

REGISTER OF RISKS AND ACTIONS

Institute of Atmospheric Physics ASCR, v.v.i

Assessed object	Subsystem	Identification of hazard	Evaluation of risk severity				Safety measures to achieve the resulting risk rate R
			P	C	A	R	
Operational building / office work	Office work	*being struck by or against sharp edges and corners of furniture, office desks and cabinets, drawers and equipment in office and storage rooms;	2	2	2	8	*appropriate arrangement of office furniture and equipment (walkways at least from 550 to 600 mm); *keeping order; *consistent closing cabinet doors, desk and file cabinet drawers;
Operational building / office work	Office work	*overturning of office equipment due to stability loss;	2	2	2	8	*correct stable position of higher cabinets and office furniture; *no sitting on the edge of desks and chairs; *no standing on chairs, particularly rolling office chairs;
Operational building / office work	Office work	*injuries of hands or fingers, piercing or cutting while working with office aids (staple, knife);	2	1	2	4	*correct handling of office aids, avoid putting fingers between the jaws of the stapler when stapling papers; *for retouching, using a razor blade in a covered holder ;
Operational building / office work	Office work	*objects and things falling on the worker's foot;	2	2	2	8	*keeping order on the desks and in the cabinets; *even distribution of items stored in cabinets and racks; *load capacity of shelves and racks should never be exceeded;
Operational building / office work	Office work	*scalding with water or hot drinks;	2	2	2	8	*pouring hot water from a boiling kettle carefully; *prevent overfilling vessels with hot liquids and beverages;
Operational building / office work	Display screen equipment	*eyestrain – visual burden, visual impairment (Government Decree No. 361/2007 Sb., as amended);	2	2	2	8	*correct ergonomic arrangement and placement of the furniture and computer; *use height adjustable chairs with tilt back; *appropriate positioning of the monitor (distance of the screen from the eyes approx. 40 to 60 cm according to its size), the height of the centre of the monitor in relation to the visual axis; *eliminate light sources from the visual field (undesirable reflections on the screen); *work breaks – a change in working activity after approx. 1 hour of continuous work with a computer (breaks/ a change in the working activity at work for the compensation of a forced working posture and eyestrain and during uninterrupted work with a high repeatability of finger and hand movements);

							<ul style="list-style-type: none"> *breaks with compensation exercise; *regular medical examinations conducted by a physician of the occupational medicine service; *Government Decree No. 361/2007 Sb., as amended; <p>Regulations: applicable ČSN EN ISO Ergonomic requirements for office work with visual display terminals;</p>
Operational building / office work	Display screen equipment	* leaning the wrists and forearms on the edge of the desk or on the keyboard for long periods (nerve pressure);	2	2	2	8	<ul style="list-style-type: none"> *appropriate size or possible adjustment of the desk, enabling proper positions of hands, work breaks/ a change in working activity; *Annex 7 to Government Decree No. 361/2007 Sb., as amended;
Operational building / doors, gates, windows	Working environment - lighting	*reduced visibility, dark places, increased probability of a workers' error during their working activity, higher chance of injury;	3	2	3	18	<ul style="list-style-type: none"> *selecting the places for workstations according to the most favourable conditions of natural lighting and adequate artificial lighting, ensuring appropriate task lighting; *lighting evenness, task lighting designed for visually demanding work;
Operational buildings and their parts	Floors, routes – movement of persons	*trips, falls of a person on a flat surface; *trips, sprains, being struck by or caught by various obstacles and items projecting from the floor;	3	2	2	12	<ul style="list-style-type: none"> *removal of any obstacles in walkways that may create a tripping hazard – screws, lids and covers raised above the level of the floor, hoses, electrical cables, horizontal elements projecting above the level of the floor and routes; *where the solid obstacles cannot be removed, use slope wedges or safety marking (black-and-yellow or red-and-white stripes); *keeping the routes and passages freely passable and clear, free of obstacles, materials and operating equipment;
Operational buildings and their parts	Floors, routes – movement of persons	*narrowed passages, workers being struck by and caught by solid constructions, desks, office cabinets etc.;	2	2	2	8	*proper positioning of furniture, stationary as well as movable equipment so as to comply with the minimum width of the routes, passages, service spaces etc.;
Operational buildings and their parts	Gates, doors	*spontaneous closing of door/gate wings caused by e.g. wind; *a person being crushed or struck by an unexpected movement of the wings;	2	2	2	8	*securing the door/gate wings against spontaneous closing (hooks, bars, door latches etc.);
Operational buildings and their parts	Windows, doors	*being cut by glass from a broken glass pane;	2	2	2	8	<ul style="list-style-type: none"> *transparent or translucent walls, dividing walls in rooms or near traffic routes, doors and gates clearly marked at eye level, particularly visibly marked all-glass front door wings at exposed places; *suitable type of glass with appropriate characteristics including, without limitation, durability, at exposed places; *timely re-glazing of broken as well as partly cracked glass panes; *windows etc., as necessary, should be able to be secured in open position against spontaneous closing;

Operational buildings and their parts	Sanitary facilities (toilets, washing rooms etc.)	*slips, trips; *possibility of epidemic infection, skin disease etc.; *falls; bruised and fractured body parts ;	3	3	3	27	*keeping flat and non-slip surface of the floor; *regular cleaning, disinfection; *checking the condition and maintenance from time to time;
Operational buildings and their parts	Electrical equipment	*electrical injury due to direct or indirect contact; *bare live electrical parts, impairment of insulation characteristics, short circuit caused by a conductive object;	2	3	2	12	*preventive maintenance of electrical equipment, inspection pursuant to ČSN 33 1500 (provided by the lessor – control), rectification of defects; *timely professional repairs of damaged electrical equipment (sockets, plugs, flexible cords etc.); *keeping flexible cords off passages and routes; *careful handling of cables and cords; *avoid operating electrical appliances and equipment with wet hands; *read the operator’s instruction book; *visual inspection of the equipment condition before each use; *do not leave electrical appliances switched on after leaving the workplace and after the end of the work shift; *operation and maintenance of electrical appliances in compliance with the instructions for use; *avoid using damaged flexible cords, running them over sharp edges, pulling them etc.; *checks and inspections of electrical appliances (these are electric lamps, electrical equipment of information technologies, appliances of consumer electronics, flexible cords and cables, electrical and electronic measuring instruments, other electrical appliances of a similar character) ČSN 33 1600 ed.2;
Handling and storage	Manual handling	*a fall of a person while walking and carrying loads in storage premises and at the workplace upon tripping on an obstacle, slipping, stumbling; sprains; *arm injuries due to the impact on the floor during a fall; *falling on and being struck by a means of transport, handling equipment, stored items;	2	2	2	8	*maintain the proper condition of the floors, storage grounds, aisles and routes, repair damaged surfaces without delay; *even, free from holes and non-slippery surfaces of the floors, routes, loading areas of vehicles, handling spaces; *order at the workplace, removal of projecting obstacles (such as projecting covers, lids, mats, steps, thresholds, hoses, cables and flexible electrical cords, anchor bolts etc.);
Handling and storage	Manual handling	*a fall, overturn, slide down of piece material on a person; *an undesirable change in the position of material (a fall, slide down, shift, knocking over, rolling down etc. of piece material;	2	2	2	8	*securing stable position of material, storing material in a larger storage space; *securing material with appropriate aids excluding its sliding down or falling and knocking over; *in case of manual storage of piece material with regular shape, the material should only be stored up to shoulder or head height (maximum height 2 m), ensuring its stability by interlocking;

							*securing piece material with pads, blocks, supports, racks, wedges, interlocking, particularly of materials stored vertically on their narrower sides, tubes, pipes, bundles, reels etc. The aids must be easy to grip, adjusted, set according to the weight of the load, or possibly, according to its shape and size;
Handling and storage	Manual handling	*a fall of a load on one's foot, being struck by a load; *arms and legs contused and bruised due to the load slipping from one's hand;	2	2	2	8	*prior to the handling, check the condition (strength, cohesiveness, fixation) of transport packaging; *correct manual handling; *correct grip of the load; *ensuring firm grip of the load, using gripping holes, handles; *checking the condition of gripping elements prior to the handling; *using handles and other gripping aids;
Handling and storage	Manual handling	*a worker's fingers being pinched, hands being crushed;	2	2	2	8	*objects that fit tightly to each other during storage and are lacking gripping elements enabling safety grip (lifting eyes, handles etc.) should be stored on blocks (not round timber); *for manual handling of heavier items, use appropriate aids, hand tools (e.g. wheel jacks);
Handling and storage	Manual handling	*hands cut, pierced, stabbed, grazed; *injury caused by the surface of the load due to a stab or cut by edges, burrs, nails, steel packing strips, damaged packaging, splinters etc.;	2	2	2	8	*adaptation of the load, protection of sharp points, edges and other dangerous parts; *exclusion of handling of damaged packages, planks with cracks etc.; *using gloves that are resistant to mechanical aggressions (cutting, piercing etc.);
Handling and storage	Manual handling	*carrying out handling works in confined spaces; *fingers, elbows etc. being crushed, limbs being crushed against surrounding objects, constructions etc.;	2	2	2	8	*ensuring adequate space for handling, keeping order, waste removal; *prepared blocks prior to lowering load (pads, timbers with minimum height of 3 cm);
Handling and storage (storage racks)	Storage racks	*trips, being crushed against the construction of a rack or against the stored material;	2	2	2	8	*keeping free access or arrival to the racks so that handling units and materials can be easily stored and collected; *the width of aisles between the racks and stacks corresponding to the manner of storing materials, i.e. at least 0.8 m for manual handling;
Handling and storage (storage racks)	Storage racks	*material falling from a rack cell, hitting a worker;	2	2	2	8	*ensuring correct placing of loads on the floor of a rack (on the wider part, without projecting over the front edge of the floor of the rack etc.); *as necessary and according to the material type, fixing and securing the material from fall; *ensuring stability of each type of material placed in the rack;
Handling and storage (storage racks)	Storage racks	*a fall of a worker while operating at upper rack cells;	2	3	2	12	*manual handling (placing and removing materials) at heights exceeding 1.8 m should be carried out with safe

							equipment and aids (ladders, stepladders etc.); *avoid climbing on the rack construction;
Handling and storage (storage racks)	Storage racks	*collapse and fall of a rack;	2	3	4	24	*ensuring permanent rack stability (empty, partly full and full racks); anchorage or bracing according to the rack construction; *avoid ensuring stability only by leaning the racks against each other, or possibly, by leaning them on the constructions; *after any relocation or rearrangement of a rack, checking the rack regularly regarding compliance with the respective documentation, joint rigidity, verticality and horizontality; *indication of the load capacity of the rack cells and the number of the cells in a column (or the load capacity of the rack column); the load capacity evidenced; *avoid overloading of racks; *even placement of the loads in the rack cells, lighter in the upper cells, heavier in the lower ones etc.; *no climbing on the rack, no entering the rack and no stepping on the rack (except for extraordinary cases of repairs etc.);
Handling and storage	Double ladders and stepladders	*a fall of a person from a ladder or stepladder when climbing or descending; *a fall of a person from a ladder or stepladder due to leaning out too far from the ladder, when the ladder or stepladder is placed on uneven ground and support, when the ladder is overloaded, and due to uneven loading of the ladder;	3	3	3	27	*keeping stepladders in proper technical condition; *removing damaged stepladders from the workplace; *when using stepladders, it is forbidden to: -use damaged stepladders; -work on, climb and descend the stepladder at a time for more than one person; -lean out dangerously and too far (i.e. deviation of the body's centre of gravity) from the axis of the stepladder; -carry up and down a load weighing more than 15 kg; -climb the stepladder wearing damaged, unfit and soiled footwear with long shoelaces etc.; *visual inspections of stepladders before each use (carried out by the worker using the stepladder);
Handling and storage	Double ladders and stepladders	*a fall of a worker caused by cracked or broken ladder or stepladder rungs;	3	3	3	27	*keeping stepladders in proper technical condition; *removing damaged stepladders from the workplace; * avoid using damaged stepladders; * no more than one worker may at a time work on, climb and descend the stepladder; * no carrying up and down a load weighing more than 15 kg; *visual inspections of stepladders before each use (carried out by the worker using the ladder);

							*regular inspections of stepladders once a year;
Handling and storage /manual handling/ transport by handcarts	Handcarts – horizontal transport	*a person being crushed by a cart or a shaft against walls, poles, door frames or other solid obstacles and objects reducing the width of the clearance profile of the route; *hands and other body parts crushed against solid obstacles;	2	2	2	8	*elimination of spontaneous undesirable movement of handcarts; * ensuring free clearance profiles, free routes and clear line of vision, or possibly, assistance of another person, before the handcart starts to move; *hold the cart by a handle or edge of the cart so that the fingers do not extend beyond the width of the cart; *using side hand guards when handling hand trucks;
Handling and storage /manual handling/ transport by handcarts	Handcarts – horizontal transport	*a slip when setting the cart in motion (the operator’s feet come close to the wheels of the cart); *a slip and fall while pushing or pulling the cart (particularly on sloping floors or ramps); *feet run over by cart wheels;	2	2	2	8	*non-slip routes and ramps; *securing, braking of a cart on a sloping surface by another worker; *the worker’s standing in the right place so as to avoid having his feet run over;
Handling and storage /manual handling/ transport by handcarts	Handcarts – horizontal transport	*bruised foot due to having been run over by a low-lift or platform cart;	2	2	2	8	*using low-lift carts equipped with manufactured foot safeguards fixed at each wheel including rare wheels; *evenly arranged load on the cart; *the operator should not push the cart from its side;
Handling and storage /manual handling/ transport by handcarts	Handcarts – horizontal transport	*a fall of a load (transport of a high load poses the risk of tipping over and fall of the load) *tipping over of the cart with a load;	2	2	2	8	*in case of transport of an unstable load (with a high centre of gravity), stabilise or fix, as necessary, materials or objects with wedges, ropes, chains, straps, or use a cart with high sides so as to avoid the collapse, shift or deformation of the load during the transport; *correct distribution of weight of materials on the platform of the cart (loading area) in order to ensure good stability of the cart with the load; it is necessary to see to it that the mutual centre of gravity be at the lowest position as possible (therefore the heavier objects must be stored lower and lighter objects on top of them); *avoid overloading the cart; *ensuring proper stability of the cart with a load; *flat and firm surface with sufficient load-bearing capacity, removal of obstacles; *avoid carrying unstable or bulky loads on pallet trucks where the stability of the load preventing the load from tipping over cannot be adequately ensured; *avoid moving the pallet truck by pushing on the transported load;
Handling and storage /manual handling/	Handcarts – horizontal transport	*materials (a load) caught by surrounding obstacles and persons;	2	2	2	8	*elimination of spontaneous undesirable movement of carts;

transport by handcarts		*persons endangered by materials carried on the cart;					* ensuring free traffic routes and clear line of vision before the cart starts to move; *if any material extends beyond the edge of the cart, it is necessary to take precautions against the material being caught by surrounding objects or persons; *when turning a cart loaded with longer objects, it is necessary to appropriately (e.g. vocally, through another person etc.) ensure the safety of other persons and traffic; *the operator should not push the cart from its side because the hazard of being run over or crushed against an obstacle may arise;
Handling and storage	Storage	Employees working or being present in the warehouse at risk of injuries due to a fall of the internal warehouse equipment.	2	3	3	18	After any relocation or rearrangement of racks, checking whether the racks comply with the respective documentation, rigidity and stability. The load capacity of rack cells and the number of cells in a column or the load capacity of the rack column should be indicated on the racks. No overloading of racks above the load capacity defined by the manufacturer. Even storing of the loads in the rack cells, heavier loads lower, the lighter ones higher. No climbing on the rack, no stepping on and no entering the rack. Comply with the minimum width defined for the aisles between storage racks. Checking racks at least once a year, making a record of the check.
Handling and storage	Storage	Employees working or being present in the warehouse at risk of injuries due to a fall of the internal warehouse equipment.	2	3	3	18	No overloading of pallets, compliance with the maximum load capacity of pallets. Avoid using damaged pallets. Storing useless pallets at a designated place.
Transport / road vehicles	Road vehicles	*collision of a vehicle with a person, another vehicle or solid obstacle – traffic accidents; *collisions of vehicles (head-on collision, side impact, rear-end collision); *an impact of a vehicle on an obstacle; *vehicle overturning; *a vehicle leaving the roadway; *a person being crashed, run over, caught, crushed and knocked over by a vehicle; *being crushed or pressed by a vehicle against a part of a structure or other solid construction;	3	3	3	27	*driving license for the respective vehicle class, drivers training; *compliance with road traffic regulations, safety breaks, attention, appropriate speed etc.; *avoid staying behind in the path of a reversing car; look both sides before stepping on the road; *securing the parked vehicle against rolling; *compliance with work routines;

Transport / road vehicles	Road vehicles – driving a vehicle	Road users endangered by: *the car crashing into a solid obstacle; *collision with another vehicle; *collision with a person; *an impediment to the driver's vision; *limited control over the vehicle; *an injury sustained by the driver in a car accident; *the driver's microsleep event; *driving a motor vehicle without license; *failure to secure and loosening of the load; *a wheel falling off a vehicle while driving; *a bursting or burning car tyre while driving; *bad technical condition of the vehicle; *non-compliance with road traffic regulations, dangerous condition of the road;	3	4	3	36	Comply with the provisions of the Decree on road traffic. Avoid consuming alcoholic beverages or other intoxicating substances before driving. Pay full attention to driving; avoid being distracted by other activities when driving. In case of a car accident resulting in an injury of a person, provide first aid to this person and summon emergency help. Avoid placing any objects impeding the driver's vision in front of or on the windscreen. Use antifreeze windscreen washer fluid in winter to prevent frost on the windscreen. In case of icy conditions, it is always necessary to de-ice all car windows. Avoid driving a car with reduced ability to control the vehicle. Have the seat belt fastened when driving. Take safety breaks as required by law. Not allow a non competent person that is not duly trained to drive a vehicle. In case of a transfer of a driver to another type of vehicle, instruct the driver on driving of such vehicle according to the manufacturer's instruction book. Check whether the load is safely secured before the drive, and ensure, as necessary, that the load has not become loose during the transport. It is necessary to check the tightening of the screws and nuts after any wheel mounting. Check the condition of the tyres before a drive and, as necessary, during the transport, and change them if necessary. Check the technical condition of the vehicle before a drive, remove the identified defects.
Transport/ road vehicles	Road vehicles – driving a vehicle	Road users endangered by another motor vehicle while repairing a car in poor visibility.	3	3	2	18	Avoid stepping in and standing in the carriageway in poor visibility without wearing a reflex vest or high visibility clothes.
Transport / road vehicles	Road vehicles – driving a vehicle	Road users endangered by a car accident due to the bad technical condition of the vehicle.	2	3	3	18	Carry out checks of the technical condition of vehicles within the prescribed deadlines and scope. Have the identified defects removed without delay.
Traffic/ road vehicles	Road vehicles – driving a vehicle	Employers performing small repairs of vehicles endangered by injuries during this activity.	3	3	2	18	At work, comply with the manufacturer's instructions for the given activity – the manufacturer's instruction book; preferably an external supplier. Use undamaged tools for that work.
Transport / road vehicles	Road vehicles – driving a vehicle	Persons finding themselves at a site of a vehicle fire being at risk of a burn injury caused by	2	2	3	12	Equip the car with a fire extinguisher – recommendation, is not part of

		the fire, or possibly, by a subsequent explosion.					mandatory car equipment in the Czech Republic.
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*slips, stumbles, sprains on handling and loading surfaces;	2	2	2	8	*treat and keep non-slip floor surfaces in the loading area; *appropriate work footwear;
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*a load slipping from a worker's hands and then falling on his foot;	2	2	2	8	*use, whenever possible, palletisation, containerisation, good work practice, appropriate footwear; *good work practice, good grip of the load;
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*fingers being struck, crushed, pinched against the loading surface; *a limb being crushed against surrounding objects, constructions or sides of vehicles while lifting and storing loads;	2	2	2	8	*unless heavy loads are secured against undesirable movement, do not step under them and do not put hands under them; *preferable use of vehicles equipped with a lifting tailgate, hydraulic lifts (hands) and other appropriate handling equipment;
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*a load falling on a worker while lifting and placing the load, with the load slipping down due to bad fixing, unstable position or an incorrect manner of withdrawal, due to load shifting during the transport etc. Note: During the movement of the vehicle, the load is subject to impacts and vibrations causing the increase of static forces with a dynamic component, the value of which depends particularly on the type, technical condition and equipment of the vehicle, the weight of the load, the speed of the vehicle and the scope of their changes, on the manner of loading and fixing the material and on the type and condition of the traffic route.	2	3	2	12	*appropriate manner of loading and fixing the load ensuring its stability during transportation, unloading and withdrawal of materials; *exclusion from the area of persons not involved in loading and unloading operations; *ensure fixation of the materials transported on plain pallets when handling piece materials; *determine the heights of load stacks transported in vehicles according to the type, shape, dimensions and weight of the handling unit, the type and version of the handling equipment and vehicles, the load capacity of the vehicles, pallets and containers, the platform height of the vehicle, the manner of loading and the arrangement of the handling unit; *in order to fix and fasten the loads transported in vehicles and other means of transport, it is necessary to use fastening devices, such as ratchet tensioning belts and ratchet lashing polyester straps with safety hook and latch; *during loading and unloading, the loading area of the vehicle should be, as far as possible, in a horizontal position, particularly if manual loading or unloading of loads with a higher centre of gravity (such as stands with materials) is performed; *the order of unloading the loads and materials on the loading area is determined so as to avoid one-sided spring suspension, and thus a dangerous tilt of the loading area of the vehicle and possible overturning or sliding of the load;

Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*a fall of a load, object, material on a worker/person while loading and unloading;	2	3	2	12	*appropriate manner of loading and fixing the load ensuring its stability during transportation, unloading and withdrawal of materials; *secure piece material, if necessary, with appropriate aids and devices excluding sliding, falling or overturning of these materials during loading, unloading and other handling; *the workers involved in loading and unloading must not move in the immediate vicinity of, walk under and hold the lifted load during the operation of the handling device; *unless heavy loads are secured against undesirable movement, avoid stepping under and putting hands under them; *avoid handling vehicles with loads after the fixing or lashing has been removed; *the slope of loading skids must not make more than an angle of 30° with the horizontal plane, skid girders should be fixed on the vehicle using hooks or other reliable fastening device;
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*a fall of a worker while climbing on or descending from the vehicle;	2	2	2	8	*in order to allow safe climbing on (or descending from) the loading area of the vehicle, use a ladder or other equivalent device; *avoid unnecessary moving at the very edge of the loading area of the vehicle;
Handling and storage/ loading and unloading vehicles	Loading and unloading vehicles	*a person being run over, crushed, pressed by a vehicle;	2	3	2	12	*in order to ensure safe reversing, making u-turns and similar dangerous movements of vehicles using a trained signaler (e.g. driver's mate) assisting the vehicle driver, the signals and signs must be agreed in advance so as to avoid any misunderstanding between the driver and the signaler;
Electrical hand tools	Electrical equipment	Electrical injury due to direct or indirect contact. Bare live electrical parts, impairment of insulation characteristics, short circuit caused by a conductive object.	2	3	2	12	Preventive maintenance of electrical equipment, inspection pursuant to ČSN 33 1500 (provided by the lessor – control), rectification of defects. Timely professional repairs of damaged electrical equipment (sockets, plugs, flexible cords etc.). Keeping flexible cords off passages and routes. Careful handling of cables and cords. Avoid operating appliances and equipment with wet hands. Read the operator's instruction book. Visual inspection of the equipment before each use. Do not leave electrical appliances switched on after leaving the workplace and after the end of the work shift. Operation and maintenance of electrical appliances in compliance with the instructions for use.

							Avoid using damaged flexible cords, running them over sharp edges, pulling them etc. Checks and inspections of electrical appliances ČSN 33 1600 ed. 2
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator's hands being cut when removing swarf;	2	2	2	8	*use prescribed work aids (such as hooks with longer handles and hand protectors, dust brushes, scrapers, paintbrushes, brushes, wooden sticks for cleaning holes, internal threads etc.); *use hooks always when removing tangled swarf (a wire loop handle on the hook for one or more fingers is not allowed because of the risk of serious finger injury); *use wool waste and cloth for cleaning only when the machine is at rest and after removing swarf using a scraper, dust brush etc.; *use a brush or a paintbrush for cleaning threads (cleaning internal threads with a cloth wrapped around a finger is dangerous);
Calibration/ workshop	Calibration, metal cutting – machine operating	*dispersion of blown chips toward an operator, hitting eyes and face;	2	2	2	8	*avoid overall cleaning of machines by compressed air; *use compressed air only for cleaning the immediate point of operation, for cleaning workpieces and work-holding fixtures with irregular shape; limit outlet pressure of a normal blow gun to less than 0.2 Mpa, install protective equipment (shield) that keeps blown chips from flying toward the operator or other persons; *use PPE to protect eyes and face (face shields or eye protection goggles) when blowing away chips with compressed air;
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator being hit by a loosened rotating clamp;	2	2	2	8	*preventing the access to the machine during its operation using an electrical barrier and a firm fence barrier with a gate; *proper securing of the rotating unit with a retaining ring, bayonet cap etc.;
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator being entrapped, a limb being entangled, being struck by a loosened workpiece due to undesirable accidental starting, unexpected release of a workpiece due to reduced holding strength, insufficient stiffness of the clamp;	2	3	2	12	*preventing the access to the machine during its operation using an electrical barrier and a firm fence barrier with a gate; *installing shields on the rotating clamps; *smooth surfaces of the clamps, leading edges of the clamps; *appropriate workwear of the operator; *enabling locking the main switch off;
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator being caught in, pulled in, squeezed, crushed, cut (e.g. due to a belt being torn apart, loosened driving mechanisms, effect of high peripheral speed and movement of parts);	2	2	2	8	*denial of access to dangerous parts – preventing the access to the machine during its operation using an electrical barrier and a firm fence barrier with a gate; *avoid putting protective devices out of operation;

							*avoid putting the driving belt on while the machine is running;
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator being hit by the carriage in the event of its overtravel beyond its permitted stopping position;	2	2	2	8	*preventing the access to the machine during its operation using an electrical barrier and a firm fence barrier with a gate; *installing functional stops; *emergency brakes; *protective restriction; *warning marking affixed to the carriage front side.
Calibration/ workshop	Calibration, metal cutting – machine operating	*undesirable start of a machine, workpiece kickback, aids ejection; the operator being struck, entrapped, entangled;	2	2	2	8	*using a securing device; *securing the machine by placing the main switch on the locked position before making any repair;
Calibration/ workshop	Calibration, metal cutting – machine operating	*change of tools, clamping, removing of workpieces during operation – entrapping, striking, entangling, cutting, pulling in, squeezing of a body part, most often a hand;	2	2	2	8	*stopping the machine – the movement of a spindle, slide;
Calibration/ workshop	Calibration, metal cutting – machine operating	*incorrect and unreliable clamping of the workpiece, faulty fixing of materials, workpieces – releasing, ejecting and hitting the operator;	2	2	2	8	*correct and reliable clamping; balanced, smooth clamping of shaped items; *only those items should be fixed in the clamping unit that are constructed accordingly and that due to their shape and size may be fixed perfectly; *use appropriate and intact tools for clamping; *clean and undamaged bearing surfaces for clamping of tools; *safe fixing of the tool; setting the tool overhang so that no harmful mechanical stress is generated on the tool and the swarf can easily run out;
Calibration/ workshop	Calibration, metal cutting – machine operating	*fast feed movement, impact of the tool on the workpiece clamp, carriage deformation, ejection and hitting the operator by a released broken tool or a part of the machine;	2	2	2	8	*concentration and attention of the operator when monitoring the fast feed; *fast feed in safe distance from the workpiece; *timely switch-off;
Calibration/ workshop	Calibration, metal cutting – machine operating	*the operator being hit by a loose chuck key;	2	2	2	8	*avoid leaving chuck keys in the clamping unit; *avoid using a key with a prolonged lever; *avoid using excessively deformed and damaged clamps;
Calibration/ workshop	Calibration, metal cutting – machine operating	*a body part, hair – (in which case resulting in a scalp injury), items of clothing being caught, pulled in, entangled while operating a drilling machine, milling machine or, possibly, by unprotected rotating parts of the machine, by a tool;	2	3	2	12	*the operator should wear proper clothes that are undamaged and without loosely waving parts, with closely fitting cuffs on sleeves and trousers, the shirt should be tucked into the trousers; *avoid operating machines while wearing an apron or smock; *wearing head guards (caps, hairnets, headscarves) that must not have dangling ends, the headscarf should be

							<p>tied up behind the head (not under the chin) so that the hair would not stick out;</p> <p>*do not wear rings, necklaces, bracelets, wristwatches, neckties, scarves etc. when operating the machine;</p> <p>*using rubber fingers by workers with bandaged hands or fingers (e.g. gauze bandage, leather finger) – this applies particularly to the operators of drilling machines or centre lathes;</p> <p>* the operator should not wear gloves when the machine is in operation (using gloves is dangerous especially when operating drilling machines);</p> <p>*carry out adjusting, maintenance and lubricating only when the machine is at rest;</p>
Calibration/ workshop	Calibration, metal cutting – machine operating	*a person falling, being crushed by workpieces and fixtures being moved;	2	3	2	12	<p>*appropriate handling and elevating devices with appropriate fixtures, suspension or support aids adapted to the shape of the workpiece should be available for clamping and releasing heavier fixtures, instruments, tools and workpieces which, due to their weight, shape or dimensions, do not enable safe manual handling and their location in the machine;</p> <p>*ensure assistance from other persons, determine and adhere to the work procedure;</p>
Calibration/ workshop	Calibration, metal cutting – machine operating	*hands being cut or burnt while changing workpieces and tools;	2	2	2	8	*using PPE to protect hands;
Electric motor- operated tools – general	Motor-operated tools – electric, pneumatic; general	*bruises, stabbing and cutting injuries of legs in the event of a fall of the tools from height while working on ladders with the tools not being adequately secured;	3	2	3	18	<p>*restrictions on work with tools on ladders;</p> <p>*tools should be attached to the body or part of clothing; using tool bags, cases, loops etc.;</p>
Electric motor- operated tools – general	Motor-operated tools – electric, pneumatic; general	*a fall of a worker while working with tools on a ladder etc. (serious injuries – fractures, limb bruises, head, spinal and internal injuries etc.);	2	3	2	12	<p>*securing firm and stable footing of the worker when working with tools, restrictions on work on ladders;</p> <p>*elimination of work on unsteady and unstable constructions; instead of a ladder, using safer and more stable equipment (platforms, stepladders with a platform, scaffolding etc.);</p>
Electric motor- operated tools – general	Motor-operated tools – electric, pneumatic; general	*vibrations transmitted to hands resulting in affected tissues, damaged bones, joints and ligaments, vascular disorders, nerve diseases; this damage to health is reflected in degenerative changes arising from direct mechanical effect of impacts; traumatic vasoneurosis triggered by continuous work with vibrating	2	2	2	8	<p>*maintaining the tools in proper technical condition;</p> <p>*compliance with safety rest breaks according to the instructions for operation;</p>

		tools, particularly the pneumatic ones;					
Electric motor-operated tools – general	Motor-operated tools – electric, pneumatic; general	*electrical injury of the operator; Note: A major injury hazard results from the principle of tools held in hands when electric current is passing through a living organism. An operator applies force to the tool, therefore his muscles are tightened and the contact with conducting parts is particularly close. Damaged insulation may often cause muscular spasm, cessation of breathing, in serious cases even ventricular fibrillation. A worker struck by electricity might subsequently fall from height, from a ladder etc.;	2	4	2	16	<p>*a repair should be carried out professionally, only after disconnecting from mains;</p> <p>*avoid using electric motor-operated power tools designed for neutral or protective grounding for work and use in wet environment or on metallic constructions;</p> <p>*carrying out the prescribed check of tools at the workplace before the start of the work shift and after finishing work with tools (in the event of defects, hand over the tool or its part for repair);</p> <p>*avoid using damaged tools and tools that cannot be switched off or on by a power switch, or damaged power cords;</p> <p>*never carry a tool by the cord; never yank the cord to disconnect the plug from the receptacle;</p> <p>*keep cords away from sharp edges and, as necessary, protect them appropriately against mechanical or other damage, do not pull the power cord;</p> <p>*when working, always run the flexible cord from the tool backwards;</p> <p>*use an extension cord outdoors only if the cord is appropriately marked and designed for outdoor use;</p> <p>*power tools, power cords, extension cords, plugs and couplers should be regularly checked and inspected;</p> <p>*never use damaged power tools and power cords or electrical cables;</p> <p>*after finishing work, disconnect the plug of the cord from the receptacle;</p>
Pressure equipment/ Stationary pressure vessels	Stationary pressure vessels (a working pressure greater than 0.07 Mpa, containing gas, vapours or caustic, toxic and explosive liquids of any temperature, or liquids with a temperature exceeding their boiling point under the pressure equalling to 0.07 Mpa)	*damage to the vessel and its fittings, leakage of the substance, burning and fire hazard, possibility of explosions, chemical burns; *destruction of the vessel, compression wave, being endangered by fragments projected and propelled through space; *soil and water contamination;	2	4	2	16	<p>*put in operation only such vessels the condition of which does not endanger the safety of persons and property, which underwent the prescribed construction and first pressure tests, initial inspection, see ČSN 69 0012, which have the prescribed operating documentation, see ČSN 690010, which have the prescribed and complete fittings and accessories, including the check whether the vessels are installed properly (see part IV. D of ČSN 69 0012); Carry out regular inspections and checks, cleaning and maintenance (see part IV ČSN 69 0012);</p> <p>*fulfil the operator's obligations, including, without limitation:</p> <ul style="list-style-type: none"> -drawing up operating instructions; -designating a worker responsible for the operation of the vessels; -ensuring necessary operation and maintenance;

							<ul style="list-style-type: none"> -ensuring compliance with all regulations, instructions and orders; -providing the workers with PPE; -keeping accurate records of the vessels and their changes; -keeping documentation, records on removal of identified defects (see ČSN 69 0012 Annex); *the vessel operator must be older than 18 years, capable of working as an operator, acquainted with and trained for that work;
Pressure equipment/ Stationary pressure vessels	Stationary pressure vessel (SPV), compressor air tank (air)	*destruction of the SPV unit with persons being endangered by dynamic effects of the SPV metallic parts due to pressure;	2	4	2	16	<ul style="list-style-type: none"> *during the operation, protect SPV against damage, avoid interfering with the construction of the vessel, as well as the structural supports and pads; *do not lay SPV directly on its shell, secure its proper position and ensure its stability; *proper functioning of the SPV accessories due to appropriate, correctly selected and placed fittings (pressure gauge, safety valve) and their proper setting (according to the technical documentation), continuous keeping in proper functional condition, regular checks of the safety valve and neutral grounding of the pressure gauge according to ČSN 690012; regular removal of sediment; *ensuring the access for the operators to the closures of safety valves and pressure gauges; *avoid loading the safety valve; *avoid replacing safety valves with pressure switches if the pressure source exceeds the maximum work pressure of SPV; *ensuring preventive maintenance, regular checks of SPV and accessory functionality, regular inspections, keeping SPV technical documentation; *professional SPV repairs;
Pressure equipment/ Stationary pressure vessels	Stationary pressure vessel (SPV), compressor air tank (air)	*electrical injury	3	3	3	27	<ul style="list-style-type: none"> *operation of electrical equipment in a safety condition, particularly in respect of grounding, current or voltage protection, correct connection, protective cover, condition of conductors etc.; (see also the library "Electrical equipment – electrical injury")
Grinding machines	Grinding machines	General	4	3	2	24	Grinders must be used only for work for which they are designed. They should be installed so that no other workstations are located in the direction of grinding wheel rotation; mark the direction of rotation on the protective cover or near the spindle head.
Grinding machines	Grinding wheel (bursting into fragments),	Mechanical: ejection of the workpiece, strikes, stabs or	4	3	2	24	Before mounting a wheel onto the machine, perform a visual inspection (hammering test – dry and clean wheel);

	direct contact, small fragments and grinding sparks, coolant and grinding products	pierces, cuts, burning, entangling, pulling in;					peripheral speed of the grinding wheel = peripheral speed of the machine. Wheels should be mounted between flanges using elastic blotters. Use the prescribed protective covers – the circumferential gap between the cover and the wheel is no larger than 6 mm; the grinder tool rest gap to wheel is no larger than 3 mm. The mounted wheel with a protective cover should be run idle for 5 minutes – the operator must keep away from the grinding wheel rotation plane.
Laser devices	Risk of exposure of the operator to the laser beam during the machine operation	*laser eye injury or laser eye damage;	4	4	3	48	-use prescribed laser protective eyewear; do not stare into beam! -ensure protection of other persons (shielding walls and protective curtains) and the area;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*a fall of the brush cutter operator while walking and moving on uneven and sloping ground in the treated area;	2	3	2	12	*inspection of the treated area and, if possible, removal of dangerous obstacles, or if not possible, marking them;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*being cut by an unguarded working part, i.e. rotating work tool (circular saw blade etc.);	2	3	2	12	* setting the protective guard, checking the circular blade, cleaning, e.g. removing vegetation caught in etc., only when the cutter is turned off; for loosening and tightening the circular blade bolt, use a braking device, or press the blade teeth against a tree stump or a log; use protective gloves; *when transporting the brush cutter, always fit the blade transport cover, or remove the blade;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*the operator or other persons being hit by a ricocheting object – a propelled rock or another object that bounced off the rotating tool;	2	2	2	8	*exclusion of persons from the dangerous area when starting the brush cutter; exclusion of foreign persons from the dangerous area (usually a circular area of a radius of 5 to 15 m, or of a radius double the height of the tree being cut down – laid down in the manufacturer's instructions; *the tool guard is functional and correctly fitted; use a combined protective cover (such as the Saftor system); *correct adjustment of the clutch and engine idling, if applicable; *when starting, the blade should be free standing (it must not touch any objects, obstructions, terrain etc.); *using PPE to protect eyes, or possibly even the whole face; *the operator should read the operator's instruction book; *before the work starts, inspect the terrain and, where possible, remove undesirable objects (glass bottles, rocks, metallic objects and other objects that

							could cause damage to the brush cutter or an injury);
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*falling tree and branches hitting a person;	3	3	3	27	*training, correct technique of the work with a brush cutter, maintaining good footing, inspection of the surroundings; *exclude foreign persons from the dangerous area (area of a radius double the height of the tree being cut down); *consider how thick the tree is (up to 10 cm), which way the tree is leaning, in which direction it will fall, which is the best quadrant of the blade for cutting and direction of cutting, whether it is necessary to apply full throttle; maintain good footing, inspect the surroundings; *correct cut – a sharp single swing for thin trees, a double cut for thicker trees; *directional felling of the tree by e.g. tilting the blade, appropriate double cutting, using wind strength and direction, the shape of the tree crown, sloping of the terrain etc.; *do not cut branches from trees that are not at the operator's right hand;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*pain in arms, shoulders or in the back, increased fatigue;	2	2	2	8	*when working with the brush cutter, it must always be hooked to the harness; correct adjustment of the side straps according to the figure and body dimensions of the brush cutter operator ensuring that the load is evenly distributed across both shoulders; the line of tension should run midway between the shoulder straps; even distribution of the weight of the tool; *correct footing of the operator when working with the brush cutter (e.g. when clearing grass using a grass blade, the grass is cut down with a sideways, swinging movement, where the movement from right-to-left is the clearing stroke and the movement from left-to-right is the return stroke); *when working, hold the brush cutter with both hands and stand firmly with your feet slightly apart; *appropriate clothing of the operator, vision PPE; *the operator should read the operator's instruction book;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*gasoline burn injury;	2	3	2	12	*possibility of quick loosening of the fastened brush cutter in the event of gasoline on fire; functional safety buckle (catch), its correct positioning – in the middle of the chest; *do not refuel near open fire, do not smoke; *prevent fuel leaks;
Small mechanisation,	Brush cutters used for clearing grass,	*falling tree or branches hitting the operator's head;	2	3	2	12	*when felling trees higher than 2 m, use a protective helmet with neck protection;

tools/ Brush cutters	shrubs, weeds and other vegetation						the operator should read and comply with the operator's instruction book;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*a kickback while using a saw blade;	2	2	2	8	*avoid cutting with the front area of the saw blade;
Small mechanisation, tools/ Brush cutters	Brush cutters used for clearing grass, shrubs, weeds and other vegetation	*vibrations transmitted to hands, arms and trunk of the operator (due to the brush cutter engine operation and striking woody plants by the tool)	4	0	3	24	*using sharp tools (circular saw blades, triangular blades etc.) and appropriate tooth types according to the manufacturer's instructions;
Disposal of hazardous substances	Chemical substances and mixtures	*damage to the health resulting from the mishandling of chemical substances and mixtures (noncompliance with hygienic and safety leaflets, failure to use prescribed PPE);	5	2	1	10	*when handling chemical substances and mixtures, comply with safety leaflets and use prescribed PPE;
Power hand tools and accessories	Power hand tools and accessories	*loose parts of clothing or hair being tangled;	4	4	1	16	-appropriate employee clothing without loosely waving parts, using headwear;
Power hand tools and accessories	Power hand tools and accessories	*electrical injury: -by a power hand tool and extension cable;	3	2	2	12	*-before starting work, read the applicable documentation and shut off electricity at the point of operation; *- avoid using damaged tools and tools that cannot be switched off or on by a power switch; *-avoid using damager power cords; *- never carry a tool by the cord; never yank the cord to disconnect the plug from the receptacle; *- keep cords away from sharp edges and, as necessary, protect them against mechanical or other damage; *- do not pull electric conductors; *- always run the flexible cord from the tool backwards; use an extension cord outdoors only if the cord is appropriately marked and designed for outdoor use; *- after finishing work, disconnect the plug of the cord from the receptacle; *- avoid using electric motor-operated power tools designed for neutral or protective grounding for work and use in wet environment or on metallic constructions; *- carry out the checks of tools at the workplace before starting and after finishing the work shift with tools in the prescribed scope (in the event of defects, hand over the tool or its part for repair – power tools may only be repaired by a professionally competent person);

Power hand tools and accessories	Operation of power tools	*noise level; *local vibrations transmitted to the operator's hands;	5	3	3	45	During the work with hand or power tools, take safety rest break (noise level, vibrations) according to the instructions for use, or possibly, the results of noise and vibration measurement; *proper technical condition of the tools and maintenance of exposed parts affecting noise level and vibrations; *if necessary, use hearing PPE.
Hand tools	Hand tools	*slash, cut, stab, lacerated wounds, bruises, blisters, contusions, bruises caused by undesirable contact of the tool with a hand;	5	2	1	10	*-practice, skill, or possibly on-the-job training, using an appropriate sort, type and size of tools; *-ensuring the possibility of choice of appropriate tools; compliance with the prohibition to use damaged tools;
Hand tools	Hand tools	*eye injuries caused by flying splinters, small particles, fragments, burrs etc. (most often chisels, hammers, punches etc.)	5	1	1	5	*using only chisels, punches, snap hammers, hammers and similar tools without cracks or burrs, using eye protection PPE;
Hand tools	Hand tools	*a tool slipping out of hands;	5	1	1	5	*using undamaged tools with sharp edges; for chisels – do not use chisels shorter than 150 mm and round in section – the handle should be fixed firmly and secured against loosening by wedges etc. – design and adjustment of the tool grip (which is held in hand), smooth and suitable shape of these parts, free of cracks; *keep the handle and grip of the tool dry and clean, protect them against oil and grease; *if possible, avoid working with tools above head height using an appropriate elevated work position; *movement of cutting tools away from the employee's body; * when cutting , prevent material from flying to a co-worker;
Hand tools	Hand tools	*an employee struck by a head of a tool (a hammer, a mallet etc.) that flies off from its loose handle;	5	1	1	5	*do not use damaged tools (with loose handle etc.);
Hand tools	Hand tools	*contusions, bruises of hands suffered while using tools in confined spaces, during various installation works;	5	1	2	10	*arrangement of the workplace; choose the most suitable position for the performance of the required work; *use a wrench that exactly fits the nut or bolt head; *loosen and tighten nuts and bolts by pulling toward your body; if it is necessary to push the wrench, use the open palm of your hand; *do not use a pipe to extend the length of the handle; CAUTION! When working with tools, never exert force on tools against unprotected parts of the body, i.e. the eyes, face and hands must be in sufficient distance from the point of the

							performed action; if it is not possible, adequate personal protective equipment must be used (protective glasses or shield, gloves etc.). Hand tools should be kept in a perfect condition, regularly inspected, discarded and replenished!
Hand tools	Hand tools	*contusions, bruises of hands suffered while using tools resulting in overloading of muscles in various forced work postures;	5	3	2	30	*arrangement of the workplace; choose the most suitable position for the performance of the required work; *use appropriate tools, change work postures, if possible, comply with safety breaks. When working with tools, never exert force on tools against unprotected parts of the body, i.e. the eyes, face and hands must be in sufficient distance from the point of the performed action; if it is not possible, adequate personal protective equipment must be used (protective glasses or shield, gloves etc.). Hand tools should be kept in a perfect condition, regularly inspected, discarded and replenished.
Maintenance and repair of buildings and equipment	Workplace for working at height and above open depth	Falls from heights	3	5	1	15	_securing the workplace according to the technological procedure; _implementation of collective protection; _who can work without collective protection and what work operations he can carry out; personal protection; _defining the anchor point of personal protection; _determination of controls of collective protection; _daily controls of personal protection before use, the scope of the controls, time schedule, designation of the employee who will carry out the control of personal protection including a record in documents according to the instructions for use; _covering of technological apertures in ceiling constructions; _using appropriate and undamaged ladders; stabilising the ladder; _determination of access routes to the workplace; _lighting of access routes;
Maintenance and repair of buildings and equipment	Workplace for working at height and above open depth	Employees falling from height	2	5	3	30	_the workplace should be equipped with constructions for working at height and elevation of work position (scaffolding, ladders); _control of material before constructing the scaffold; _adequate load-bearing capacity, stiffness and stability of the scaffold constructions; _handing over and regular inspections of the scaffold constructions;

							<ul style="list-style-type: none"> _ using collective protection, continuously secure free edges where the difference between the heights exceeds 1.5 m; _ ensure covering of holes and openings the dimension of the shorter side of which exceeds 0.25 m; _ the covering of the holes will have adequate load-bearing capacity; _ preventing the access to the places where no one is working and where no collective protection is used;
Maintenance and repair of buildings and equipment	Workplace for working at height and above open depth	Employees falling from height; personal and collective protection	2	5	3	30	<ul style="list-style-type: none"> _ where collective protection cannot be used, use personal protection means; _ regular controls of personal protection before being used by the employee and in compliance with the manufacturer's instructions; _ a competent employee will define the anchor points; _ use only those scaffold constructions that were handed over for use with a handover record; _ employees are prohibited from interfering with the scaffold construction unless having a valid scaffolder certificate; _ everyday control before starting the work; _ a control of stationary scaffolding every month; _ elaboration of the technological procedure including ensuring occupational safety during more complex work at height; _ using prescribed and safe ladders for the access to the elevated construction sites; _ a control once a year; _ maintaining ladder records; _ using ladders also for climbing on and descending from trestle scaffolds; _ securing ladders to prevent displacement;
Maintenance and repair of buildings and equipment	Maintenance and repair of buildings and equipment	A fall of an employee from a ladder etc. while working with tools (serious injuries – fractures, limb contusions – head and spine injuries, internal injuries)	3	2	2	12	<ul style="list-style-type: none"> *securing firm and stable footing of the employee when working with tools, restriction on the work on ladders; *measures to prevent materials from falling from height; *fencing the area below the places of work; *prohibiting employees from entering fragile floors, ceilings, roofs or other constructions without sufficient load-bearing capacity; *exclusion of working on shaky and unsteady equipments (platforms, stepladders with a platform, scaffolding etc.);

							<ul style="list-style-type: none"> *never have more than one person on the ladder at a time; *do not carry bulky, awkward, unstable items or items weighing more than 20 kg up and down the ladder;
Maintenance and repair of buildings and equipment	Maintenance and repair of buildings and equipment	*electrical injury due to holding hand power tools in operation in hands; it is necessary to expect a higher risk of injury when electric current is passing through a living organism. An operator usually applies force to the tool, therefore his muscles are tightened and the contact with conducting parts is particularly close. Damaged insulation may often cause muscular spasm, cessation of breathing, in serious cases even ventricular fibrillation. A worker struck by electricity might subsequently fall from height, from a ladder etc.;	3	2	2	12	<ul style="list-style-type: none"> *avoid using damaged tools and tools that cannot be switched off or on by a power switch, or damaged power cords; *never carry a tool by the cord; never yank the cord to disconnect the plug from the receptacle; *keep cords away from sharp edges and, as necessary, protect them against mechanical or other damage, do not pull the cord; *while working, always run the flexible cord from the tool backwards; *use an extension cord outdoors only if the cord is appropriately marked and designed for outdoor use; *power tools, power cords, extension cords, plugs and couplers should be regularly checked and inspected; *never use damaged power tools and power cords or electrical cables; *after finishing work, disconnect the plug of the cord from the receptacle; *a repair of power tools may be carried out only by a professionally competent person, and only after disconnecting from mains; *avoid using electric motor-operated power tools designed for neutral or protective grounding for work and use in wet environment or on metallic constructions; *carry out the prescribed check of tools at the workplace before the start of the work shift and after finishing work with tools (in the event of defects, hand over the tool or its part for repair);
Towers and platforms at height	Towers and platforms at height	Inclined foot position while stepping, incorrect stepping on an edge; Climbing on transmission towers, platforms	2	5	2	30	<p>On stairways and vertical steel ladders:</p> <ul style="list-style-type: none"> *correct stepping, elimination of inclined foot position while stepping, increased caution in the event of reduced adhesiveness in wet conditions, during frost, due to muddy footwear, etc.; *elimination of incorrect stepping on the very edge of a stair step with worsened friction conditions; *using non-skid footwear (soles with a fine profile have better non-skid characteristics than those with a coarse one), or possibly, footwear with softer soles; *cleaning the footwear before climbing the ladder; *marking top and bottom staircase steps; *non-slip covering for worn staircase step edges, replacing steel staircases

							<p>with more suitable step surfaces, ensuring adequate depth of the tread; *correct stepping on rungs and other step elements, possibility of using a grab element (handle) for holding on to when ascending to the top of the ladder; Fall from height protection: Ensuring PPE, i.e. work positioning systems and personal protective equipment against falls from a height, i.e. "fall arrest system". Securing items and materials against falling: material, tools and work aids must be saved, or stored, in a height so they are secured, for the whole period of storage, against falling, sliding or dropping both during and after finishing the work. Appropriate equipment or working clothes adapted for that purpose must be used to fasten tools or to store small materials. Constructions designed for working at heights must not be overloaded. Ensuring the safety below the workplace at height and its surroundings. Supervision of hazardous areas by a designated employee during the whole exposure period, work positioning systems, anchors, ropes.</p>
Ropeway operation	Ropeway operation	Contact with moving parts of material ropeway, trips, a fall of a person on flat surface, sprains, bumps, hand injuries due to slips and stumbles, accidental contact with live or non-live parts of electrical devices.	2	2	3	12	<p>Clean and keep surfaces free of frost, mud, oil stains, holes etc. Comply with the prohibition to remove barriers and covers from electrical devices, preventive maintenance, inspection according to ČSN 33 1500, comply with safety signs and labels. Use PPE properly, never step in the path of the ropeway moving parts, and pay attention to your own safety. Participate in regular vocational as well as OSH trainings. Regular electrical hazard awareness training according to Decree No. 50/1978 Sb.</p>

In Prague, on 10 November 2017

Drawn up by: Ing. Karel Dvořák
Competent person
Certificate No. TÜV/4/PREV/2013

Approved by: 14 January 2018 *signature illegible*
Director of the Company

Notes – Risk ranking of the identified hazards

Probability of hazard occurrence (P)

Random	1
Improbable	2
Probable	3
Highly probable	4
Permanent	5

Consequence of the hazard (C)

Damage to health without incapacity for work	1
Lost time injury (with incapacity for work)	2
More serious injury requiring hospitalisation	3
Severe injury and injury with permanent damage	4
Fatal injury	5

Opinion of assessors (A)

Negligible impact on the risk and hazard rate	1
Low impact on the risk and hazard rate	2
Higher, non-negligible impact on the risk and hazard rate	3
High and significant impact on the risk and hazard rate	4
Several significant and adverse impacts on the seriousness and consequences of risks and hazards	5

To evaluate the risk, the indicators “P”, “C” and “A” are simply multiplied, and the resulting product then yields a risk score (R).

$$R = P \times C \times A$$

The scoring range indicates the urgency of the tasks with respect to adopting measures to reduce the risk level and the priority of the safety measures. In order to determine the level of importance of the assessed risks, distribution into five risk categories (I to V) has been carried out – Risk score (R).

Risk score (R)

R higher than 100 – unacceptable risk, very high risk, <u>stopping the activity</u> and taking an action to reduce the risk;	I
R 51 to 100 – undesirable risk, immediate safety action;	II
R 11 to 50 – moderate risk, corrective action necessary (under the legislation in force, other applicable requirements, including technical standards and OSH documentation);	III
R 4 to 10 – acceptable (tolerable) risk, giving more consideration (comply with the legislation in force, other applicable requirements and OSH documentation);	IV
R1 to 3 – insignificant risk, the risk may be accepted; is not included in the Register of risks and actions;	V

Risk assessment of the individual hazards shall be the responsibility of the competent person, director, OSH ME and ME.

