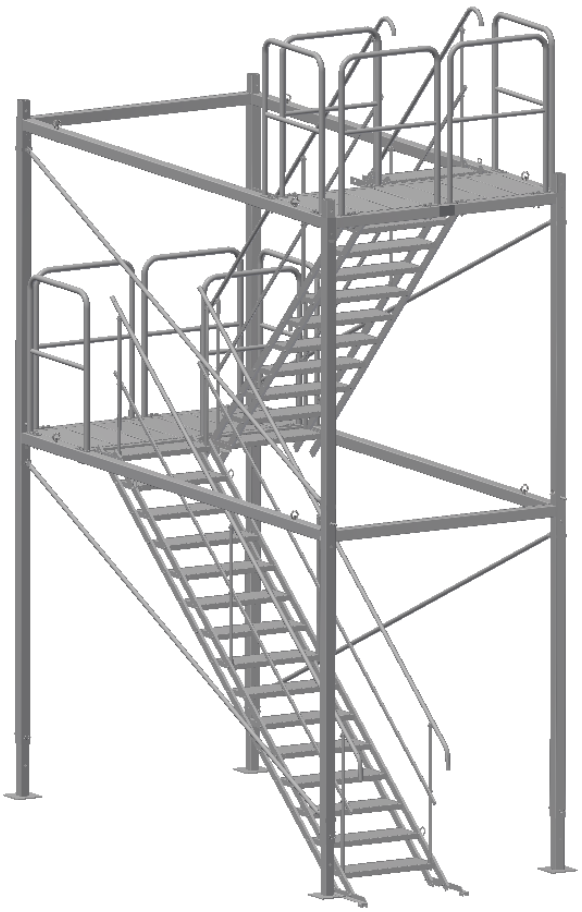
Operation and maintenance documentation

TAS System Staircase



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1. General guidelines

Each time before starting the assembly work of the staircase, read this Operation and Maintenance Documentation (hereinafter referred to as the OMD). The OMD informs about the method of assembly/disassembly of the staircase, its operation, maintenance and safety conditions during use. During assembly/disassembly and use, the guidelines contained in the OMD and health and safety regulations must be followed.

2. Subject of Operation and Maintenance Documentation

The subject of this OMD is information on the methods of assembly, disassembly, operation, maintenance and safety of using the TLC staircase consisting of modules such as stairs, platforms, railings, posts, brackets.

3. Intended use of TAS staircase

The TAS system staircase is a temporary structure designed in accordance with PN EN 12811-1: 2007. It is intended to ensure communication between the storeys on the construction site.

The TAS staircase system by TLC is easy to assemble and durable. The simplicity of assembly is influenced by the limitation of the number of fasteners such as bolts or nuts and the use of intuitive solutions for the assembly of platform frames, posts and railings.

4. Technical description

- permissible distributed load for platforms and stairs:
  - 1,0 kN/m2
- useable widths of stairs and platforms:
  - 700 mm version
- railing types:
  - industrial version
- material:
  - steel S235 / S355
- anti-corrosion coating:
  - hot dip galvanized

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Ground requirements

The staircase should be assembled on a properly prepared and stable base, it can be, for example, a reinforced concrete slab (the outline of the slab should be at least 200 mm larger than the outline of the foot). The ground under the base should be hardened and effectively drained. Additionally, to ensure safety and comfort of use, the staircase should be anchored to the structure which it is placed on.

5. Health and safety guidelines

General provisions:

a) people who meet the following conditions may work when assembling the staircase:

- have been approved to work at height by a doctor, are in good health,
- are at least 18 years old,

b) Conditions for admission to work:

- the employee must be sober and well-rested,
- the employee should wear work clothes and have approved safety equipment such as harnesses, ropes, etc,

c) Due to the dimensions and weight of individual components, particular care should be taken during transport, assembly and operation of the staircase,

d) Keep this instructions as a source of information for staircase users and service personnel,

e) The manufacturer is not responsible for any damage caused as a result of improper assembly of the product or its misuse,

f) The staircase is intended for use in industrial conditions, i.e. for use by adults who are trained, follow health and safety regulations, are not under the influence of alcohol or other intoxicants,

g) Do not allow the simultaneous use of a staircase by a number of persons having a greater weight than the permissible ladder load,

h) Do not use the staircase to transport items other than tools, devices, etc.

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6. Staircase assembly

a) Before assembling the staircase, read the technical documentation and guidelines of the construction manager,

b) When preparing materials, check that metal parts are not corroded or bent,

c) Designate and mark the area around the staircase assembly zone,

d) When carrying out work at height, workers should be secured with safety harnesses attached to permanent structural elements,

e) The staircase structure should be assembled in accordance with the TAS staircase assembly manual and the approved design.

f) **The staircase should be provided with a proper grounding to protect against electric shock related to the use of power tools and lightning acc. to PN-HD 60364-5-54: 2011; PN-EN 50522: 2011; PN-EN 62305-3: 2011; PN-EN 62561-2: 2012,**

g) The use of the staircase is allowed after acceptance by the technical supervision, confirmed by an appropriate protocol,

h) It is forbidden to modify system components and their assembly not in accordance with the OMD,

i) It is forbidden to assemble the staircase when it is not possible to provide an appropriate ground to ensure the stability of the structure, when it cannot be anchored to a fixed element (e.g. a wall).

6.1. Disassembly of working platforms

a) Employees involved in the disassembly of the staircase must use certified safety harnesses,

b) The disassembly of the staircase should be carried out in the reverse sequence of the assembly,

c) Prior to disassembly, a safety zone should be designated (not less than 6 m from the demolition site),

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6.2. Final Provisions

a) Assembly and disassembly of the staircase is prohibited:

- at dusk if there is insufficient lighting,
- during fog, precipitation, black ice,
- during storms and winds exceeding 10 m/s,
- at a distance from the outermost power lines less than:
  - LV line -2 m,
  - HV line up to 15 kV -5 m,
  - HV line up to 30 kV -10 m,
  - HV line> 30 kV -15 m,

b) During operation, the supervision staff should periodically check the condition of screwed connections,

c) During operation, the supervision staff should periodically check the condition of the ground on which the staircase is placed on,

d) All accidents at work should be reported to the immediate supervisor, and the workplace should remain in the state in which the accident happened,

e) If the installer feels unwell, he should report it to his supervisor to become released from work at height.

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7. Classification and guidelines for periodic inspections of engineering facilities

Ongoing inspection of the engineering facility is a visual inspection carried out as part of an ad-hoc inspection of the facility to determine if there is a damage that directly threatens the safety of users - most often performed at their request or after abnormal events - e.g. gale, heavy snowfall, flood, vehicle collision, fire, seismic vibrations, exceptional load.

The purpose of the ongoing inspection is to determine if there are:

- damages that directly threaten the safety of users;
- damages that clearly reduce the comfort of using the facility or its surroundings;
- damages that indicate the need to perform a basic or extended inspection in emergency mode.

The ongoing inspection consists in visual checking whether there are not any signs that indicate or may indicate the improper condition or attachment of the structure, equipment and surroundings of the engineering facility. Ongoing inspections concerns the use of the ladder, and in the case of irregularities and not less than once a year it also concerns the area under the facility and next to the facility.

Periodic annual inspection - a basic inspection is an inspection carried out at least once a year in order to assess and register the current technical condition of the facility, as well as to determine the conditions of safe operation as well as the needs and scope of necessary ongoing maintenance and repair works.

The purpose of the basic inspection is to check the technical conditions of the components of the engineering facility, its surroundings, installations and devices used for environmental protection as well as registration of changes occurring during operation.

The basic inspection is followed by the statement on:

- damage to the facility, which may endanger human life or health, property safety or the environment,
- damage to the facility that can cause a construction disaster,
- conditions for the safe use of the facility,
- damage to the facility, which should be removed as part of the ongoing maintenance plan or in emergency mode,
- damage to installations and devices used for environmental protection,
- equipment damage,

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- damage to attachments or covers of third-party devices that endanger the safety of ladder users or the engineering facility in order to call the owners of these devices to carry out inspections and remove damage,
- implementation of the recommendations from the previous inspection,
- the need for an unscheduled expanded or detailed inspections,
- the need to carry out an expert investigation on the technical condition of the facility or its part

Before starting the inspection, read the records and technical documentation of the facility. The basic inspection includes visual inspection of the facility and its surroundings as well as basic tests and measurements. Visual inspection and basic tests and measurements are carried out:

- during the basic inspection from the level of ladders and from the level of the ground under the facility, using binoculars and possibly another ladder or scaffolding,
- If necessary, during this inspection we should use devices that provide direct access to any structural component under inspection.

8. Acceptance, permission for use

After completing the correct assembly of the staircase, the structure should be inspected. You should check:

- tightening of all screwed connections,
- correctness of the anchor assembly,
- correctness of the railing assembly.

It is also necessary to check the condition of the anti-corrosive coating for damage caused during assembly. In the event of damage to the coating, replace the damaged element or repair it in accordance with the guidelines of PN-EN ISO 1461.

The use of a staircase is allowed after acceptance by the technical supervision, confirmed by an appropriate protocol.

9. Declaration of performance

TLC provides a Declaration of Performance for TAS system staircases. Below there is a sample of such a document.

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DECLARATION OF PERFORMANCE

acc. to PN-EN ISO/IEC 17050-1

No 04/17

Manufacturer:	TLC sp. z o.o.
Address:	ul. Chopina 25 n, 38-300 Gorlice
Product:	**TAS stairs** Temporary staircase for excavations and constructions
Series:	Modular construction of the staircase with many variants of setting, heights, directions of descent from the staircase, stair flights
Basic completion of the product:	Components: Lower module; Middle module; End module with various sets of elements: RA - frame; R-01 railing; S-01 post; X-01 Bracing; A-01 Foot; safety hitch pin; clamp 80xc80; stair flights; stair platforms
Additional information:	**Intended use of the product:** stairs for various applications on construction sites, for excavations, temporary staircase for excavations and in constructions for temporary movement between particular storeys **The payload density:** max. 1.0 kN / m2 **Reaction to fire:** A1 **Durability:** Anti-corrosive protection - galvanization according to PN-EN ISO 1461 **The following certificates are available at the client's request:** Certificate of the Factory Production Control/Welding Qualification Certificate

The manufacturer declares on his sole responsibility that the object of the declaration described above has been designed in accordance with the documentation and complies with the requirements of the following documents:

Document No	Title	Issue
-	Operation and Maintenance Documentation	A
-	Assembly manual	A
-	Construction Documentation	A
PN-EN 12811	Temporary structures for use on site - Part 1: Scaffolding - Construction conditions and general design principles	2007
PN-EN 13374	Temporary security systems at the edges of buildings and constructions - Technical description of the product, test methods	2005
PN-EN ISO 3834-2	Quality requirements for fusion welding of metallic materials — Part 2: Comprehensive quality requirements	2007
PN-EN ISO 9606-1	Welders qualification exam - Welding - Part 1: Steels	2014-02
PN-EN ISO 15614-1	Specification and qualification of metal welding technologies - Examination of welding technologies - Part 1: Arc and gas welding of steel and arc welding of nickel and nickel alloys	2008
PN-EN ISO 5817	Welding — Fusion-welded joints in steel, nickel, titanium and their alloys (beam welding excluded) — Quality levels for imperfections	2014-05
PN-EN ISO 13920	Welding — General tolerances for welded constructions — Dimensions for lengths and angles — Shape and position	2008
PN-EN ISO 17637	Non-destructive testing of welds — Visual testing of fusion-welded joints	2017-02
PN-EN ISO 9013	Thermal cutting - Classification of thermal cuts - Geometrical product specification and quality tolerances	2008
PN-EN 22768-1	General tolerances - Part 1: Tolerances for linear and angular dimensions without individual tolerance indications.	1993
PN-EN 22768-2	General tolerances - Geometric tolerances of elements without individual tolerance indications	1993

Signed for and under the authority of: → FPC Management Board Representative

(place and date) Gorlice, 04/04/2017 ..... (Signature of an authorized person) .....

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10. Transport and storage of the staircase

The staircase elements should be stored in dry and closed rooms to ensure the long life of its elements.

Storage of platforms:

- platforms should be stacked, the first platform should be at the height of min. 100 mm, the next one at a height of min. 30 mm with the use of corner spacers. It is allowed to stack max. 7 platforms,
- when transporting stacked platforms, they should be secured by fastening with straps,

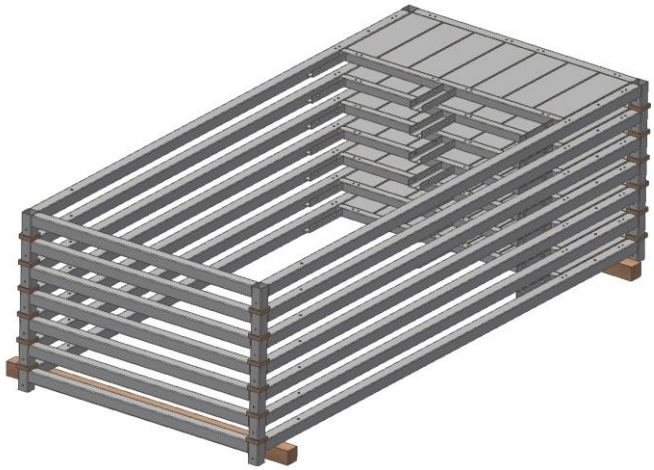
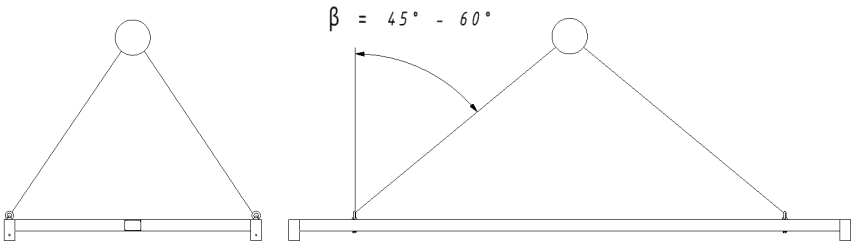


Fig. 1

- transport should be carried out with the use of slings. For this purpose, use four-leg chain slings. Slings spacing angle: β = 45 - 60[a].



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Storage of railings

- railings can be stored horizontally and vertically,
- when storing in vertical position, secure support in the form of a steel frame, i.e. a container, basket or wall. The railings should be placed next to each other, bearing in mind that the inclination angle of the railing against resistance should be about 10[a]

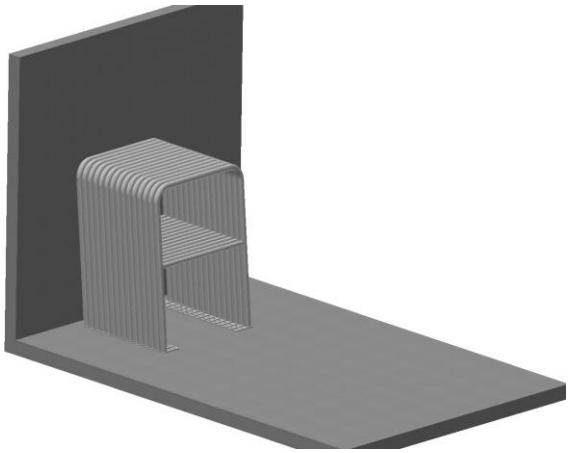

Fig. 2

- when storing in a horizontal position, the distance between the railings and the ground must be at least 30 mm. Store successive layers alternately,

Fig. 3

- it is allowed to stack max. 15 railings,
- when transporting, the railings should be stacked horizontally, then secured by fastening them with a tape or straps.

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Storage of posts

- posts should be stacked, spacers should be placed between the posts,
- the distance between the ground and the first layer of posts should be min. 60 mm, between subsequent layers should be min. 30 mm,
- it is allowed to stack max. 4 layers of posts,
- When transporting the posts, they should be secured by fastening them with straps.

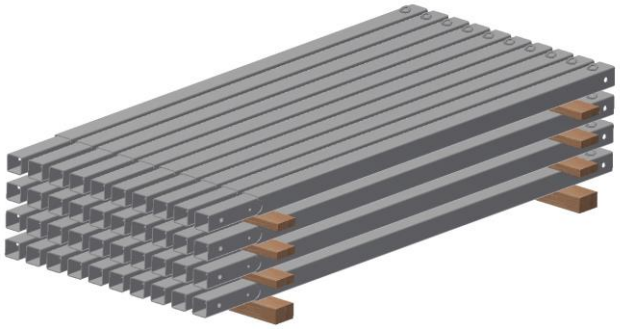

Fig. 4

Storage of feet

- feet should be stored alternately in layers, with spacers between the layers,
- the distance between the ground and the first layer of feet should be min. 60 mm, between subsequent layers should be min. 35 mm.
- it is allowed to stack max. 4 layers of feet.
- when transporting feet, they should be secured with straps.

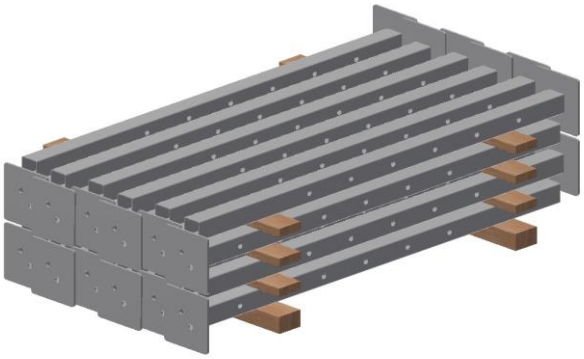

Fig. 5

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Storage of other elements

- other elements should be stored in such a way as to protect them against mechanical damage and weather conditions, in a properly prepared place.

11. Disposal

Packaging and used equipment should be stored, treated or disposed of in accordance with the applicable recommendations and requirements at your country.

12. Attachments

List of attachments to the Operation and Maintenance Documentation:

Attachment 1 - Assembly manual
Attachment 2 - Declaration of conformity
Attachment 3 - Declaration

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