

Operating Instructions

Original in compliance with 2006/42/EG



Plate Hooks and Plate Hook Sling Chain Assemblies

Grade 8

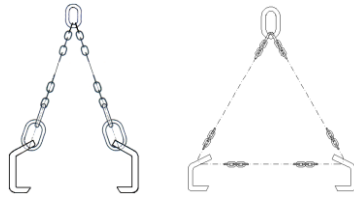


Plate hooks with intermediate links
TWN 0872

Plate hooks with basket chain
TWN 0873

Manufacturer:
THIELE GmbH & Co. KG
Tel: +49 (0) 2371 / 947 - 0
58640 Iserlohn
www.thiele.de

1 Description and Intended Use

THIELE plate hooks are intended to be used in plate hook sling chain assemblies to lift loads such as steel plates, packages of steel plates or tubes.

These Operating Instructions describe in particular how plate hooks according to TWN 0872 and TWN 0873 (TWN = THIELE Shop Standard) are safely used for hoisting purposes.

The instructions apply analogously to plate hook sling chain assemblies.

Sling chain assemblies must exclusively be used

- if mass and center of gravity of the load are known or have been professionally estimated,
- within the limits of their permissible Working Load Limit,
- for permissible attachment methods and inclination angles,
- within the temperature limits prescribed,
- with suitable connecting links, attachment components or shortening elements,
- by trained and authorized persons.

THIELE plate hook sling chain assemblies meet EG Machinery Directive 2006/42/EG requirements and feature a safety factor of at least 4 based on Working Load Limit (WLL).

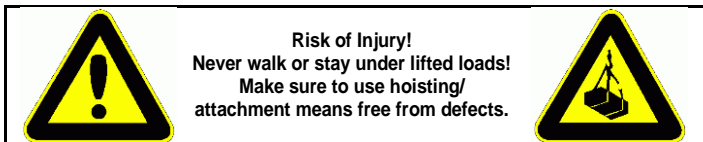
THIELE plate hook chain sling assemblies are provided with tags showing the CE symbol.

The plate hooks are marked with nominal size, quality grade, manufacturers sign and traceability code.

THIELE plate hook sling chain assemblies and attachment elements are designed to withstand 20 000 dynamic load changes under maximum load conditions. In the event of higher loads (e.g. multi-shift operation) the WLL must be reduced.

As a rule plate hooks sling chain assemblies are not permitted for the transportation of persons or for lashing.

2 Safety Notes



- Operators, fitters, and maintenance personnel must in particular observe the Operating Instructions of the sling chain assembly into which the plate hooks are to be installed, documentations DGUV V 1, DGUV R 100-500 Chapter 2.8, DGUV I 209-013 and DGUV I 209-021 issued by the German Employers' Liability Insurance Association, as well as standard specifications DIN 685-5, DIN EN 818-4 and DIN EN 818-6.
- 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 Operating Instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to the respective persons.
- Make sure these Operating Instructions are available in a place near the product during the time the equipment is used.
- 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 are impermissible (e.g. welding, bending).
- Visually inspect the equipment prior to each use.
- Plate hooks must only be used in pairs.
- Never put to use worn-out, bent or damaged plate hook sling chain assemblies.
- Only lift loads the mass of which is less than or equal to the Working Load Limit of the plate hook sling chain assembly.
- Never expose chains to loads exceeding the specified Working Load Limits.
- Do not overload plate hooks.
- Note that the Working Load Limits will reduce in the following cases
 - if the load is not balanced symmetrically,
 - when higher temperatures prevail,
 - when high dynamic and cyclic loads arise (multi-shift operation).
- Plate hook sling chain assemblies must not be used for inclination angles of less than 15 ° and in excess of 30 °.
- Master links must be able to move freely within the crane hook.
- Handles may only be welded on by the manufacturer.
- The intermediate links must be able to move freely within the plate hook.
- Do not tip-load a plate hook.
- Do not use force when mounting/positioning the attachment components.
- Make sure the load can take the forces to be applied without suffering deformation.
- Make sure to use shortening/grab hooks or claws for chain shortening purposes.
- When using plate hooks, special care must be taken and a separate risk analysis should be prepared.
- 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).
- Avoid impacts, e.g. due to abruptly lifting loads with chain 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.
- Avoid parts of the plate hook sling chain assembly to get caught under the load.
- 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!
Working under the influence of drugs or 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, statement of compliance, and Operating Instructions are at hand,
- markings correspond with what is specified in the documentation,
- the documentation is safely kept in an orderly manner.

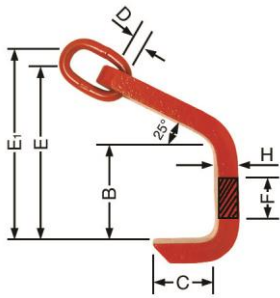
Dispose of the packing in an environmentally compatible way according to local rules.

4 Technical Data

Tables only include article numbers of standard executions.

4.1 TWN 0872 Plate Hooks with Intermediate Links

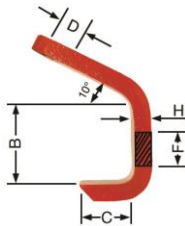
An intermediate link is welded to the plate hook to be connected to a chain leg by a connecting link.



Nominal size	WLL per pair [t] $\beta=15^\circ-30^\circ$	Article-no.	Dimensions [mm]							Mass [kg]
			E	E ₁	B	C	D	F	H	
6-8	1,6	F35500	150	180	90	60	15	60	20	2,5
8-8	2,8	F35501	157	197	90	80	20	70	25	4,0
10-8	4,25	F35502	230	278	140	90	22	80	30	8,5
13-8	7,5	F35503	241	312	145	100	26	90	35	11
16-8	11,2	F35504	270	354	155	120	32	110	45	16,8
18/20-8	17	F35505	322	398	175	120	40	120	62	30
22-8	21,2	F35506	364	456	205	130	44	140	65	40
26-8	30	F35507	409	501	230	140	52	160	75	62
32-8	45	F35508	457	557	255	140	64	180	85	85

4.2 TWN 0873 Plate Hooks for Basket Chains

The upper sides of the plate hooks have a hole the chain can be put through.



Nominal size	WLL per pair [t] $\beta=15^\circ-30^\circ$	Article-no.	Dimensions [mm]					Mass [kg]
			B	C	D	F	H	
6-8	1,6	F35600	90	60	32	60	20	2,4
8-8	2,8	F35601	90	80	38	70	25	3,5
10-8	4,25	F35602	140	90	50	80	30	8
13-8	7,5	F35603	145	100	62	90	35	10,5
16-8	11,2	F35604	155	120	76	110	45	22
18/20-8	17	F35605	175	120	92	120	62	25
22-8	21,2	F35606	205	130	95	140	65	34
26-8	30	F35607	230	140	115	160	75	50
32-8	45	F35608	255	140	135	180	85	69

4.3 Mounted Plate Hook Sling Chain Assemblies with Clevis-Type Fastening System

Two welded ring shackles on the master link have to be connected to chain legs by clevis-type fastening systems.

4.4 Mounted Plate Hook Sling Chain Assemblies with Connecting Links

The chain legs have to be connected to the master link or plate hooks by connecting links.

4.5 Mounted Plate Hook Sling Chain Assemblies with Clevis-Type Fastening System and Connecting Links

A combination of 4.3 and 4.4.

4.6 Welded Plate Hook Sling Chain Assemblies

Components are assembled by welding.

5 Assembly and Disassembly

The Mounting or Operating Instructions of other components such as connecting links or components with clevis-type fastening systems have to be observed.

6 Operating

6.1 Normal Use

Connecting links must only be used within a single loaded chain leg.

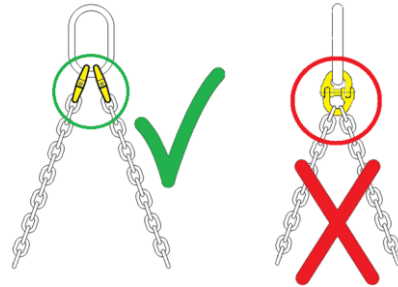
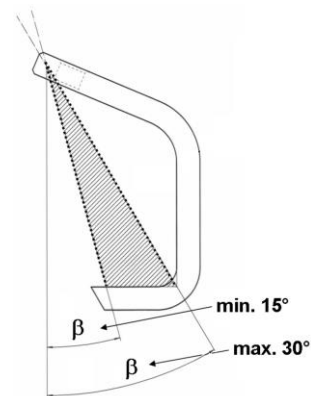


Plate hooks should not stay in contact sideways to other parts to avoid bending stress.

Following sketch shows the permissible operating range:



Carrying loads out of the shown operating range is not permissible!

6.2 Influence of Temperature

Using sling chain assemblies or components at elevated temperatures will cause the Working Load Limit to be reduced as indicated below.

Quality grade	Temperature range	Remaining WLL
8	-40 °C ≤ 200 °C	100 %
	200 °C ≤ 300 °C	90 %
	300 °C ≤ 400 °C	75 %

If the sling chain assemblies have been exposed to temperatures exceeding the maximum values specified they must no longer be used.

6.3 Environmental Influence

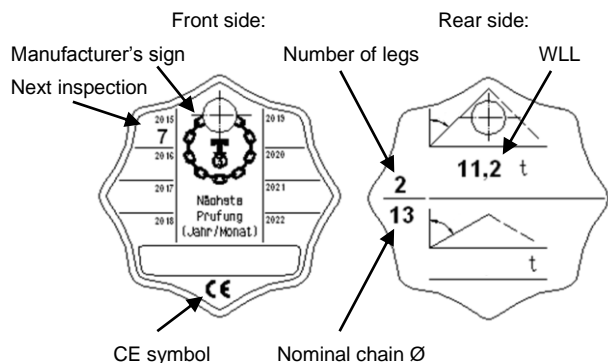
Sling chain assemblies must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present.

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

7 Identification/Marking

As a rule, an identification tag as prescribed in EN 818-4 is attached to the plate hook sling chain assembly adjacent to the master link.

Example:



8 Inspections, Maintenance, Disposal

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 plate hook chain slings 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 when the plate hook sling chain assembly is first used. The register will show characteristic data of the chains and components as well as identity details.

Immediately stop using plate hooks or plate hook sling chain assemblies that show the following defects:

- missing or illegible identification/markings,
- deformation, elongation or fractures of chains or components,
- cuts, notches, cracks, incipient cracks, pinching,
- links heated beyond permissible limits,
- severe corrosion,
- pitch elongation of individual chain links by more than 5 % each,
- reduction of the averaged link thickness by more than 10 % as mean value of measurements taken perpendicularly towards each other,
- limited hinging capability (connecting halves get stuck),
- wear in excess of 10 %, e.g. in the receiving area of the pin diameter,
- missing or damaged pin locks.

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).

Inspection Service

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

Maintenance and Repair

Maintenance and repair work must only be performed by competent 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.

Welded plate hook sling chain assemblies must exclusively be repaired by the manufacturer.

All maintenance and repair activities are to be documented.

Disposal

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

9 Spare Parts

Only use original spare parts.

You will find detailed information about for components such as connecting links or other THIELE-products at www.thiele.de or on request.

10 Storage

Make sure plate hooks and plate hook sling chain assemblies are stored properly sorted, suspended and in dry locations at temperatures ranging between 0 °C and +40 °C.

11 Publishing Information

THIELE GmbH & Co. KG, Werkstraße 3, 58640 Iserlohn, Germany
Tel.: +49(0)2371/947-0 // Email: info@thiele.de

© THIELE GmbH & Co. KG, 2015. All rights reserved.

'#' Changes to previous edition.

EU Declaration of Conformity

acc. to Machinery Directive 2006/42/EG, Annex II A for a machine

THIELE GmbH & Co. KG herewith declares as manufacturer that

Plate Hook Sling Chain Assemblies of quality grade 8

are placed on the market in the form of a complete machine by THIELE together with the relevant test certificate, and are in compliance with the applicable provisions of the EU Machinery Directive 2006/42/EG.

The following harmonized standards have been observed:

- DIN EN ISO 12100
- DIN EN 818, Parts 1, 2, 4 and 6
- DIN EN 1677, Parts 1 and 4

Other standards and specifications have also been observed as follows:

- DIN 685-5
- DIN 5688-3

This declaration/statement is not meant to warrant any product properties. Safety notes and instructions pertinent to the products must be observed.

Responsible for the documentation:

Dr. Jürgen Obenauf
(Head of QA and EP)
Tel.: +49(0)2371/947-541

Iserlohn, 17 March 2016

Dr. Günther Philipp
(Managing Director)



Note:

If sling chain assemblies are manufactured of individual components by other persons/companies or if major modifications/changes are made these persons/companies are deemed to be the manufacturer within the meaning of the EU Machinery Directive and they are responsible for the preparation of the documentation (e.g. Declaration of Conformity, Operating Instructions/DIN etc.).