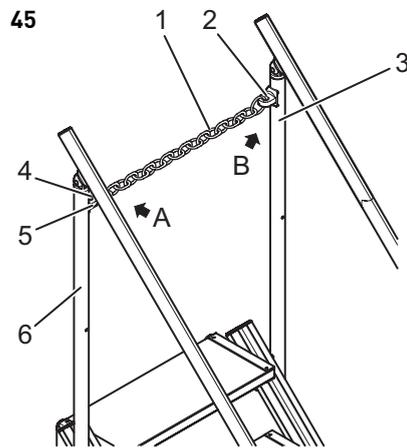
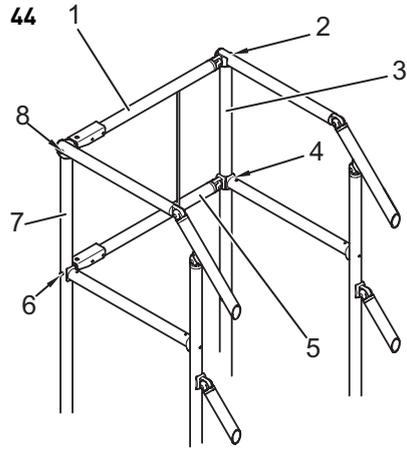
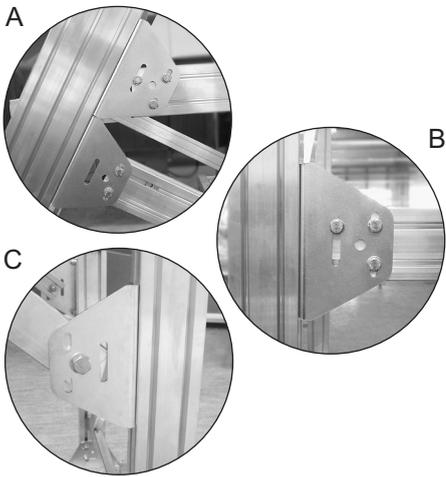
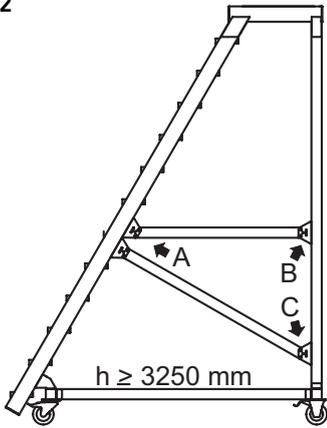
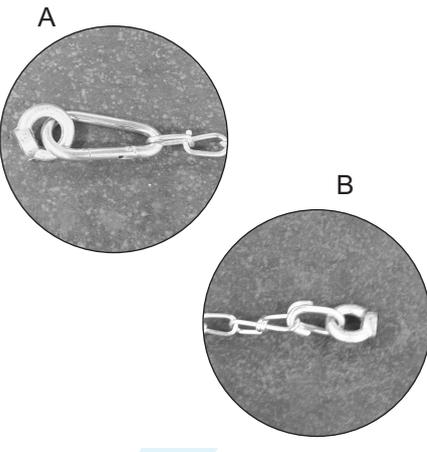
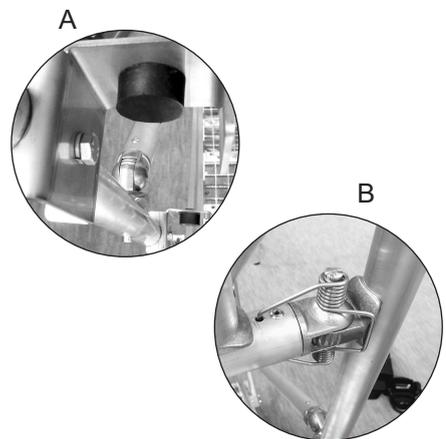
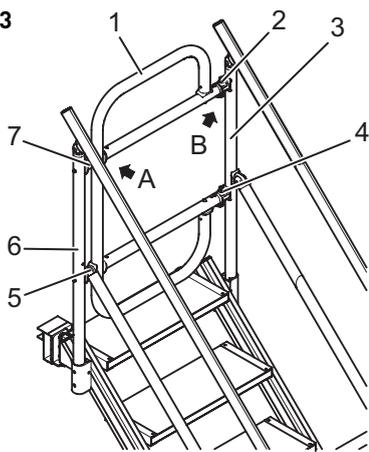


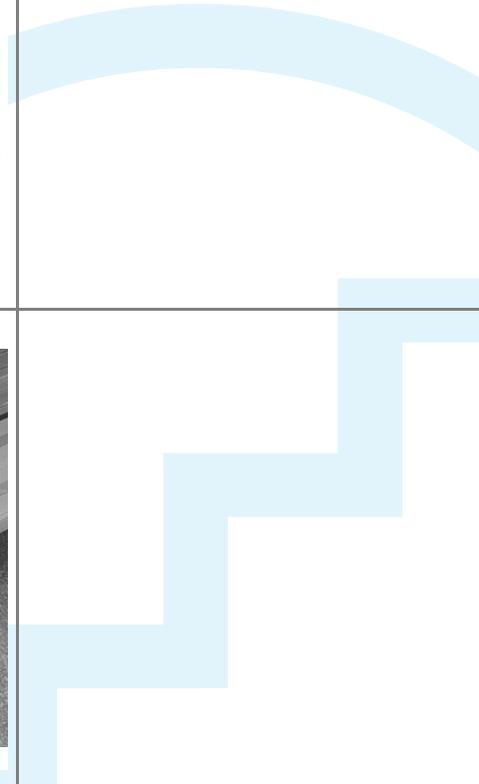
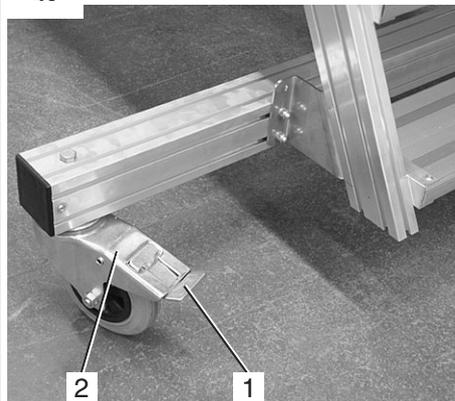
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If you need further information, or in case of special requirements not adequately described in these Assembly and Use Instructions, please contact the manufacturer directly (see Section 1.2).

We also would like to point out that the contents of these Assembly and Use Instructions are not part of an earlier agreement, promise or a legally binding relation and that they are not supposed to change any of these. All obligations arise from the pertinent sales contract, which also contains the complete and only valid Conditions of Warranty (also see Section 1.4). These contractual warranty conditions are neither expanded nor restricted by the underlying Assembly and Use Instructions.

The transmission and reproduction of this document, as well as the utilisation and disclosure of its contents, are allowed only with the express approval of the manufacturer. Any violations of the aforementioned statements will require payment of damages.

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## 1 GENERAL INFORMATION

### 1.1 Introduction

These Assembly and Use Instructions are valid only for

- platform steps, mobile,
- work platform, mobile
- work platform, mobile and
- bridging steps, mobile

that are assigned to the "Test of work safety" mentioned in Section 1.3. The listed models are referred to here after as systems

The safety notes, rules and regulations in these Assembly and Use Instructions related to the operation of the systems apply to the systems referred to in this documentation.

It is the responsibility of the operator to

- ensure that local, regional and national regulations are observed,
- observe the rules (legislation, regulations, guidelines, etc.) in these Assembly and Use Instructions for safe handling,
- ensure that the Assembly and Use Instructions are made available to the assembly and user personnel and that the information, notes, precautions and safety rules are observed in all aspects.

### 1.2 Manufacturer

The manufacturer of the systems described in this documentation is

ZARGES GmbH Tel.: 08 81/68 71 00  
 Sparte Steigtechnik Telefax: 08 81/68 72 95  
 Post Box 16 30 E-mail: zarges@zarges.de  
 D-82360 Weilheim Internet: <http://www.zarges.de>

### 1.3 Test of work safety

The systems addressed below were tested by DEKRA Industrial Services and registered under Test Report Nos. TI 11/2623/08-67780-1, TI 11/2623/08-67780-2 and TI 11/2623/08-67780-3.

### 1.4 Duties, liability and warranty

A basic precondition of safe handling is knowledge of the safety instructions and the safety specifications. These Assembly and Use Instructions, particularly the safety instructions, must be heeded by all persons working with or on the systems. Furthermore, the accident prevention rules and regulations applying at the work site must be observed.

Dangers involved in the handling of the system:

- The systems are built according to the state of the art and recognised safety rules. Nevertheless, danger for life and limb of the user and third parties or damage to the systems or other properties can occur. The systems are to be used only
  - for the approved application and
  - in a perfectly safe condition.

Damages that affect safety must be remedied immediately.

The scope and period of warranty are stated in the sales and delivery conditions of the manufacturer. For any warranty claims based on deficiencies in the documentation, the Assembly and Use Instructions valid at the time of delivery shall apply (see section 1.5). The following applies beyond the scope of the sales and warranty conditions: No warranty shall be given for damage to the delivered systems which may be due to one or more of the following reasons.

The following applies beyond the scope of the sales and warranty conditions:

No liability shall be assumed for damage to persons and property which has occurred due to one or more of the following reasons:

- Any applications for which the systems were not approved,
- improper mounting and use of the systems,
- using the systems with defective components,
- ignorance or non-observance of these Assembly and Use Instructions,
- insufficiently qualified or insufficiently instructed assembly and operating staff,
- improperly performed repairs,
- use of non-genuine spare parts and non-genuine accessories. The use of non-genuine spare parts and accessories is not allowed and should be undertaken in exceptional cases only after obtaining the written approval of ZARGES.
- unauthorised structural changes in the systems,
- catastrophes caused by foreign objects and/or acts of providence.

The operator/owner must ensure

- that the safety rules in accordance with Sections 2, 5.1 und 6.1 are observed,
- that any unapproved application (see Section 2.3) as well as incorrect assembly and unauthorised use are excluded, and
- that, beyond this, the approved use (see Section 2.2) is ensured.
- Furthermore, all rights are reserved, in particular in the case of granted patents and utility-model patents.
- Any violations of the aforementioned statements will require payment of damages.

## 1.5 Date of issue

The date of issue of these Assembly and Use Instructions in German is 31.12.2007.

## 1.6 Copyright

- The copyright for these Assembly and Use Instructions remains with the manufacturer.
- Furthermore, all rights are reserved, in particular in the case of granted patents and utility-model patents.
- Any violations of the aforementioned statements will require payment of damages.

## 2 SAFETY RULES

### 2.1 Basic safety precautions

- The following specifications are applicable to the installation and use of the systems:

Standard / specification	Scope
DIN 4569	Work platform
BGI 594	All systems if electrical equipments are used
BGI 637	Access steps with platform, bridges, work platforms
BGV D36	Access steps with platform, bridges, work platforms

### 2.2 Safety symbols

The following names and signs for dangers are used in these Assembly and Use Instructions:



This symbol warns about a danger spot.



This symbol provides tips and instructions about the optimal use of the systems



This symbol gives instructions for the proper disposal and storage of ensuing waste.

### 2.3 Proper use according to manufacturer instructions

The systems listed in the present Assembly and Use instructions should be used only as climbing aids for working positions that are not within reach at the body height level. Please ensure that the maximum weight carrying capacity is not exceeded.

Approved use also implies:

- observance of all guidelines mentioned in these Assembly and Use Instructions, and
- performing the regular checks.

### 2.4 Unapproved use

An unapproved use – i.e., any departure from the information on the systems described in section 2.3 of these Assembly and Use Instructions – is an unapproved use in the sense of product safety legislation. This also applies to the non-observance of the standards and directives mentioned in these Assembly and Use Instructions.

### 2.5 Special safety provisions

#### 2.5.1 Behaviour while working with electrical equipment on the system

If electrical equipment is operated from a mains connection (drill, etc.), the following instructions must be observed.

When working with electrical equipment on the platform, the BGI 594 specifications must be applied.



Electrical equipment may only be operated with protective low voltage (48 V) with protective isolation (isolation transformer) or when connected via a fault-current circuit breaker with a fault current  $\leq 30$  mA. A construction power distributor should be used to supply the power.

The extension cable for the electrical equipment must be selected so that it has an adequate cable cross-section for the equipment. Hose cables of the type H07RN-F should be used as extension cables.

#### 2.5.2 Conduct when working on electrical installations with the systems

The systems may not be used to work on or close to unprotected live electrical installations unless

- the electrical installation is switched off,
- the electrical installation is locked against reactivation,
- the electrical installation is not running voltage,
- the electrical installation is short-circuited with the help of earthing rails and
- the electrical installation is insulated from adjacent live parts.

### 2.5.3 Conduct when working close to overhead electrical lines

When working close to overhead electrical cables, the safety clearance according to the following table must be observed.



When measuring the safety clearance, the swing of the electrical cable and the range of movement of the person working on the scaffold tower must be taken into consideration. Any objects held by the person working on the scaffold tower must also be included in the range of movement.

	Nominal voltage [V]	Safety clearance [m]
	Up to 1000 V	1.0 m
More than 1 kV	Up to 110 kV	3,0 m
More than 110 kV	Up to 220 kV	4,0 m
More than 220 kV	Up to 380 kV or unknown nominal voltage	5.0 m

If the safety clearances cannot be maintained, the overhead cables should be disconnected in agreement with the property owner or operator and secured against reconnection. The instructions in Section 2.5.2 must be observed without fail.

## 3 PACKAGING AND TRANSPORT

The systems must be bound securely to prevent them from sliding during transportation via vehicles. The brakes on the swivel and fixed castors are to be applied.

## 4 DESCRIPTION OF THE SYSTEMS

### 4.1 Specifications

#### Platform steps, mobile

- Inclination 45° or 60°
- Step type / depth (45°) LM, serrated (225 mm), LM, serrated and perforated (225 mm), LM grid (240 mm), steel grid (240 mm)
- Step type / depth (60°) LM, serrated (175 mm), LM, serrated and perforated (175 mm), LM grid (175 mm), steel grid (185 mm)
- Step width 600 mm, 800 mm, 1000 mm
- Total load capacity (steps) 150 kg, 300 kg
- Guard rail height 1100 mm
- Outer width with guard rail Step width + 200 mm
- Platform length (standard) 675 mm
- Crosspiece width 1150 mm to 1950 mm (45°), 1140 mm to 2250 mm (60°)
- Overall span [Figure 1/x] 1330 mm to 4930 mm (45°), 1118 mm to 3714 mm (60°)
- Horizontal height [Figure 1/y] 800 mm to 4400 mm (45°), 800 mm to 5300 mm (60°)

#### Work platform, mobile

- Inclination 45°
- Step type / depth LM, serrated (225 mm), LM, serrated and perforated (225 mm), LM grid (240 mm), steel grid (240 mm)
- Step width 600 mm, 800 mm, 1000 mm
- Total load capacity (steps) 150 kg, 300 kg
- External width 790 mm, 990 mm, 1190 mm
- Platform length (standard) 450 mm
- Overall span [Figure 2/x] 915 mm to 1495 mm
- Horizontal height [Figure 2/y] 400 mm to 990 mm

#### Work platform, moveable

- Inclination 45°
- Step type / depth LM, serrated (225 mm), LM, serrated and perforated (225 mm), LM grid (240 mm), steel grid (240 mm)
- step width 600 mm, 800 mm, 1000 mm
- Total load capacity (steps) 150 kg, 300 kg
- External width 790 mm, 990 mm, 1190 mm
- Platform length (standard) 450 mm
- Overall span [Figure 3/x] 915 mm to 1495 mm
- Horizontal height [Figure 3/y] 400 mm to 990 mm

#### Bridging steps, mobile

- Inclination 45° or 60°
- Step type / depth (45°) LM, serrated (225 mm), LM, serrated and perforated (225 mm), LM grid (240 mm), steel grid (240 mm)
- Step type / depth (60°) LM, serrated (175 mm), LM, serrated and perforated (175 mm), LM grid (175 mm), steel grid (185 mm)
- Step width 600 mm, 800 mm, 1000 mm
- Total load capacity (steps) 150 kg, 300 kg
- Guard rail height 1100 mm
- Outer width with guard rail Step width + 160 mm, with two guard rails (accessory) step width + 200 mm
- Platform length (standard) 675 mm
- Clear platform width [Figure 4/z] (standard) 955 mm (45°), 790 mm (60°)
- Overall span [Figure 4/x] 1600 mm to 5360 mm (45°), 1545 mm to 3853 mm (60°)
- Crosspiece width 1270 mm to 1700 mm (45°), 1450 mm to 1900 mm (60°)
- Clear height [Figure 4/y] 483 mm to 2083 mm (45°), 483 mm to 2483 mm (60°)

## 4.2 Identification of the systems

The type plate [5/1] is affixed in such a way that it is clearly visible on the system.

## 4.3 Equipment

### 4.3.1 Basic equipment

#### Platform steps, mobile

- 1 stairway with two swivel castors
- 1 platform
- 2 step guard rails
- 2 platform side guard rails
- 1 platform side guard rail on front
- 1 supporting shank
- 1 crosspiece with fixed castors
- 2 connecting struts
- 2 diagonal struts from vertical height > 2390 mm (45°)
- 2 diagonal struts and 2 connecting struts from vertical height > 3,250 mm (60°)
- 1 set of attachments
- Narrow chassis with ballasting (optional)

#### Work platform, mobile

- 1 stairway with support
- 1 platform
- 1 supporting shank with fixed castor
- 2 connecting struts
- 1 set of attachments

#### Work platform, moveable

- 1 stairway with support
- 1 platform
- 1 supporting shank with support
- 2 connecting struts
- 1 set attachments

#### Bridging steps, mobile

- 2 stairways
- 1 platform
- 2 or 4 step guard rails
- 1 or 2 platform side guard rails
- 2 chassis gear crosspieces
- 2 connecting struts
- 1 set of attachments
- Narrow chassis with ballasting (optional)

### 4.3.2 Accessories

#### Platform steps, mobile

- double barrier
- Locking chain
- Hinged door
- Conducting rollers
- Plug-in guard rail

#### Work platform, mobile

- Step guard rail
- Platform side guard rail
- Platform guard rails, front
- Double barrier
- Locking chain
- Conducting supports
- Conducting rollers
- Plug-in guard rail

#### Work platform, moveable

- Step guard rail
- Platform side guard rail
- Platform guard rail, front
- Double barrier
- Locking chain
- Conducting supports
- Plug-in guard rail

#### Bridging steps, mobile

- Double barrier
- Locking chain
- Hinged door
- Conducting rollers
- Plug-in guard rail

## 5 ASSEMBLY OF THE SYSTEMS

### 5.1 Safety rules

- The systems should be set up at right angles and on a base that has adequate load supporting capacity.
- Only undamaged and fault-free genuine parts of the systems of the manufacturer should be used.
- Only self-locking nuts should be used during assembly or repair.
- Self-locking nuts should be used only once.
- Installation and assembly should be performed only by trained staff.

Trained staff means staff having technical skilled worker training, who are in a position to execute assembly and repair jobs in their corresponding technical area.

- Guard rails are to be attached from a platform height of >500mm.
- After the assembly, the total system must be checked for proper installation.
- After the assembly, please check to ensure that all nuts and screws are tight. When tightening nuts and screws, use a torque wrench. The tightening torques are given in the assembly description.

### 5.2 Assembly



Remove the packing foil and dispose it in accordance with the valid environmental protection rules.



It is recommended that two persons perform the assembly.

The following tools are required for the assembly:

Phillips screwdriver	
Combination spanners	13 mm
Combination spanners	10 mm
Allen wrench	5 mm, 6 mm
Torque wrench	

All individual parts are to be kept on a clean surface.

**The assembly of the individual systems is described below: As the mounting of the individual components is nearly identical for all systems, the user is referred to the relevant assembly sections such as e.g., see Section 5.2.5 (Installation of stairway).**

#### 5.2.1 Assembly of platform steps, mobile

- Mount the stairway (6/7), refer to Section 5.2.5.
- Mount the supporting shank (6/4), refer to Section 5.2.6.
- Mount the crosspiece (6/5), refer to Section 5.2.13.
- Mount the connecting strut (6/6), refer to Section 5.2.16.
- Mount the diagonal struts, if necessary, refer to Section 5.2.16.
- Mount the step guard rail (6/8), refer to Section 5.2.7.
- Mount the plug-in step guard rail, if necessary, refer to Section 5.2.8.
- Mount the platform guard rail (6/2), refer to Section 5.2.9.
- Mount the plug-in side platform guard rail, if necessary, refer to Section 5.2.10.
- Mount the front platform guard rails (6/1), refer to Section 5.2.11.
- Mount the plug-in front platform guard rail, if necessary, refer to Section 5.2.12.
- Mount the footboard (6/3), refer to Section 5.2.15.
- Mount the double barrier, if necessary, refer to Section 5.2.17.
- Mount the locking chain, if necessary, refer to Section 5.2.19.
- Mount the hinged door, if necessary, refer to Section 5.2.18.
- Mount the narrow chassis with ballusting if necessary, refer to 5.2.14

#### 5.2.2 Installation of work platform, mobile

- Mount the stairway (7/7), refer to Section 5.2.5.
- Mount the supporting shank (7/5), refer to Section 5.2.6. Please ensure during installation that the fixed castors (7/4) point outwards.
- Mount the connecting strut (7/6), refer to Section 5.2.16.
- Mount the step guard rail (7/8, accessories), refer to Section 5.2.7.
- Mount the plug-in step guard rail, if necessary, refer to Section 5.2.8.
- Mount the platform side guard rail (7/1, accessories), refer to Section 5.2.9.
- Mount the side plug-in platform guard rail, if necessary, refer to Section 5.2.10.
- Mount the front platform guard rail (7/2, accessories), refer to Section 5.2.11.
- Mount the front plug-in platform guard rail, if necessary, refer to Section 5.2.12.
- Mount the footboard (7/3, accessories), refer to Section 5.2.15.
- Mount the double barrier if necessary, refer to Section 5.2.17.
- Mount the locking chain if necessary, refer to Section 5.2.19.

#### 5.2.3 Assembly of work platform, moveable

- Mount the stairway (8/6), refer to Section 5.2.5.
- Mount the supporting shank (8/4), refer to Section 5.2.6.
- Mount the connecting strut (8/5), refer to Section 5.2.16.
- Mount the step guard rail (8/7, accessories), refer to Section 5.2.7.
- Mount the plug-in step guard rail, if necessary, refer to Section 5.2.8.
- Mount the platform side guard rail (8/1, accessories), refer to Section 5.2.9.
- Mount the side plug-in platform guard rail, if necessary, refer to Section 5.2.10.
- Mount the front platform guard rail (8/2, accessories), refer to Section 5.2.11.
- Mount the front plug-in platform guard rail, if necessary, refer to Section 5.2.12.
- Mount the footboard (8/3, accessories) refer to Section 5.2.15.
- Mount the double barrier if necessary, refer to Section 5.2.17.
- Mount the locking chain if necessary, refer to Section 5.2.19.

#### 5.2.4 Installation of bridging steps, mobile

- Mount the stairways (9/5) and (9/7), refer to Section 5.2.5.
- Mount the crosspieces (9/4) and (9/8), refer to Section 5.2.13.
- Mount the connecting strut (9/6), refer to Section 5.2.16.
- Mount the right step guard rail (9/3), refer to Section 5.2.7.
- Mount the right plug-in step guard rail, if necessary, refer to Section 5.2.8.
- Mount the platform guard rail (9/1), refer to Section 5.2.9.
- Mount the side plug-in platform guard rail, if necessary, refer to Section 5.2.10.
- Mount the left step guard rail (9/9), refer to Section 5.2.7.
- Mount the left plug-in step guard rail, if necessary, refer to Section 5.2.8.
- Mount the footboard (9/2), refer to Section 5.2.15.
- Mount the double barrier, if necessary, refer to Section 5.2.17.
- Mount the locking chain if necessary, refer to Section 5.2.19.
- Mount the hinged door if necessary, refer to Section 5.2.18.
- Mount the narrow chassis with ballusting if necessary, refer to 5.2.14

### 5.2.5 Installation of stairway



The slot nuts (nuts) for fastening the step guard rails (13/4) and the screws for the connecting struts (13/3) and, if necessary, cross struts must be installed before assembling the stairway.



Starting at a certain height on the systems, there are sections with screw channels on the stairway. The slot nuts and square screws are to be installed as follows (11):

Item 1 --> Guard rail fastener, fastening to gusset plate of the platform

Item 2 --> Guard rail fastener

Item 3 --> Connecting struts, cross struts, fastening to the gusset plate of the platform

- Latch one slot nut (10/2) in each screw channel (10/1) on the stile on which the step guard rail is to be mounted. Latch slot nuts on the second stile too, if guard rails are to be mounted on both sides.

- Introduce a square head bolt (12/2) in the inward screw channels (12/1) and (13/2). Two square head bolts are to be introduced in systems in which the connecting strut is made from the section of the stile (13/3).

Introduce square head bolts in the second stile.



In case of mobile bridging steps, the square head bolts for the connecting struts must be inserted last, because the connecting struts are mounted below the platform.

- In systems in which the step guard rails are still fastened by guard rail supports (13/1) to the stile of the stairway, latch more slot nuts if necessary (depending upon the number of guard rail supports).



Exercise caution while introducing the stairway, as there is the danger of getting squeezed.

- Introduce the stairway (14/1) in the gusset plates (14/4) in such a way that the square head bolts are introduced into the screw channels.
- Push the stairway (14/1) firmly against the platform cheeks (14/2).
- Install four mounting nuts (14/3) on each side and tighten with a torque of 25 Nm.
- In case of mobile bridging steps, the second stairway is to be mounted as described in this section.

### 5.2.6 Assembly of supporting shank



The screws of the connecting struts (15/3) are to be inserted before installing the supporting shank.

- Introduce a square head bolt (12/2) in the inward screw channel (12/1) and (15/1). Two square head bolts are to be introduced in systems in which the connecting struts (15/3) are made from the section of the stiles. Introduce square head bolts in the second stile.



Exercise caution while introducing the supporting shank, as there is danger of getting squeezed.

- Introduce the supporting shank (16/3) in the gusset plates (16/4) in such a way that the square head bolts are introduced into the screw channels.
- Push the supporting shank (16/1) firmly against the platform cheeks (16/2).
- Install four mounting nuts (16/2) on each side and tighten with a torque of 25 Nm.

### 5.2.7 Assembly of standard step guard rail



The step guard rail is pre-assembled except for the guard rail fastener. The step guard rail can be mounted at the left as well as at the right.

- Push the guard rail fasteners (17/1) over the rail and the guard rail supports (17/4) and (18/1) till the relevant guard rail support (17/4) is flush with the guard rail fastener.
- Turn the rail fasteners in such a way that the flat side faces the stile or the platform cheek. Install the mounting nuts (17/2), do not tighten them.
- Place the step guard rails on the stile of the stairway and platform cheek (18). Use two M8x70 mounting screws (17/3) with toothed lock washers each to install the guard rail fasteners in the slot nuts.
- Tighten the M8x70 mounting screws (17/3) with a torque of 17 Nm.
- Tighten the mounting nut (17/2) with a torque of 17 Nm.



In case of mobile bridging steps, the side platform guard rail must be mounted before installing the second guard rail, refer to Section 5.2.9.

### 5.2.8 Assembly of plug-in step guard rail



The step guard rail and the guard rail holder are pre-assembled. The step guard rail can be mounted at the left as well as at the right.

- Align the pre-assembled rail holders (19/2) with brackets (19/1) starting from the lower step stile end with 3 M8x20 socket screws (19/3) with plain washers and the slot nuts in the screw channels.
- Align the other rail holders at the spacing of the step guard rail supports. Plug the step guard rails (20/1) into the rail holders (20/3) and align the holders to the guard rail supports.
- Tighten the rail holders with socket screws (19/3) (25 Nm).
- Insert the locking pins (20/2) and lock them by turning the clips (20/4).
- It should be possible to remove the step guard rail easily and without seizing.

### 5.2.9 Assembly of platform guard rail, lateral, standard



In case of mobile bridging steps, the side guard rails consist only of the intermediate rail (23/2) and the guard rail tube (22/2) and (22/5), the installation is done the same way.

- Push the guard rail fasteners (21/4) over the guard rail support (21/1) till the relevant guard rail support is aligned to the guard rail fastener (21/3) (holes must be flush). Install the mounting nuts (21/5), do not tighten them.
- Use two M8x70 mounting screws (21/2) with toothed lock washers each to install the guard rail fastener equipment in the slot nuts.
- Push the guard rail tube (22/2) on the joint (22/1) of the step guard rails and tighten with countersunk bolt, plain washer and cap nut (22/3).
- Place the guard rail tube (22/5) on the guard rail support (22/6) and fasten tightly with M6x30 socket screw. Seal the hole with plastic plugs (22/4).
- Insert intermediate rail (23/2) between the guard rail supports.
- Fix and tighten the intermediate rail on the step side (23/3) with countersunk screw.
- Fix and tighten the intermediate rail on the other side with M6X30 socket screw, seal hole with plastic plug.
- Tighten the M8x70 mounting screws (21/2) of the rail fastener with a torque of 17 Nm.

### 5.2.10 Assembly of platform guard rail, lateral, plug-in



The platform guard rail and the rail holder are pre-assembled. The platform guard rail can be mounted at the left as well as at the right.

- Align the pre-assembled rail holders (19/2) with brackets (19/1) starting from the front platform section end with 3 M8x20 socket screws (19/3) with plain washers and the slot nuts in the screw channels.
- Align the other guard rail holders at the spacing of the platform guard rail supports. Plug the platform guard rails into the guard rail holders (24/1) and align the holders to the guard rail supports.
- Tighten the guard rail holders with socket screws (19/3) (25 Nm).
- Insert the locking pins (24/2) and lock them by turning the clips (24/3).
- It should be possible to remove the platform guard rail easily and without seizing.

### 5.2.11 Assembly of platform guard rail, front, standard

#### Assembly of platform guard rails, front, double-sided

- Insert the intermediate rail (25/4) between the side platform rails and fix with two M6x65 socket screws (25/3) and (25/5).
- Insert the guard rail tube (25/1) between the platform railings sideways and fix with two M6x65 socket screws (25/2) and (25/6).
- Mount the footboard refer to Section 5.2.15.

#### Assembly of platform guard rail, front, single-sided

- Push the guard rail fasteners (26/5) over the railing clamp (26/1) till the relevant guard rail support is aligned to the guard rail fastener (21/3) (holes must be flush). Install the mounting nuts (21/5), do not tighten them.
- Place the intermediate rail (26/4) on the guard rail tube (26/1) and fix with two M6x65 socket screws (26/6).
- Use two M8x70 mounting screws (21/2) with plain washers each to install the guard rail fastener in the slot nuts.
- Place the intermediate rail (26/4) on the platform side guard rails and fix tightly with M6X65 socket screw (26/3).
- Place the guard rail tube (26/1) on the platform guard rail and fix tightly with M6X65 socket screw (26/2).
- Tighten the M8x70 mounting screws (21/2) of the rail mount with a torque of 17 Nm.
- Tighten the mounting nuts (21/5) with a torque of 17 Nm.
- Mount the footboard refer to Section 5.2.15.

### 5.2.12 Assembly of platform guard rail, front, plug-in



The platform guard rail front and the guard rail holder are pre-assembled.



During the re-assembly of the front, plug-in platform guard rails, two additional holes are to be made by the customer for fixing the guard rail holder (Detail A).

- Align the two pre-assembled guard rail holders (19/2) with mounting components. Align the guard rail holders with brackets (19/1) starting from the front platform section end with 3 M8x20 socket screws (19/3) with plain washers and the slot nuts.
- Plug the platform guard rail (27/1) into the guard rail holders (27/2) and (27/3) and align the holders to the guard rail supports.
- Tighten the guard rail holders with screws (19/3) (25 Nm).
- Insert the locking pins (24/2) and lock them by turning the clips (24/3).
- It should be possible to remove the platform guard rail easily and without seizing.

### 5.2.13 Assembly of crosspiece for broad chassis



The brakes of the fixed castors of the crosspiece and the swivel castors of the stairway must be applied before the assembly



In case of mobile bridging step, the crosspieces (28/1) are not mounted under the supporting shank, but over the supporting plate (28/3) to the stairways (28/2).

- Place the crosspiece (29/2) under the supporting shank (29/1) so that the square head bolts of the crosspiece go into the holes of the corner plates (29/4).
- Screw the corner plates with mounting nuts (29/3) with plain washers, but do not tighten.
- Align the crosspieces in such a way that the distance (30/x) from the supporting shank is equal on both sides.
- Tighten the mounting nuts (29/3) with a torque of 30 Nm.

### 5.2.14 Assembly of narrow chassis with ballasting



The mobile platform step and the mobile bridging step can be mounted optionally with a narrow chassis.



A ballasting is essential if a narrow chassis is installed.

#### Assembly of narrow chassis on mobile platform steps



The brakes of the fixed castors of the crosspiece and the swivel castors on the stairway must be applied before the assembly



In case of the mobile platform steps, the two short crosspieces (31/4) and (31/7) are mounted on the supporting strut (31/8) and over the supporting plates (31/2) and (31/3) on the stairway (31/1). Two cross struts (31/5) and (31/6) are mounted additionally.

- Place the short crosspiece (29/2) under the supporting shank (29/1) so that the square head bolts of the crosspiece go into the holes of the corner plates (29/4).
- Screw the corner plates with mounting nuts (29/3) with plain washers, but do not tighten.
- Align the crosspieces in such a way that the distance (32/x) from the supporting shank is equal on both sides.
- Tighten the mounting nuts (29/3) with a torque of 30 Nm.
- Mount supporting plates (33/1) and (33/2) with 3 mounting screws each to the two step stiles.
- Ensure that the supporting plates are aligned in such a way that the crosspieces can be mounted horizontally (for distance, refer to Figure 33/y\*).
- Align the crosspieces (33/3) in such a way that the distance (33/y\*) to the supporting plates is equal on both sides.
- Mount the crosspieces (33/3) on the two supporting plates (33/1) and (33/2) with the help of two square head bolts (34/1), mounting nuts and plain washers.
- Tighten the mounting nuts with a torque of 30 Nm.
- Mount two cross struts (35/4) and (35/5) with two mounting angles (35/2) and (35/3) each to the two crosspieces (35/1) and (35/6) with square head bolts, mounting nuts with plain washers.
- Tighten the mounting nuts with a torque of 30 Nm.

\* Step width + 200 mm

- Provide ballasting (35/7) according to the following tables and types



Always undertake ballasting **symmetrically** (inside, if possible).

#### Ballasting of mobile 45° (narrow) platform steps

Ballasting table (EB8004 = 5 kg; EB8005 = 10 kg)							
Width	600		800		1000		
Weight (kg)	5	10	5	10	5	10	
S up to 430	-	-	-	-	-	-	
645	-	-	-	-	-	-	
860	-	-	-	-	-	-	
1075	-	-	-	-	-	-	
1290	-	2	-	-	-	-	
1505	2	4	-	-	-	-	
1720	1	6	-	-	-	-	
1935	-	8	-	2	-	-	
2150	-	10	1	3	-	-	
2365	-	12	2	4	-	-	
2580	1	14	1	6	-	-	
2815	2	16	-	8	2	2	
3030	2	18	1	9	2	3	
3245	2	20	2	10	2	4	
* {	3460	2	22	1	12	2	5
	3675	2	24	-	14	2	6
	3890	2	26	1	15	1	8
	4105	2	28	2	16	-	10
	4320	2	30	1	18	1	11
4545	2	32	-	20	-	12	

\* shaded area only with special ballasting

#### Ballasting of mobile 60° (narrow) platform steps

Ballasting table (EB8004 = 5 kg; EB8005 = 10 kg)							
Width	600		800		1000		
Weight (kg)	5	10	5	10	5	10	
S up to 500	-	-	-	-	-	-	
750	-	-	-	-	-	-	
1000	-	-	-	-	-	-	
1250	-	3	-	-	-	-	
1500	1	3	-	-	-	-	
1750	-	4	-	2	-	-	
2000	1	7	-	4	-	-	
2250	2	12	-	6	-	2	
2500	1	15	2	6	2	2	
2750	-	18	2	8	-	4	
3000	1	20	2	10	2	4	
* {	3250	2	22	2	12	-	6
	3500	1	-	2	14	2	6
	3750	-	28	2	16	-	8
	4000	1	30	2	16	2	8
	4250	2	32	-	18	-	10
	4500	1	36	-	20	2	10
	4750	-	38	2	20	-	12
	5000	1	40	-	22	2	12
	5250	2	42	2	22	-	14

\* shaded area only with special ballasting

#### Assembly of narrow chassis on mobile bridging step



The brakes of the fixed castors of the crosspiece and the swivel castors of the stairway must be applied before the assembly.



In case of mobile bridging step, the short crosspieces (36/2) and (36/3) are mounted over the supporting plates to the two step bodies (36/1) and (36/4).

- Mount supporting plates (37/1) and (37/2) with 3 mounting screws each to the two step stiles.
- Ensure that the supporting plates are aligned in such a way that the crosspieces can be mounted horizontally (for distance, refer to Figure 37/y\*).
- Align the crosspieces (37/3) in such a way that the distance (37/y\*) to the supporting plates is equal on both sides.
- Mount the crosspieces (37/3) on the two supporting plates (37/1) and (37/2) with the help of two square head bolts, mounting nuts and plain washers.
- Tighten the mounting nuts with a torque of 30 Nm.
- Provide ballasting (35/7) according to the following tables.



Always install ballasting symmetrically.

#### Ballasting of mobile 45° (narrow) bridging step.

Max. dimensions according to EN ISO 14122-3 See Ref-Überst-60-f						
Ballasting table (EB8004 = 5 kg; EB8005 = 10 kg)						
Width	600		800		1000	
Weight (kg)	5	10	5	10	5	10
LH up to 540	-	-	-	-	-	-
755	-	-	-	-	-	-
970	-	-	-	-	-	-
1185	2	2	-	-	-	-
1400	2	4	-	-	-	-
1615	2	6	-	-	-	-
1830	2	8	2	-	-	-
2045	-	10	-	2	-	-

\* Step width + 200 mm

### Ballasting of mobile 60° (narrow) bridging step.

Max. dimensions according to EN ISO 14122-3 See Ref-Überst-60-f						
Ballasting table (EB8004 = 5 kg; EB8005 = 10 kg)						
Width	600		800		1000	
Weight (kg)	5	10	5	10	5	10
LH up to 680	-	-	-	-	-	-
930	-	-	-	-	-	-
1180	2	-	-	-	-	-
1430	-	4	-	-	-	-
1680	2	6	-	-	-	-
1930	2	8	-	2	-	-
2180	-	12	-	4	-	-
2430	140 kg	-	2	6	-	-

#### 5.2.15 Assembly of foot board and angle installation of standard platform guard rail



If the system is equipped with a front platform guard rail, the front footboards (38/2) must also be screwed tightly while assembling the lateral footboards.

- Fix the lateral footboards (38/3) with two M6x50 lock screws each with plain washers and cap nuts (38/4) and (38/1) to the guard rail supports.
- When using a standard platform guard rail, two angles (Detail A) must also be installed along with the lateral footboards for mounting the front footboard.

#### 5.2.16 Installation of connecting strut/diagonal strut

- Place, align straight and fix the connecting strut (39/3) with the flat side on the square head bolts (39/2) and (39/4) on the stairway (39/5) and the supporting shank (39/1).



In systems in which the connecting strut is made from the section of the stile (40/1), the connecting struts are to be mounted on both sides with two square head bolts each.



In case of mobile bridging steps, the connecting struts (40/1) are to be mounted under the gusset plates.

- Assemble the second connecting strut with mounting screw.
- Install the mounting nuts and tighten with a torque of 30 Nm (single parts A and B).



In case of mobile platform steps, 2 diagonal struts or 2 additional connecting struts are to be mounted, depending upon the height.

- Height > 2390 mm (45°)
- Height > 3250 mm (60°)
- The assembly is done the same way as in the case of connecting strut (single parts A, B and C).

#### 5.2.17 Assembly of double barrier



Double barriers can be mounted on bridging steps and module systems.



The double barrier is pre-assembled except for the holder and the stops.

- Place the upper tube (44/1) and lower tube (44/5) of the double barrier laterally on the guard rail support (44/3) and fix from the side with M6x30 socket screws (44/2) and (44/4). Seal the holes with plastic plugs.
- Raise the double barrier.
- Place the opposite side stops (44/6) and (44/8) sideways on the guard rail support (44/7) and fix each tightly with M6x30 socket screws from the side. Seal the holes with plastic plugs.
- Tighten all the mounting screws with a torque of 8 Nm.
- Check the raising and locking mechanism.

#### 5.2.18 Assembly of hinged door



The hinged door can be mounted on the platform steps with guard rail and on the module system.



The hinged door is pre-assembled except for the holder and the stops.

- Place the hinged door (43/1) laterally on the guard rail support (43/3) and fix it with M6x30 socket screws (43/2) and (43/4) from the side. Seal the holes with plastic plugs.
- Raise the hinged door.
- Place the opposite stops (43/5) and (43/7) sideways on the guard rail support (43/6) and fix each tightly with M8x65 socket screws from the side. Seal the holes with plastic plugs.
- Tighten all the mounting screws with a torque of 8 Nm.
- Check the hinge and locking mechanism.

#### 5.2.19 Assembly of locking chain

- Place the locking chain (45/1) with mounting lug (45/2) sideways on the guard rail support (45/3) and fix it tightly with M6x30 socket screws from the side. Seal the holes with plastic plugs.
- Place the opposite attaching mechanism (45/4) sideways on the guard rail support (45/5) and fix it tightly with M8x65 mushroom head screws from the side. Seal the holes with plastic plugs.
- Check the locking mechanism (safety chain with snap hook) by attaching the chain.

## 6 USING THE SYSTEMS

### 6.1 Safety rules

- The systems should be used only properly (according to the manufacturer's instructions); improper use is not permissible.
- All safety rules according to Section 2 must be observed strictly.
- Before using the systems, please check to ensure that all the components are in proper condition and that they are functional. The systems should not be used if defects are detected.
- The systems should not be used if there are slippery substances (e.g., oil, grease) on the platform or the steps. The system should be cleaned in advance.
- The system should only be used by persons familiar with these Assembly and Use Instructions.
- The system may only be erected perpendicularly on a horizontal level surface with a sufficient load carrying capacity.
- The brake lever on the swivel and fixed castors should only be released for travel. The brake lever should be pressed down if there are persons on the system.
- Lock all castors by pushing down the brake levers when the system is not in use.
- The systems are to be used only with full side protection, i.e., with guard rails.
- The platform should be reached only over the stairway. Scrambling over the guard rails is prohibited.
- The load capacity of the platform should not be exceeded. The load capacity includes the user or users and the carried materials/tools.
- The systems may only be moved slowly by persons. Also, there should be no persons, materials or tools on the platform when doing so. Avoid impacts. Do not exceed normal walking speed when moving the platform. Towing the systems with vehicles is prohibited.
- The travel area must be free of obstacles.
- Do not use any lifting equipment on the systems.
- Do not brace yourself against the side guard rails when working.
- Do not connect the systems to buildings with beams, etc. The systems may not be used as a stairway for ascending to other constructions from there.
- Do not jump on the platform.
- Do not create horizontal loads, for example, by working on adjacent constructions, which could cause the systems to tip over.
- When using the systems in through-buildings, on uncovered buildings or on the corners of buildings, pay particular attention to the wind conditions to prevent tipping over. The systems should not be used from a wind strength of >6.

- Do not use ladders, crates or other devices to increase the height of the platform.
- If the systems are attached to or placed on trucks, please indicate the location conspicuously, e.g., with the help of warning beams, warning lights or sensors.
- Safety ropes / chains, double barriers and hinged doors must always be kept closed.
- Only undamaged and faultless accessories of the manufacturer that are certified in the inspection certificate may be used.
- No objects should be placed or stored on the stairways.
- The stairway should not be ascended in haste.
- While transporting loads over the stairways, the load should be carried in such a way that one hand is always free to hold the guard rail. The transported material should not block the view of the steps.

### 6.2 Use instructions

Depending on the design, the system is equipped with braked swivel and fixed castors.

- To apply the brake, press the brake lever (46/1) of all the swivel or fixed castors (46/2) down. Pull the brake lever up to release the brake.

## 7 MAINTENANCE

### 7.1 Cleaning the system

The system should be cleaned with water and a commercial detergent. Paint spots can be removed with turpentine.



The detergent should not come in contact with the soil; used detergent liquids must be disposed of according to the valid environment protection rules.

### 7.2 Lubrication of the castors

It is recommended that the castors be lubricated at certain intervals with universal oil.



Wipe excess oil; the oil should not reach the floor. Dispose of wiping cloth wetted in oil according to the valid environment protection rules.



### 7.3 Repair jobs on the systems

Only trained technicians should be allowed to perform repair jobs on the systems.

If repair jobs such as welding jobs are performed on load bearing components, these must be tested by an expert.

Only genuine parts of the manufacturer should be used in repair jobs.

The use of other spare parts and accessories is not allowed and should be done in exceptional cases only after obtaining the written approval of ZARGES.

After the repair job, the system should be operated only after confirming that it is functioning smoothly. In this context, the repaired areas and the safety devices must be subjected to a special expert opinion.

### 7.4 Spare parts

Genuine spare parts can be ordered from ZARGES GmbH.

## 8 STORAGE

The system should be stored in such a way that any damage is ruled out. The system must be stored in such a way that it is protected against atmospheric influences. If the system is to be stored for a longer period, it should be mounted on wooden blocks so that the castors do not touch the floor.

## 9 INSPECTIONS

- Before each use, the systems must be checked to ensure that they are functioning properly and are in proper condition. The systems should not be used if defects are detected. The systems can be used only after the faults have been remedied.  
All components are to be checked for deformities, crushing, crack formations.  
Check that screws and nuts are tight.  
The easy movement of the castors and, if installed, the function of the brake must be checked.
- The systems should be subjected to regular checks by an expert to ensure their proper condition. Regularly means that a check is performed after an appropriate period depending on operating conditions. A daily check can be necessary in case of permanent heavy-duty use of the system with a high degree of load.

### 9.1 Inspection stickers

Inspection stickers can be ordered from ZARGES under Order No. 207396.

The inspection sticker is to be affixed on the system after a inspection is performed with positive results.

The inspection stickers are to be affixed in such a way that the month and year of the next inspection (maximum one year after the last inspection date) are clearly visible to the user.

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