

Original in compliance with 2006/42/EG

## 1 DESCRIPTION AND INTENDED USE

THIELE skip suspension links with clevis are exclusively intended as end fittings of permanently mounted sling chain assemblies on skip loader vehicles for the attachment of corresponding containers according to DIN 30720 or similar. The skip suspension link covers one suspension pin of each container.

THIELE skip suspension links have a forged spring-loaded safety latch, which can support itself against the safety plate at the end of the suspension pin. The safety latch prevents the skip suspension link from loosening automatically when the chain is unloaded.

The integrated clevis is used to attach a chain strand.

The following types are defined by the grade of the associated chain (TWN = THIELE-Werksnorm):#

- Grade 8: TWN 0869
- Grade 10: TWN 1869
- Grade 12: TWN 2469

Skip suspension links may only be used:

- within the permissible working load limits,
- within the permissible temperature limits,
- by instructed and authorized persons.#

THIELE skip suspension links comply with the EC Machinery Directive and have an operating coefficient of at least 4 in relation to the working load limit.

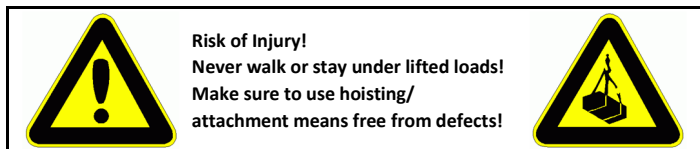
The skip suspension links are marked with the nominal chain size and grade (NG = Nominal size), manufacturer's mark and traceability code.#

THIELE skip suspension links are designed to withstand 20 000 dynamic load changes under maximum load conditions. In the event of higher loads the working load limit must be reduced.

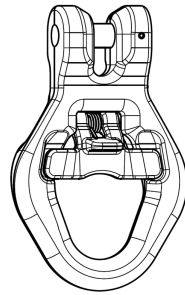
The link body is powder-coated in colour depending on the grade, the safety latch is CrVI-free galvanised.

The skip suspension links must not be used for transportation of persons or lashing.

## 2 SAFETY NOTES



- Operators, fitters, and maintenance personnel must in particular observe the operating instructions of the sling chain assemblies and loads to which the skip suspension links are mounted, documentations DGUV V 1, DGUV R 109-017#, DGUV I 209-013 and DGUV I 209-021 issued by the German Employers' Liability Insurance Association, as well as standard specifications EN 818-6.
- In the Federal Republic of Germany, the operational safety ordinance (BetrSichV) has to be implemented and the technical rule for industrial safety TRBS 1201, in particular Annex 1, Chapter 2 "Special regulations for the use of working equipment for lifting loads" must be observed.#
- Outside the Federal Republic of Germany the specific provisions issued locally in the country where the items are used must also be observed.
- The directions given in these mounting instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to the respective persons.
- Make sure these mounting instructions are available in a place near the product during the time the equipment is used. Please contact the manufacturer if replacements are needed. See also chapter 9.
- When performing work make sure to wear your personal protective equipment!
- **Improper assembly and use may cause personal injury and/or damage to property.**
- Assembly and removal as well as inspection and maintenance must exclusively be carried out by skilled and authorized persons.



- Structural changes (e.g. welding, bending) are impermissible. Never attempt to make the opening of the skip suspension links smaller by bending or welding in intermediate elements.
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.#**
- Only fit sling chains of the same nominal size (nominal chain diameter - grade).
- Usage without safety devices (safety latch, dowels pins) is not permitted.
- Never put to use worn-out, bent or damaged skip suspension links.
- Do not overload skip suspension links or chains. Be sure to observe the working load limit of the overall vehicle system.#
- Do not use force when mounting/positioning the skip suspension links.
- Make sure the load can take the forces to be applied without suffering deformation.
- Lateral loads are not permitted due to the design. Skip suspension links must be able to align themselves in the direction of loading.
- Avoid sharp edges.
- Only lift loads that are freely movable and not attached or fastened.#
- Do not start lifting before you have made sure the load has been correctly attached.
- Make sure no one including you (operator) is in the way of the moving load (hazard area).
- During lifting/hoisting make sure your hands or other body parts do not come into contact with hoisting means. Only remove hoisting means manually (use your hands).
- Make sure that the sling chains are not twisted.
- Avoid impacts, e.g. due to abruptly lifting loads with hoisting means in slack condition.
- Never move a suspended load over persons.#
- Never cause suspended loads to swing.
- Always monitor a suspended load.#
- Put the load only down in flat places/sites where it can be safely deposited.#
- Take care for sufficient place for the personnel to move when choosing the route of transportation and storage location. Danger to life and risk of injury by crushing hazards.#
- In the event of doubts about the use, inspection, maintenance or similar things contact your safety officer or the manufacturer!

**THIELE will not be responsible for damage caused through non-observance of the instructions, rules, standards and notes indicated!**

**As regards grades 10 and 12 THIELE does not give its general approval to the assembly of components stemming from different manufacturers!**

**Working under the influence of drugs, medications impairing the sense and/or alcohol (including residual alcohol) is strictly forbidden!#**

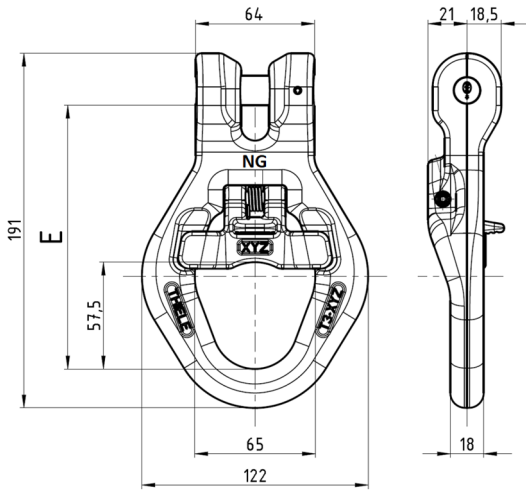
## 3 COMMISSIONING

Prior to using the components for the first time make sure that

- the components comply with the order and have not been damaged,
- test certificate and mounting instructions are at hand,#
- markings correspond with what is specified in the documentation,
- inspection deadlines and the qualified persons for examinations are determined,#
- visibility and functional testing are carried out and documented,#
- documentations are safely kept in an orderly manner.

Dispose of the packing in an environmentally compatible way according to local rules.

## 4 TECHNICAL DATA



Type	Nominal size (NG)	Article no.	Working load limit <sup>1)</sup> [t]	Dim. E [mm]	Colour	Mass [kg]
TWN 0869	13-8	F313800	5,3	142	Ruby read	1,93
TWN 0869	16-8	F313850	8,0	141	Ruby read	
TWN 1869	13-10	F313805	6,7	142	Ultramarine blue	
TWN 2469	13-12	F31384	8,0	140	Night blue	

1) Observe the working load limit of the overall vehicle system! #

## 5 ASSEMBLY AND REMOVAL

### 5.1 General

**Allways assemble/remove skip suspension links in load-free condition!**

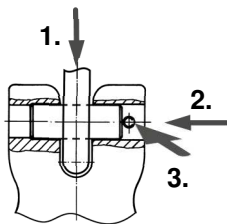
Disassemble the parts in reverse order.

Use a suitable drift punch to drive the dowel pins out. Suitable drift punches are available by Article No. Z03303.

Dowel pins must only be installed once.

### 5.2 Assembly of clevis system

1. Remove load bolt and dowel pin.
2. Place end of chain leg between the lateral clevis elements.
3. Push pin from the side fully into the clevis and through the last chain link of the leg.
4. Drive dowel pin fully in (must not project) to secure the pin. The slot must face away from the pin.
5. Check the chain can move freely.



### 5.3 Assembly of safety latch (only for replacement)

1. Position the safety latch with the leg spring in the closed position and insert an auxiliary bolt ( $\varnothing \leq 8$  mm, length > 60 mm) laterally into the holes for the two dowel pins and the safety latch as well as through the spring coils.
2. First drive in the dowel pin 8 x 60 instead of the auxiliary bolt.
3. If the safety latch is then difficult to move, remove the dowel pin and knock it in again in the reversed position.
4. Then drive the dowel pin 5 x 60 into the already mounted dowel pin, making sure that the slots of the two dowel pins are opposite each other.
5. Check that the safety latch assumes its safety position smoothly after actuation.

## 6 OPERATION

### 6.1 Normal use

To place the skip suspension link on the suspension pin, press the safety latch on the grooved handle surface upwards by hand (preferably with the thumb) and slide the link body over the safety plate of the suspension pin. If necessary, the link body must be swivelled slightly to the side.

As soon as the link body is positioned behind the safety plate, the safety latch must be unloaded so that it can come into contact with the safety plate.

**Check that the skip suspension link is held by the safety plate on the suspension pin and cannot slide off it on its own.**

Due to the free length of the chain, the unloaded skip suspension links rotate around the pins away from the later loading direction due to their own weight. #

**When lifting the load, it must therefore be ensured that ALL skip suspension links can align themselves freely in their direction of loading and that the force is applied in the longitudinal direction. Supporting on other components is not permitted. Make sure that the possible swivelling movement does not cause the chain to twist in itself under load. #**

The skip suspension links must always be able to move freely on the suspension pins. Avoid any bending stress on the skip suspension links.

### 6.2 Temperature range

The temperature range of use depends on the grade according to the following table:

Type	Grade	Temperature range
TWN 0869	8	-40 °C ≤ t ≤ 200 °C
TWN 1869	10	-30 °C ≤ t ≤ 200 °C
TWN 2469	12	-30 °C ≤ t ≤ 200 °C

After the skip suspension links have heated up above the max. operating temperature, they may no longer be put into operation.

### 6.3 Environmental influence

Skip suspension links must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present.

Hot-dip galvanizing or a galvanic treatment is prohibited as well.

## 7 SPARE PARTS

Only use original THIELE spare parts.

**Before installing spare parts, check that there is no further damage that would justify taking the unit out of service! #**

Type	Nominal size (NG)	Spare part sets TWN 0968 Pin for clevis + dowel pin	Spare parts set TWN 0969 Safety latch + spring + dowel pin
TWN 0869	13-8	F480131	F314081
TWN 0869	16-8	F480161	
TWN 1869	13-10	F486741	
TWN 2469	13-12	F3138411	

## 8 INSPECTIONS, MAINTENANCE, DISPOSAL

### 8.1 General

Inspections and maintenance must be arranged for by the Owner!

Inspection intervals shall be determined by the Owner!

Inspections must be carried out and documented by competent persons regularly but at least once a year, or more frequently if the skip suspension links are used in heavy-duty service. After three years at the latest they must additionally be examined for cracks. A load test shall never be considered a substitute for this examination.

The results of the inspection shall be entered into a register (DGUV I 209-062 or DGUV I 209-063) to be prepared at first use. The register will show characteristic data as well as identity details.

Immediately stop using skip suspension links that show the following defects:

- missing or illegible identification/markings,
- deformation, elongation or fractures,
- cuts, notches, cracks, incipient cracks, pinching,
- damaged parts (spring, pin, dowel pins),
- heating beyond permissible limits,
- severe corrosion,
- strong partial material removal,
- impaired or missing safety latch.

Cleaning (e.g. prior to inspections) must not take place by using flames or methods that might cause hydrogen embrittlement (e.g. pickling or immersion in acidic solutions).

### 8.2 Inspection service

THIELE offers inspection, maintenance and repair services by trained and competent personnel.

### 8.3 Maintenance

Maintenance work may only be carried out by qualified persons.

Minor notches and cracks may be eliminated by careful grinding observing the maximum cross section reduction requirement of 10 % and avoid making more severe cuts or scores.

All maintenance and repair activities are to be documented.

### 8.4 Disposal

Skip suspensions link should be stored in dry locations at temperatures ranging between 0 °C and +40 °C.

## 9 STORAGE #

Skip suspension links are to be stored in dry locations at temperatures ranging between 0 and +40 °C.

## 10 THIELE OPERATING AND MOUNTING INSTRUCTIONS

Current operating and installation instructions are available as a PDF download on the homepage.



## 11 IMPRINT

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