

# MOUNTING INSTRUCTIONS

## SELF-LOCKING HOOKS

### GRADES 8 AND 10



Original in compliance with machinery directive 2006/42/EC



TWN 0798  
Eye type



TWN 0799  
Clevis type



TWN 1836  
Eye type



TWN 1837  
Clevis type

## 1 DESCRIPTION AND INTENDED USE

Self-locking hooks are intended for use in chain slings for attaching and lifting loads, in accordance with EN 818-4, and in lashing chains, in accordance with EN 12195.

Self-locking hooks of type TWN 0799 and TWN 1837 are fitted directly to the chain. Self-locking hooks of type TWN 0798 and TWN 1836 are usually attached to the chain by connectors or are connected to other lifting gear with the help of shackles.

Self-locking hooks must only be used:

- within their permissible working load limit
- within their permissible temperature limits
- in compliance with the permitted slinging configuration and angle
- by trained and authorised persons
- with original connecting bolts and pins of the specified size.

Self-locking hooks are marked with the nominal chain size and grade, the manufacturer's symbol and the traceability code. Self-locking hooks meet the requirements of Machinery Directive 2006/42/EC and have a design factor of 4 in relation to their working load limit (WLL).

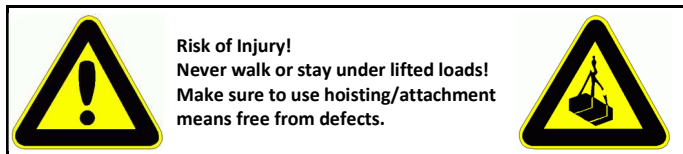
THIELE self-locking hooks are designed to withstand 20 000 dynamic load cycles at maximum working load limit. For higher workloads (e.g. multi-shift and automated operations) the working load limit is to be reduced accordingly.

When used as a lashing system the maximum lashing capacity is obtained by doubling the working load limit.

Do not alternate between lifting and lashing applications!

Self-locking hooks are not generally approved for carrying persons.

## 2 SAFETY NOTES



- Operators, fitters, and maintenance personnel must in particular observe the operating instructions of the used chain sling, documentations DGUV V 1, DGUV R 109-017 and DGUV I 209-013 issued by the German Employers' Liability Insurance Association, as well as the standard specifications DIN 685-5 and 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 11.
- 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, detachment of parts, drilling) are not permitted. Never attempt to reduce the size of the opening on self-locking hooks by bending or welding in a spacer piece.
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.**
- Never put to use worn-out, bent or damaged self-locking hooks.
- Do not overload self-locking hooks.
- Do not use force when mounting/positioning the self-locking hooks.
- Self-locking hooks must only be loaded at their base, never at their tips. Clamping of the load at the tip of the hook between the upper and lower part is not permitted.
- The self-locking hooks must be lined up in the direction of tension, not sideways to it, in order to avoid bending stress.
- During lifting/hoisting make sure your hands or other body parts do not come into contact with hoisting means.
- Avoid impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Do not operate the system without fully functioning safety devices (cotters, dowel pins, lever).
- Loads must only be lifted when the hooks are in a locked position.
- 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!**

**THIELE does not give general approval for components supplied by other manufacturers to be fitted to and used on equipment of grade 10!**

**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 parts 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 IMPRINT

THIELE GmbH & Co. KG

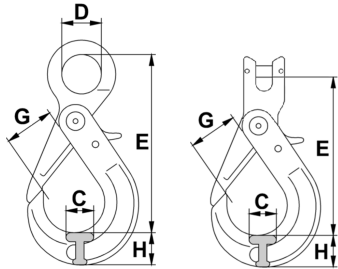
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## 5 TECHNICAL DATA

The tables refer to standard product codes and data only. No individual customer specifications are shown.



### 5.1 Self-locking hooks with eye TWN 0798, grade 8

Nominal size	Article no.	WLL [t]	Dimensions [mm]					Mass [kg]
			E	D	G	H	C	
6-8	Z07274	1,12	107	22	28	22	18	0,5
7/8-8	Z07275	2,0	133	24	33	25	23	0,8
10-8	Z07276	3,15	167	32	45	34	27	1,7
13-8	Z07277	5,3	208	39	52	40	34	3,1
16-8	Z07278	8,0	254	49	64	53	43	5,9
18/20-8	Z10187	12,5	272	59	77	64	48	7,8
22-8	Z10184	15	310	70	92	74	57	15

### 5.2 Self-locking hooks with clevis TWN 0799, grade 8

Nominal size	Article no.	WLL [t]	Dimensions [mm]				Mass [kg]
			E	D	H	C	
6-8	Z07279	1,12	98	28	22	18	0,6
8-8	Z07280	2,0	120	33	25	23	0,9
10-8	Z07281	3,15	150	45	34	27	1,8
13-8	Z07282	5,3	185	52	40	34	3,3
16-8	Z07296	8,0	215	64	53	43	6,2
18/20-8	Z10192	12,5	235	77	64	48	8,0

### 5.3 Self-locking hooks with eye TWN 1836, grade 10

Nominal size	Article no.	WLL [t]	Dimensions [mm]					Mass [kg]
			E	D	G	H	C	
6-10	F09220	1,4	110	22	34	24	15	0,5
8-10	F09221	2,5	134	30	46	26	18	0,8
10-10	F09222	4,0	167	36	56	33	25	1,6
13-10	F09223	6,7	200	47	72	42	34	3,2
16-10	F09224	10	253	60	88	47	35	6,0

### 5.4 Self-locking hooks with clevis TWN 1837, grade 10

Nominal size	Article no.	WLL [t]	Dimensions [mm]				Mass [kg]
			E	D	H	C	
6-10	F09200	1,4	88	34	24	15	0,5
8-10	F09201	2,5	111	46	26	18	0,8
10-10	F09202	4,0	142	56	33	25	1,5
13-10	F09203	6,7	175	72	42	34	3,1
16-10	F09204	10	214	88	47	35	5,9

## 6 FITTING AND REMOVAL

Self-locking hooks with eyes are usually attached to chain slings by means of connecting links.

Always observe the fitting instructions for the connecting links.

Self-locking hooks with clevis pins can be attached directly to the chain.

### 6.1 Attaching the clevis system

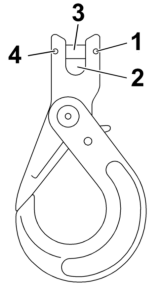
**The chain and clevis pin must be of the same rated size!**

Bolts of hooks TWN 0799 are secured with one dowel pin, bolts of hooks TWN 1837 are secured with two dowel pins. #

- Remove dowel pin or pins (1, 4) and clevis pin (3) if necessary.
- Introduce the end of the chain between the sides of the clevis (2).
- Insert the pin (3) sideways into the clevis and through the final link of the chain.
- Drive home the dowel pin or pins (1, 4) so that they sit flush within their recesses.

The slot must face away from the clevis pin.

- Check that the chain is free to move!



### 6.2 Detaching the clevis system

- Loosen the relevant chain sling.
- Use a mandrel to drive out the dowel pin or pins (1, 4).
- Remove the pin (3).
- Remove the chain link.

Only connect together pins and sling parts of the same grade (pins  $\varnothing$  13 mm and over are marked on their face side).

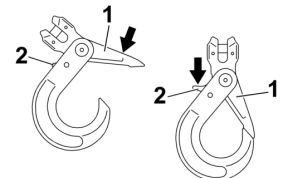
Dowel pins are intended for one-off use only.

## 7 OPERATION

To LOCK the hook, push the top section (1) down towards the lower section.

**Danger of jamming! # When lifting loads, do not grasp between the top and bottom sections as the hook automatically closes tight under load!**

To OPEN the hook, loosen the chain sling and press down on the locking lever (2).



## 8 OPERATING CONDITIONS

### 8.1 Influence of temperature

If the self-locking hook is to be used at higher temperatures reduce the load rating in accordance with the following table.

Grade	Temperature range	Remaining WLL
8	-40 °C ≤ t ≤ 200 °C	100 %
	200 °C < t ≤ 300 °C	90 %
	300 °C < t ≤ 400 °C	75 %
10	-30 °C ≤ t ≤ 200 °C	100 %
	200 °C < t ≤ 300 °C	90 %
	300 °C < t ≤ 380 °C	60 %

Any hook that has been heated up above the maximum operating temperature should be withdrawn from service.

### 8.2 Environmental influence

It is not permitted to use the hook in an environment where acids, aggressive/corrosive chemicals or their vapours are present.

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

## 9 TESTING, MAINTENANCE, DISPOSAL

### 9.1 General

Inspections and maintenance must be arranged for by the Owner!

Inspection deadlines 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 self-locking hooks are 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 self-locking hooks that show the following defects:

- restricted swivel capacity or reduced resetting force (the safety lever has become jammed), locking function defective,
- broken spring,
- wear in excess of 10 %, e.g. hook attachment area and pin diameter,
- excessive play between the top and bottom sections,
- less than 50 % overlap between the top section and the nose,
- deformation, stretch, nicks, gouges, cracks, pinching,
- exposure to heat above the permitted range,
- severe corrosion, illegible markings.

### 9.2 Maintenance

Maintenance and repair work must only be performed by competent persons.

Minor notches and cracks at the rings 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.

### 9.3 Inspection service

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

### 9.4 Disposal

All components and accessories of steel taken out of service are to be scrapped in line with local regulations and provisions.

## 10 SPARE PARTS

Only use original THIELE spare parts.

### 10.1 Spare part sets TWN 0967/0 for TWN 0799 #

Nominal size	Article no.	Contents
6-8	F333700	Clevis pin, dowel pin
8-8	F333711	
10-8	F333721	
13-8	F333730	
16-8	F333741	
18/20-8	F0922057	

### 10.2 Spare part sets TWN 0967/1 for TWN 0798, TWN 0799

Nominal size	Article no.	Contents
6-8	F329090	Safety lever, spring, dowel pins
8-8	F329190	
10-8	F329290	
13-8	F329390	
16-8	F329490	
18/20-8 22-8	F0922056	

### 10.3 Spare part sets TWN 1933/0 for TWN 1837 #

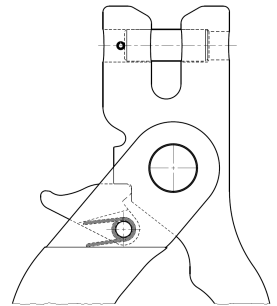
Nominal size	Article no.	Contents
6-10	Z10118	Clevis pin, dowel pins
8-10	Z10119	
10-10	Z10120	
13-10	Z10121	
16-10	Z10122	
22-10	Z10125	

### 10.4 Spare part sets TWN 1935 for TWN 1836, TWN 1837

Nominal size	Article no.	Contents
6-10	Z10110	Safety lever, spring, dowel pin
8-10	Z10111	
10-10	Z10112	
13-10	Z10113	
16-10	Z10114	
22-10	Z10117	

### 10.5 Assembly of safety system (only for replacement) #

1. Position the safety lever with the leg spring in the closed position of the hook and insert an auxiliary bolt laterally into the holes for the two dowel pins and the safety lever as well as through the spring coils.
2. First drive in the dowel pin (for two the thicker one) instead of the auxiliary bolt.
3. If the safety lever is then difficult to move, remove the dowel pin and knock it in again in the reversed position.
4. If present the drive in the thinner dowel pin into the already mounted one, making sure that the slots of the two dowel pins are opposite each other.
5. Check several times that the safety lever takes its locking position smoothly after opening and closing the hook and that the hook cannot be opened.



## 11 STORAGE

Self-locking hooks are to be stored in dry locations at temperatures ranging between 0 and +40 °C.

## 12 THIELE OPERATING AND MOUNTING INSTRUCTIONS

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

