



Yara Management System

Document type:

Procedure

Valid for organisation:

Sluiskil

Valid for location/facility:

Persoonlijke veiligheid en arbeidsomstandigheden

(HAE-027419) SCAFFOLDING

Note:

- Added link to the procedure HAE-028460- Aarden van steigers (Scaffolding Earthing)

1. INTRODUCTION

This procedure describes the minimum rules applicable to scaffolding construction (erection, modification, use and dismantling). This procedure is not a technical specification, but a specification of the scaffolding construction rules at Yara Sluiskil.

2. PURPOSE

The purpose of this procedure is to prevent personal injury or damage to equipment during the erection and dismantling of scaffolding.

3. SCOPE

The agreements relating to scaffolding construction apply to Yara Sluiskil B.V. and everyone who carries out activities there.

4. LAWS AND REGULATIONS

Statutory duties in relation to scaffolding construction arise from the Working Conditions Act, the Working Conditions Decree, and the Working Conditions Regulations. In addition, the Scaffolding Guideline forms the guiding principle for the erection, modification, use and dismantling of scaffolding. The main topics of this guideline for Yara Sluiskil B.V. are dealt with in this procedure, supplemented by the individual company rules.

5. DEFINITIONS

| | | |
|--------------------|---|---|
| Working at heights | = | We speak of overhead work if activities are carried out higher than 2.0 metres in relation to ground level or the floor on any given storey (see HAE-026195 'Overhead work'). |
| Scaffolding | = | A temporary construction built around or in a structure to provide access for the execution of the relevant activities. In this procedure, 'scaffolding' also covers suspended scaffolding, cantilever scaffolding, tent constructions, wheeled scaffold towers, internal scaffolding and hoisting scaffolds assembled from scaffolding material. |
| Work platform | = | The work platform is the platform on which the activities are carried out and for which the scaffolding is installed. |

Document owner:

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Document ID:

YMS0-180-1629

Changes in this version:

Approved

Approved by:

Lesley Vermeerssen

Version: 11.0

Approval date:

2020-12-11

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Next review date:

2022-12-10

| | | |
|---------------------------------|---|--|
| Rest platform | = | The platform that is used in order to go from one ladder to the next in order to reach the next level. |
| Safety platform | = | The platform that is placed under the work platform for additional safety if the work platform is higher than 6 metres. Safety platforms are not necessary if the following conditions are met: <ul style="list-style-type: none"> - The constructions must be made of heavy-duty scaffolding (3.0 kN/m²). - The planks of the construction must be 50 mm thick - Composite platforms must have a comparable strength to the work platform. - The work floors must be fully and permanently closed. |
| Wheeled scaffold tower (steel)= | | Wheeled scaffold tower composed of steel scaffolding material. |
| Prefab wheeled scaffold tower= | | Wheeled scaffold tower (prefab) made of aluminium. |

6. RESPONSIBILITIES AND COMPETENCIES IN SCAFFOLDING CONSTRUCTION

6.1 Principal

The person for whose account a structure is created. Ensures that the design is organised in such a way that (sub)contractors and self-employed persons can fulfil their obligations under the Working Conditions Act.

6.2 Scaffolding company

Is expected to construct a safe, good quality scaffolding structure for the users in conformity with the prevailing standards. The scaffolding company assists the principal/user in the fulfilment of their obligations under the Working Conditions Act. In addition, the scaffolding company has the following obligations:

- Protecting the health and safety of his employees during the erection, modification and dismantling of a scaffolding construction by, among other things, eliminating the danger of falling and physical overloading insofar as possible.
- If necessary, rejecting and not using components which match standardised criteria for rejection.
- Preventing danger to third parties by taking measures to prevent unauthorised persons from accessing a scaffolding structure that is not ready. A scaffolding company must also prevent third parties from being hit by components or tools falling from a scaffolding structure.
- The deployment of qualified employees, including competent persons and scaffolding assemblers. The qualifications are to match the difficulty ratio of the scaffolding structure.

6.3 Scaffolding constructor

The Working Conditions Decree prescribes a calculation of strength and stability, unless the scaffolding is erected in line with a generally recognised, standard configuration. The responsibility for the calculation lies with the scaffolding company's constructor.

6.4 Assistant Scaffolder

Assists in the assembly/dismantling tasks, but is not allowed to independently assemble or dismantle scaffolding structures. When he assists with the assembly/dismantling tasks, this involves only Category 1 scaffolding structures and always under the supervision of the Scaffolder, the 1st-grade Scaffolder of the Foreman. Has the 'Assistant Scaffolder' certificate.

6.5 Scaffolder

Independently assembles and dismantles simple, Category 1 scaffolding structures, and is permitted to assemble complex scaffolding under the supervision of at least a 1st-grade Scaffolder. Has the 'Scaffolder' certificate.

6.6 First-grade Scaffolder

Independently assembles and dismantles simple and complex scaffolding structures. Is competent to independently complete Category 3 scaffolding structures. Has the '1st-grade Scaffolder' certificate.

6.7 Foreman Scaffolder

Does the same scaffolding jobs as the 1st-grade Scaffolder. Has additional competencies with regard to scaffolding inspection, plus leadership, communication, management and administrative skills. The foreman is competent to independently complete scaffolding structures up to and including Category 3, and Category 4 in the presence of the constructor.

6.8 Scaffolding Inspector

The Scaffolding Inspector works under the responsibility of the scaffolding company and is charged with leading the erection and dismantling of a scaffolding structure, and any radical alterations to it. Also inspects scaffolding structures and releases them for use. Because this functionary must be able to assess the safety of the constructed scaffolding, it is important that he/she is able to assess both standard and complex configurations (Categories 1, 2, 3 and 4). Has the additional certificate 'Scaffolding Inspector'.

6.9 Supervisor of Scaffolding Use

The Supervisor of Scaffolding Use must be able to assess the safety of the constructed scaffolding. It is important that he is able to assess both standard and more complex configurations. Communicates on the technical level of the 1st-grade Scaffolder or Foreman. Has the certificate 'Scaffolding Safety Assessment II' or 'Scaffolding Inspector'. For Yara Sluiskil, the scaffolding coordinators, the Yara Sluiskil safety expert, and employees of the Maintenance Department are appointed as Supervisors of Scaffolding Use. See §7.4.

6.10 Scaffolding Coordinator

The scaffolding coordinator works for the principal and forms the link between the principal and the scaffolding company. Among other things, the scaffolding coordinator is responsible for:

- Explaining assignments to the scaffolding company based in the 'client request'.
- Providing information about environmental and object-related factors, stability, etc. to the scaffolding company.
- Checking scaffolding structures after handover.
- Inspecting scaffolding during use.
- Signing off scaffolding for dismantling after use.

6.11 User

The user, for example the (sub)contractor, is co-responsible for the quality of the scaffolding, which has usually been erected by others. That is to say:

- Only accessing a scaffolding structure after it has been released for use (after handover).
- Having a scaffolding structure checked regularly, and after any changes to it.
- Not changing or removing a scaffolding structure or any components of it.
- Immediately reporting any shortcomings or defects of the scaffolding to an expert.
- Visually inspecting a scaffolding structure before use (see § 8.3).

6.12 Tasks associated with construction and use of scaffolding

| Tasks | Principal of object | Scaffolding company | User |
|---|---------------------|---------------------|------|
| Determining whether a scaffolding structure is defined as a 'standard configuration' or not. | | X | |
| Making strength and stability calculations, if not a standard configuration | | X | |
| Provision of information on environmental and object-related factors which might affect stability and/or strength of scaffolding and the loadbearing capacity of the scaffolding's substrate, the strength of the structure to which it must be anchored, and possible limitations in the necessary anchor pattern. | X | | |
| Making scaffolding drawings, if not a standard configuration. Otherwise, provision of standard assembly, dismantling and conversion scheme. | | X | |
| Leadership of assembly, dismantling and conversion. | | X | |
| Handing over scaffolding in safe condition on completion. | | X | |
| Supervision during use of the scaffolding. | X | | X |
| Conducting inspections (see paragraph ...) | | X | |

6.13 Competencies in each phase

| Difficulty ratio* | Configuration** | Design | Preparation | Assembly | Handover | Inspection | Visualisation | Assurance |
|-------------------|---------------------------|-----------|-------------|-----------|---------------------|------------|---|---|
| | | Job title | Job title | Job title | Job title | Job title | | |
| 1 | A | *** | M | HM/M | M1 | I | Construction drawing or basic sketch, made manually if necessary | TRA/work plan |
| 2 | B | *** | M1 | M1 | M1 | I | Construction drawing or basic sketch. | TRA/work plan |
| 3 | A, B with deviation. C | C | C | M1 | M1 F | I | Working drawing with necessary views and cross-sections. Visual display or description of deviation | TRA/work plan. Written approval of constructor. Structural analysis |
| 4 | C | C | C | M1 | M1**** + C V + C | I | Working drawing with necessary views and cross-sections; extra detail of supports, anchors and special points for attention | TRA/work plan. Structural analysis |

* 1 = standard configuration, 2 = deviating configuration, 3 = special configuration, 4 = exceptional configuration.

** The constructor is authorised to link a different configuration to the relevant difficulty ratio. A = standard configuration in line with Scaffolding Guideline, B = standardised operating and manufacturer's configurations, C = deviating configurations.

*** Existing design

**** M1 = 1st-grade Scaffolder with at least 5 years work experience **and** Scaffolding Inspector

HM = Assistant Scaffolder / M = Scaffolder / M1 = 1st-grade Scaffolder / V = Foreman / C = Constructor / I = Inspector

The scaffolding builder keeps a record of the scaffolding qualifications of each employee on the site. The contractor in question must be able to present this information on request.

7. CONSTRUCTION, HANDOVER AND INSPECTION

7.1 General

- Scaffolding must only be erected, dismantled or modified by certified scaffolders from scaffolding companies accredited to standard ISO 17024.
- Changes to scaffolding structures must only be carried out by scaffolders. If any changes must be made, one should contact the scaffolding coordinator or the scaffolding company.
- When carrying out assembly or dismantling work at a height of more than 2.0 metres where there is no full protection from rails on all sides and/or no fully closed floor, workers must constantly be connected to lifelines. The 'ALWAYS ONLINE' working method must be used.
- Non-approved scaffolding, scaffolding under construction and rejected scaffolding must be furnished with a sign/scafftag bearing the message: 'Do not use scaffolding'.

7.2 Handover

Before scaffolding is taken into use, it must be checked and approved by an authorised scaffolder (see table §5.12). Approved scaffolding must be furnished with a sign/scafftag, showing at the minimum:

- The scaffolding number.
- The name of the principal.
- The location (construction site, plant and unit) of the scaffolding in question.
- The name and initials of the authorised person who has checked and handed over the scaffolding.
- The handover date.
- The load class.
- Dates of follow-up tests/inspections of the scaffolding, with name.

The scafftag is to be placed in the scafftag holder. The scafftag must be easily visible, attached to a ladder of a place immediately adjacent to the ladder entry point.

7.3 Periodical inspections

It is important to construct scaffolding correctly and safely, but it is also important to maintain it in a good, safe state. Because periodic inspections are snapshots in time, every user of the scaffolding must constantly pay attention to its safety.

A scaffolding structure must be inspected at the following times:

- On handover; see §7.2
- In accordance with the industry standard, a scaffolding structure should be inspected every 3rd month, starting from the day of first approval.
- After every modification to the scaffolding.
- After a change in the local factors, such as an excavation close to the footer plates or water extraction by pumping from the construction pit.
- After an incident or weather event, and in every other situation where it may reasonably be assumed that the safety of the construction or the situation around the scaffolding has been affected, such as a collision, explosion, fire or earth tremor.
- After wind stronger than Force 8 (more than 20.8 m/s) for those scaffolding structures affected by the wind.

The results of the inspection are recorded on the scafftag so that it can be demonstrated that inspections have actually taken place.

7.4 Supervision by principal

Scaffolding is to be periodically checked on a spot basis by the principal/supervisor. Any shortcomings will be reported immediately to the scaffolding coordinator and remedied as quickly as possible. The supervisor is authorised to withdraw the scafftag so that the scaffolding is no longer available to the user.

A Systematic Inspection (SI) from Synergi is used for the inspection. This relates to the checklist below, in accordance with the Scaffolding Guideline.



Checklist voor
periodieke inspectie

Supervisors are the scaffolding coordinators appointed by Yara, the Yara Sluiskil safety expert and Maintenance Department staff.

8. USE

A scaffolding structure is often used by various parties. The multifunctional character of a scaffolding structure is a major advantage, but it also brings risks.

8.1 Overloading

- Check the scaffolding's load class before use
- Do not place any heavy objects of the scaffolding platform before assuring yourself that the platform is capable of bearing it.
- Contact the scaffolding coordinator for desired adaptations/reinforcements if necessary.

8.2 Unauthorised alteration of a scaffolding structure

It is strictly prohibited for users to make alterations to approved scaffolding that is in use. Never remove components such as rails, planks, fittings, anchors or earth connections.

Changes to scaffolding structures must only be carried out by scaffolders. If any changes must be made, one should contact the scaffolding coordinator or the scaffolding company.

8.3 Visual inspection

Every user must visually inspect the scaffolding before accessing it. Points to check:

- Is the ladder at the correct angle (65°-75°)?
- Is the ladder properly secured (with at least 3 anchor points)?
- Does the ladder project far enough above the stepping-off place (at least 1 m)?
- Are the platforms fully closed?
- Are the platform parts secured against accidental shifting?
- Are the side planks fully closed?
- Have hand and knee rails been installed at the right height (0.5 and 1.0 m above the platform)?
- Is the double rail (hand and knee rails) fully closed?
- Is the platform free of residual materials?
- Is the scaffolding suitable to allow the work to be carried out safely?

9. FORM OF THE SCAFFOLDING

9.1 Accessibility and (work) platforms

- The first platform is installed at a maximum of 4 metres above the ground floor. Maximum distance from the first and succeeding platforms is 4 metres.
- The maximum distance between standards depends on the load imposed on the scaffolding.
- The ladder to the first platform may be placed externally up to 4 metres above ground level.
- The ladder must project at least 1 metre above the rail of the platform that is to be reached.
- It must be possible to step sideways from the ladder onto the work platform.
- An opening in the rails, complete with safety gate, should be provided to allow access from a ladder on the outside of the scaffolding.
- All openings in platforms must be cordoned off to prevent falling.
- Ladders installed internally must be fitted on the outside with extra horizontal bars at 0.5 metre intervals to prevent falling.
- Ladders are to be placed at an angle of 65° - 75°.
- Ladders must be attached to the scaffolding construction in at least 3 places (2 at the top, 1 at the bottom).
- Ladders must be placed on a firm surface. If this is not possible, the ladder should be placed on a wooden sleeper.
- Work platforms higher than 4 metres above the ground must always be accessible via extending ladders and intermediate platforms on the inside of the scaffolding structure. These intermediate platforms must be installed at 2-metre intervals.
- If the fall height exceeds 4 metres (with scaffolding on upper floors), the work platform must be accessible via extending ladders and intermediate platforms on the inside of the scaffolding structure.

9.2 Form of the platforms

Steel decking sections are to be used as the material for the platforms. The steel decking sections can be used in various dimensions and are to be fixed in place (where necessary) with pegs in order to prevent sliding.

9.3 Railings and side planks

Platforms are to be fitted on all sides with rails with a height of at least 1000 mm. The intermediate openings must not be bigger than 470 mm.

Side planks of at 150 mm must be fitted adjacent to the work platform. Rest and safety platforms do not have to have side planks.

9.4 Earthing

Steel scaffolding must be properly earthed. This also applies to wheeled tower scaffolds composed of steel scaffolding material.

For more information about the requirements that Yara Sluiskil sets for the earthing of scaffolding, see [HAE-028460 AARDEN VAN STEIGERS](#).

9.5 Installing of warning planks

If scaffolding standards are less than 50 cm from the street, they must be fitted on both sides with warning planks (red and white blocks).

9.6 Wooden sleepers / supports

Wooden sleepers must always be used under the struts/footplate to protect the underlying surface and prevent sinking. Wooden sleepers must be clamped at both ends, at both top and bottom.

9.7 Scaffolding in the vicinity of the track

Scaffolding in the vicinity of the track must meet the following conditions:

- The vertical poles or any other point on the scaffolding must be at least 2 metres from the track, measured from the centre of the track.
- Scaffolding extending over the track must be at least 4.5 metres in height.
- Always notify the L&V department via a TRA; notify L&V of eventual positioning via 'yellow note'.

10. SPECIAL SCAFFOLDING CONSTRUCTIONS

10.1 Wheeled scaffold towers - composed of steel scaffolding material

- The maximum work platform height of assembled wheeled scaffold towers is 6 metres.
- Scaffold wheels must be capable of being blocked to prevent rolling and turning.
- Scaffold wheels must be blocked to prevent rolling and turning before the scaffold is used and during assembly.
- The scaffold tower is not to be moved when someone is on the it.

10.2 Prefab wheeled scaffold towers - aluminium

The following requirements are applicable to a prefabricated aluminium wheeled scaffold tower:

- The tower is only to be used in the OBL area, so not inside the blue lines.
- Must be placed on a flat, hardened substrate.
- Is only to be used by the person who has assembled the prefab scaffold tower.
- Construction must be done in accordance with the manufacturer's instructions for use, by persons demonstrably trained for the task.
- Maximum platform height is 4 metres.
- Maximum floor load is 150 kg/m² (1.5 kN/m²).
- Scaffold wheels must be capable of being blocked to prevent rolling and turning.
- Scaffold wheels must be blocked to prevent rolling and turning before the scaffold is used and during assembly.
- The scaffold tower is not to be moved when someone is on the it.
- Do not use when wind speed > 6 Beaufort (13.8 m/s).

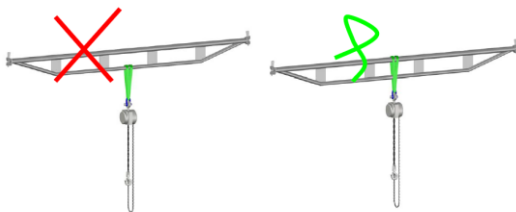
10.3 Hoisting scaffolds

A hoisting scaffold must have extra reinforcement to take the hoisted load. The hoisting scaffold is:

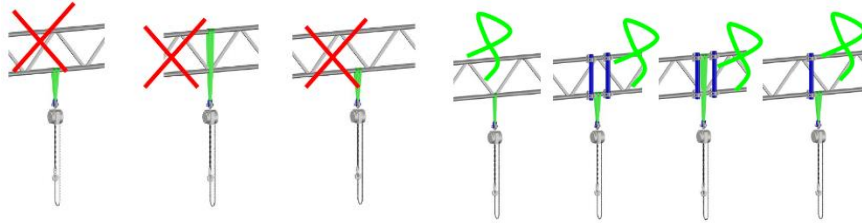
- equipped with a hoisting label that indicates the attachment point of the tackle/hoisting belt.
- a scaffold on which (in addition to the normal info) the maximum hoist load is shown.

The user of the hoisting scaffold:

- Must always place the tackle/hoisting belt at the position marked by the hoist label.
 - ✓ When a double tubular girder is used, must always attach to the 'thick' pipe.



- ✓ When a lattice girder is used, must always make the attachment at the intersection.



- Must always hitch the hoisted load on within the hoisting scaffold and never outside it.
- Must always hitch the hoisted load on vertically, with a maximum deviation of 5°.

11. DELIVERING AND TAKING AWAY SCAFFOLDING MATERIALS

Material trucks must be equipped in such a way that it is not necessary to climb up on the truck to get the material.

After use, scaffolding components must be checked for damage. Damaged and fractured scaffolding parts must be removed.

The materials used must be in a good state of maintenance and must have no defects. Scaffolding components that have been used for other purposes (e.g. dunnage) are not to be used any more.

Scaffolding material and the trucks for it are only to be deposited at a place designated by the PROCO and must not block any thoroughfares or escape routes.

Scaffolding material is to be transported on special material trucks (trailer). Transporting loads on the forks of a forklift truck/telescopic handler is not permitted (apart from loading and unloading activities). The load must be secured in such a way that it cannot fall from the vehicle in normal traffic conditions, including emergency braking, evasive manoeuvres and poor road surfaces.

Example of a scaffold

The scaffolding must conform to the Scaffolding Guideline, the additional TRA requirements included in this procedure, and [HAE-026195](#) 'Overhead work'.

