

Visser & Smit Hanab



Health, Safety and Environmental Regulations



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Safe together

'Safe Together' is a guiding principle at Visser & Smit Hanab. By 'Safe Together' we mean that the company and its employees make a joint effort to achieve optimum working conditions with respect to health, safety and the environment. Our customers, clients and the general public also expect the best possible working conditions. Visser & Smit Hanab aims to meet these expectations.

This booklet briefly explains our general rules and regulations with respect to health, safety and the environment. It is not an exhaustive account. Procedures and work instructions set out these topics in more detail.

There are many more (project specific) requirements, but all those who work for, or on behalf of, Visser & Smit Hanab must abide by these rules.

Visser & Smit Hanab has translated Safe Together into ten 'golden rules'.

- I know and abide by the rules and procedures
- I assess the hazards and risks beforehand
- I check the prescribed (safety) measures
- I only use safe machines, tools and materials
- I use the prescribed personal protective equipment.
- I do not hesitate to say "no" if I think the situation is unsafe
- I challenge others in respect of their safe or unsafe practices
- I report unsafe situations
- I discuss and report safety improvements
- I work with others towards safety in order to stay fit and healthy

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Policy

Visser & Smit Hanab Policy Statement

Visser & Smit Hanab gives top priority to health, safety, the environment and all related aspects. The company will again urge for behavioural and cultural change by implementing the VolkerWessels Safety Values and Guidelines throughout the company.

Visser & Smit Hanab is currently in a phase of behavioural and cultural change. The implementation of this phase will significantly help to prevent physical injury among both Visser & Smit Hanab employees and third parties engaged by Visser & Smith Hanab. It will also help to prevent environmental damage and damage to equipment.

A good understanding of the situation as regards work processes, health, safety and the environment is required for this and can be achieved by keeping project safety plans, quality plans and the Environmental Aspects Register¹ up to date, in compliance with current laws and regulations. Exercising internal procedures and work instructions is a point of special attention for the projects.

Another important consideration is the reduction of CO₂. Every year new objectives are defined to reduce CO₂ emissions. Parent company VolkerWessels also stresses sustainable business practices (corporate responsibility).

Principles for Visser & Smit Hanab's Quality, Health & Safety and Environmental policy are:

- A proactive, safe and environmentally-aware culture;
- Efficient processes, procedures and organisation;
- Effective communication pertaining to Quality, Health & Safety and the Environment;
- Active risk management;
- Improving environmental performance;
- A declining trend in Incident Frequency (IF), aimed at reaching a 0 score.

These spearheads are worked out in more detail in the annual plan and in the business objectives. The QHSE policy is tested regularly and adapted, if necessary, to changing laws and regulations as well as to the state of science. External experts test the policy at regular intervals. Continuous improvement is booked as a result. To achieve the objectives all employees, contractors and subcontractors who fall under the responsibility of Visser & Smit Hanab are required to abide by the described policy, processes, procedures and associated powers and responsibilities.

Papendrecht, October 2013
Visser & Smit Hanab



R.W.P. Oudeman
Statutory Manager



H. Herremans
Statutory Manager

Preamble by the Works Council

The Visser & Smit Hanab Works Council is a staunch advocate of good working conditions and sustainability, but is aware that their realisation is a joint employer and employee effort! The employer is responsible for providing the means and the facilities. It is the employees' responsibility to ensure that these resources are used, worn and maintained properly. The Works Council monitors and advises in the execution of this collective approach and is counting on your cooperation!

QHSE organisation

The QHSE department is a centralised department that assists management in carrying out its duties with respect to working conditions and the environment. A coordinator has been appointed to each business unit to act as a first point of contact. A project QHSE advisor is present on the larger project sites and an independent safety expert is appointed, also as a prevention employee. If you have any questions concerning your working conditions you can contact this official whose name and telephone number can be obtained from the central QHSE department. Accidents can be reported via the central emergency telephone (+31 (0)6 55780040) that is available 24 hours a day.

The Health Management department is also a centralised department and acts as an in-house occupational health service. Company medical officers work in the department alongside occupational health nurses and reintegration nurses. For a periodic health check or a specific periodic examination (environmental inspection) please contact the Health Management department in Papendrecht.

Discrimination/Aggression and violence/Sexual harassment

Visser & Smit Hanab attaches great importance to positive social contact between employees. Everyone appointed to fulfil a task within the company has a right to a proper place of work with a dignified existence.

The company will not tolerate socially unacceptable behaviour vis-à-vis others in the form of discrimination (of whatever kind), aggression and violence (psychological or physical) or sexual harassment (in whatever form or towards whichever sex).

Employees who manifest such behaviour or incite others to do so will be held accountable by the company.

Employees, who feel they are a victim of discrimination, aggression and violence or sexual harassment or of being incited to participate in these acts, can turn to the confidential counsellor or the company medical officer, who will ensure discreet guidance.

A specific regulation has been drawn up for this topic and can be obtained from the P&O department.

Alcohol and drugs

Visser & Smit Hanab prohibits the use of, and being under the influence of, alcohol and drugs prior to and during work. Such substances can have a detrimental effect on a person's ability to perform their work.

The time period during which this applies is understood by Visser & Smit Hanab to be from the moment the employee leaves their domicile for their place of work, to the moment they leave their place of work and arrive at their domicile. This assumes that the journey to and from the domicile is contiguous to the period of work. If, after work, the employee chooses to go to a different location, this period ends at the moment the other location is reached. Any employee using alcohol and drugs prior to and during working hours will be accountable to Visser & Smit Hanab.

Smoking

Smoking is allowed only in designated smoking areas.

Use of medication

The use of some medicines may affect one's ability to perform certain activities and may result in one not being able to do one's work. Anyone using medicines should check whether this can affect their ability to work and, if necessary, talk to their GP or the company medical officer for advice on whether, and which, type of work can be carried out. Employees should report their use of medication to their supervisor.

General

Risk Assessment and Evaluation (RA&E) and Environmental Aspects Register

All work hazards and risks are recorded in writing in what is called a risk inventory and evaluation. The risk inventory is available to all employees and can be obtained from one's supervisor. The supervisor discusses the risks and explains how they can be kept to a minimum.

An Environmental Aspects Register is drawn up along with the Health and Safety Plan². This Register lists all manageable environmental aspects of product or service activities that can have a significant impact on the environment.

Employees are requested to cooperate in these inventories and to report anything that is missing or measures that do not suffice.

Attitude and behaviour

The cause of some accidents and incidents can be traced back to unsafe behaviour. Visser & Smit Hanab has therefore defined 10 golden rules. An important aspect is challenging others in respect of their safe or unsafe behaviour, actively considering whether there are any

other or new hazards and helping to manage them. In this respect, the Construction Safety Index³ will apply to all projects. This instrument enables all employees to measure safety on the building site and makes safety a subject of discussion.

Accidents and incidents

All accidents, incidents, near incidents and environmental incidents must be reported, no matter what the consequences are. Also refer to the 'accidents and incidents reporting and registration' procedure. Examples include hazards, events that can lead to an accident, near misses, environmental damage, major property damage and traffic accidents. Notification forms are available at each work site. The notification form must be completed and submitted to the supervisor or the QHSE advisor.

The emergency phone number within Visser & Smit Hanab is +31 (0) 6 557 800 40. This number should be dialled in the event of the following:

- Accidents involving injury;
- Environmental incidents;
- Visits by inspection services (labour inspection).



³ VeiligheidsIndex Bouw

Visser & Smit Hanab aims to prevent as much accident-related absence as possible. In the event of an employee possibly having to be off work due to an industrial accident, the health management department or the company medical officer will contact the employee to determine what work the employee is still able to manage and subsequently provide temporary substitute work.

Accidents involving absence and/or hospitalisation are always investigated by the QHSE advisor.

Company emergency response

All Visser & Smit Hanab locations and project sites have emergency response officers in place. Emergency response officers are responsible for fighting small fires, providing first aid and supervising evacuations.

The emergency response officers at the locations and on the project sites are listed on the 'serious accident or environmental disaster checklist'. If a situation is detected in which an emergency response officer is required to provide assistance, the incident should be reported as instructed on the 'emergency instruction' posted next to the 'serious accident checklist' or printed on the back of the checklist.

First aid kits and fire-fighting equipment are available at each location. An automatic external defibrillator (AED) is available in office buildings and on large project sites for assistance in the event of someone suffering a cardiac arrest.

Emergency response on third party sites might be arranged by the site's owner, in which case clear agreements should be made as to what to do in the event of an emergency.

Order and neatness / hygiene

Safety starts with a clean, uncluttered (project) site. Lack of order and neatness can cause people to lose their footing and also impedes surveyability. Mistakes are more easily made, which can result in accidents and incidents. Everyone is therefore required to keep the workplace neat and tidy.

In this respect it is important to heed the following:

- When leaving the workplace, make sure it is safe for others to enter;
- Collect waste and clean up spills immediately;
- People can trip over loose equipment and waste.

Loose tools and waste can also be a nuisance to people and nature when caught by the wind. Limit the number of tools on the project site to what is strictly necessary and consider how to organise the workplace.

As regards hygiene, one should consider not eating or drinking on the job, keeping the toilet and shower facilities clean and washing one's hands before taking a break and after going to the toilet.

Try to be as little bother as possible to the immediate surroundings: be a good neighbour and an ambassador for Visser & Smit Hanab.



The environment

The environment is another important issue besides working conditions. Visser & Smit Hanab is a certified company that prioritises two main standards. It is important to minimise CO₂ emissions. To that end, new objectives are defined each year. The cooperation of all employees is required to achieve this reduction. One suggestion is to apply 'new driving and running practices', or in other words, to drive calmly and avoid having equipment run idle for no particular reason. Switching off unnecessary lights and prudent use of air conditioners also helps to significantly reduce CO₂ emissions.

Visser & Smit Hanab operations can pollute the environment, partly because some substances remain behind. This can be due to inadequate order and neatness and leakage of substances. To prevent pollution all surplus materials should be deposited immediately in the appropriate containers, paying due attention to separating waste. Left-over hazardous substances should always be returned to their original packaging prior to waste disposal. Surplus materials that are collected together should have the original packaging placed on top.

Any leakage of environmentally hazardous substances must be reported immediately to the supervisor so that cleanup activities can commence straight away. Environmental incidents, such as large spills or emissions of gases or vapours, must be reported via central emergency number +31 (0) 6 557 800 40.



Computer / VDU work

A lot of work is done in front of the computer, both at work and at home. The more automation is perfected, the more one realises that it involves health and welfare issues.

Research shows that complaints expressed by office workers about their health primarily concern:

- Muscle and joint disorders (Repetitive Strain Injuries, RSI) in hands, wrists, arms, the neck and shoulders. The term CANS (Complaints of Arm, Neck and Shoulder) is also used;
- Psychological problems.

It has also become clear that the organisation of the workplace as well as high work pressure can result in complaints. As regards work pressure, the cause should be sought in the amount of work and how it is organised.

The following aspects should be taken into account when working frequently in front of a computer screen:

- The distance between the head and the screen, to minimise eye strain. Ensure that the distance from your eyes to the screen, the keyboard, the mouse and the document are roughly the same.
- Avoid positioning the screen against a bright, light background or one that changes in light intensity (a window, bright colours); take a neutral background colour (such as off-white).



- Set the viewing angle to a downward angle of approx. 30° to avoid excessive neck strain through constant looking up and down.
- The desktop should have a neutral, light or light-grey colour to reduce eye-strain as a result of colour differences.
- Reflection from lamps and windows on the screen can be extremely tiring. Avoid this by screening these elements off in relation to the computer screen. Avoid glare.
- Take a 10 minute break or so away from the screen after every consecutive two hours of VDU work.

According to Occupational Health and Safety regulations computer screens should be adjustable in pitch and height. Laptops and notebooks do not meet these requirements. Laptops used for more than two hours a day require an ergonomic workplace. A few aids can help one adopt a proper posture while using a laptop. These aids are a docking station with a screen, keyboard and mouse, or a laptop stand and a separate keyboard and mouse. Laptop stands, adjustable in height, help to position the screen of the laptop at the correct viewing height.

The 'VDU checklist', which can be obtained from the health management department, can be used to check the suitability of the workplace.

Health, safety and the environment on the (project) site

General

The Health and Safety plan stipulates how the project is introduced, what consultation structures are in place and what project-specific risks can be expected. The project-specific risks are discussed before the work commences and the health, safety and environmental aspects are discussed at the toolbox meetings during the course of the project. All workers on the site are required to attend.

If no Health and Safety plan is drawn up for a project, work instructions apply instead.

Education and Safety passport

All operational employees are required to possess the basic safety certificate (B - VCA). Supervisors are required to possess the safety certificates for operational managers (VCA - VOL).

Additional education and training is often required for specific tasks, such as for providing emergency response, driving a forklift, operating a crane, operating a side-boom, erecting scaffolding, securing loads and the like. Proof of relevant training must be provided before these duties can be carried out.

Courses for which a certificate has been awarded and specific training are recorded in the employee's safety passport and personnel file.

Employees must always be able to produce their safety passport and/or the required certificates as proof of the required education / training.

Entries in the safety passport may only be made by or on behalf of registered Visser & Smit Hanab employees. Making one's own entries invalidates that part of the safety passport.



Toolbox meeting

Toolbox meetings are held regularly and at least 10 times a year with the operational employees working on the projects. Health, safety and environmental issues of a general nature are discussed during these meetings; however, toolbox meetings may also be convened for a particular team or for a specific topic. Active participation is expected to discuss noteworthy issues and/or suggest improvements. Toolbox meeting attendance is mandatory.

Workplace inspection

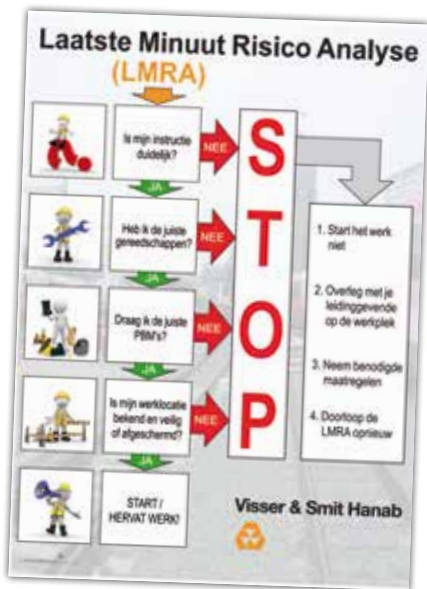
Matters related to health, safety and the environment (HSE) are monitored by means of monthly workplace inspections. These inspections are usually carried out by operational managers and – when the occasion arises – also by the QHSE advisors. Furthermore, external experts call in on the projects on a fairly regularly basis. The findings are recorded electronically and are also discussed during the HSE meeting. Cooperation in these inspections is mandatory.

Task Risk Analysis

In some instances, work carried out in a specific situation or particular surroundings requires a Task Risk Analysis (TRA). A TRA is a method for describing tasks, related risks and measures taken. The TRA is drawn up together with all those involved in the work.

Last Minute Risk Analysis (LMRA)

The purpose of the LMRA is to assess just prior to commencing a task whether any (new) risks have developed, whether the measures taken suffice and whether further action must be undertaken.



Before starting on the job or the task, the person involved must consider the following:

1. **Am I aware of** the risks involved in my assignment or task? (Information in the RI&E, the H&S plan and/or the TRA);
2. **Are there any new risks** or hazards? (Take a critical look around you);
3. **Have all measures been taken** or do additional measures still need to be taken? (Discuss measures with a colleague or supervisor);
4. **Implement the measures** so as to create safe working conditions. (In consultation with the supervisor).

**When in doubt do not commence work!
Consult with the supervisor.**

Personal Protective Equipment

Personal protective equipment (PPE) must be determined for each project, based on the risks the work involves.

The following standard personal protective equipment is made available to all Visser & Smit Hanab employees:

- Safety helmet;
- Safety shoes;
- Industrial clothing (with retro-reflective/fluorescent striping).

Additional protective equipment can be made mandatory, depending on the work to be carried out:

- Safety glasses;
- Work gloves;
- Heat protection;
- Harness belt / fall protection;
- Respiratory protection;
- Etcetera.

Additional instructions are provided on the use of this equipment.

Specific rules relating, for instance, to the standard package and to ordering and assigning personalised PPE, are laid down in the "Issuing Personal Protective Equipment" procedure. The appendix to the procedure also states what (additional) PPE is available per business unit.

Work permit

In some instances, a work permit is required for work involving a high risk percentage. Always adhere strictly to the specified (management) measures.



The following matters should be considered in the event a work permit applies:

- Is the work permit signed by those who are listed as signatories?
- Is the work permit valid?
- Are you familiar with the (management) measures?
- Is the required equipment available?
- Does the situation correspond with what is stated in the permit?
- Is the permit intended for your workplace?

Health, safety and environmental risks

General

This section briefly discusses the most common occupational and health risks that occur within Visser & Smit Hanab. For additional information please refer to the relevant procedures and work instructions. As already stated previously, this is not an exhaustive account.

Earth work / Pits and Trenches

When digging pits and trenches it is necessary to pay attention to the following points:

- Check by means of a KLIC⁴ notification whether there are any power lines at or in the immediacy of the pit or trench that is to be dug and whether there are any third party pipelines.
- First dig one or more test trenches by hand;
- If the pit or trench is more than 1 metre deep use casings or sheet pile walls, or dig a safe slope (in the event of connections).

⁴ Kabels en Leidingen Informatie Centrum

An expert should determine in advance which measures are required, taking any unfavourable factors into account, such as:

- Flooding due to the height of the ground water level or due to rain, frost, thaw or leakage;
- Heavy surface loads at or alongside the trench or pit due to storage of soil or equipment;
- Soil that is not homogeneous or that has a layered structure (churned);
- Vibrations caused, for instance, by an excavator, a pile frame or heavy road traffic.

Checks:

- Inclines and earth-retaining constructions must be checked every day and repaired if necessary;
- Excavators must be kept at sufficient distance from the trench or pit to prevent any danger of collapse or cave-ins;
- Hydraulic excavators and draglines must be positioned with their wheels/caterpillar tracks lengthwise along the trench;
- Generally, if the excavation is less than 1 metre deep, a distance of 50 cm to 1 metre is sufficient;
- Strips of at least 50 cm must be kept clear alongside inclines that are deeper than 1 metre. Pits and trenches must have sufficient safe accesses and exits by means of ladders. Trenches wider than 80 cm must have sturdy crossings.
- Sound fencing and, if necessary, proper lighting are essential.
- Employees and equipment must be clearly visible when working around earth moving machines (think of clothing, lighting and flashing lights);

- On and along public roads set up fencing in conformity with statutory stipulations concerning traffic measures in accordance with CROW⁵ 96a/b.

Also refer to the 'Safe Digging Instruction Card' included in CROW publication 250 'Preventing damage to cables and pipes caused by digging'.



⁵ Originally an abbreviation of Centre for Regulations and Research concerning Land Development, Road Construction & Hydraulics and Logistics; today it is no longer an abbreviation but a proper name.

Working in or handling contaminated soil or ground water

During excavation activities employees may encounter contaminated soil or ground water, in which case the following applies.

The most important health risks in this instance are exposure to fine particles and inadequate hygiene. This means that measures must be taken beforehand. These measures must be strictly adhered to.

If the soil or ground water is suspected to be contaminated (strange odour or colour, asbestos) the supervisor must be notified immediately. The activities must be immediately suspended in anticipation of measures as formulated by the QHSE advisor. The activities must be in conformity with statutory stipulations concerning Working in or handling contaminated soil or ground water in accordance with CROW -132.

Earth work / Explosives

Major risks are involved when explosives are set off unintentionally. This is especially true in the event of intact explosives from the past. If an explosive is encountered, or an object is suspected of being an explosive, the location must be marked and, if necessary, fenced off. The supervisor must be notified immediately. Do not investigate yourself whether the object is an explosive. Follow the instructions of the competent authority.

Welding, cutting, fitting

Welding activities constitute a risk to welders, but also to employees in the vicinity of the welding work. Welding requires proper preparation, not only for quality purposes, but also with respect to working conditions.

Welders and fitters must ensure that:

- They securely fasten and support the item being welded;
- They use an extractor, if necessary, to extract the welding fumes;
- They erect a welding tent with sufficient natural or forced ventilation;
- They keep an eye on fine particles in the vicinity of the welding work and in the pipeline that can catch fire;
- They remove slag, cleaning rags and waste prior to, and during, welding;
- A fire extinguisher is available in the immediate surroundings;
- They observe the instructions of the fireman on duty (fireman present if stipulated);
- They use non-breakable face plates that provide adequate filtering;
- They carry out cutting activities at a good distance from the welding activities;
- Third parties are protected against sparks;
- They use respiratory protection to prevent inhalation of grinding and welding fumes and they replace the filters on time;
- They wear safety glasses with a UV filter;
- They wear effective hearing protection (grinding, welding and chipping);
- They prevent physical strain by using aids (welding boards, pads, knee protection, etc.)
- They prevent exposure to electromagnetic radiation by not placing the welding cable over their shoulder.

Employees in the vicinity of welding work must ensure they:

- Shield their eyes against the UV light;
- Keep their distance from the welding work to avoid sparks and fumes.



Electrotechnical activities

Electrotechnical activities require great care. Only appropriately trained employees are permitted to work on electrical installations and if the work is carried out under the supervision of the person who is responsible for the installation.

It must be checked whether the installation can be switched off while work is being carried out.

To disconnect the power the following safety measures must be taken:

- Disconnect;
- Block;
- Test;
- Earth (if applicable);
- Shield.

The electrical installation, tools and PPE must meet special regulations to ensure their safe use.

Electrical equipment

Every item of equipment has been designed with a particular task in mind: use it for this purpose only. Please note that all tools also require maintenance. All electrical equipment has been tested before use to ensure that it works properly. The inspection label will indicate this. The inspection label indicates the month and the year up to which the device can be used or when it was last inspected. It must not be used if the re-inspection date has been exceeded or it is over a year ago that the device was approved. In this instance, the device must be handed in for re-inspection.

The following should be borne in mind when using electrical equipment:

- Check the earth leakage circuit breaker if the voltage is not safe.
- Keep the item of equipment in good condition;
- Never carry out repairs yourself, always hand equipment in;
- ‘Stand-by switches’ / ‘dead man’s switches’ may not be bridged;
- Remove plugs from sockets when the equipment is not being used;
- Do not leave power points on a damp surface;
- Do not exceed a device’s capacity;
- Do not make improper use of a device;
- Use the correct personal protective equipment;
- Read the instructions and/or the user manual (likewise for equipment that has been hired or borrowed);
- If sub-switchboards / distributors are used they must be fitted with an earth leakage circuit breaker.



Sub-switchboard / distributor

Lifting work

Lifting involves the transfer of a freely suspended load for which, in principle, a crane is required.

Exceptions to this are the laying of pipelines for which, following the excavation of a trench, an excavator can be used, and the equipment that the excavator itself needs such as shoring panels, fuel tank and toolbox. The excavator does not need to be fitted out as a crane.

All other lifting work therefore needs to be carried out using a crane. The maximum lifting capacity is indicated on every crane. The loads to be moved should therefore be checked beforehand and stated when ordering the crane, or the crane operator should be consulted.

All cranes (with a working load of 2 tonnes or more and a moment of force of more than 10 tonne metres) come with a crane manual, specifying whether the crane was approved during its annual inspection and what its lifting capacity is. Inspection certificates for the lifting equipment must also be at hand.

Vital in lifting work is that:

- Only certified lifting gear may be used;
- Only specifically trained employees may attach loads;
- The lifting gear is visually inspected for damage prior to use;
- The load is properly secured and stable;
- There are no loose objects on the load and no parts of the load can fall;
- The load is set down in a stable fashion;
- The lifting hooks are in a proper condition and the safety latches are closed;
- No other objects have been strapped to the load.
- The wedge does not attach itself to the load.
- The load is secured to the pallet hook.



- Suction feet on vacuum lifts have the right vacuum pressure and failure protection;
- The correct lifting instructions are issued in consultation with the crane operator.

Scaffolding / stair towers, tower wagons, ladders

Scaffolding may only be erected by qualified persons and in accordance with the Scaffolding Guidelines. Other persons may only climb scaffolding when a sign posted at the entry point states that it is ready for use. The maximum load is stated on the scaffold tag. Scaffolding is inspected regularly (at least every two weeks). It is not permitted to make any alterations to the scaffolding, even if part of the scaffolding obstructs the laying of a pipeline. The supervisor should always be notified of this so that a scaffolder can make the necessary alterations.

Tower wagons and ladders must be inspected for approval before use. A label will indicate that the tower wagon/ladder is fit for use. The approval is valid for a period of one year.

Due attention must be given to the following:

- Alterations can only be made by those who are specifically trained for the purpose;
- A scaffold tag is posted at the entry point(s), indicating whether the scaffolding is ready for use;
- The supervisor must immediately be notified of any deformations or missing parts; the scaffolding may no longer be accessed;
- Working platforms must be secured;

- No (electric or gas) cables may be left lying around on the platforms. Hang them on the structure. Cables must be covered wherever walkways cross;
- Rolling scaffolds may never be moved while people are still on the scaffold; only move a rolling scaffold over a paved surface or on a U-profile;
- Scale rolling scaffolds on the inside of the structure and lock the wheels;
- Only safe voltage may be used on the scaffold.

Tower wagons:

- The tower wagon operator has proof of being instructed in its operation;
- The safety cage may not be exited at height;
- It is advisable to wear fall protection in the safety cage (short line);
- The tower wagon is placed in a stable, horizontal position on a solid surface.

Ladders:

- Place on a stable surface;
- Anchor the ladder so that it cannot topple;
- Position at a maximum angle of 70°;
- Quick check: with your toes up against the bottom of the ladder, you can grip the ladder with outstretched arms;
- Climb up and down facing the rungs of the ladder;
- Use insulated ladders when doing electrical work.

Working alongside railway tracks

The railway network requires that work carried out within 11 metres of the centre of the line is reported to the relevant ProRail region/rail maintenance authority. One is required to comply with ProRail's house regulations.

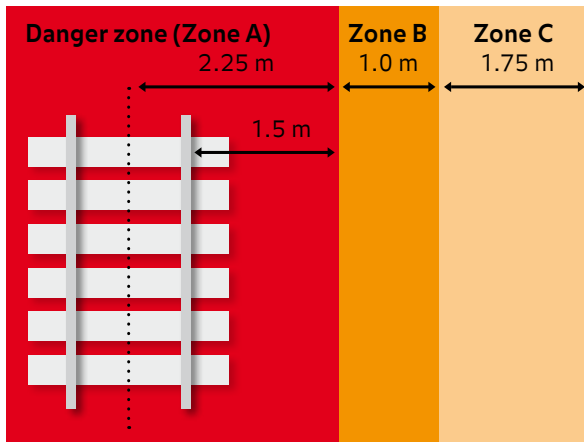
You are only permitted to work alongside railway lines if you have a valid pass and identity papers (digital safety passport). A pass can be obtained via the designated competent individuals or executives. See also the 'Railinfra' procedure. Note: The rail maintenance authority has stipulated specific requirements for the Betuwe Line and the High Speed Rail Link.

No work may be carried out without a valid pass. Always follow the instructions of your supervisor, the general instructions as provided in the 'Access to the Track' course.

General instructions:

- Stand still whenever a train passes; turn your back to the train to avoid blown up dust;
- Reckon with air turbulence while trains pass;
- Reckon with noise while trains pass, particularly goods trains;
- Wave to let the engine driver know you have noticed the train;
- Act immediately on the signs and signals given by the border guard/safety officer;
- Wear yellow protective clothing (EN 471) and do not wear red or orange clothing under yellow protective clothing;
- Wear a yellow or white hard hat;
- Do not drag or run metal materials over the rails;

- Do not place any objects against the overhead masts;
- Those working alone should always carry location-specific safety instructions and a valid pass;
- Swinging or lifting equipment must be fitted with a height and/or swing restriction.
- Prior to commencing work you must report to the designated safety officer, such as the 'Workplace Safety Manager' or the border guard/safety officer, to obtain further instructions;
- Always keep 1.5 metres between you and the overhead wires;
- You must adhere to ProRail's "Life Saving Rules".



Working along roads and motorways / public safety

Measures are required to work safely along roads and motorways. The site must also be cordoned off from the surrounding area.

Measures:

- Position road blocks in accordance with CROW 96a/b;
- Supervisors, foremen, mechanics and engineers must have attended the 'Safe practices for working along the road' course.
- Cordon off the site from the surrounding area.

Points requiring attention:

- A profile is available for every type of road with the necessary road blocks, signs and measurements;
- According to CROW 96b, fewer traffic measures are required for quick-fix activities (under two hours of work);
- Position vehicles outside the obstacle free zone within the enclosure;
- If necessary, draw up a traffic plan for approval by the road maintenance authority;
- Beware of other, possibly conflicting, traffic signs;
- Use the correct PPE (at the very least, yellow/orange clothing with a retro-reflective H-profile on your upper body);
- Prior to commencing work, prior to breaks and at the end of the working day, check the enclosure to ensure it is intact and orderly. Take pictures of the enclosure as proof.

Points requiring attention with respect to public safety:

Within the enclosure, use orange 'ski netting' or lockable fencing, for instance, to effectively secure deep pits and the turning circle of the crane;

Make sure the area is physically demarcated to prevent bystanders from entering the work area;

In residential areas, install anti-slip trench plank with secure and properly supported railing;

Some work sites might require a neighbourhood plan.

Inform the residents of the activities by means of letters.

Enclosed spaces / Crawl spaces

Enclosed spaces are places that pose, for the same kind of work, a greater risk than normal because of the circumstances. Often it is a combination of hazards that cause the increased risk. Examples of enclosed spaces are tanks, pipelines and sewers.

The hazards can differ in each situation, which means the measures required are not always the same. It is vital to know whether the space was cleaned beforehand and what works are to be carried out.

The risks and the measures required are described in the risk inventory and evaluation of the enclosed space.

Always pay heed to the following:

- Work permit or work instruction is required;
- The air must contain sufficient oxygen levels;
- Do not position combustion engines near the entry point to the space;
- A 'guard' is stationed at the entrance for as long as someone is in the enclosed space;

- Use communication resources;
- Be aware of the use or the occurrence of hazardous substances;
- Adequate ventilation;
- Additional ventilation for welding work;
- Always wear an oxygen meter when working with gas and oxygen;
- Provisions for removing a person from a pipe;
- No connecting parts of hoses are present in the enclosed pipe space;
- Do not use gases that displace oxygen (such as nitrogen and argon) without forced ventilation;
- The physical fitness and the level of knowledge must be geared to the work to be done;
- In confined conductive spaces (such as pipes) the power supply must be positioned outside the narrow space. Also, a TRA must always be drawn up when work is carried out in confined conductive spaces.

Entering crawl spaces in instances of simple (inspection) work:

- Activities must be reported to the supervisor in advance;
- The crawl space must be aerated by creating as much natural draught as possible;
- The entrance and exit must be demarcated;
- The oxygen level must be measured prior to commencing work;
- The oxygen level must be measured at both the entrance and the exit of the crawl space;
- If the oxygen percentage is low (<20%) no work may be carried out and the 'Enclosed spaces' procedure applies;
- If the oxygen percentage is sufficient the work can be carried out (after notification);

- The oxygen meter must be taken along while the work is carried out;
- Take care of communication resources;
- Use safe voltage;
- Notify the supervisor once the work is finished.

Electromagnetic fields

Electromagnetic fields can be released through non-destructive inspections and induction heating. Electromagnetic fields can harmfully heat up body parts and, in concentrated form (beam transmitters) can immediately damage one's eyes.

In order to prevent health risks when carrying out non-destructive radiological inspection, it is important to:

- Observe and not cross demarcation lines.
- Follow the instructions of the radiographer, for example.
- Do not take any risks and warn others if you think they are running a risk.
- Warn the radiographer and your supervisor immediately in the event of an emergency.

In order to work safely with the induction preheating device, the following points must be heeded:

- Only employees who have proof of receiving operating instructions (from the supplier) may install and fine-tune the device and check that it is working properly. A welder may switch the device on and off during the welding process, upon the instructions of the operator/fitter.
- Cordon off the work area with a yellow/black chain/tape at a distance of at least 2 metres from the device and the cables; install 'no unauthorised access' signs;
- Coordinate (sideline) activities within the area;

- Execute the work in accordance with the 'Induction preheating' work instruction;
- Employees with an implanted pacemaker may not carry out any activities with or in the vicinity of the induction preheating device.

Hazardous substances

All hazardous substances are labelled with hazard symbols and come with directions for use. The safety information sheet of every hazardous substance can be perused via the intranet in PISA (Product Information System Arbouw). The label contains the processing instructions. The safety information sheet details product attributes, what measures to take, how to store the substance and how to dispose of the remnants.

These substances must only be stored in places designated for that purpose. When placing these substances temporarily on the project site bear in mind that some substances do not mix and, upon contact, can react violently, ignite, form gases or expel oxygen. Gases can be heavier than air and as a result can expel oxygen, but may also cause an explosive situation, for example, in a pit or trench.

Work exclusively in conformity with the user instructions and consult the Safety Information Sheet.

Asbestos cement pipes, asbestos-bitumen coating

While performing their duties, employees can be exposed to asbestos cement pipes and asbestos-bitumen coating.



EX
ontpofbare
stoffen



IN
ontvlambare
stoffen



CB
oxiderende
stoffen



GZ
houder
onder druk



DA
schadelijke
stoffen



EN
schadelijk
voor het milieu



MU
gezondheids-
gevaar op lange
termijn



CR
corrosieve
stoffen



TO
giftige
stoffen

The following rules generally apply:

- As regards working with asbestos cement pipes, please refer to the publication entitled 'Safe working practices with asbestos cement pipes in the subterranean public water, gas and sewer waste water drainage network'⁶ also referred to as the red booklet. These activities need not be reported to the SZW⁷ Inspectorate. The required provisions and PPE are laid down in the aforementioned publication.
- The removal of asbestos-bitumen coating from steel gas pipelines must be reported to the SZW Inspectorate. Work must be executed in conformity with the work plan that has been drawn up.

The QHSE advisor must be informed in both instances.

Working at height

All activities carried out at a height of 2.5 metres or more or above dangerous terrain are considered as working at height.

Examples are:

- Working on petrochemical installations;
- Working alongside an excavation.

⁶ 'Working safely with asbestos cement pipes in the underground public water, gas and sewerage network'.

⁷ The Inspectorate SZW works for fair, healthy and safe working conditions.

Sturdy guardrails are preferred if work is to be undertaken at height. Guardrails consist of a rail 1 metre higher than the level at which the work is carried out, a rail halfway down and a toe-board. If guardrails are not an option, individual fall protection should be used. Belts and fall arrest systems must be inspected every year and after a fall.

If the risk is included in the RI&E, a TRA must be drawn up.



Quartz

Quartz can be found in concrete, calcareous sandstone, bricks and tiles. Increased concentrations are caused by mechanical manipulation of the aforementioned materials, such as sawing, grinding, chopping, drilling, milling and sanding. Increased concentrations can also occur during brushing. Prolonged exposure to quartz sand can cause brown lung disease (silicosis); less prolonged exposure to quartz sand can cause irritation or it can damage the airways. Quartz sand is included on the list of carcinogens.



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