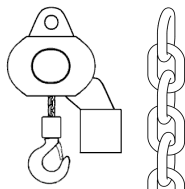


# Operating Instructions

Original in compliance with 2006/42/EG

## Hoist Chains EN 818-7

according EN 818-7



Manufacturer:  
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### 1 Description and Intended Use

THIELE hoist chains in accordance with EN 818-7 are intended for use in manually or motor-driven chain hoists for lifting loads.

THIELE hoist chains are manufactured in accordance with EN 818-7 or more specifically other requirements for types T (tempered) and DAT or DT (case-hardened).

Hoist chains must exclusively employed

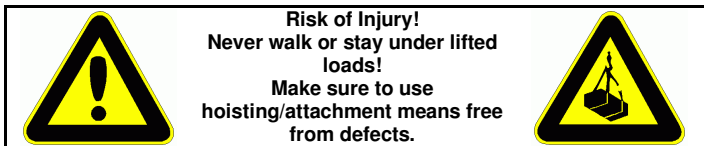
- for chain hoists of suitable design,
- within the limits of their permissible working load limit,
- within the limits of the maximum stresses shown in EN 818-7 and ISO 3077 table B.1,
- within the temperature limits prescribed,
- by trained and authorized persons.

THIELE hoist chains meet EG Machinery Directive 2006/42/EG requirements and feature a safety factor of at least 4 based on WLL (Working Load Limit).

On hoist chains, an identification tag is attached to one end on delivery, which also carries the CE mark.

THIELE hoist chains are marked with specifications according type and quality grade data, manufacturer's symbol (e.g. BG stamp H4) and traceability code.

### 2 Safety Notes



- Operators, fitters, and maintenance personnel must in particular observe the Operating Instructions of the chain hoists, documentations DGVU V 1, DGVU R 100-500 Chapter 2.8, DGVU R 109-004, DGVU V 52, DGVU V 54, DGVU V17, DGVU I 209-013 issued by the German Employers' Liability Insurance Association, as well as standard specifications DIN 685-5 and EN 818-7.
- 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 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. 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.**
- Structural changes are impermissible (e.g. welding, bending, galvanizing).
- Assembly and removal as well as inspection and maintenance must exclusively be carried out by skilled and authorized persons.
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.**
- Only lift loads the mass of which is less than or equal to the Working Load Limit of the chain hoist.
- Never expose chains to loads exceeding the specified Working Load Limits.
- Never use hoist chains for „choke hitch“ or „basket hitch“ attachment methods.
- Position the load hook above the load's center of gravity.
- Make sure the load can take the forces to be applied without suffering deformation.
- Do not twist or knot the chains together.
- 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.
- 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.
- Safety elements must not be excessively stressed or strained operationally.
- Avoid diagonal pull.
- 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 a rule, hoist chains are not permitted for the transportation of persons.**

**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,
- inspection deadlines and the qualified persons for examinations are determined,
- visibility and functional testing are carried out and documented,
- 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

Data concerning working load limit and article numbers for spare parts ordering are shown in the pertinent test/inspection certificate.

### 5 Assembly and Disassembly

#### 5.1 Preparations

Ensure that all components to be installed are in perfect condition and that the Working Load Limits of all components are designed for the load.

#### 5.2 Mounting/Removing Chains

When mounting or removing hoist chains the relevant instructions issued for the components are to be observed, especially those issued for chain hoists and crane equipment.

Take care of an assembly of chain with connected parts that there is enough clearance and no deformation occurs to the chain. The Operating Instructions of the chain hoists may give hints for the mounting orientation of the chain (orientation of the welded areas).

## 6 Conditions of Use

The different hoist chain types are to be employed for the following services:

### Type T:

- for manually operated chain hoists
- intended for motorized chain hoists operating at lower speed rates, very light duty cycles and under conditions causing low wear only

### Type DAT:

- intended for motor-operated chain hoists
- for higher loads and speed rates
- for longer duty cycles
- NOT intended for portable, manually operated chain hoists

### Type DT:

- for motor-operated chain hoists in wear-causing environments, e.g. where high dust loads arise
- NOT intended for portable, manually operated chain hoists

To achieve a long service life, hoist chains must be carefully lubricated and lubrication must be ensured in all joining areas of all links. The lack of lubrication of a chain link can lead to premature wear and tear and the necessary replacement of the entire hoist chain.

In particular, the chain links which are particularly stressed by recurring starting positions require permanent lubrication and regular relubrication.

The choice of lubricant depends on the operating and environmental conditions. Appropriate lubricant specifications can usually be found in the chain hoist Operating Instructions. Recommendations can be requested from THIELE.

### 6.1 Influence of Temperature

Operating temperature ranges:

- Type T:  $-40\text{ °C} \leq t \leq +200\text{ °C}$
- Type DAT:  $-20\text{ °C} \leq t \leq +200\text{ °C}$
- Type DT:  $-10\text{ °C} \leq t \leq +200\text{ °C}$

The use of hoist chains exposed to temperatures above 200 °C is prohibited.

### 6.2 Environmental Influence

Hoist chains must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present.

### 6.3 Miscellaneous

Hoist chains may never be turned and have to run straight line on the wheels and supported by guiding devices. A twisted hook block causes a non allowed chain twisting.

## 7 Inspections, Maintenance, Disposal

### 7.1 Inspections

Inspections and maintenance must be arranged for by the Owner!

Inspection deadlines shall be determined by the Owner!

Check the hoist chains visually at regular intervals. Visual inspections must focus on the entire length of the chains and also include the concealed inside of the link crowns.

The inspections shall be documented in the respective inspection logs in conjunction with the chain hoists.

An inspection must be performed at minimum once a year or more often if the chains are in heavy-duty service (e.g. multi-shift or automatic operation, recurring hoisting positions, corrosive environment etc.). After three years at the latest the chains must additionally be examined for cracks.

Immediately stop using chain hoists if their hoist chains show the following defects:

- deformation/elongation (even if only individual chain links are concerned)
- cuts, notches, cracks, incipient cracks, pinching
- chains heated beyond permissible limits
- severe corrosion
- wear exceeding 10 % (e.g. average chain link thickness)
- Reduction by more than 10% of the average chain link thickness (Calculate the average of two perpendicular diameter measurements of the most stressed areas.)
- pitch enlargement of single chain links by more than 5 %
- pitch enlargement over 11 links by more than 2 % for motor- or more than 3 % for hand-operated chain hoists
- identification marks are unreadable

If there is no significant damage or wear on the sprockets, used sprockets with new hoist chains can also be used.

## Inspection Service

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

### 7.2 Maintenance

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

Only use THIELE spare parts. Replace without delay any hoist chains that show signs of damage. Do not repair hoist chains, instead replace complete chain legs only.

### 7.3 Disposal

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

## 8 Storage

Make sure hoist chains are stored in dry locations at temperatures ranging between 0 °C and +40 °C.

## 9 THIELE Operating and Mounting Instructions

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



## 10 Publishing Information

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# Changes to previous edition

## EC 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

**Hoist chains according to EN 818-7, quality grade T (type T, DAT or DT)**

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 818-7

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

Responsible for documentation  
Rene Völz  
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Iserlohn, 21<sup>st</sup> September 2010  
Dr. Günther Philipp  
(Managing director)

