



APPENDIX No.
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WORK AT HEIGHT STANDARD OF ILIM GROUP

Fall Protection element of It's About LIFE Program
Ilim's Global Manufacturing System (GMS)

St. Petersburg
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CONTENT

1. SCOPE	3
2. TERMS, DEFINITIONS AND ABBREVIATIONS	3
3. RISK ASSESSMENT	4
4. GENERAL PROVISIONS	5
5. REQUIREMENTS FOR WORKERS	6
6. REQUIREMENTS FOR COLLECTIVE AND PERSONAL PROTECTIVE EQUIPMENT USED WHEN WORKING AT HEIGHTS	8
7. REQUIREMENTS FOR PORTABLE LADDERS AND STEPLADDERS	9
8. REQUIREMENTS FOR THE HAZARDOUS AREA SAFETY FENCING	10
9. REQUIREMENTS FOR PROCESS AND INSTALLATION OPENINGS	11
10. REQUIREMENTS TO ENSURE SAFE ACCESS TO THE ROOF AND FALSE CEILING	12
11. SPECIFIC FEATURES OF WORKING AT HEIGHTS DURING C&I	13
12. REQUIREMENTS FOR LIFTING EQUIPMENT OPERATION	13
13. RESPONSIBILITY AND CONTROL	14
14. LIST OF REGULATORY DOCUMENTS USED FOR DEVELOPMENT OF THIS STANDARD	15
APPENDIX 1	16
Hazards related to	16
location of anchor devices	16
APPENDIX 2	18
Systems to ensure safe working at heights	18
APPENDIX 3	21
PPE defects	21
APPENDIX 4	23
APPENDIX 5	24

1. SCOPE

- 1.1 The Work at Height Standard of Ilim Group (hereinafter, the Standard) has been developed to be applied at the sites and facilities of Ilim's locations to take efficient actions in order to ensure safety of Ilim Group employees as well as employees of its subsidiaries and contractor companies when working at heights. This Standard also aims to prevent fall-related incidents with employees working at heights.
- 1.2 The Standard sets out the requirements for:
 - safe working at heights;
 - process and installation openings;
 - inspection and maintenance of personal and collective protective equipment;
 - use of factory-made knock-down scaffolds, temporary safety fences and warning lines when working at heights;
 - procedure and frequency of training and assessment of relevant competences and skills in safe working at heights.
- 1.3 The Standard comprises general requirements, which shall be applied along with other current regulatory and technical documentation.
- 1.4 The Standard requirements shall apply to all managers and employees at Mills/Forests as well as to contractor employees.
- 1.5 This Standard is recommended for adoption by the subsidiaries and affiliates of JSC Ilim Group. This Standard will be adopted by the subsidiaries and affiliates through approval and implementation of corresponding internal regulations by their duly authorized management bodies.

2. TERMS, DEFINITIONS AND ABBREVIATIONS

2.1 The following terms with corresponding definitions are used herein:

Work at heights. Work at heights includes any work which entails the risk of a worker falling from a height of 1.3 m or more, including:

- when ascending/descending a height exceeding 5 m using a ladder positioned at an angle of more than 75° from the horizontal surface;
- when working at a height exceeding 1.3 m using a ladder or a stepladder;
- when working at the sites located at a distance of less than 2 m from unfenced uneven surfaces with a height difference of more than 1.3 m, as well as if the height of the safety fence installed around such sites is less than 1.1 m;
- work entailing risks of a worker falling from a height of less than 1.3 m, if the work is performed above machinery and mechanisms, liquids or fine-grained bulk materials, protruding objects.

Work entailing a high risk of a worker falling from heights includes work performed at a height of 5 m and more without scaffolding devices, work performed on roofs with a pitch exceeding 12° and false ceilings, work performed at the sites located at a distance of less than 2 m from unfenced uneven surfaces (if there are no safety fences) with a height difference of more than 5 m or if the height of the safety fence installed around such sites is less than 1.1 m;

Work entailing an acceptable minimal risk of a worker falling from heights includes work performed at heights provided that a stationary safety fencing with a height of 1.1 m and more is available, work involving the use of factory-made knock-down scaffolds, scaffolding platforms, scaffolding devices, lifting equipment (elevating work platforms), suspended platforms and scaffolds, cradles, machinery and mechanisms, as well as high-

risk work at heights that constitutes an integral part of the current process and is performed by a permanent qualified team on a regular basis in the same place, under the same conditions and in the same manner using collective protective equipment.

Work sites and passages. Work sites and passages include floors, passages, staircases, maintenance platforms, walkways and catwalks, gangways mounted on tank covers and other surfaces used by workers to walk or to perform some work at least once per shift, or to perform one-off or recurring work.

Scaffolding devices refer to the devices used to arrange workplaces when performing construction and installation work at heights/depths exceeding 1.3 m from the ground/slab level (factory-made knock-down scaffolds, scaffolding platforms, lifting equipment (elevating work platforms), suspended platforms and scaffolds, cradles).

Scaffolds refer to multilevel structure designed to arrange workplaces at different heights.

Scaffolding platforms refer to a single-tier structure designed to perform work that involves moving of workplaces at the same height.

Factory-made knock-down scaffolds and scaffolding platforms with inventory numbers refer to scaffolds and scaffolding platforms manufactured at a factory and registered by the relevant Ilim's location with assignation of inventory numbers.

Hazardous area refers to the area where some work at heights is performed and which is located at a distance of less than 2 m from unfenced uneven surfaces with a height difference of more than 1.3 m, as well as the area with the height of the safety fence installed around not exceeding 1.1 m.

Temporary safety fence is a safety fence preventing workers or objects from falling that is equipped with a railing installed at a height of at least 1.1 m, a toe board of at least 0.15 m and an additional guard bar installed at a height of 0.5 m.

Warning line is a fencing serves to mark a hazardous area with a risk of different objects falling from heights.

Collective protective equipment refers to protective equipment designed to arrange safe and convenient workplaces at heights for several people as well as to prevent unintended falling of workers from heights. Such protective equipment includes scaffolding devices, lifelines and fall protection systems (safety nets).

Personal fall protection equipment refers to fall protection equipment provided for workers that is to be used in cases stipulated by the work permit/safe work requirements.

Process opening refers to a through opening (with width and length cumulatively exceeding 0.2 m) in a slab that is used for process-related purposes and equipment maintenance.

Installation opening refers to an opening indented to lift equipment, materials, tools and other things to maintenance platforms using lifting mechanisms, hoists and other equipment.

Fall protection system (safety net) refers to a protection system designed to ensure additional protection of people working at heights as well as to catch construction debris falling from heights.

Lifting equipment refers to lifting equipment (elevating work platforms) intended to lift people as well as people along with cargo (elevating work platforms), as well as removable cabins and cradles attached to cranes' load-handling devices used to lift and move people.

3. RISK ASSESSMENT

3.1 Assessment of risks relative to manufacturing process and workplaces at heights shall be performed in accordance with the Standard for Assessment of Occupational Health and Safety Risks at the Facilities of JSC Ilim Group.

3.2 When performing a risk assessment, it is required to focus on the causes of a potential fall, including:

- 3.2.1 fall of a worker from a height exceeding 1.3 m due to:
- unreliable ancho devices;
 - breakable (damaged) surfaces, holes, uncovered manholes in the work area.
 - slippery working surface, which has unfenced areas with a height difference;
 - loss of balance when performing work on scaffolds, scaffolding platforms, stepladders, ladders, in cradles attached to the lifting equipment as well as loss of stability, destruction and rollover of the said structures.
 - destruction of equipment, structures or their elements when working directly on them.
- 3.2.2 fall of different objects (equipment, tools, materials, finished products, etc.) through an installation or process opening or from scaffolds or scaffolding devices on the people working below.
- 3.3 Types of work entailing high/acceptable minimal risks of a worker falling from heights shall be determined based on the risk assessment results.
- 3.4 A risk mitigation action plan shall be developed based on the risk assessment results and included in the five-year Fall Protection element of It's About LIFE Program.
- 3.5 A work order shall be created in SAP PM for each risk mitigation action that is included in the budget by December 31 of the year preceding the year when the relevant risk mitigation action is expected to be implemented.
- 3.6 In order to ensure safe working at heights it is required to:
- 3.6.1 review the possibility to avoid working at heights.
- 3.6.2 if it is not possible to avoid working at heights, the following procedure shall be complied with to select the method for working at height (prior to proceeding to the next step it is required to assess the feasibility of implementing the previous one):
- use lifting equipment;
 - install temporary safety fence;
 - install factory-made knock-down scaffolds and scaffolding platforms;
 - use collective protective equipment (lifelines, anchorage points) and personal fall protection equipment as well as fall protection systems (safety nets) and warning lines.

4. GENERAL PROVISIONS

- 4.1 People responsible for arranging safe work at heights shall be appointed by the relevant Mill/Forest Order or by the order on appointment of people responsible for arrangement and safe performance of high-risk work.
- 4.2 The list containing the types of work entailing a high risk of a worker falling from heights, which require a work permit, shall be drawn up and approved by the relevant Mill/Forrest. This list may be included in the list of high hazard types of work to be performed in accordance with a specific rules and procedures.
- 4.3 **Prior to performance of the work entailing a high risk of a worker falling from heights it is required to:**
- issue a permit for working at heights indicating the type and constituent elements of the systems ensuring safe work at heights in accordance with Safety Rules for Working at Height approved by the Ministry of Labor and Social Protection of the Russian Federation No 782 of November 16, 2020;
 - develop a method statement or a process chart for working at heights;
 - develop an action plan to evacuate and rescue workers in case of emergency or rescue operations;
 - inspect the relevant workplace;
 - install safety fence around the work site;
 - post warning and mandatory signs and/or posters;

- determine what kind of collective and personal protective equipment is required to ensure safe work and provide workers with such equipment.
- 4.4 **Prior to performance of the work entailing an acceptable minimal risk of a worker falling from heights it is required to:**
- determine whether a work permit is required to perform a high hazard work;
 - issue a high hazard work permit in accordance with the High Hazard Work Standard of JSC Ilim Group;
 - conduct a safety briefing using the OHS manual or a process chart;
 - inspect the relevant workplace;
 - install safety fence around the work site;
 - post warning and mandatory signs and/or posters;
 - determine what kind of collective and personal protective equipment is required to ensure safe work and provide workers with such equipment.
- 4.5 If the work on heights is performed simultaneously with other types of work that require a work permit, a single high hazard work permit may be issued with indication of the work to be performed at heights and appointment of people responsible for safe working at heights as well as for compliance with procedure and conditions set forth by the work permit.
- 4.6 When inspecting a workplace, it is required to take into account:
- provisions of cl.3.2;
 - weather conditions;
 - potential fall of materials and fabricated products on workers;
 - use of welding and gas flame equipment, cutting tools or tools that scatter shards while in operation;
 - sharp edges of structure elements, which may create a risk of damaging protective equipment and its elements;
 - hazards related to location of anchor devices as set forth in Appendix 1, namely a fall hazard, hazard relative to inadequate fall clearance distance and a swing fall hazard (pendulum effect).
- 4.7 When working at heights, the team members shall have a visual/voice contact or communicate via a walkie-talkie radio.
- 4.8 Working at heights is forbidden:
- in open areas with the wind speed of 15 m/sec and more;
 - during thunderstorm or in fog preventing vision within the workplace, as well as in case of surface icing and ice accretion on wires, equipment, engineering structures (including power transmission towers) and trees;
 - during installation (dismantling) of structures with large windage area if the wind speed is 10 m/sec or more.

5. REQUIREMENTS FOR WORKERS

- 5.1 Persons who have attained to the age of eighteen years, have attended a medical check-up with no restrictions for working at heights revealed and have been trained in safe working methods and techniques shall be permitted working at heights.
- 5.2. Training for the employees who work at heights using scaffolding devices as well as at the sites and workplaces equipped with safety fences with a height of 1.1 m and more (i.e.who perform the work entailing an acceptable minimal risk of a worker falling from heights) shall be conducted at least once every 3 years.
- 5.3. The workers shall be trained in safe methods and techniques when working at heights if:
- they are permitted to work at heights for the first time:

- they are transferred to another work and haven't received the said training before;
 - they haven't worked at heights for more than a year.
- 5.4. The workers authorized to perform the work at heights that require a work permit (i.e. the work entailing a high risk of a worker falling from heights) are divided into the following groups:
- Group 1: the workers authorized to work as part of a team or under direct supervision of a worker appointed by the relevant Employer's order;
 - Group 2: the team leaders, foremen, on-the-job-training supervisors, workers appointed as responsible supervisors of the work performed at heights and highly skilled workers and specialists authorized to work as part of a team;
 - Group 3: the workers appointed by the employer to be responsible for arrangement and safe performance of work at heights, including the work that requires a work permit; persons responsible for development of action plans to evacuate and rescue workers in case of emergency or rescue operations; the workers who maintain and inspect protective equipment on a regular basis, the workers who issue work permits; supervisors responsible for the work at heights that require a work permit; corporate officers authorized to approve method statements and/or process charts for working at heights; specialists who conduct training in safe working at heights, members of the examination boards of the employers/companies that conduct training in safe working methods and techniques when working at heights. Group 3 workers may also be permitted to work at heights provided that they confirm their qualification and are certified for the relevant group.
- 5.5 Refresher training in safe methods and techniques when working at heights for Group 1 and Group 2 workers shall be conducted at least once every 3 years.
- 5.6 Refresher training in safe methods and techniques when working at heights for Group 3 workers shall be conducted at least once every 5 years.
- 5.7 Upon completion of the training in safe methods and techniques when working at heights, a test shall be conducted.
- 5.8 The employees who have successfully passed the test shall receive a certificate permitting to work at heights. The employees who work at heights using rope access systems shall also be provided with a personal logbook to record all work performed at heights and relevant information.
- 5.9 Upon successful completion of the training in safe methods and techniques when working at heights and receipt of the relevant certificate, the workers who work at heights using scaffolding devices and at the sites equipped with safety fences with a height of 1.1 m or more as well as Group 1 and Group 2 employees shall have an on-the-job training prior to working at heights.
- 5.10 Duration of the on-the-job-training shall be determined by the Company location based on the training content but no less than 2 business days (shifts).
- 5.11 The supervisor of the on-the-job training arranged for the workers who work at heights using scaffolding devices and at sites equipped with safety fences with a height of 1.1 m or more shall be appointed out of the team leaders, foremen and skilled employees with at least 1 year of experience in working at heights.
- 5.12 The supervisor of the on-the-job training arranged for Group 1 and Group 2 employees shall be appointed out of the team leaders, foremen and skilled employees holding Group 2 certificate for at least 1 year.
- 5.13 One on-the-job training supervisor shall not manage more than 2 workers at the same time.
- 5.14 Periodic assessment of competences in safe methods and techniques when working at heights (without a preceding training) may be conducted for the employees who work at heights using scaffolding devices and at the sites equipped with safety

fences with a height of 1.1 m or more as well as for Group 1 and Group 2 employees at least once per year. The said assessment of competences in safe methods and techniques when working at heights may be conducted by the qualification boards of the Mill/Forest. The members of the qualification board shall be appointed by the order of the Mill/Forest Manager.

- 5.15 The qualification board that conducts assessment of the competencies of Group 1 and Group 2 employees in safe methods and techniques when working at heights shall include Group 2 and Group 3 employees while the board chairman shall be certified for Group 3. At the discretion of EHS Managers at Mills/Forests, competencies in safe methods and techniques when working at heights may be assessed as part of the test conducted upon completion of the refresher training in safe methods and techniques when working at height.
- 5.16 The results of assessment of competencies in safe methods and techniques when working at heights shall be documented in the minutes drawn up by the qualification board with indication of the competence assessment date, full name of the person being assessed and assessment results.
- 5.17 The workers who are not certified in safe methods and techniques when working at heights shall not be authorized to work on their own.

6. REQUIREMENTS FOR COLLECTIVE AND PERSONAL PROTECTIVE EQUIPMENT USED WHEN WORKING AT HEIGHTS

- 6.1 The systems ensuring safe work at heights are classified into fall restraint systems, positioning systems, safety harness systems, evacuation and rescue systems. Elements of the systems ensuring safe work at heights are set forth in Appendix 2.
- 6.2 When working at heights, a full-body safety harness shall be used as a personal protective equipment. A double shock-absorbing lanyard or a self-retracting lifeline shall be used depending on the height and type of work.
- 6.3 A safety harness, double shock-absorbing lanyard and a self-retracting lifeline shall have light-reflecting elements.
- 6.4 Collective (lifelines, anchorage points, etc.) and personal (safety harnesses, lanyards, etc.) protective equipment shall be used as intended in accordance with the requirements set forth in the manufacturer's manual. Use of collective and personal protective equipment for which there is no technical documentation shall be forbidden.
- 6.5 Collective and personal protective equipment shall be included in the relevant register and kept in good technical condition. Maintenance and regular checks shall be carried out considering the requirements specified in the documentation provided by the manufacturer of personal and collective protective equipment. The said maintenance and regular checks shall be performed by the workers certified for Group 3 and appointed by the relevant Mill/Forest order.
- 6.6 Standby PPE assigned to particular workplaces shall be handed over by one shift to another. The heads of the Company's structural units shall be responsible for provision of workers with standby PPE. Standby fall protection equipment provided for the workers working at heights shall have impact indicators providing obvious warning that the equipment has been in a fall.
- 6.7 Employees having permits for working at heights shall inspect PPE provided to them before and after each use.
- 6.8 Common defects of collective and personal fall protection equipment are specified in Appendix 3.
- 6.9 Safety harnesses with rigid or flexible lifelines used as anchorage shall be used to ensure safe moving from one workplace to another at heights.

- 6.10 People working at heights shall wear hard hats with fastened chin straps.
- 6.11 The elements of the system ensuring safe work at heights to be used by electric gas welders and other workers performing hot work shall be made of fire resistance materials.
- 6.12 In order to mitigate the risk of an injury caused to workers remaining in the safety harness after the fall, it is recommended to provide a suspension trauma safety strap to prevent suspension trauma while such workers are awaiting rescue.

7. REQUIREMENTS FOR PORTABLE LADDERS AND STEPLADDERS

- 7.1 It is permitted to use portable ladders and stepladders to:
- climb up or down to the workplace;
 - perform short-term work and manipulations (not more than 20 minutes).
- 7.2 When ascending/ descending a portable ladder or a stepladder, a three-point contact rule shall be followed (two hands and one foot or one hand and two feet).
- 7.3 All portable ladders and stepladders shall be factory-made. Use of wooden or self-made metal portable ladders and stepladders shall be prohibited.
- 7.4 Ladder/ stepladder design shall prevent their shifting and falling during the work.
- 7.5 When installing a ladder, if there is a risk that its upper end may shift, it must be securely fastened to stable structures.
- 7.6 Ladders shall be mounted onto installed structures prior to lifting of the latter. The ladder length shall allow the employee to work standing on the step that is at least 1 meter below the upper edge of the ladder.
- 7.7 When working on a ladder at a height of above 1.3 m, one shall use a safety harness anchored to a civil/metal structure or to the ladder (provided that the ladder is fastened to the building or another structure).
- 7.8 When using a ladder/stepladder, it is prohibited to:
- work standing on the two upper steps, which do not have any railings or retainers;
 - have more than one person standing on the ladder steps;
 - move loads up and down the ladder or leave tools on it;
 - install the ladder at an angle of over 75 degrees without additionally fastening its upper part.
- 7.9 It is forbidden to work on ladders or stepladders:
- over rotating (moving) mechanisms, running machines and conveyors;
 - while using of electric or pneumatic tools, cartridge-operated guns;
 - during gas welding, gas flame and electric welding operations;
 - when drawing wires or supporting heavy parts, etc. at heights.
- 7.10 Installation of ladders on the steps of a staircase flight shall be forbidden. One shall use scaffolding platforms instead.
- 7.11 Ladders and stepladders shall be inspected before use by the responsible person.
- 7.12 All ladders and stepladders shall be inspected by the responsible person or a specialized company at least once per year with the relevant entry made in the inspection logbook in accordance with Appendix 4. Inspection results shall be confirmed by the relevant mark made on a ladder/stepladder with indication of the next inspection date. Each ladder/stepladder shall have an inventory number and information regarding the structural unit (contractor company) they belong to.
- 7.13 Ladders and stepladders shall be tested if required by the manufacturer. The said testing shall be performed by the responsible person or a specialized company with the relevant entry made in the inspection logbook.
- 7.14 Ladders shall be stored in dry premises with storage conditions precluding the possibility of an accidental mechanical damage.

7.15 Use of metal ladders/stepladders shall be forbidden in the power plant buildings.

8. REQUIREMENTS FOR THE HAZARDOUS AREA SAFETY FENCING

- 8.1 A temporary safety fencing and a warning line shall be used to restrict access of workers and unauthorized people to hazardous areas where there is a risk of fall, i.e. to the areas that are located at a distance of less than 2 m from uneven surfaces with a height difference of more than 1.3 m.
- 8.2 Warning line and signs shall be used to prevent injuries caused by materials, tools and other objects falling from heights.
- 8.3 Each structural unit of the Company shall have workers appointed to monitor the condition of used safety fences and collective protective equipment to make sure that there are no uncovered process openings and holes. The said employees shall promptly eliminate identified violations and if it is impossible to eliminate such violations by their own, they shall notify thereof the head of the relevant structural unit to take relevant actions.
- 8.4 The height of temporary safety fencing and warning lines (measured as the distance from the workplace level to the upper horizontal element) shall be at least 1.1 m.
- 8.5 Temporary safety fence shall have an additional guard bar installed at a height of 0.5 m.
- 8.6 The height of the safety fence toe board shall be at least 0.15 m.
- 8.7 The distance between the mounting points on stable elements of a building/structure (the length of one safety fence module) shall not exceed 6.0 m for temporary safety fences and 12.0 m for warning lines.
- 8.8 The design of the fastening elements used to mount temporary safety fences on civil/steel structures shall prevent such elements from spontaneous loosening.
- 8.9 Entry to a hazardous area fenced with temporary safety fences and warning lines shall be prohibited.
- 8.10 It is preferable to have warning lines made of mesh attached to posts or to stable elements of a building (structure). It is allowed to use a warning tape.
- 8.11 When installing safety signs, one shall make sure that they are clearly visible. Example of a safety sign compliant with GOST 12.4.026-2015: *Warning. Risk of Falling* warning sign with a table containing an explanatory note *Caution. Uncovered opening*.
- 8.12 When performing two or more jobs on one vertical line, the areas below must be equipped with required protective arrangements (platforms, nets, aprons) installed at a distance of no more than 6 meters along the vertical line from the lower workplace.
- 8.13 The boundaries of a high hazard area where there is a risk of objects falling from heights shall be determined from the endpoint of the horizontal projection of the moved (falling) object dimension plus the largest dimension of the moved (falling) object and a minimal horizontal distance traveled by the falling objects in accordance with Table 1.

Table 1 Horizontal distance traveled by falling objects depending on the height of fall

Potential height of fall, m	Minimal horizontal distance traveled by a falling object
Up to 10	3.5
Up to 20	5

Up to 70	7
Up to 120	10
Up to 200	15
Up to 300	20
Up to 450	25

9. REQUIREMENTS FOR PROCESS AND INSTALLATION OPENINGS

- 9.1 All process and installation openings made in slabs shall be covered with hatches (covers). If there are no hatches (covers) or they are deformed, safety fencing shall be installed. The process and installation openings that are kept open shall have a warning marking around them.
- 9.2 Each structural unit shall draw up the list of process and installation openings and appoint persons responsible for maintaining and keeping such openings closed.
- 9.3 Each process and installation opening shall have an information sign installed nearby indicating dimensions of the opening, maximum dimensions of the cargo that can be moved through such opening, rigging method to be used and information on the responsible person.
- 9.4 Hatches (covers) that are used to cover openings shall be:
- manufactured in accordance with the relevant design;
 - designed to carry required load (with due regard for potential movement of people, vehicles and transportation of materials);
 - equipped with devices allowing safety removal of such covers;
 - equipped with supports, reinforcement ribs preventing displacement or deformation when using such hatches (covers).
- 9.5 The hatches (covers) shall not have slippery surfaces, they shall cover the entire opening, be flush with the elevation (floor) surface and have a warning marking compliant with Ilim's requirements.
- 9.6 The walls of such openings shall be leveled to prevent hatches (covers) from deformation and properly prepared (via installation of metal reinforcing elements, making a groove, etc.).
- 9.7 When developing projects involving equipment upgrade or dismantling, it is required to take into account necessary openings to be made in slabs and wall as well as temporary safety fencing and hatches, covers and deckings to cover such openings during the period of equipment upgrade and dismantling. Once the said work is completed, all openings shall be closed with civil/steel structures brought back to their design condition.
- 9.8 It is prohibited to store any materials on hatches (covers) that are used to cover openings.
- 9.9 Removal of hatches that cover process and installation openings, dismantling of slabs, floors or maintenance platform grids (hereinafter, the opening) shall be performed as follows:
- select the method to remove the opening cover;
 - install temporary safety fencing and safety signs around the opening;
 - remove the cover from the opening using hoisting equipment or otherwise.
Access to the fenced area shall be prohibited once the hatch/cover is removed from the opening.

- The opening shall be closed in reverse order.
- 9.10 If some local circumstances do not allow to install temporary safety fencing prior to removal of cover from an opening or if the height of safety fencing is below 1.1 m, a work permit shall be required to remove such cover.
 - 9.11 In this case the work involving removal of the cover shall be performed using systems that ensure safe work at heights and shall include the following steps:
 - install warning line and safety signs;
 - select the method to remove the opening cover;
 - remove the cover from the opening;
 - install temporary safety fencing.
 - 9.12 A step-by-step illustrated instruction on opening/closing shall be available near all process openings.
 - 9.13 It is forbidden to use process and installation openings with hatches (covers) removed if there is no temporary safety fencing installed around them.
 - 9.14 Once the work that requires removal of the opening hatch (cover) is completed, the opening shall be immediately closed.
 - 9.15 Prior to removal of hatches/covers from installation and process openings, the area below such openings shall be fenced with warning lines with a warning table to prevent unauthorized people from accessing the hazardous area.
 - 9.16 When lifting/lowering load through process and installation openings, it is required to make sure that there are no people working in the area that is exposed to the risk of load falling.

10.REQUIREMENTS TO ENSURE SAFE ACCESS TO THE ROOF AND FALSE CEILING

- 10.1 When designing new building and structures as well as when upgrading the existing ones, it is required to ensure that safety fencing with a height of 1.1 m is installed along the roof edge.
- 10.2 Action plans shall be developed to install safety fencing along the edge of the roofs of the buildings and structures that are currently used with deadlines determined based on the risk assessment performed by the Mill/Forest.
- 10.3 If there is no safety fencing installed along the roof edge, working on the roofs with a pitch of more than 12°, false ceilings or on the roofs without a pitch at a distance of less than 2 m from unfenced uneven surfaces with a height difference shall be considered as the work entailing a high risk of a worker falling from heights and shall require a work permit.
- 10.4 In all other cases access to the roof shall be authorized by the responsible person from the structural unit with a relevant entry made in the logbook.
- 10.5 Access to roofs and false ceilings shall be equipped with an access control device and shall have a safety sign indicating that a work permit is required. The above provision shall not apply to fire-escape ladders.
- 10.6 One shall only climb up and down the roof using staircases and ladders intended for this purpose. Use of fire escape ladders to climb up and down the roof shall be forbidden.
- 10.7 When performing repairs on roofs, it is prohibited to place tools near the roof edge or throw tools to the ground. Tools shall be stored in a special box or tool bag. It is prohibited to throw debris, waste and materials from roofs.
- 10.8 Reliability of roof shall be assessed prior to start of work, placement of tools and

materials. The workers working on the roofs with a pitch exceeding 12°, roofs that are not designed to carry the workers' weight and on false ceilings shall use the gangways with a width of at least 0.6 m equipped with cross bars to prop workers' feet. Such gangways shall be securely fastened for the entire work period.

10.9 When working on roofs and false ceilings, it is required to make video records of the work performed at heights using a remote video recording system.

11. SPECIFIC FEATURES OF WORKING AT HEIGHTS DURING C&I

11.1 All installation work shall be performed in accordance with the method statement for working at heights, which shall define:

- systems ensuring safe working at heights to be used;
- points and methods of safety system anchorage;
- safe methods of locating materials and tools to prevent them from falling down.

11.2 Fitters shall work on installed and securely anchored structures and scaffolding. It is prohibited to anchor scaffolding to the structures that are being installed/dismantled. Workers shall be prohibited from standing/working on the equipment and structure elements that are being lifted/moved.

11.3 Workers shall be prohibited to work under equipment and structure elements that are being installed until such elements are mounted in their design position.

11.4 Workers shall use ladders, gangways and walkways equipped with safety fencing to move from one structure to another.

11.5 Moving of fitters from one installed structure/structure element (trusses, girders, etc.) to another shall be prohibited without a safety system and if it is not possible to ensure required passageway width (at least 0.4 m).

11.6 Fall protection system (safety net) shall be installed at a height of 8 m from zero-level elevation or at sub-zero elevations and shall be moved up as the building (structure) is constructed. The distance between the level where the fall protection system (safety net) is installed and the level where people are working (including workplaces arranged on formwork and other building elements) shall not exceed 7 m.

11.7 Fall protection system (safety nets) shall be used in accordance with the relevant method statement.

11.8 When working at power plant and using electrical tools and lighting systems with a voltage of over 24V, it is required to ground factory-made knock-down scaffolds.

11.9 When constructing, repairing and upgrading building and structures, debris chutes shall be used to ensure safe removal of waste and debris from a height of 5 m.

11.10 Such debris chutes and their fastening shall be used in accordance with the requirements set forth in the manufacturer's manual.

12. REQUIREMENTS FOR LIFTING EQUIPMENT OPERATION

12.1 The employees operating lifting equipment shall be trained and have relevant certificates allowing to operate lifting equipment and work at heights.

12.2 When lifting and transporting workers using lifting equipment, it is allowed to use only cradle (cabins) that are specifically designed for these purposes.

12.3 The lifting equipment platform shall have safety fencing preventing people, tools, material and equipment from falling. The said safety fencing shall be securely fastened.

12.4 The following requirements shall be complied with to ensure safe lifting of workers in a cradle (cabin):

- use of cradles (cabins) shall be prohibited if the wind speed exceeds the maximum permissible speed specified in the cradle (cabin) datasheet, if visibility conditions are reduced (heavy rain, snow, fog), in case of ice accretion and in any other conditions that may put people's safety at risk;
 - lifting and movement of people in cradles (cabins) shall be supervised by the person responsible for safe operation of lifting equipment;
 - lifting equipment operation shall be stopped, if there is a risk of collision with nearby equipment;
 - cradles (cabins), safety latches and other supporting elements shall be inspected prior to each use;
 - crane operator shall see the cradle (cabin) with people during the entire transportation process as well as the areas where he/she picks up/puts down the cradle (cabin). When moving the cradle (cabin) with people, the crane operator shall not perform several operations at the same time;
 - the areas where the crane picks up/puts down the cradle (cabin) shall be free from any foreign objects;
 - safety harnesses of persons in the cradle (cabin) shall be permanently attached to the corresponding anchorage points in the cradle (cabin). The lanyard length shall ensure that the person remains in the cradle (cabin) in any case;
 - people in the cradle (cabin) shall not be allowed to stand on the handrails or the cradle (cabin) fencing and to perform any kind work in this position. Use any supports in the cradle (cabin) to increase the working area height shall be forbidden;
 - all tools and materials inside the cradle (cabin) shall be firmly secured while the cradle (cabin) on the move.
- 12.5 When installing lifting equipment at the edge of a slope, pit (ditch), it is required to comply with the distance requirement set forth in industrial safety standards.
- 12.6 When performing work that involves the use of the lifting equipment, it is not allowed to:
- operate the lifting equipment with with disconnected or inoperative stoppers, recording devices, indicators and brakes;
 - move lifting equipment with people or cargo in its cradle. The above requirement shall not apply to self-propelled lifting equipment (elevating work platforms), for example, to scissor lifts with controls located in the cradle as well as to lifting equipment moving around the site with the cradle in the lowered position.
 - lift and lower the cradle using the lifting equipment if the cradle gate is not locked with a latch;
 - throw tools, cargo or any other objects from the lifted cradle.

13. RESPONSIBILITY AND CONTROL

13.1 Mill/Forest Managers shall be responsible for:

- compliance with the requirements of this Standard at Ilim Group's locations;
- procurement of resources required for the Standard implementation.

13.2 Heads of the Company's organizational units and project managers shall be responsible for:

- communication of the Standard to the employees and other persons permitted to access the Company's facilities;
- ensuring compliance with the Standard requirements in their structural units;
- safe working at heights;

- 13.3 Health and safety directors of the Mills/Forests shall conduct self-examination of compliance with the requirements of this Standard at least once in six months in the structural divisions according to checklist set forth in Appendix 5 with identification of areas of concern and development of improvement plans.
- 13.4 Supervision of implementation of the Standard shall be entrusted to the Occupational, Environmental and Fire Safety Directorate in the Company's Head Office to perform inspections of the activities of the Company's divisions and contractors. In case of violation of the requirements of this Standard is identified, information thereof shall be communicated to the Mill/Forest Manager, the relevant SVP and Asset Protection in order to take measures in accordance with the procedures established by the Company.
- 13.5 Persons involved in violation of the requirements set forth in this Standard shall be liable in accordance with the applicable laws of the Russian Federation.

14. LIST OF REGULATORY DOCUMENTS USED FOR DEVELOPMENT OF THIS STANDARD

- 14.1 Health and Safety Regulations when Performing Work at Heights approved by Order of the Ministry of Labor and Social Protection of the Russian Federation No. 782n of November 16, 2020;
- 14.2 Health and Safety Regulations for Construction, Rebuild and Repair Operations approved by Order of the Ministry of Labor and Social Protection of the Russian Federation No. 883n of December 11, 2020;
- 14.3 Safety Regulations for Hazardous Production Facilities where Lifting Equipment is Used approved by Order of Rostekhnadzor No. 461 of November 26, 2020;
- 14.4 GOST R 12.3.049-2017 *National Standard of the Russian Federation. Occupational safety standards system. Construction. Work at height. Terms and definitions* approved and enforced by Order of Rosstandart No. 736-st of July 21, 2017;
- 14.5 GOST R 12.3.050-2017 *National Standard of the Russian Federation. Occupational safety standards system. Construction. Work at height. Safety regulations* approved and enforced by Order of Rosstandart No. 737-st of July 21, 2017;
- 14.6 GOST R 12.3.053-2020 *Occupational safety standards system. Construction. Temporary protective fences. General technical terms* approved and enforced by Order No. 1192-st of Rosstandart of November 27, 2020;
- 14.7 National standard of the Russian Federation GOST R 12.3.051-2017 *Occupational safety standards system. Construction. Design of protective capture nets. Specifications* approved and enforced by order of the Federal Agency for Technical Regulation and Metrology No. 738-st of July 21, 2017;
- 14.8 GOST 12.4.026-2015 Interstate Standard. *Occupational safety standards system. Safety colours, safety signs and signal marking. Purpose and rules of application. General technical requirements and characteristics. Test methods*, enforced by Order of Rosstandart No. 614-st of June 10, 2016;
- 14.9 15.12. Guidelines for implementation of It's About LIFE Program in JSC Ilim Group approved by Order of the Chief Executive Officer of JSC Ilim Group 18 No. GD-0713/18 of December 28, 2018

Hazards related to location of anchor devices

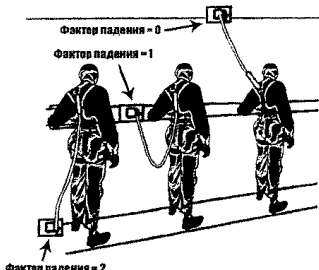
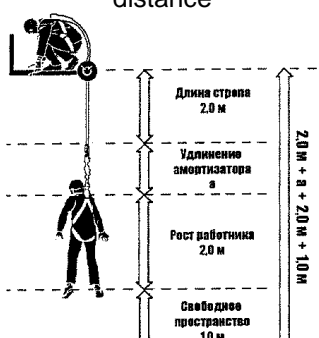
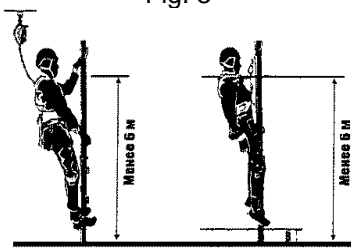
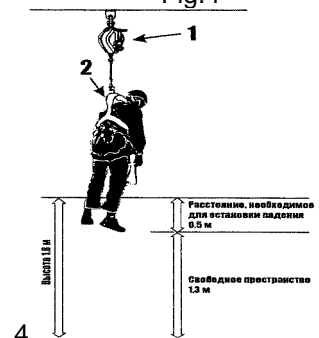
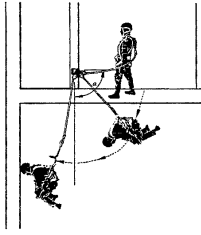
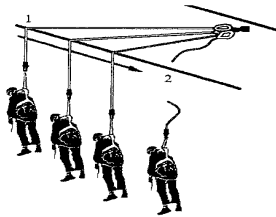
Figures to illustrate hazards	Hazard description	
<p>Fig.1 Fall factor</p> 	<p>When using safety system, the force transmitted to a person during the fall shall not exceed 6kN if a safety harness is used. The force transmitted to the person when the fall is arrested depends on the fall factor, which is calculated as the ratio of the distance the worker travels during the fall before the shock absorber activation to the total length of the safety system elements.</p> <p>It is preferable to locate the anchorage above the head of the worker, that is, above the point where the safety system connectors are attached to the worker's harness. In this case, fall factor equals zero.</p> <p>The total length of the safety system including the lanyard, shock absorber, end connectors and connecting elements is specified by the manufacturer in the operational documentation for the relevant personal fall arrest protection equipment.</p>	
<p>Fig. 2 Insufficient fall clearance distance</p> 	<p>When calculating fall clearance, it is required to take into account the total length of a lanyard and connectors, the length of the activated shock absorber, worker's height, and the distance to the surface below once the fall is arrested and the worker is at equilibrium state.</p> <p>Maximum lanyard length including the length of end connectors and the shock absorber length shall not exceed 2m.</p> <p>Maximum length of the activated shock absorber shall be additionally indicated by the manufacturer in the operational documentation to the relevant personal fall protection equipment.</p>	
<p>Insufficient fall clearance distance Fig. 3</p> 	<p>Insufficient fall clearance distance Fig.4</p> 	<p>In case the fall clearance distance indicated on the lanyard is not enough to ensure safety of a worker, a guided type fall arrester attached to a lifeline (Fig. 3) or a self-retracting lifeline (Fig. 4) should be used as a safety system.</p>

Fig. 5
Swing fall hazard/pendulum effect in case of a fall



If position of worker is at an angle of $\alpha \geq 30^\circ$ to anchorage, it is required to consider a swing fall hazard/pendulum effect, i.e the risk that the fall will be followed by swing/pendulum-like motion. When considering the pendulum effect, it is required to consider the fall factor, changes in the fall trajectory driven by the shock absorber activation, available fall clearance and free space not only straight down the place of the fall but also and along the entire fall trajectory.

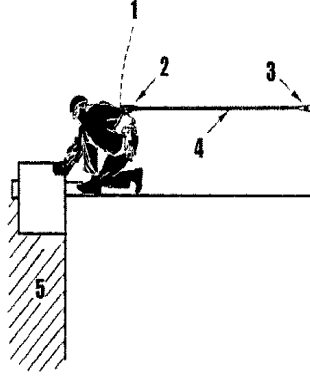
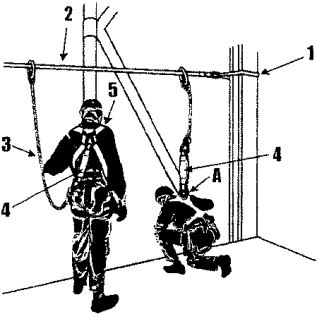
Fig. 6
Swing fall hazard/pendulum effect in case of a fall



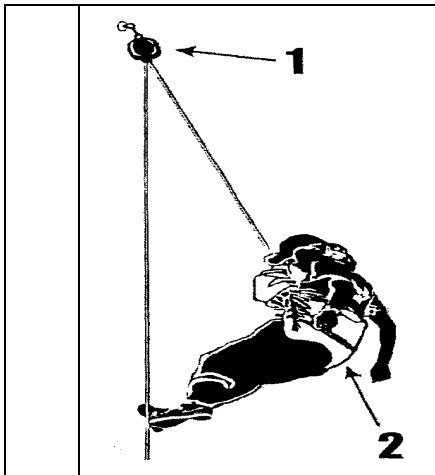
When considering the pendulum effect, it is required to take into account potential movements of the lanyard along the edge from point 1 to point 2 as well as friction wear up followed by tearing of the lanyard due to swing motion of the worker during the fall.



Systems to ensure safe working at heights

Item No	Figure	Description
		<p>Fall restraint system.</p> <p>In the figure:</p> <p>1 - safety harness (only full-body harness may be used) that straps human body and consists of separate components which, in combination with lanyards, fix the worker at a certain height during the work. Restrained belts are prohibited.</p> <p>2 - an opening device to connect components allowing worker to connect a lanyard in order to anchor himself/herself to a support in a certain way (hereinafter, the connector (safety hook));</p> <p>3 - anchorage point where a personal protective equipment may be attached once a lifeline is installed or a structured anchor fastened to a building for a long time;</p> <p>4 – strained adjustable lanyard to fix the employee’s position;</p> <p>5 - height difference of over 1.3 m.</p> <p>While using the restrained belts, the work area shall not:</p> <ul style="list-style-type: none"> • Have a risk of falling from heights; • fragile surfaces; • openings or hatches that can be opened.
		<p>A fall arrest system comprising a safety harness and a subsystem connected to ensure safety.</p> <p>In the figure:</p> <p>1 - structured anchor at each end of the lifeline;</p> <p>2 - lifeline made of a flexible rope placed between structured anchors to attach PPE;</p> <p>3 - lanyard;</p> <p>4 - shock absorber (mandatory element of the shock-absorbing sub-system of the fall arrest system);</p> <p>5 - safety harness (only full-body harness may be used) as the fall arrest system component designed to strap human body in order to prevent falling from the height, which may include connecting lanyards, buckles and elements fixed in a way allowing to support and hold the human body both during the fall and after it.</p> <p>The shock-absorbing sub-system is connected to the worker using the harness element marked with letter “A”.</p> <p>It is preferable to connect this system to the point located on the worker’s back (marked with A in the figure) as such option prevents accidental release (unstrapping) by the worker, and does not create any obstacle to perform the work.</p>

		<p>The positioning system allows to support the employee when working and prevent him/her from falling.</p> <p>In the figure :</p> <p>1 - waist belt to support the body; 2 – strained work positioning lanyard connecting the waist belt with the anchorage or surrounding a structure used as a support. 3 - lanyard with a shock absorber 4; 5 - safety harness.</p> <p>Work positioning belt may be a part of the fall arrest system.</p> <p>When using the positioning system, the worker should be connected to the fall arrest system all the time. Lifeline rope or connecting lanyards shall have no sagging.</p>
		<p>The rescue and evacuation system using the self-retracting lifeline with a hoist;</p> <p>In the figure:</p> <p>1 - rigid lifeline allowing to attach both the rescue and evacuation system of the injured and the fall arrest system of the worker involved in rescue operations; 2 - self-retracting lifeline with a hoist; 3 - harness including straps, fittings, buckles or other elements that are properly located and installed to support the human body in a convenient condition during rescue operations; 4 - lanyard; 5 - shock absorber; 6 - safety harness.</p> <p>The rescue and evacuation system may include rescue loops in addition to safety harnesses.</p> <p>Classification:</p> <ul style="list-style-type: none"> - class A rescue loop: a loop designed to hold a person during the rescue operations with rescue loop straps fitted under the person's arms; - class B rescue loop: a loop designed in a way that its straps hold a person in a seated position during rescue operations; - class C rescue loop: a loop designed in a way that its straps hold a person by his/her ankles with his/her head down.
		<p>The rescue and evacuation system with a portable temporary anchor.</p> <p>In the drawing:</p> <p>1 - tripod 2 - hoist 3 - safety harness 4 - safety device with automatic blocking of lanyard pulling out and automatic pulling out and retrieval of a lanyard. 5 - shock absorber built in the retractable lanyard (energy dispersion may be ensured by safety device 4 itself) 6 - safety harness.</p>



The rescue and evacuation system with a personal rescue device (PRD) for self-rescue from heights.

In the figure:

1 - PRD that prevents rotation and free fall of a worker as well as sudden stops when descending and automatically ensures descending speed of maximum 2 m/s.

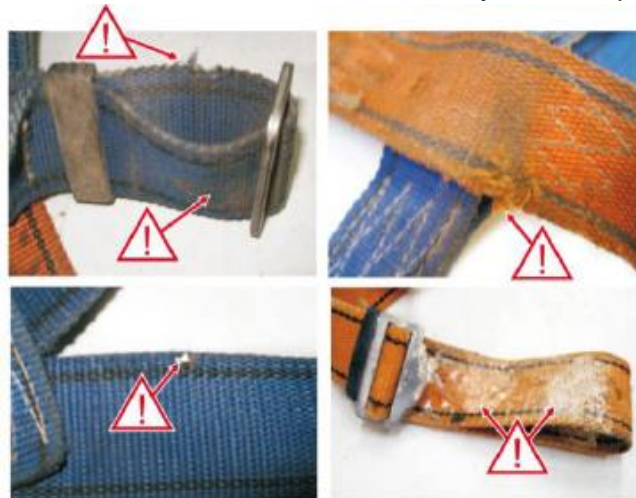
2 - Class B rescue loop (class A rescue loop can be used also).

The manufacturer additionally indicates the maximum height of descend in the PRD operational documents.



PPE defects

Safety harnesses should be checked for availability of cuts, paint or chemical stains.



Safety brackets should be checked for cracks, deformations and rust. It is important to make sure that all safety brackets are properly fixed and do not slip down from straps and webbing.



Not a single plastic element (belt loops or element located at the belt crossing points) could be broken, partially damaged or deformed.



Shock absorber integrity should be checked with all elements covered by the sheath



Shock absorber anchor loops and visible stitches shall be checked. Stitches should not be stretched out, cut or partially pulled out.



The entire lanyards shall be checked. No cuts, burns or other damages are allowed



Connectors (hooks or safety hooks) shall be checked for mechanical damages, deformation, rust or wear and tear of their components. Locks and closing mechanisms shall be also checked. When closing mechanism is actuated, connectors shall be automatically locked. If it is not locked automatically, the connector shall be taken out of service.



LADDERS AND STEPLADDERS INSPECTION LOGBOOK

(structural unit)

Item No.	Inspection date	Inventory No.	Description of a ladder or stepladder (length, material)	Ladder shoes, if any	Grappling hooks, if any	Damages (description)	Parameters and testing results (if necessary)	Inspection results	Next inspection date	Inspector's signature

Checklist on arrangement of work at heights at Ilim Group		Document No.		
<p>The Standard requirements that shall be implemented and continuously followed by all structural units, subsidiaries and contractors are listed below.</p> <p>Proceed with the following drop down list assigning a score (from 1 to 5 points) to each item of the list. 1 - unsatisfactory situation, 2 - low level of compliance/implementation, 3 - satisfactory level of compliance/implementation, 4 - good level of compliance/implementation, 5 - excellent level of compliance/implementation. If an item was evaluated with 1 or 2 points, it is required to fill in the Remarks/Actions box.</p> <p>Evaluation shall be conducted by a team of competent employees who have complete and comprehensive information at their disposal and who can professionally and impartially evaluate the situation, as well as to guarantee continuous compliance with the Standard requirements.</p> <p>Scoring criteria:</p> <p>1 - total non-compliance with the requirements that needs immediate corrective actions.</p> <p>2 - partial non-compliance with the requirements that needs significant improvement.</p> <p>3 - compliance with the requirements that needs insignificant improvements.</p> <p>4 - full compliance with the requirements</p> <p>5 - full compliance with the requirements, such case that can be used as a benchmark to be implemented in other divisions and Branches of JSC Ilim Group.</p>				
Mill/department/project:			Filled by (Name):	
Basis for assessment			date:	
No.	The Standard requirements that shall be implemented/applicable criteria	Assessment: (Drop down list)	Remarks/actions	
1	Risks were assessed. Action plan was developed			
2	in accordance with the order issued in the Branch, the employees were responsible for arrangement of work and safe working at heights			
3	the employees were trained in safe working methods and techniques for working at heights followed up by annual competency evaluation and on-the-job trainings			
4	the list of work entailing a high risk of a worker falling from heights that require a work permit was approved			
5	the employees are provided with PPE for working at heights (safety harnesses, lanyards, etc.).			
6	personal fall protection equipment is accounted for and kept in good technical condition. maintenance and regular checks are carried out considering the requirements specified in the manufacturer's documentation			
7	workplaces for working at heights are equipped with the relevant means of protective equipment (lifelines, anchor points, etc.)			
8	collective fall protection equipment is accounted for and kept in good technical condition. maintenance and regular checks are carried out considering the requirements specified in the manufacturer's documentation			
9	safety measures for performance of work entailing an acceptable minimal risk of a worker falling from heights are described in the process charts and safety rules			
10	plans for performance of work entailing a high risk of a worker falling from heights have been developed			

11	action plans have been developed in order to evacuate and rescue workers in case of emergency or rescue operations during performance of work entailing a high risk of a worker falling from heights		
12	the list of process and installation openings is made, and persons responsible for their good condition and closing were appointed		
13	step-by-step illustrated instructions are placed near process openings with regard to opening/closing		
14	each process or installation opening should have an information sign installed nearby indicating dimensions of an opening		
15	dangerous areas during working at heights are protected with temporary fences and safety signs		
16	there are no self-made wooden or metal ladders or stepladders		
17	ladders and stepladders were inspected with a relevant entry made in the inspection book to be checked if necessary		
18	roof railing of at least 1.1m high. In case there are no fences, the Company has developed procedures for installation of roof fences of at least 1.1m high.		
19	roof access points are equipped with access restriction devices. Warning signs "work permit required" are also available.		
20	Access to the roof is provided only by a responsible person in the structural unit with a relevant entry in the log		
	General Assessment Summary		<i>Number of checked items that give 2 points and less:</i>
General Assessment Summary criteria			
The Standard has been fully implemented and is maintained at the appropriate level:			<i>(≥80 and a maximum of two items got 1 and 2 points)</i>
In order to implement the Standard it is required to develop an action plan:			<i>(60-79 and/or a maximum of two items got 1 and 2 points)</i>
The Standard has not been implemented, <u>urgent action</u> is required:			<i>(≤59 and/or two or more items got 1 and 2 points)</i>
General comments/confirmation of the assessment results			
I hereby confirm the performance of the assessment and the accuracy and reliability of the data.			
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Full name/position:		Signature/date:	
Approved by (name/position)		Signature/date:	