NB: Unofficial translation, legally binding only in Finnish and Swedish

Ministry of Social Affairs and Health, Finland

# Government Decree on the Safety of Construction Work (205/2009)

### Chapter 1

General provisions

## Section 1

## Scope of application

This Decree is applied to construction, renovation and maintenance of buildings or other structures on or under ground or in water, as well as to installation, demolition, earthwork, hydraulic engineering and construction design in connection with such construction, renovation or maintenance. The Decree is also applied to the preparation and planning of a construction project concerning such work.

## Section 2

#### Definitions

For the purposes of this Decree:

- 1) *shared construction site* means a workplace where work referred to in section 1 is carried out and where more than one employer, or more than one self-employed worker, working in return for compensation, operate simultaneously or successively;
- 2) *client* means a person or organisation initiating a construction project, or other actor that directs and supervises a construction project, or, where none of the above exist, the purchaser;
- 3) *safety coordinator* means the representative appointed by the client for a construction project who is responsible for the obligations laid down for the client;
- 4) *project supervisor* means the main contractor appointed by the client, or an employer using the main authority, or where there is no such employer, the client;
- 5) *self-employed worker* means a person who carries out work on the basis of a contract, subcontract or supply contract or other work contract, except for an employment contract, and who does not employ any workers at the construction site in question;
- 6) construction with prefabricated elements means construction in which a building, structure or other installation is made, wholly or in part, of prefabricated sections or interior elements (prefabricated

element). A prefabricated element may be of concrete, steel, metal, wood, glass, plastic or other material.

#### Section 3

# General obligations of the parties to a construction project

- (1) In a construction project, the client, the designer, the employer and the self-employed worker must together and each for their part ensure that no danger arises from the work to those working at the construction site or other persons in the zone affected by the work.
- (2) The project supervisor must, through training and guidance, ensure that all those working at the shared construction site are sufficiently familiar with safe working practices and that they are familiar with the hazards and risks of the construction site in question and the measures required for eliminating them.

#### Section 4

## Prior notice to the occupational safety and health authority

- (1) Before the start of the construction work, the project supervisor must give the appropriate occupational safety and health authority a prior notice on a construction site planned to exist longer than one month and where, self-employed workers included, at least ten workers are working and on a construction site where the amount of work is estimated at more than 500 person work days.
- (2) The project supervisor must also provide the client with a copy of the prior notice.
- (3) The project supervisor must put the prior notice clearly on display at the construction site and keep it up to date, where necessary.

## Chapter 2

Taking account of occupational safety and health in a construction project

# Section 5

# Client's safety coordinator and the construction work

- (1) The client must appoint a competent safety coordinator for each construction project in accordance with the requirements of the project.
- (2) The safety coordinator is responsible for the measures concerning safety and health referred to in sections 5-9. The client must ensure that the safety coordinator possesses sufficient competence, has appropriate powers and meets all other requirements so that he/she is able to manage the construction project in question. The client must ensure that the safety coordinator takes care of the tasks assigned to him/her.
- (3) The safety coordinator must cooperate with the project supervisor in the planning concerning construction safety and in the carrying out of the construction work.
- (4) Clients carrying out different construction tasks simultaneously or successively on a shared construction site must coordinate their tasks in such a way that the obligations concerning occupational safety and health will be fulfilled at the whole construction site.

## Project supervisor appointed by the client

- (1) The client must appoint a project supervisor for the shared construction site. If no project supervisor has been appointed for the construction site, the client is also responsible for the obligations of the project supervisor.
- (2) The party responsible for the tasks of the project supervisor must possess adequate competence and expertise in the occupational safety and health tasks laid down for the project supervisor, concerning the circumstances and nature of the construction project, and other factors affecting the safety of construction work and the actual authority to carry out the obligations laid down for the project supervisor.

#### Section 7

## Design and preparation of the construction project

- (1) When a construction project is designed and prepared, the client must ensure that the practical construction work is taken into account in the architectural and constructional design, design of technical systems, and design of arrangements for the practical construction work in a manner that allows the work to be carried out safely and without causing any harm to employees' health.
- (2) The client must ensure that the prevention of hazards and risks is taken into account when the timetables, duration and coordination of work and work stages are planned
- (3) The client must coordinate the implementation of the plans referred to in subsections 1 and 2.
- (4) When giving the design assignment, the client must require that the designers give consideration to occupational safety and health in the construction and the design assignment must contain the information that the designers need in order to meet their responsibilities under section 57 of the Occupational Safety and Health Act. In construction with prefabricated elements, the responsible structural engineer must ensure that the structural plans and special plans are in accordance with the safety requirements laid down for installation work and that they meet all occupational safety and health requirements laid down for construction with prefabricated elements.
- (5) Before the conclusion of the construction project, the client must draw up written instructions for the use, maintenance and repair of the building, containing sufficient data on occupational safety and health matters.

#### Section 8

Documents to be drawn up by the client, and follow-up of the implementation during the construction work

- (1) The client must draw up a safety document for the design and preparation of the construction work that:
- 1) clarifies and presents the hazards and risks arising from the characteristics, conditions and nature of the construction project, as well as the information concerning occupational safety and health related to the carrying out of the construction project; the hazards and risks related to work referred to in Annex 2 must also be clarified and identified; and

- 2) takes account of industrial or other comparable activities relating to the construction site.
- (2) The client must draw up written safety rules for the carrying out of the construction work. The safety rules must present the objectives of the safety management and the measures taken as part of the safety management, instructions for safety follow-up, inspections, cooperation, site meetings, the use of personal identification, access permits and the consideration of the safety plan requiring the approval of the parties.
- (3) The client must prepare a written code of practice for the site laying down the timetable for the work, requirements concerning special working methods, procedures concerning the organisation of subcontracting and the procedures concerning industrial hygiene measurements that are relevant to employers.
- (4) The client must take care of the follow-up of the implementation of the documents referred to in this section.

Keeping client's documents up to date, provision of information and follow-up of the implementation of measures

- (1) The client must keep the data contained in the documents referred to in sections 7 and 8 up to date.
- (2) The client must ensure that the data contained in the written documents referred to in sections 7 and 8, as well as any changes in them, are forwarded to the designers and the project supervisor, and the data, plans, and the safety measures arising from them are dealt with in cooperation with them before the construction work begins, and, when necessary, during the construction work.
- (3) If the client does not possess the expertise required for drawing up the written documents referred to in sections 7 and 8 or for the follow-up of their implementation, the client must use an external expert. In that case, the client must ensure that the expert possesses enough expertise and is otherwise capable of carrying out construction management tasks in an appropriate manner.
- (4) The client must ensure that the project supervisor has drawn up the plans referred to in sections 10 and 11.
- (5) Section 52a of the Occupational Safety and Health Act contains provisions on the responsibility of the client to ensure that each person working on a shared construction site wears a pictorial identification.

#### Section 10

# Safety planning of the construction work

- (1) The project supervisor must present to the client the plans concerning occupational safety and health in the construction work referred to in this section.
- (2) Before the start of the construction work, the project supervisor must draw up written occupational safety and health plans according to which the work and work stages are organised and scheduled in such a way that they can be carried out with maximum safety and that no danger arises from them to those working at the site or other persons in the zone affected by the work. Therefore the project supervisor must, as systematically as necessary,

analyse and identify the hazards and risks arising from the general work tasks, working conditions and the work environment at the site. Hazards and risks must be eliminated by appropriate means or, when it is not possible to eliminate them, their significance must be evaluated with regard to the health and safety of those working at the site and other persons in the zone affected by the work.

- (3) The project supervisor must also take into account the information contained in the client's safety document and make the client the necessary proposals for changes in the safety document as the work progresses so that the necessary safety measures are carried out. In connection with the design, the project supervisor must also take account of safety measures for work that causes special safety and health risks, referred to in Annex 2.
- (4) In addition to the provisions of subsection 2 and 3 above, special attention must also be paid to at least the following matters in the design:
- 1) arrangements at the construction site, and maintaining good order at the work sites and in material handling during the various construction stages;
- 2) blasting, quarrying and excavation work;
- 3) carrying capacity of the ground and support of excavations;
- 4) electrification and lighting during construction work;
- 5) working methods;
- 6) use of machinery and equipment;
- 7) lifting work and transfers;
- 8) protection against falls from heights;
- 9) work on work scaffolds and support scaffolds;
- 10) storing, lifting and installation of prefabricated elements, formwork and other large structures;
- 11) reduction of dust and preventing it from spreading;
- 12) procedures concerning industrial hygiene measurements;
- 13) demolition work;
- 14) scheduling and duration of the various work tasks and work stages and their coordination as the work progresses;
- 15) coordination of the various tasks and work stages at the construction site or their coordination with industrial activities taking place in the zone affected by the construction site and with other similar work activities and public traffic;
- 16) piping and electric cables causing risks;
- 17) where and when personal protective equipment must be used; and

- 18) action in connection with injuries and accidents.
- (5) The plans must be drawn up in writing. The plans must be revised if circumstances change, and they must also otherwise be kept up to date.

# Design of the use of the construction site area

- (1) The project supervisor must present to the client the plans concerning the use of the construction site area referred to in this section.
- (2) The project supervisor must prepare a written plan concerning the use of the construction site area. The project supervisor must, as systematically as necessary, analyse and identify the hazards and risks concerning the general organisation and practical arrangements in the construction site area and the use of the area. In this connection, the information contained in the client's safety document must also be considered. Hazards and risks must be eliminated by appropriate means or, when it is not possible to eliminate them, their significance must be evaluated with regard to the health and safety of those working at the site and other persons in the zone affected by the work.
- (3) At least the following matters must be taken into account when planning the use of the construction site area so that the risk of accidents and health hazards can be eliminated and reduced:
- 1) number and location of office facilities, personnel rooms and storage space;
- 2) placement of cranes, machinery and equipment;
- 3) placement of excavated earth and filling earth;
- 4) location of areas for loading, unloading and storing construction materials and substances and prefabricated elements;
- 5) in construction with prefabricated elements, laying and strengthening foundations for cranes' lifting spots, lifting radius and capacity, unobstructed view of the crane driver to the site where prefabricated elements are stored and where they are installed;
- 6) traffic in the construction site area, and connecting points between site-internal and public traffic:
- 7) means of access, ramps and transport routes, and their maintenance;
- 8) order and tidiness at the construction site and placement of the structures and equipment needed for combating and controlling dust;
- 9) collecting, storing, removal and disposal of waste; and materials causing safety and health hazard;
- 10) fire fighting;
- 11) demarcation and arranging of storage areas, particularly when materials and substances posing a safety and health hazard are handled.

(4) Main parts of the plans concerning the use of the construction site area must be presented as a construction site plan in writing, by construction stage and work stage when necessary. The plans must be revised if circumstances change, and they must also otherwise be kept up to date.

# Chapter 3

Construction stage

## Section 12

#### Management of construction work

- (1) The project supervisor must see to the general management of the construction site regarding safety and health, arrangements for cooperation and dissemination of information between the parties, coordination of functions, and general order and tidiness of the construction site.
- (2) The project supervisor must appoint a competent responsible person for the construction site to manage the tasks referred to in subsection 1 above and, when necessary, a substitute for the responsible person must also be appointed. Every employer must appoint a competent responsible person for the management and supervision of the work carried out for the employer.

#### Section 13

### Execution of construction work

- (1) The project supervisor must:
- 1) implement, carry out and follow the measures resulting from the planning referred to in sections 10 and 11;
- 2) update the plans referred to in sections 10 and 11 on the basis of the information provided by the employers and self-employed workers at the shared construction site;
- 3) take care of the division of labour and cooperation between the employers and selfemployed workers in connection with preventing hazards that could jeopardise the safety or health of workers at the shared construction site and in informing of any potential hazards there.
- 4) when necessary, inform the client of any changes in the work, work stages or circumstances, if the work cannot be carried out in accordance with the plans required by the client;
- 5) take account of the prevention of hazards and risks when plans concerning technical plans and their implementation are carried out if they apply to work and work stages to be carried out simultaneously or in succession, or their scheduling, duration or manner of implementation.
- (2) The employer and the self-employed worker must observe the safety instructions for the shared construction site issued by the project supervisor. The project supervisor, the employer and the self-employed worker must, each for their own part and in cooperation, take care of the flow of information and communication on matters affecting the safety at the shared construction site.

- (3) The project supervisor must ensure that it knows which workers and self-employed workers are working at the construction site and that any information needed for orientation purposes is available. The employers must supply to the project supervisor any necessary information concerning their employees at the construction site, and the self-employed workers must supply the corresponding information for their own part.
- (4) When seeing to the measures referred to in subsections 1-3, the project supervisor must continuously monitor the activities of the employers and self-employed workers working at the workplace and their coordination, meeting of the obligations, level of occupational safety and health and the safety of the working practices. Therefore, the project supervisor must monitor the impact of the measures carried out on the safety of the work and health and implement more effective safety measures as necessary.
- (5) The employers must, in accordance with the instructions given by the project supervisor, supply to the project supervisor any necessary information on the inspections referred to in sections 14-18.

## Chapter 4

On-site inspections

#### Section 14

## Safety of machinery, equipment and other tools

The structure and condition of the machinery, cranes and other lifting equipment, lifting accessories, scaffolds, movable formwork, temporary supports, personal protective equipment and other equipment using in the construction work must be checked at the construction site so that it can be determined whether they are appropriate for their purpose and in compliance with the requirements.

#### Section 15

#### Taking lifting equipment, lifting accessories and scaffolds into use

- (1) The structure of work platforms, protective platforms and the means of access leading to the platforms must be checked before any scaffolds are taken into use at the construction site. In this connection, special attention must be paid to support and protective structures.
- (2) The inspection must be renewed if the scaffolds have been exposed to hard wind, heavy rain or other special stress, or if they have been unused for a long time considering the circumstances.
- (3) The scaffolds may not be taken into use until their parts to be used are ready and they have been inspected. When scaffolds are inspected the matters referred to in Annex 4 to this Decree must be taken into account.
- (4) In addition to what is provided on the inspection of cranes in the Government Decree on the Safe Use and Inspection of Work Equipment (403/2008), lifting equipment and accessories must be inspected at the workplace before they are taken into use.

## Section 16

Weekly maintenance inspections and safety follow-up

- (1) The following must be checked at the construction site as part of the maintenance inspections carried out at least on a weekly basis: general order of the construction site and workplaces, protection against falls from heights, lighting, electrification during construction work, cranes, equipment for lifting persons as well as other lifting equipment, lifting accessories, construction saws, scaffolds, means of access, and prevention of collapse of ground and excavations. Other matters important to safety must also be checked. When scaffolds are inspected as part of the maintenance inspection the matters referred to in Annex 4 to this Decree must be taken into account.
- (2) In connection with the inspections, attention must also be paid to the right timing of the construction work coordination measures referred to in section 13.
- (3) The driver of a crane or other lifting equipment must, daily or whenever necessary before the work begins, test the functioning of the equipment, and, especially during cold and rainy periods, test the brakes and warning equipment to ensure that they function properly. When a vehicle or loading crane is operated, special attention must be given to foundations.

## Participants of on-site inspections, and inspection records

- (1) The responsible person referred to in section 12 above or the person appointed by the responsible person to the task must carry out the inspections referred to in sections 14 16 and a representative elected by the workers of the construction site among themselves must be given the opportunity to participate in the inspection. The crane driver must be present at the inspection of a crane.
- (2) When a tower crane, building hoist used for transporting persons or similar lifting equipment is put into use as referred to in section 15, the inspection must be carried out by a competent person.
- (3) The results of the inspections referred to in sections 15 and 16 above must be entered in a record or other report. The entries must include details of the participants, inspected objects, any remarks, and the dates on when the required corrections were made.

#### Section 18

## Correction of deficiencies

The deficiencies endangering occupational safety and health and noticed during the inspections referred to in sections 14 - 16 above must be corrected immediately and always before the machine, piece of equipment or tool is taken into use.

#### Chapter 5

Machinery, tools and lifting equipment

#### Section 19

#### Safety and placement

(1) Machinery and other technical equipment used in construction work must be suitable for the purpose, sufficiently durable and safeguarded so that they do not cause any risk to their user or other persons at the construction site.

- (2) When mobile cranes or loading cranes are used, it is especially important to ensure that the ground carries the crane well enough at the location of the crane. Lifting equipment must be founded and anchored or supported in such a way that it does not move or cause danger when used. When the placement of a crane is considered, the carrying capacity of the ground under the crane must be analysed and measures must be taken to ensure that the stability of the crane will not be endangered.
- (3) In road and street areas and other traffic areas the machinery must be distinguishable from traffic. Sufficient safety zones must be established between the work equipment and traffic.
- (4) When there is special reason to beware of a machine or equipment used in construction work, the machine or equipment and its danger zone must be separated from its surroundings by using a suitable enclosure or by other means. If this is not possible, the machine or equipment must be equipped with visible, durable and appropriate warning labelling in suitable places.

## Loads on lifting equipment and lifting accessories

- (1) Lifting equipment and lifting accessories, such as strops, bar, tongs and similar must have the markings necessary for safe use. Lifting equipment or lifting accessories that do not have markings showing the maximum load may not be used.
- (2) Lifting equipment or lifting accessories may not be overloaded.

#### Section 21

## Lifting

- (1) A separate plan for difficult lifting operations must be drawn up when necessary.
- (2) The lifting plan must always be drawn up when more than one crane is used to lift the same load.
- (3) If the driver of the crane or other lifting equipment cannot continuously control the movements of the load a signaller must assist the driver.
- (4) The effects of weather conditions on the safety of the lifting work must be examined before the work is begun.
- (5) Loads must be made with special care to prevent the load from dropping or disintegrating.

## Section 22 Lifting

## of persons

- (1) Unless otherwise provided elsewhere, persons may only be lifted using lifting devices manufactured for the purpose.
- (2) Before a device for lifting persons is used at a construction site, it must be ensured that the device does not have any structural deficiencies, the carrying capacity of the foundation or the ground of the work station remains sufficient and that the work area of the device for lifting persons is safe.

(3) Instructions for the use of the device for lifting persons used at the construction site must be available at the site. The employer must ensure that the worker can operate the device for lifting persons in a safe manner in accordance with its instructions for use. Special attention must be paid to securing the support structures, to the functioning of the control and safety devices and to any restrictions to work movements.

#### Section 23

# Ergonomics and ventilation and heating equipment of a tower crane control cab

- (1) The ergonomics of the control cab, controls and the control site of a tower crane must be such that the crane driver is able to work in accordance with ergonomic requirements.
- (2) Control cabs of tower cranes that are used during the cold season must have ventilation and heating devices allowing the control cab temperature to be kept at suitable levels, considering the requirements of the work and the fact that the driver can have a good view over the working area through control cab windows in cold conditions. The control cab must be sufficiently tight so as to prevent any harmful draught. The control cab must be in accordance with the requirements applying to control cabs, as provided separately.

#### Section 24

# Safety of access to the tower crane control cab

Access to the tower crane control cab must be provided in such a way that the access arrangements meet the requirements for work in cold weather and at height in such a way that the freezing of the access routes, wind conditions, rain or snowfall do not endanger the access of the tower crane driver to the control cab. The crane access must be equipped with stairs, a step ladder or a pole ladder with rails and with safe rest platforms and back guards, as provided separately.

## Chapter 6

General safety provisions for construction sites

#### Section 25

#### Arranging site-internal traffic and areas for unloading, loading and storage

- (1) The site plan referred to in section 11 must be taken into account when traffic arrangements, such as roads, means of access and other traffic areas, are provided at the construction site.
- (2) Roads and areas for unloading, loading and storage must be constructed to withstand the loads caused by traffic and cranes. The roads must be arranged in such a way that they do not unnecessarily cross the other means of access at the construction site. Traffic signs must be used to provide information of any traffic restrictions.
- (3) The areas for unloading, loading and storing construction materials must be located in such a way that prefabricated elements, formwork and construction materials are not moved over workers.
- (4) Separate means of access for pedestrians must be arranged in the immediate vicinity of vehicle traffic roads.

- (5) When means of access for pedestrians and transport of goods are arranged, the number of users and the nature of the activity must be taken into account. Vehicle traffic roads must be arranged in such a way that the visibility is adequate.
- (6) When work is carried in areas used by ordinary traffic, the work area must be made clearly visible by means of traffic guidance, traffic signs, safety equipment and lighting.

# Lighting

- (1) The construction site and especially the means of access must be provided with sufficient general and special lighting. High and sudden light contrasts and glare must be avoided. Light fittings must be installed in such a way that they do not endanger workers' safety.
- (2) Sufficient auxiliary lighting must be provided in areas where workers are especially exposed to danger if the general lighting fails.
- (3) Notwithstanding subsection 1, the lighting device of the work machine or a portable lighting device carried by the worker may be used in such earthwork, hydraulic engineering and other corresponding work where it not reasonable to require other lighting arrangements, e.g. in tunnel excavating.

#### Section 27

#### Guard structures and equipment preventing falls

- (1) The protection effect of guard structures and equipment preventing falls, e.g. guardrails, must be as uniform as possible.
- (2) When the work requires that a guard structure or equipment providing general protection against falls should be removed, other protective measures must be used instead. The work may not be carried out before these protective measures have been implemented. The guard structure or equipment providing general protection against falls must be put back in its place immediately after the work in question has been finished or interrupted.

#### Section 28

## Protection against falls

- (1) There must be guardrails or other protective structures on the free sides of work platforms and means of access if there is a risk of falls from a height of two metres or more, or also otherwise if there is a special risk of accident or drowning. The work platforms of scaffolds must be fitted with rails when there is a risk of falls from a height of 2 metres of more. When casting work is carried out at a location that is more than 2 metres from the upper edge of a movable formwork, a work platform protected with guardrails must be provided for the work. Stairs and landings must be equipped with guardrails on their free sides throughout their whole length. Stairs where no guardrail is needed must be equipped with a separate handrail, where necessary.
- (2) Guardrails for preventing falls from work platforms and access routes must have handrails, intermediate guardrails and toe boards. Scaffold guardrails must have toe boards. The height of the rail must be at least 1 metre. The rails must be placed in such a way that the vertical free space under any rail does not exceed 0.5 metres. The rails may be replaced with other protective structures providing the same safety level, such as appropriate boards and nets.

Provisions on the requirements for the strength of guardrails and other protective structures preventing falls are laid down in Annex 5 to this Decree.

- (3) When work is carried out at height, the work platforms and equipment for lifting persons must be fitted with protection against falls, or safety nets or other protective structures attached to the main structures must be used. If the nature of the work does not allow such equipment or structures to be used, an appropriate harness-type personal protective device with ropes that prevents falls must be used. The ropes must be secured safely.
- (4) All shafts and other gaps where persons or goods can fall into, must be surrounded with guardrails equipped with toe boards or covered with lids. The protective lids must be marked clearly scaffolds so they are clearly distinguishable from their surroundings. The lids must be prevented from becoming dislocated.

#### Section 29

# Protection against falling objects

- (1) Where construction materials or waste may fall onto places where work is carried out or on access routes, appropriate guards, fences, shelters or other safety equipment must be arranged for protection.
- (2) The shelters to be placed above passage manholes must be placed at the height of the upper edge of the hole and they must reach out at least 2.5 metres from the structure and 0.5 metres to the both sides of the manhole. When necessary, a protective plate must be installed on the outer edge of the shelter.
- (3) If the safety equipment is not in place, access to the danger zone must be prohibited in a reliable manner, e.g. by posting a guard.

#### Section 30

## Work platforms

- (1) The work platforms used in construction work must be as appropriate for the purpose as possible, considering the work and the working conditions.
- (2) The dimensioning of the work platforms must be in accordance with the nature of the work and the loads on the platforms and allow safe work and safe movements.
- (3) The work platform must be wide enough for the purpose. The location, properties and the transport of goods must also be taken into account when the width of the work platform is considered.
- (4) When work is carried out on work platforms and scaffolds, necessary safety measures must be carried out in such a way that it can be ensured that weather conditions do not compromise the safety of the workers.

#### Section 31

### Means of access

(1) Arrangements must be made to establish such means of access to all places of work that are safe, appropriate for the purpose of use, easy to use, suitable and, when necessary, clearly

marked. The means of access, floors, stairs, passages and similar structures must be kept in such a condition that the risk of slipping, tripping or falling is as low as possible.

- (2) Safe access to places of work must be arranged, taking account of such matters as the frequency of accesses, height of the workplace and duration of work.
- (3) Stairs and means of access must be at least 0.6 metres wide. Transport bridges must be at least 1.0 metres wide.
- (4) Steel structures, bolts and any other projecting objects in the structures causing risks of accident must be cut off, covered by a guard or bended.

#### Section 32

#### Ladders

- (1) The use of ladders must be planned in an appropriate manner. A leaning ladder may not be used as work platform. Leaning ladders may only be used as temporary means of access, for securing and loosening lifting accessories and for other similar one-time work of short duration. The length of the leaning ladder may not exceed 6 metres.
- (2) The employer must assess the risks involved in the used of ladders and the significance of the risks. Workers using ladders must be provided with training and instructions on the safe use of ladders and the risks involved in their use.
- (3) An A-ladder may only be used as a work platform instead of work scaffolds when, on account of the short duration of the work or other similar factors, it is unreasonable to expect that work scaffolds be used. In such cases, an A-ladder may, as a rule, only be used as a work platform when the employee stands on it at a height of less than one metre. An A-ladder may, however, be used as a work platform when the work platform is at a height of 1-2 metres and the overall stability of the A-ladder is in accordance with the stability requirements laid down for a trestle, as appropriate, referred to in Annex 6 to this Decree. An A-ladder may not be used in work where it is necessary to use tools requiring a great deal of force or in work where there is danger of a folding ladder overturning or a fire hazard. An A-ladder may only be used on non-sinking and level platforms.
- (4) In terms of measurement, strength, rigidity, overall stability, materials and type, the ladders must be suitable for work and conditions at a construction site. The strength and rigidity of the steps, stops, joints and the fastening hooks of the ladder must be adequate.
- (5) The ladder must be mounted on a stable platform in such a way that it does not overturn or slip. It must be mounted in the correct leaning angle in order to prevent the ladder from slipping and anti-slip devices and, at the top of the ladder, devices preventing the ladder from overturning must be used. When necessary, the ladder must be separated from its surroundings by such means as sufficiently discernible barriers or a streamer line blocking access.

## Chapter 7

Occupational safety and health in earthwork and hydraulic engineering

# Section 33

Planning obligation and preliminary information

- (1) Before earthwork and hydraulic engineering is begun, the geotechnical properties of the soil and the bedrock and the hazards and risks arising from urban services, such as the location of cables, wires and pipes, must be examined.
- (2) The risk of collapse and the carrying capacity and stability of the ground and the soil mass must be assessed in a reliable manner. The plan concerning the supporting of the excavation and other protective measures must be drawn up by a competent person before the work is started.
- (3) The construction, installation, transformation or dismantling of a cofferdam or caisson must take place under the direct supervision of a competent person familiar with such structures and their use. All cofferdams and caissons must be solid enough and appropriately equipped so that workers can gain shelter in the event of an irruption of water and materials.
- (4) Before the work is started, the biological and chemical soil hazards and risks and their effects on the safety of the employees and persons in the zone affected by the work must be examined so occupational safety and health can be ensured.

# Excavation work and support of excavation

- (1) Excavation work must be carried out safely, taking account of the geotechnical properties of the soil, depth of the excavation, inclination of slopes, loads on the slopes, and the risks caused by water and vibration of traffic.
- (2) If there is a danger that a collapse may cause an accident the wall of the excavation must be supported.
- (3) Based on a reliable examination, occupational safety in the excavation may be by means of sloping or grading the excavation.
- (4) When necessary, special measures must be taken to avoid the risk of accident caused by collapse because of rain, dryness or melting ground frost. The same must be done when organic soil or loose earth or a narrow excavation deeper than 2 metres is excavated or when work causing vibration is carried out in connection with or in the vicinity of the excavation or when the excavation work is affected by heavy traffic. Sufficient support measures to prevent a collapse must be taken in advance when excavation work is carried out under or beside a building or other structure.

## Section 35

# Danger zone of earth-moving machinery

- (1) In the working zone of earth-moving machinery it must be ensured that there are no persons in dangerous places. Danger caused by backing machines must be prevented in a suitable way. When necessary, backing alarms, suitable prohibition signs, enclosures and other protective devices must be used or the use machine in the danger zone must be interrupted. When leaving the control cab, the driver must ensure that the machine or its equipment do not cause any risk of accident.
- (2) Vehicles, earth-moving machinery, and lifting and other equipment must be placed at a safe distance from the edge of the excavation, taking account of the quality of the soil and the depth of the excavation. All traffic must be directed far enough from the edge of the excavation by means of suitable guiding bars and barriers.

- (3) When an excavator is used to install sewer pipes or other elements in connection with excavation work, special care must be taken to ensure that there are no persons in dangerous places and the machine is equipped with a reliable lifting hook. The maximum load that the excavator is allowed to lift must be defined in a reliable manner.
- (4) The drivers of earth-moving machinery and other workers must be provided with special training and guidance on risks caused by earth-moving machinery and on how to prevent those risks.

## Chapter 8

Occupational safety and health in construction with prefabricated elements

#### Section 36

## Plans concerning construction with prefabricated elements

- (1) The plans concerning prefabricated element construction must be available at the construction site in writing. The structural engineer must provide those responsible for implementation with sufficient details of the order of installation, temporary support and final anchoring for preparing the prefabricated element installation plan so that structural stability can be ensured at all stages of the installation work. Details of the safe lifting and handling of the prefabricated elements and installation platforms, guardrails and other safety equipment during the work and securing of them must also be provided. In geotechnical plans concerning the construction, consideration must be given to the temporary loads resulting from the lifting devices and storage of prefabricated elements must be taken into account.
- (2) A list of examples of the matters that must be taken into account in the prefabricated element installation plan is given in Annex 3 to this Decree.

#### Section 37

## Prefabricated element installation plan

- (1) The project supervisor must ensure that the prefabricated element installation plan is available at the construction site in writing.
- (2) The prefabricated element installation plan must be marked as 'approved' by the designers.
- (3) In the installation plan, consideration must be given to the product-specific instructions provided by the manufacturer.
- (4) The prefabricated element installation plan must detail the lifting equipment used in the lifting work, weight of loads by type of prefabricated element, lifting spots, lifting accessories by type of prefabricated element, guidance of lifts and any restrictions. A tower crane, a mobile crane or other crane with sufficient performance that in terms of its other characteristics is designed and suited for the work must be selected as the crane for installing prefabricated elements in the installation plan.
- (5) The prefabricated element installation plan must contain instructions on temporary support and removal of support by installation stage.

# Section 38

Transferring prefabricated elements from the transport vehicle to storage place and prefabricated element storage

- (1) Product-specific instructions issued by the manufacturer must be observed in the transfer, lifting and storage of the prefabricated elements.
- (2) Before prefabricated elements are lifted and transferred, it must be ascertained that the prefabricated elements are in proper condition and that they do not contain any damage resulting from transport or moving.
- (3) Each prefabricated element must display the necessary identification data of the manufacturer, weight of the prefabricated element, markings concerning the safe lifting of the prefabricated element and the date of manufacture of the prefabricated element. The prefabricated element or package must be equipped with a visible and permanent labelling giving the total weight of the prefabricated element. If it is not possible to give the total weight of the prefabricated element, the approximate weight must be given. Prefabricated elements with no labelling may not be lifted, moved or installed without reliable information provided by the manufacturer.
- (4) When necessary, the details of the location of the centre of gravity of the prefabricated element must be available at the construction site so that it can be lifted. The manufacturer of the prefabricated element must provide the necessary information about the unloading, storage, lifting and installation of the prefabricated element. Prefabricated elements must be stored in a manner that is suitable for storing prefabricated elements. The storage stand of the prefabricated elements must be safe, suitable for the prefabricated elements in question and sufficiently stable, considering the conditions at the construction site. The safe use of the storage stand must be ensured when conditions change and when prefabricated elements are moved.

#### Section 39

# Lifting and installing prefabricated elements

- (1) Product-specific instructions issued by the manufacturer must be observed in installation of the prefabricated elements.
- (2) Prefabricated elements must be lifted and installed in accordance with the installation plan. Prefabricated elements must be in balance when lifted If it is necessary to deviate from the plans or instructions, the effect of the change on the safety of the carrying out of the work must be assessed as part of construction with prefabricated elements and the change must be submitted for approval to the person that has prepared the plan before the work is continued. A lifting plan must be prepared for difficult lifting of prefabricated elements.
- (3) A tower crane, a mobile crane or a crane with sufficient performance that in terms of other characteristics is designed and suited for the task must be used as the crane in the installation of prefabricated elements. Support plates of sufficient size or other similar support structures must be used under the supports of the crane. The accessories used for lifting and moving the prefabricated elements must be suited for their purpose and equipped with the necessary inspection markings.
- (4) The crane driver or the worker doing the installation work must have unobstructed view to the prefabricated element storage and the installation location. The guidance of the lifts must be by means of radio telephones, hand signs or appropriate crane camera equipment so that the lifting can be carried out in a safe manner. The control cab of the tower crane must be provided with crane camera equipment when the installation location is not visible from the control cab. The guidance of the lifting work must be by means of radio telephones the

channels of which are reserved exclusively for the guidance of the lifting work and inaccessible to other radio traffic. The person giving the signs must be designated separately and it must be ensured that he/she knows the approved signs.

- (5) When prefabricated elements are installed at a height of more than 2 metres, the danger of falling must primarily be prevented with structural measures. In situations where it is impossible to introduce structural measures, the danger of falling must be prevented with harness-type personal protective equipment.
- (6) Before the installation work is started, it must be ensured that there are no persons under the installation location during installation. When necessary, guards must be deployed. Construction waste and construction supplies endangering occupational safety and health must be removed from the installation location.
- (7) The employers must jointly ensure that wind, freezing of work tools, rain or snowfall or other weather conditions do not put the health or safety of the employees at risk.

#### Section 40

## Support and anchoring of prefabricated elements

- (1) Before the start of the installation work, the condition of the structures bearing the weight of the prefabricated element and the installation base and the anchoring points of the prefabricated element must be inspected. The may not contain any harmful fractures or cracks. The anchoring parts of the prefabricated elements must be in good condition and in place.
- (2) The prefabricated element to be installed must be visually inspected before the installation in accordance with the instructions provided by the manufacturer. The anchoring parts of the prefabricated element inspected in accordance with these instructions must be in good condition and in place. If there are deficiencies in the anchoring parts of the prefabricated element to be inspected the prefabricated element in question may not be installed.
- (3) Stability, strength and immobility of the partially installed structures elements, the use of the necessary temporary binds and supports and lateral stability must be ensured when prefabricated elements are installed.
- (4) Lifting accessories may not be removed until it has been ensured that the element will stay in place and has been supported in accordance with the installation plan. The supports may not be removed until the final fastening of the prefabricated element.

#### Section 41

# Additional provisions on the safety of construction with prefabricated concrete elements

- (1) Prefabricated concrete elements may not be lifted or installed before the concrete has achieved the required strength. The following must be taken into account in the support of prefabricated concrete elements and the definition of the minimum amount of support surfaces during installation:
- 1) instructions provided by the supplier of the prefabricated concrete elements;
- 2) the need and implementation of the temporary support for different types of prefabricated concrete element, particularly for eccentrically supported structures;

- 3) anchoring parts;
- 4) timing of the removal of the temporary supports;
- 5) fastening of support bars, particularly in the support of the lower part on the ground and with vaults and the use of support bars in the prevention of the distortion of the beam.
- (2) Final anchoring of the prefabricated concrete elements must be made without delay and in accordance with the instructions provided by the designer or the manufacturer. When temporary supports are removed the instructions on the timing of the removal, order of dismantling and any after support provided by the designer must be observed.

Additional provisions on the safety of construction with prefabricated steel elements and other aspects of construction with prefabricated metal elements.

- (1) When a shipment of prefabricated steel elements is received, the instructions provided by the manufacturer must be consulted so that it can be ascertained whether the prefabricated elements in question are exceptionally large or of exceptional shape and whether handling them requires special cranes, equipment or working methods.
- (2) In construction with prefabricated steel elements sufficient stability during installation must be ensured. When the order of making the welding and screw joints, welding order and the tightening of the screw joints are planned and implemented it must be ensured that the workers are not in danger of falling.

#### Section 43

# Additional provisions on the safety of construction with prefabricated wooden elements

- (1) When a prefabricated wooden element installation plan is prepared, consideration must be given to the effect of the joints between the prefabricated wooden elements on the stability of the structure during work and installation safety. The occupational safety of the construction with prefabricated wooden structures such as small and large prefabricated elements, prefabricated space elements, glued laminated timber structures, laminated veneer lumber structures and similar prefabricated elements must be based on plans.
- (2) The lift spots of the prefabricated wooden elements must be checked before the lift. In particular, it must be ensured that the structures do not crack or are otherwise damaged at joints, lifting lugs and similar locations.

## Section 44

#### Training and guidance in construction with prefabricated elements

- (1) The employer must provide employees with induction and sufficient information and instructions concerning the risks of the construction with prefabricated elements and on how to prevent them. The employer must also ensure that the employees are adequately familiarised with the following:
- 1) instructions provided by the manufacturer of the prefabricated elements;
- 2) work stages in construction with prefabricated elements;

- 3) working methods such as storage, lifts, installation and protection against falls;
- 4) safe use of tools, such as the safe securing and use of lifting accessories;
- 5) safe working methods, such as the measures implementing the plan concerning protection against falls.
- (2) In construction with prefabricated elements, comprehensive training and guidance must be provided in accordance with the working methods used, before the start of new work and work tasks, when work tasks change and before the introduction of new tools and working methods. Training and guidance must be supplemented when necessary.
- (3) Employees must observe the instructions issued by the employer.

# Chapter 9

Occupational safety and health in formworking

#### Section 45

## Formworking

- (1) The stages of formworking must be planned when using formwork that on account of their weight or size require the use of lifting accessories. The plan must at least present the safety measures concerning the handling, storage, lifting, support and stability during work and the prevention of the risk of falling. The weights and lifting points of the formwork must be clearly marked. In the plan, consideration must be given to the instructions provided by the formwork manufacturer or the importer.
- (2) When formworking is carried out at a height of more than 2 metres, the danger of falling must primarily be prevented with structural measures. In situations where it is impossible to introduce structural measures, the danger of falling must be prevented with harness-type personal protective equipment.
- (3) When formwork and support scaffolds are installed, protection against falls must be planned and safe ramps and means of access must be arranged.
- (4) Manufacturer's or importer's instructions must be followed when large and heavy formwork system equipment and their support scaffolds are lifted and installed. If no such instructions exist or it is deviated from, a competent structural engineer must prepare a form plan. In such case, protection against falls must also be drawn up. A formwork use plan must be drawn up for the work if the formwork system equipment or the support scaffold causes an occupational safety risk on account of its heavy weight, large size, dangerous location, special use or other similar factor.

#### Section 46

## Handling, lifting and installing formwork

(1) The solidity, supports and other features of the formwork to be transferred must be such that the formwork does not cause any risk during transport, unloading, storage, lifting and installation. Uneven distribution of loading and the lifting method used must be taken into account when formwork is lifted.

(2) The plans referred to in sections 10 and 11 must also be taken into account in the storage, lifting and installation of the formwork. When formwork is stored, special attention must be paid to its stability. The stability is affected by wind pressure, softening or moving of the ground as a result of melting ice and ground frost or rain, drying of the ground, horizontal stability of the base, and traffic. In loading and unloading, special attention must be paid to the suitability of the loading and unloading place, occupational safety of the storage base and storage stands and the right order of the work stages.

#### Section 47

## Supporting of formwork

- (1) Formwork must be supported in such a way that it does not overturn or drop because of movable loads or wind pressure. The supports must be sufficiently strong and stable.
- (2) When a support foot for supporting wall formwork is used, the support must be sufficiently strong, taking account of the weight of the formwork, wind pressure, and other forces that can cause the formwork to overturn. In addition to support foots, the formwork must be anchored well enough when necessary.

#### Section 48

# Professional skills, training and guidance of the employees in formworking

- (1) Before the work is started, the employer must ensure that the persons installing and removing the formwork possess adequate competence and skills.
- (2) In formworking, comprehensive training and guidance must be provided in accordance with the formwork and working methods used, before the start of new work and work tasks, when work tasks change and before the introduction of new tools and working methods. Training and guidance must be supplemented when necessary.

# Chapter 10

Occupational safety and health in demolition work

#### Section 49

# Planning of demolition work and demolition methods

- (1) Demolition work must be planned in such a way that it can be carried out in a safe manner. When large, load-bearing structures or otherwise dangerous structures are demolished, the work must be carried out under the direct supervision of a competent person.
- (2) The demolition site must be isolated from the surrounding area where necessary.
- (3) Before the start of the demolition work it must be ensured that all electric wires and gas and other pipes, and pipelines and tanks that can cause an accident in connection with the demolition work are disconnected, shut down or emptied in a reliable way, and rinsed when necessary.
- (4) In connection with the demolition work, special measures must be taken to protect workers against falls, and to avoid the risks caused by objects overturning or dropping. The properties, strength and condition of structures and structural elements must be analysed for the demolition work so that the work can be carried out safely and without causing any harm to

the workers' health. The work must be carried out in such an order that the collapse of structures are avoided. Load-bearing or supporting structures may not be demolished before the structures are adequately supported or tied. During the demolition work, intermediate floors or other structures may not be loaded to the extent that safety is endangered.

- (5) Any transfers and storage of goods and structural elements must be arranged in such a way that their handling causes as little risk as possible.
- (6) Separate provisions shall be issued on demolition of structures containing dangerous substances like asbestos.

#### Section 50

# **Demolition** waste

- (1) Tiles, pieces of concrete and other structural parts detached during demolition must be carried safely. Dusty materials must be dropped down through a tube that is sufficiently tight and that leads to a protected space or vehicle or collected and be carried away in bags or containers.
- (2) Dust must be removed by means of ventilation, local exhausts or other appropriate measures. When necessary, dust must be prevented from spreading by using protective walls built for the duration of the construction work. Dust must be removed from work premises as frequently as necessary.

## Chapter 11

Plans concerning work scaffolds and safe use of scaffolds

## Section 51

#### Work scaffolds

- (1) Necessary work and guard scaffolds must be arranged for the workers for all such work that cannot otherwise be carried out safely.
- (2) The scaffolds must be planned and erected in such a way that they remain sufficiently strong, rigid and stable in all stages of erection and dismantling and during the use of the scaffold. The foundations of a scaffold must be laid so that there is no harmful sinking or dislocation. Scaffolds must be equipped with appropriate and safe work platforms and means of access.
- (3) The stability of a scaffold must be proved to be adequate on the basis of total or partial solutions laid down in standards, the instructions for use of the prefabricated element scaffolds or other similar documents. If such total or partial solutions are not used, an stability calculations and drawings for the scaffolds and means of access prepared by an expert must be available. The scaffolds and related equipment must be installed and used according to the plans.
- (4) Scaffold users must be informed of the maximum load of the scaffold by means of a scaffold card or other similar means.
- (5) In facade scaffolds, lifting devices must be used for lifting scaffold equipment and supplies.

# Section 52

# Instructions for using modular system scaffolds

- (1) The instructions for a modular system scaffold must be observed.
- (2) The instructions must give the following information:
- 1) details of the purpose of the work scaffold;
- 2) structural, assembly and anchoring solutions of the work scaffold for different purposes;
- 3) ramps to work platforms;
- 4) maximum load of the work platforms;
- 5) instructions for foundations;
- 6) instructions for safe use and the necessary inspections;
- 7) instructions for handling the work scaffold and its parts;
- 8) instructions concerning restrictions for use of the scaffold.
- (3) The instructions for use of movable system scaffold must also contain the following:
- 1) details of the requirements for the levelness and non-sinking of the base;
- 2) details of the measures aimed at preventing accidental movements of the wheels, supports and the work scaffold;
- 3) details on how to move the scaffold in a safe manner.

#### Section 53

## Structural plan for modular system scaffold

- (1) A modular system scaffold is a scaffold that is assembled from prefabricated components made to standard measurements and couplers attached to them. If the instructions of the modular system scaffold do not contain the information referred to in section 52 or the work scaffold is different from the one described in the instructions, a structural plan of the scaffold must be drawn up.
- (2) The structural plan must at least detail the following:
- 1) structure of the work scaffold:
- a) materials of the structural parts of the work scaffold;
- b) structure of the frame and work platforms of the work scaffold and their measurements;
- c) structure and location of the ramps;
- d) structures providing protection against falls;

- e) anchoring and other structures increasing overall stability;
- 2) basis for the design:
- a) purpose of the work scaffold;
- b) loads and load combinations used in the measurement;
- c) maximum load of the work platforms;
- d) calculations or other sufficient information providing details of the strength, rigidity and overall stability of the work scaffold;
- e) details of the non-sinking of the foundations;
- f) measurement methods and any harmonised standards or other documents that have been used in the measurements;
- g) for a covered scaffold, details showing that the rigidity and anchoring of the work scaffold are adequate for withstanding loads arising from wind forces.
- (3) For a work scaffold assembled on site the structural plan referred to in subsection 2 must always be prepared.
- (4) The structural plan may only be deviated from if this is permitted by the person drawing up the plan.

#### Work scaffold use plan

- (1) A plan for use of the work scaffold must be drawn up if, on account of its height or large size, dangerous location, special use or other similar factor, the work scaffold has a substantial effect on the use of the construction site area.
- (2) The scaffold use plan must contain the following information:
- 1) details of the risks arising from the erection, use and dismantling of the scaffold and on preventing them;
- 2) details of the use of the work scaffold in different work stages;
- 3) location of the the means of access and ramps of the work scaffold and how they are connected with the building or structure;
- 4) details of the measures aimed at preventing the risks arising from construction site traffic, movement of materials and other factors to the use of the scaffold;
- 5) details of how the danger of objects falling is prevented and how access routes below are protected by means of covers or other measures;
- 6) instructions for scaffold users.

## Section 55

## Information on instructions, structural plans and scaffold use plans

- (1) When structural plans and scaffold use plans are drawn up, sufficient and necessary information about the conditions at the construction site and the work carried out on scaffolds must be available. Consideration must also be given to the client's safety document referred to in section 8(1).
- (2) The instructions, the structural plan and the scaffold use plan must be available at the site.

## Section 56

## Competence of the person preparing the work scaffold plan

The project supervisor must ensure that the person drawing up the structural plan and the scaffold use plan possesses sufficient competence, considering the characteristics of scaffold structures and the challenges of the design assignment. The person drawing up the structural plan must at least have a polytechnic degree in a technical field, a similar earlier qualification or a qualification of a technician and must be familiar with scaffold structures if the work scaffold height is more than ten metres or the overall stability of the work scaffold is based on anchoring or the design of the scaffold structure is, on account of the covering of the scaffold or for other reason, demanding.

#### Section 57

# Competent supervisors and guidance of employees in the erecting, dismantling and altering of scaffolds

- (1) Scaffolds may only be erected, dismantled and altered by an employee who is supervised by a competent person and who has received special instructions and guidance relating to the planned tasks and special risks. The instructions and guidance must include information at least on the following:
- 1) work stages involving the erecting, use and dismantling of the scaffolds;
- 2) safety during the erecting, dismantling and altering of the scaffolds;
- 3) measures aimed at preventing the risk of falls of persons or objects;
- 4) safety measures relating to weather conditions weakening the safety of the scaffolds;
- 5) maximum loads:
- 6) other potential risks relating to the erecting, dismantling or alteration.
- (2) The person in charge of the work and the employees concerned must have the instructions referred to in section 52 and, when necessary, the structural plan referred to in section 53 and the scaffold use plan referred to in section 54.
- (3) When a scaffold or its part is erected, dismantled or altered, it must be labelled with signs prohibiting its use or warning signs and appropriate barriers must be used to prevent access to the dangerous zone.

## Section 58

## Erecting and dismantling work scaffolds

- (1) A work scaffold must be assembled and built in accordance with the instructions of the modular system scaffold or the structural plan and the scaffold use plan.
- (2) A work scaffold must be erected and dismantled in such an order that the risk of workers falling is prevented or the risk of falls must be prevented by other means. The risk of falls must be prevented by structural measures or by harness-type personal protective equipment. Work platforms and ramps must be made ready as quickly as possible so that they can already be used during erecting work.
- (3) When a work scaffold is dismantled, the parts affecting overall scaffold stability or anchoring may not be removed in such a way that the overall stability of the remaining parts of the scaffold is endangered.
- (4) A work scaffold must be erected and dismantled in such a way that it does not cause any danger to those in the zone affected by the work. Areas under the work scaffold may not be used when the scaffold is being erected or dismantled.
- (5) An incomplete work scaffold or scaffold section that is being erected or dismantled may not be put into use.

#### Section 59

## Strength, rigidity and overall stability of work scaffold

- (1) A work scaffold and its work platforms and means of access must have sufficient strength, rigidity and overall stability in all erection and dismantling stages and when the work scaffold is used or moved.
- (2) A work scaffold may only be erected on site from such materials the strength and material characteristics of which are known at the construction site and from which a safe scaffold may be built. When necessary, a reliable report on the strength and material properties of the material must be available. Damaged parts of the work scaffold must immediately be withdrawn from use.
- (3) The diagonal and lateral braces providing rigidity must be able to withstand the tensile and compressive loads affecting the braces.

## Section 60

## Work scaffold labelling

- (1) The maximum work scaffold load must be given in a visible and easy-to-understand manner on a maximum load sign or a scaffold card.
- (2) Scaffold inspections must be entered on the scaffold card or the work scaffold.
- (3) The use of an unfinished work scaffold or a scaffold that is otherwise not suited for use must be prevented by means of appropriate labelling or by other means.

## Section 61

#### Connections between structural elements of work scaffold

- (1) The connections between structural elements of a work scaffold must be sufficiently strong and must allow the dislocations that are part of the planned functioning of the connections without fractures.
- (2) When different types of modular system scaffold are used it must be possible to connect the structural elements with each other in a safe manner. Looseness of the connections may not cause dangerous dislocations or other distortion in the scaffold.
- (3) The connections of the structural elements of the work scaffold must be such that they cannot be accidentally separated during use.

#### Work scaffold foundations

- (1) Work scaffold foundations must be such that the work scaffold or its part will not sink or be dislocated in a harmful manner. The carrying capacity or strength of the ground or existing structure serving as the foundations of the work scaffold must be checked. Load-sharing structures must be placed under vertical supports of a work scaffold resting on ground or a base with a corresponding carrying capacity so that harmful sinking can be prevented.
- (2) The foundations must be horizontal enough so that the work scaffold can be erected in a sufficiently vertical position.

#### Section 63

## Work platforms of a work scaffold

- (1) Work platforms must be suitable for their purpose, safe and wide enough.
- (2) The work platform must have the following characteristics:
- 1) the work platform must be of sufficiently strong construction;
- 2) the work platform must be wide enough, considering the work carried out on the scaffold and transfer of materials and interim storage of materials;
- 3) the work platform must be secured reliably and strongly to the frame of the work scaffold or other structure:
- 4) the work platform must be in a horizontal position;
- 5) the work platform must be secured in such a way that loading does not cause the work platform to move or be lifted from its base;
- 6) the work platform may not have any unprotected openings;
- 7) the work platform may not have any gaps that are wider than 30 millimetres;
- 8) the work platform surface may not be slippery;
- 9) the structure of the work platform may not cause any danger of tripping;

10) the unobstructed space between two work platforms placed on top of each other must be at least 1.9 metres and, with structural elements supporting the work platform, at least 1.75 metres.

#### Section 64

## Work scaffold ramps

- (1) When ramps are provided, consideration must be given to the purpose of the scaffold, prevention of the risk of falls, duration of the work, number of workers using the scaffold and the structure and height of the scaffold.
- (2) Construction, structural dimensions, location and inclination of the ramps and the levelness of the steps must be such that it is possible to move safely between the ramp and the work platform and that when the ramp is used the overall stability of the scaffold is not at risk.
- (3) Stairs must have guardrails on both open free sides for their whole length.
- (4) The ramps must be secured in such a way that they cannot be accidentally detached or dislocated during use.

## Chapter 12

Additional provisions on the use of work scaffolds

#### Section 65

# Additional provisions on mobile scaffolds

- (1) Mobile scaffolds may only be used on a non-sinking platform and their wheels must be locked during use.
- (2) The wheels of a mobile scaffold must be attached to the scaffold in such a way that they do not become detached from the structure.
- (3) A mobile scaffold must have adequate overall stability. Its height, measured from the upper surface of the work platform, may, however, not be more than three times the smallest support width of the scaffold.
- (4) Overall stability of a mobile scaffold with a height of less than two metres must be in accordance with the minimum requirements laid down in Annex 6 to this Decree, as appropriate.
- (5) f the support width of a mobile system scaffold is increased by means of supports, the instructions must be observed. If the support width of a mobile scaffold erected on site is increased by means of supports, the structural plan must be observed. The supports must be attached in such a way that they are not distorted or displaced in a harmful manner when the scaffold is loaded.
- (6) A mobile scaffold may not be moved if there is an employee on the work platform. Any such materials that may drop or cause other hazards must be removed from the work platform for the duration of the movement.

# Section 66

## Additional provisions on trestles

- (1) In terms of strength, overall stability, materials and type, trestles used in construction work must be suitable for work and conditions of use at a construction site.
- (2) Trestles used in construction work must meet the following requirements:
- 1) trestles that are more than 0.5 metres high must be equipped with integral horizontal steps with a depth of at least 50 millimetres and a length of at least 0.3 metres;
- 2) the height of the risers may not be more than 0.3 metres;
- 3) the height of the trestle may not be more than 2.0 metres;
- 4) work platforms of trestles of less than 1.0 metres high must be at least 0.3 metres wide and if the height is more than 1.0 metres and less than 2.0 metres the width of the work platform must be at least 0.4 metres; and
- 5) overall stability of the trestle must be in accordance with the requirements laid down in Annex 6 to this Decree.
- (3) The locking of the adjustable legs and other structural elements of the trestle may not open or loosen during use.
- (4) The trestle must be placed on a platform that is of such levelness and strength that it cannot overturn or be dislocated during use and that its work platform is horizontal enough.

## Section 67

# Additional provisions on trestle stands

- (1) A trestle stand is a work scaffold with one work platform and where the work platform is supported by freely standing trestles or horizontal supports placed on top of them. The trestle stand must be placed on a foundation that is of such levelness and strength that it cannot overturn or be dislocated during use and that its work platform is in a horizontal position. When a trestle stand is erected on the ground, uneven sinking of the trestle feet must be prevented by using load-sharing structures under the trestle feet.
- (2) A trestle stand may not be erected by placing trestles on top of each other. A trestle stand must have a ramp as laid down in section 64.

## Section 68

# Additional provisions on bracket scaffolds

- (1) A structural plan must always be available for a bracket scaffold erected on site. A bracket scaffold consisting of modular elements must be erected in accordance with the instructions and, if the instructions do not contain enough information that is necessary for ensuring the strength, rigidity and load-bearing capacity of the work scaffold, a structural plan covering these areas must be drawn up.
- (2) The brackets serving as the load-bearing structure of the bracket scaffold and the structures securing and supporting them must have a sufficient load-bearing capacity, strength and rigidity. The brackets must be supported and anchored to the structure in such a way that they cannot become detached.

## Chapter 13

## Organising the working conditions

#### Section 69

## Physical loading and ergonomics

- (1) Work must be planned in such a way that the dangers that arise when items are lifted and moved by hand are identified and eliminated. The plans referred to in sections 10 and 11 must contain the plans for using equipment intended for moving materials.
- (2) Working methods, construction materials and tools must be selected in such a way that the hazards and risks arising from lifts and incorrect working positions are prevented. Heavy horizontal transfers of items must be carried out with suitable transport equipment. Work sites must be kept in good order so that transport equipment can be used. In vertical transfers of items, transfer equipment and accessories must be used to facilitate lifts and transfers. Mechanical equipment must be made available to the workers so that they do not need to support materials installed at great heights by hand.
- (3) When tools are used, consideration must be given to the working conditions and working positions of the employees using them and the implementation of the ergonomic measures. The tools that employers select for the use of the employees must be safe, suited for the working conditions at a construction site and ergonomically appropriate.
- (4) When necessary, the employer must use occupational safety and health experts for the assessment and reduction of ergonomic risks and loading, as separately provided in a statute.

#### Section 70

## Industrial hygiene hazards

- (1) Such machinery and equipment must be used in construction work that cause as little risks and hazards as possible because of noise or other physical risks. The workers must be protected against chemical and physical risks and hazards primarily through measures focusing on machinery, work equipment, working methods and work environment.
- (2) Before any work is initiated in a well, tunnel, container or similar space, it must be ensured that the air contains enough oxygen and the air is pure. The contents of oxygen and impurities in the air must be measured. Measurements must also be carried during work. The work space must be ventilated, when necessary.
- (3) Local exhaust equipment used to prevent risks caused by chemical factors and to combat dust must be effective enough. When necessary, the workplace must be divided into closed sections and a ventilation system and equipment must be used to create a difference in air pressure levels. If mechanical local exhaust equipment is used, it must be kept in good working condition. The equipment must function in such a way that it does not cause any safety or health risks or hazard to the workers. When necessary regarding the safety and health of the workers, the local exhaust equipment must be fitted with a control system that informs of any malfunction.
- (4) Chemical safety data sheets and lists of chemicals must be kept available for the employees at the construction site.

- (5) At a shared construction site, instructions on the industrial hygiene measurement methods must be contained in the code of practice drawn up by the client referred to in section 8(3) and in the safety plan drawn up by the project supervisor referred to in section 10(4).
- (6) If it is otherwise impossible to reliably ascertain the exposure of employees to hazardous dust and chemical agents the employer must carry out measurements on a regular basis and always when there are changes in the conditions that increase the exposure of the employees. The measurement results must be compared with the limit values laid down for chemical agents. Hazardous agents must be eliminated as separately provided on them.
- (7) if the results of the industrial hygiene measurements show that the limit values are not exceeded, repeat measurements must be carried out as necessary so that it can be determined that the situation is of permanent nature. Closer to the limit values the results of the airborne pollutant measurements are, more frequently the measurements must be conducted.

#### Need for personal protective equipment in construction work

- (1) In addition to what is provided in the Government Decision on the selection and use of personal protective equipment (1407/1993), the provisions in subsections 2-8 of this section shall also be taken into account in construction work.
- (2) The employer must select the personal protective equipment on the basis of the identification of the risks to the safety and health of the employees and the assessment of their significance.
- (3) Safety helmets must be worn at the construction site. When necessary, a hood must be worn under the helmet.
- (4) Personal eye protection equipment must be used in construction work, as required by the work and the working conditions. The employer must provided the employees with protective glasses in such work tasks that involve a substantial risk of eye accidents.
- (5) When a harness-type safety belt with rope is used, a safety rope with automatic length regulator must be used if the rope length has to be frequently adjusted.
- (6) Safety footwear must usually be worn at the construction site.
- (7) Knee protectors must be worn when floor work or similar tasks putting a strain on knees is carried out.
- (8) Reflective clothing must be worn at the construction site in order to ensure that the workers are highly visible. When work is carried out in road and street areas or other locations used by traffic, high visibility clothing must be worn, as provided separately.

## Chapter 14

Preventing fire and explosion hazard, life saving and first aid

## Section 72

Fire and explosion hazard

- (1) The construction site and construction work must be arranged in such a way that the risk of fire can be prevented in advance. Waste from work processes and other construction utilities and materials that are not needed for the work, as well as flammable substances, must be removed.
- (2) The construction site must be provided with appropriate fire fighting and fire alarm equipment and safety signs. Based on a risk assessment, it must be examined whether fire detection equipment must be acquired for the construction site. The first-hand extinguishing equipment must be easy to take into use. The responsible person referred to in section 12 above must ensure that there are enough persons familiar with first-hand extinguishing at the construction site.
- (3) When the need for fire fighting and fire alarm equipment and fire detection equipment is assessed, or when the adequacy of the equipment at the site is considered the hazards must be analysed and assessed as referred to in section 10 of the Occupational Safety and Health Act.
- (4) When substances that can form explosive gases or dust are handled and stored it must be ensured that sufficient safety measures are taken.
- (5) Warning of workers against fires must be arranged in such a way that the alarm is effectively noticed in danger areas and that at the same time it is possible to understand to whom the alarm is addressed.
- (6) The workers must be provided with the necessary protection instructions for handling of fire, work causing risk of fire, handling and storing flammable or explosive substances, emergency alarm, alarming fire and rescue authorities, closing fire doors, quick exit when necessary, and other important measures depending on the circumstances in case of fire or during fire.

## Escape and rescue routes

- (1) In danger situations the workers must be able to leave all work sites quickly and as safely as possible. The escape and rescues routes must be kept clear from obstacles, and they must lead to a safe area as directly as possible. The doors to exits and on escape routes must be easy to open in emergency situations.
- (2) The exits and escape routes to be used in emergency situations must be marked with appropriate signs when necessary.

#### Section 74

#### First aid and rescue apparatus

- (1) Necessary first aid equipment and a necessary number or persons familiar with giving first aid must be in place where construction work is carried out. The space meant for giving first aid must be easily accessible with stretchers.
- (2) The sufficiency and type of the first aid equipment, as well as the place for storing them, must be arranged in case of accident or illness, and their suitability for the purpose must be followed up.

- (3) The workplace must be equipped with alarm, life-saving and rescue equipment and accessories when the circumstances so require. Rescue equipment must always be available in a suitable place on workplaces where there is danger to life or health because of the risk of falling into water. The workers must be provided with the necessary guidance for the use of such equipment and in case of drowning or other risk situations.
- (4) If the work includes special risks of accident, the worker must, in order to guarantee quick first aid, have eye or hearing contact with another person either continuously or regularly with short, repeated intervals. The contacts may also be arranged using communication equipment.
- (5) The requirements set by the occupational health care personnel in their workplace investigation must be taken into consideration when the first aid standby is organised

# Chapter 15

Electrical work and preventing electrical accidents

## Section 75

Electrical work and preventing electrical accidents during construction work

- (1) Provisions on the safety of electrical work and carrying out such work are laid down in the Act on Electrical Safety (410/1996) and the regulations issued under it.
- (2) Electrical equipment, such as cables and distribution boards, must be placed in such a way that they are not damaged or cause any risk of stumbling or electric shock on access routes.
- (3) Cables on driveways must either be suitably protected against stress caused by vehicles or hung high enough.
- (4) If there are such uninsulated wires at the construction site or in its vicinity that cannot be moved for the duration of the work or made dead, protective structures or other means must be used to prevent any indirect or direct risk of electric accident. It must also be ensured that lifting machinery and similar equipment maintain their safe distances when they move in the area.
- (5) When work is carried out in the vicinity of high-tension power lines or similar structures the risks arising from the circumstances must be taken into account and the risk of electrical accidents must be prevented in advance.

#### Section 76

## Conditions for the use of electrical equipment

When electrical equipment is handled in very dangerous operating conditions special safety measures must be taken regarding the equipment used, the necessary protective equipment or the voltage allowed as laid down in the Act on Electrical Safety (410/1996) and the regulations issued under it.

# Chapter 16

Additional provisions on the protection against falls

## Section 77

## Safety nets

- (1) The support structures, installation and use of the safety net must be designed by a competent person. The prerequisites for the use of the net, installing and securing of the net, suitability and durability of the support structures and the monitoring of the net condition must be examined as part of the plan.
- (2) The safety net must be installed and removed in a safe manner.
- (3) If possible, the safety net must be installed directly under the work platform or next to it in such a way that the area protected by the net is wide enough. There may not be any structures, parts of structures or objects between the work platform and the safety net that may hurt a falling person.
- (4) The safety net must be placed in such a way that the person falling into the net does not get into any danger as a result of the elasticity of the net.

## Section 78

## Special provisions on work with the help of rope access and positioning techniques

- (1) The platforms and means of access used in construction work must be fixed work platforms, scaffolds, equipment for lifting persons, mechanically raised work platforms or other similar work platforms. Rope access and positioning techniques may not be used in ordinary construction work. The rope attachment points must be sufficiently strong. Work with rope access and positioning techniques is allowed only in exceptional circumstances where the use of the above mentioned safer work platforms and means of access is not possible and where the analysis and evaluation of the risks of the work proves that the work can be carried out safely. The evaluation of risks must be made in writing and it must be presented to the project supervisor and the client.
- (2) A written plan must be drawn up for moving and working with the help of ropes, taking account of the following requirements that must also be followed when work is carried out:
- 1) The system must include at least two ropes fastened separately. One of the ropes is used for ascending, descending and as support (work rope) and the other is used as safeguard (safeguard rope);
- 2) The workers must use appropriate safe harnesses, and their harnesses must be fastened to the safeguard rope;
- 3) The work rope must have safeguarding mechanisms for ascending and descending, and a self-locking mechanism to prevent the worker from falling down even if he/she looses control over his/her movements. The safeguard rope must be equipped with a mobile device to prevent falls and the device must move along with the worker;
- 4) The work equipment and other accessories used by the worker must be fastened to his/her safe harness or they must be fastened in some other secure manner;
- 5) The work must be followed in order to make sure that it is carried out in accordance with the plans. The work must be supervised in an appropriate manner so that the worker can be immediately saved in an emergency situation;
- 6) The worker must receive all appropriate special guidance and instructions that is necessary for the work. The guidance and instructions must especially include information on rescue

procedures. It must also be ensured that the workers can carry out the work in accordance with the instructions and written plans;

- 7) Communication between the persons involved must be arranged in an appropriate way.
- (3) The work may only be carried out by a competent worker whose personal qualifications are suitable for the work or by another worker under the immediate supervision of such competent worker.
- (4) The employer must use suitable ways to control the condition of the work equipment used for the work.

## Chapter 17

Personnel rooms

#### Section 79

#### Personnel rooms at construction sites

- (1) Where necessary regarding the number of workers or the nature and continuity of the work, the employers must, each for their part, ensure that the supply of the following is large enough at the construction site or in its immediate vicinity:
- 1) clean drinking water and clean and suitable drinking equipment;
- 2) sufficiently warm washing water and washing equipment, and where special circumstances so require, the required amount of washing and drying accessories;
- 3) room space equipped with appropriate equipment for changing, storing and drying clothes; separate spaces must be provided for men and women for changing clothes;
- 4) separate room space reserved and furnished for having meals, and when there is no freshly cooked food available at the workplace, equipment for storing and warming up the food and water and other beverages brought in; and
- 5) appropriately equipped and cleaned toilets.
- (2) Rooms reserved for having meals and storing clothes must have adequate ventilation and a temperature of at least +18 degrees centigrade. The rooms must be cleaned daily.
- (3) Further provisions on the personnel rooms at construction sites are given in the Ministry of Labour decision on personnel rooms at construction sites (977/1994).

#### Section 80

#### Residential facilities

Separate provisions shall be issued regarding the health requirements for any accommodation located at the workplace or in its vicinity and reserved by the employer for the use of the employees.

# Chapter 18

## Miscellaneous provisions

#### Section 81

## Entry into force

- (1) This Decree enters into force on 1 June 2009.
- (2) This Decree repeals the Government Decision of 23 June 1994 on the Safety of Construction Work (629/1994), as amended and the Government Decree of 18 June 2003 on Occupational Safety in Construction with Prefabricated Elements (578/2003).
- (3) Issued under section 46 of the Government Decision of 23 June 1994 on the Safety of Construction Work (629/1994) which is to be repealed, the Ministry of Labour decision of 3 November 1994 on personnel rooms at construction sites (977/1994) ) and the Ministry of Labour decision of 3 September 1996 on the competence of divers carrying out construction work under water (674/1996) shall, however, remain in force until they are separately repealed.

#### Annex 1

# CONTENT OF THE PRIOR NOTICE SUBMITTED TO THE OCCUPATIONAL SAFETY AND HEALTH AUTHORITY LAID DOWN IN SECTION 4 OF THIS DECREE

- 1. Date
- Exact address of the construction site.
- 3. Name and address of the client (clients)
- 4. Type and form of the construction project
- 5. Client/client's contact person and the client's responsible safety coordinator
- 6. Main contractor/contact person of the main contractor
- 7. Project supervisor and the responsible person referred to in section 12 of the Decree
- 8. Planned start date and end date of the work at the construction site
- 9. Estimated maximum number and average number of personnel at the construction site
- 10. Planned number of employers and self-employed workers at the construction site
- 11. Names and addresses of the selected employers and self-employed workers
- 12. Other necessary information

#### Annex 2

WORK REFERRED TO IN SECTION 10 OF THIS DECREE CAUSING SPECIAL RISKS TO THE SAFETY OR HEALTH OF EMPLOYEES

- 1. Such work connected with a risk of being buried under collapsed earth, sinking in earth, or falling from a height, where the risk is especially high because of the nature of the work, working methods used, or because of the circumstances at the workplace or construction site;
- 2. Work where employees are exposed to chemical or biological substances that present an especially high risk to the safety and health of employees, and work requiring regular medical checks:
- 3. Work where such ionising radiation is used that requires marking of specific or monitored areas in compliance with special regulations;
- 4. Work carried out in the vicinity of high-tension cables and lines;
- 5. Work involving a risk of drowning;
- 6. Work in shafts, underground construction sites and tunnels;
- 7. Work in which diving equipment is used;
- 8. Work carried out in decompression chambers;
- 9. Work in which explosives are used;
- 10. Work involving assembly or dismantling of heavy prefabricated elements;
- 11. Demolition of structures, structural elements or materials;
- 12. Work in road, street or railway areas.

#### Annex 3

# REFERENCE LIST OF THE MATTERS THAT MUST BE TAKEN INTO ACCOUNT IN THE PREFABRICATED ELEMENT INSTALLATION PLAN REFERRED TO IN SECTION 36

The information provided on the prefabricated element installation plan must include the following:

- 1. Details of the project carried out at the construction site;
- 1.1. Site/construction project;
- 1.2. Personnel: client's safety coordinator, responsible person appointed by the project supervisor, site foremen, site supervisor, principal designer, structural engineer, prefabricated element designer, prefabricated element supplier, installation work foreman, other management and supervisory staff;
- 1.3. Cranes:
- 2. Prefabricated elements, lifting accessories and special measures;
- 2.1. Information provided by prefabricated element manufacturers on such matters as oversized prefabricated elements, prefabricated elements of exceptional shape and prefabricated elements requiring special cranes, equipment or working methods;

- 2.2. Maximum length, width, height, number and lifting accessories by type of prefabricated element:
- 2.3. Lifting accessories and lifting methods and special lifting accessories and lifting methods (such as turning and joint lifts) and handling of prefabricated special elements;
- 2.4. Instructions provided by the prefabricated element supplier on the handling of prefabricated special elements and the unloading of loads of prefabricated elements;
- 2.5. Frame reinforcement;
- 2.6. Adjoining structures;
- 3. Transport of prefabricated elements at the site, unloading, acceptance and site storage;
- 3.1. Site area plan;
- 3.2. Requirements concerning site storage;
- 3.3. Stability and strength of the prefabricated element stands used for site storage;
- 3.4. Mode of transport;
- 3.5. Transport equipment;
- 3.6. Transport route at the site;
- 3.7. Order of unloading as given in the instructions provided by the prefabricated element supplier;
- 3.8. Lifting equipment;
- 4. Lifts, installation and order of installation;
- 4.1. Cranes and lifting equipment;
- 4.2. Order of installation:
- 4.3. Order of frame installation by section or line;
- 4.4. Order of installation of individual prefabricated elements/order of installation by type of prefabricated element;
- 4.5. Order of work stages, necessary work instructions and, When necessary, the records of the inspections carried out;
- 4.6. Detailed order of installation;
- 4.7. Stability during installation;
- 4.8. Measures required for achieving final stability and for carrying out final anchoring of the prefabricated elements, as laid down in the instructions provided by the supplier and the designer;

- 4.9. Effect of circumstances and the measures required by such factors as winter conditions;
- 5. Support during installation and minimum support surfaces;
- 5.1. Loads during installation;
- 5.2. Support during installation;
- 5.3. Removal of supports/removal schedule, effect of conditions, etc.;
- 5.4. Minimum support surfaces for different types of prefabricated element;
- 5.5. Instructions provided by the prefabricated element supplier;
- 5.6. Required additional instructions in the installation drawings;
- 6. Tolerances and follow-up measurements;
- 6.1. Tolerance category;
- 6.2. Baseline measurement;
- 7. Final anchoring of the prefabricated elements;
- 7.1. Anchoring and joints and the order of making them;
- 7.2. Concreting;
- 7.3. Bolted joints;
- 7.4. Other joints;
- 8. Occupational safety and health and work platforms and protection against falls required during installation;
- 8.1. Training and instructions;
- 8.2. Protection against falls;
- 8.3. Work platforms, work scaffolds, personnel lifting devices, personnel lifting platforms and ramp arrangement during installation, rails during construction and those relocated as the installation progresses, safety harnesses as personal protective equipment and attaching them;
- 9. Design verification;
- 9.1. Responsible person of the project supervisor;
- 9.2. Responsible safety coordinator of the client;
- 9.3. Principal designer;
- 9.4. Structural engineer;

9.5. Prefabricated element designer
9.6. Installation work foreman;
9.7. Responsible foreman;
9.8. Coordination of the activities of different parties involved in construction with prefabricated elements;
9.9. Other verifications;
Annex 4
PUTTING WORK SCAFFOLDS INTO USE AND SCAFFOLD MAINTENANCE
At the least the following must be checked when work scaffolds are put into use and when maintenance inspections on them are carried out:
1. General details of the scaffold:
1) scaffold specification;
2) permitted load;
2. Details inspected: The following details of the scaffold must be inspected and any observations made and the date on which the requested repairs have been carried out must be entered in records:
1) suitability of the scaffold for its purpose;
2) compliance with the instructions;
3) compliance with the structural plan;
4) adherence to scaffold use plan;
Review of the following must also be included in the inspection:
5) foundations;
6) vertical supports;
7) how strength, overall stability and rigidity has been achieved;
8) anchoring and reinforcement;
9) connections between structural elements;
10) ramps;
11) work platforms;
12) attachment of work platform to scaffold frame;

- 13) structure and condition of guardrails;
- 14) toe boards;
- 15) labelling and signs;
- 16) any isolation of the area below:
- 17) any other matters added to the checklist.
- 3. Persons taking part in the inspection:
- 1) employer representative(s);
- 2) employee representative(s) and any other persons such as
- 3) scaffolding work supervisor(s); and
- 4) other participants.

Annex 5

#### **GUARDRAIL STRENGTH**

The handrail, pole and the corresponding structures of the guardrail must, without any permanent distortion, withstand a point load of 1.0 kN in the most unfavourable position in the directions preventing falling. The intermediate guardrail, the toe board or the structure replacing them must withstand a point load of 0.5 kN in the most unfavourable position. The bend or dislocation in the guardrail or in its structural element resulting from the point load may not be more than 100 millimetres. Separate provisions on the requirements concerning guardrails of modular system scaffolds are contained in standard SFS-EN-1004.

Annex 6

## OVERALL TRESTLE STABILITY

- 1. In a trestle, stability against overturning must be at least 1.5. Overall stability must be sufficient both laterally and vertically. The stability of a trestle against overturning must be as referred above when the work platform of the trestle is affected by a lateral load of 0.3 kN and the most unfavourably positioned vertical load of 1.5 kN the impact point of which is 100 mm from the edge of the work platform.
- 2. Overall trestle stability must be in accordance with the above requirements when the steps of the trestle ramp are examined as work platform.

Council Directive 92/57/EEC; OJ L 245, 26.8.1992, p. 6-22