/s) and insufficient lighting at of the workplace.

In 2016, an employee of VKG Energia fell down from the working platform of a lighting mast located about 19 m from the ground. The section of decking on which the employee was standing broke, and the employee fell to the ground from a great height.

9 DEVICES USED FOR LIFTING PEOPLE TO HEIGHTS

- 9.1 To lift people, only lifting devices and auxiliary means intended for this purpose may be used.
- 9.2 A device used for lifting people must be equipped with protection that prevents:
 - The unintentional tipping of the lifting device;
 - The fall of a worker from the lifting device;
 - Crushing and injuring a worker by the lifting device as a result of a possible collision.
- 9.3 If the unintentional tipping of the lifting device cannot be completely prevented by safety measures due to the position, inclination or other features of the installation site, it must be secured with a safety rope with a sufficient safety margin. The condition of the safety rope must be checked daily.
- 9.4 Persons who are familiar with the technical features of lifting devices, the instructions of lifting devices and safe working practices are allowed to work on lifting devices.
- 9.5 Before starting work on a lifting device, the worker must ensure that:
 - The lifting device is installed correctly on the site;
 - The lifting device rests on all supports;
 - The angle of inclination of the installed lifting device does not exceed 3° (or a different angle of inclination specified in the rules of use);
 - There are no unauthorised persons in the working area of the lifting device;
 - If the lifting device is installed in an area of power lines, the basket does not touch the power lines;
 - When installing a lifting device near a building, stack or structure, there must be a distance of at least 1 metre between them.
 - The guardrails, edges, and floor of the lifting device are in a good condition.
- 9.6 A movable basket lift and a scissor lift are good choices for work that is mostly carried out at a height. When choosing a lift, its suitability for the work to be performed must be assessed. The lowest allowed air temperature during the operation of the lift is usually - 20 °C, because at sub-zero temperatures, the properties of the hydraulic fluid may not ensure safety. During operation, make sure that the lift is technically sound, not overloaded, the base under it is level and has sufficient load-bearing capacity, and that a fall arrest harness is attached to the anchorage point in the basket of the lift. When working on a lifting device, a helmet with a fixed chinstrap must be worn.
- 9.7 To enter and exit the basket of the lifting device, only use the method provided for this. During operation, the entrance to the basket must be protected by movable barriers or a lockable door.
- 9.8 When moving the lifting device or repositioning the basket, make sure that the surroundings are safe.
- 9.9 The employee is prohibited from:
 - Sitting or standing on the basket railing, reaching over the railing of the barrier;
 - Putting objects on the floor of the lift basket in order to extend the working area;
 - Working with defective safety devices;
 - Working during thunderstorms, fog, rain and snowfall, in which visibility is severely limited. Also, do not work at a lower outside temperature than indicated in the data sheet of the lifting device;
 - Working at wind speeds over 10 m/s;
 - Working in poor lighting conditions;
 - Throwing working tools and various loads from a lifted basket;
 - Overloading baskets with different loads;
 - While in the lift basket, driving from one place to another, unless this is permitted in the instructions for the lifting device.

10 WHAT TO DO IN CASE OF AN ACCIDENT OR HAZARDOUS SITUATION

10.1 Immediately call the emergency number **112**:

- At first, tell WHAT HAPPENED, for instance, if you need help with an injury.
- Give as accurate an address as possible or describe where you are. You can also tell the emergency dispatcher your geographic coordinates.
- Listen to the dispatcher's instructions, it is their job to help you. Answer the questions – this is necessary for correctly assessing and giving as much information as possible to the ambulance crew, rescue team or the police.
- Do not end the call until you have given all the necessary information and the dispatcher has given you permission to do so.
- In the case of a threat to life or property, help is dispatched without waiting for the call to end. Help is not delayed because of additional questions – it is already on its way.
- If the situation changes, report it at once.
- Keep your phone line unoccupied so that you can be called back if necessary.

10.2 Then you must to inform (this can be done in parallel if there are other employees nearby) the internal security department at **+372 5254900**; VKG Kaevandused must inform the mine dispatcher at **+372 56817434**, or by internal phone **0** or **101**.

10.3 **IMPORTANT!** First aid may be provided to the victim by a person who has received first aid training and is in a condition to do so.

10.4 Procedures may be performed with a person who has fallen from a height and is hanging from a safety harness only by trained people and with the appropriate equipment. Otherwise, you must wait for the rescue team to arrive.

10.5 In the event of danger, all work must be stopped immediately. Report this to your immediate manager and the Group's representative. Before returning to work, you must make sure that it can be done safely.

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