

## lifting pin



Keep for future use!

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This document requires the following approvals:

Name	Title

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# 1 Introduction

These original operating instructions provide you with all the information you need for the smooth operation of the lifting pin (hereinafter also referred to as lifting accessory).

The original operating instructions must be read, understood and applied by all persons assigned to the operation, maintenance, cleaning and troubleshooting of the lifting accessory. This applies in particular to the listed safety instructions.

After studying the original operating instructions you can

- use the lifting pin in a safe manner,
- maintain the lifting pin according to regulations,
- clean the lifting pin according to regulations,
- and take the appropriate action when a malfunction occurs.

In addition to the original operating instructions, general, statutory and other binding regulations on accident prevention and environmental protection of the country of use must be observed.

The original operating instructions must always be kept at the place of use of the lifting pin.

# 1 Introduction

## 1.1 Method of presentation

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These original operating instructions are valid for the following product groups and article numbers:

<b>lifting pin (article group 22350)</b>	
<b>Heat treated steel, tempered, manganese-phosphated</b>	<b>Stainless steel 1.4542, precipitation-hardened</b>
22350.0601	22350.0701
22350.0602	22350.0702
22350.0604	22350.0704
22350.0606	22350.0706
22350.0611	22350.0711
22350.0612	22350.0712
22350.0614	22350.0714
22350.0616	22350.0716
22350.0621	22350.0721
22350.0623	22350.0723
22350.0625	22350.0725
22350.0627	22350.0727
22350.0631	22350.0731
22350.0633	22350.0733
22350.0635	22350.0735
22350.0637	22350.0737
22350.0651	22350.0751
22350.0653	22350.0753
22350.0655	22350.0755
22350.0641	22350.0741
22350.0643	22350.0743
22350.0645	22350.0745
22350.0673	22350.0773
22350.0675	22350.0775

## 1.1 Method of presentation

Texts in these original operating instructions that require special attention are marked as follows as a notice and as a direct warning of dangers:

### 1.1.1 Warnings pertaining to sections

Warnings pertaining to sections apply not only to a specific action, but to all actions within a section.

#### Structure

#### **SIGNAL WORD**



Symbol for more detailed explanation of the danger

#### **Nature and source of the danger!**

Possible consequence(s) in case of non-compliance!

- Measure(s) to avoid the danger.

#### Danger levels

#### **DANGER**

Hazard with a high degree of risk which, if not avoided, will result in death or serious injury.

#### **WARNING**

Hazard with a medium degree of risk which, if not avoided, can result in death or serious injury.

#### **CAUTION**

Low-risk hazard which, if not avoided, may result in minor or moderate injury.

#### **NOTICE**

Hazard with a low degree of risk which, if not avoided, may result in damage to property.



## 1.1.2 Embedded warnings

Embedded warnings apply to specific actions and are directly integrated into the action.

### Structure

**⚠ SIGNAL WORD** Type and source of danger

Possible consequences in case of non-compliance

- Measures to avoid the danger

### Danger levels

- **⚠ DANGER / WARNING / CAUTION** (see 1.1.1 Warnings pertaining to sections)
- **NOTICE** (without warning triangle, see 1.1.1 Warnings pertaining to sections)

## 1.1.3 Other methods of presentation

**i** | The info symbol provides useful information.

- Texts that follow this mark are lists.
- Texts that follow this mark describe activities that are to be carried out in the specified order.
- “” Texts in quotation marks are references to other chapters or sections.

## 1.1.4 Symbols used in the original operating instructions

In warning notices, special dangers are additionally marked as follows:



### Warning against hand injuries

This symbol warns of hand injuries.



### Warning against danger of cutting

This symbol warns of cutting dangers.



### Hot surface warning

This symbol warns of the danger of burns from hot surfaces.



### Warning against suspended load

This symbol warns of dangers when standing under suspended loads.



#### **No trespassing by unauthorised persons**

This symbol prohibits unauthorised persons from entering the danger zone. Dangers cannot be identified by unauthorised persons.



#### **Observe original operating instructions**

This symbol indicates that the original operating instructions must be observed.



#### **Recycling**

This symbol stands for the return of various materials into recycling.



#### **CE marking**

The CE marking on the product is the manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation.

## 1.2 Warranty and liability

The obligations agreed in the supply contract, the general terms and conditions as well as the terms of delivery of the lifting pins and the legal regulations valid at the time of the conclusion of the contract apply.

All information and notices in these original operating instructions have been compiled taking into account the applicable standards and regulations, the state of the art and our many years of knowledge and experience.

These original operating instructions are not intended to be, and should not be used as a substitute means of determining the suitability or reliability of the lifting pin for any particular user application. It is the duty of the manufacturer or distributor to carry out an adequate and complete risk assessment, and evaluation and testing of the lifting pin with regard to the respective specific application or use in question.

Warranty and liability claims for personal injury and damage to property are excluded if they are attributable to one or more of the following causes:

- improper or inappropriate use of the lifting pin,
- improper assembly, commissioning, operation, servicing and cleaning of the lifting pin,
- operation of the lifting pin with defective components or improperly installed or non-functional components,
- a failure to observe the original operating instructions and the notices in the original operating instructions regarding assembly, commissioning, operation, servicing and cleaning of the lifting pin,
- use of unqualified or untrained personnel,
- structural changes to the lifting pin (Conversions or other changes to the lifting accessory may not be made without the prior written consent of Erwin Halder KG. In case of infringement, the lifting pins lose their EC conformity),
- improperly performed repairs,
- use of non-approved spare parts or use of spare parts that do not meet the technically specified requirements,
- disasters, effects of foreign bodies, and force majeure.

Furthermore, Erwin Halder KG reserves the right to revise this publication at any time if technical changes are made in the course of improvements to usage properties and further development, without obligation to notify any person of the revisions.

## 1.3 Copyright

These original operating instructions are protected by copyright and intended for internal use only.

Transfer of the original operating instructions to third parties, reproduction in any form and in any manner – even excerpts – as well as exploitation and/or communication of the contents are not permitted without the written consent of Erwin Halder KG, except for internal purposes.

Contraventions obligate to compensation for damages. We reserve the right to make further claims.

## 1.4 Warranty conditions

The warranty conditions are contained in the general terms and conditions of Erwin Halder KG.

## 1.5 Service / Customer service



For technical information, our customer service is at your disposal:

**Phone: +49 7392 7009-0**

In addition, our employees are always interested in new information and experience which is derived from use and can be valuable for the improvement of our products.

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## 2 Safety

### WARNING



**A failure to observe the following safety instructions can have serious consequences:**

Danger to persons due to mechanical or chemical influences or failure of important lifting accessory functions!

- Please read the safety and danger information in this section thoroughly before putting the lifting pin into operation.
- In addition to the instructions in these original operating instructions, observe the generally applicable safety and accident prevention regulations.
- In addition to the instructions in these original operating instructions, observe the existing national occupational, operating and safety regulations. Also comply with existing internal factory regulations.

### 2.1 Intended use

The operational safety of the lifting pin is only guaranteed if they are used as intended.

The lifting pins are intended exclusively as lifting/hoisting accessory for lifting and holding individual loads. The lifting pins are not suitable for rotating the load. Damaged lifting pins can endanger lives. **Before each use**, check the lifting pin for visible defects (e.g. deformations, breaks, cracks, damage, missing balls, corrosion, function of the release).

When inserting a lifting pin, the rotation of the load must be prevented. Contamination (e.g. grinding sludge, oil and emission deposits, dust, etc.) can impair the function of the lifting pin. Damaged lifting pins must be immediately withdrawn from further use. To release the balls, press in the press button (A). By releasing the press button (A) the balls are locked again.

**Attention:** The press button (A) is locked when it is sprung back to its original position by the spring force. The press button must **not** be actuated under load! Before operation, the lifting pins must be checked for accidental or unintentional actuation of the press button to release the lifting pin. Any accidental or unintentional release of the press button during operation of the lifting pin must be ruled out by the operator / user.

## 2 Safety

### 2.1 Intended use

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The intended standard method of use of the lifting pin is operation by one person, and they may only be operated by instructed specialist personnel. The lifting pin may only be used within the scope of its technical data. The specified maximum technological data must not be exceeded. The load values F1, F2 and F3 apply to lifting in a steel hole. The field of application of the lifting pin is the area of industry. The lifting pin are not intended for different modes of operation, as this is a manual tool. Lifting pins are not intended for any other use than the use listed here; other uses would be considered improper use. In particular, it is prohibited

- to subsequently colour-code the lifting pins (especially in red), to avoid any mistaking of them with high-strength anchor points,
- to exceed the maximum load of the lifting pins (see "3.3 Technical data"),
- to use the lifting pins after exceeding the maximum permissible load cycles (see "3.3 Technical data"). After exceeding the maximum permissible load cycles (see "3.3 Technical data"), the lifting pins must be permanently taken out of operation,
- to use the lifting pins as protective device or safety function,
- to use the lifting pins as a traction element,
- not to produce the installation sketch according to the specifications of the company Erwin Halder KG,
- to use defective or unsuitable accessories,
- to use the lifting pins if the functional components are deactivated, manipulated or defective,
- to use the lifting pins while untrained persons are in the danger zone,
- to use the lifting pins if they are not ready for operation or have been modified,
- to use the lifting pins without instruction.
- to use the lifting pins only inserted, without using locking,
- to use the lifting pins for constantly rotating loads,
- to use the lifting pins for lifting, holding or carrying persons,
- to actuate the locking press button under load,
- to place objects on the lifting pin. Remove all objects that are on the lifting pin.

Proper use also includes

- the observance of all notices in the original operating instructions and the third-party documentation,
- noting that in case of an overhead or horizontal use, the load must be secured against falling down before opening the lifting pins,
- compliance with the inspection and servicing intervals,
- the use of operating and auxiliary materials in accordance with applicable safety regulations,
- compliance with the operating conditions,
- inspecting the lifting pins for visible defects or damage before each use.

The technical specifications given in the technical data must be observed without exception.



Only use the lifting pins for their intended purpose, otherwise safe operation is not guaranteed.

For all personal injury and damage to property resulting from improper use, the operator of the lifting pins and not the manufacturer is responsible!

Regarding the minimum breaking load, the specified load capacities of the lifting pins are per lifting pin. They must not be added together for multi-strand lifting accessories. For such use cases, the corresponding rules must be observed. The load values F1 / F2 / F3 apply to lifting in a steel hole.

For alternating use on different objects to be transported, such as large tools, lifting pins must be used with the next largest bore diameter. When using multi-strand slings, the corresponding rules must be observed.

The load capacity specifications only apply if

- the forces introduced can be absorbed by the base material without any deformations affecting safety.

The load capacity applies up to max. 90° angle of inclination.

#### 2.1.1 Structural changes to the lifting pins

Design and manufacturer's acceptance are based on the Product Safety Act (ProdSG). No changes, additions or conversions may be made to the lifting pin without the prior written consent of Erwin Halder KG.

In case of non-compliance, the lifting pins lose their EC conformity. With this, the manufacturer of the lifting pins is outside of the warranty.

Immediately replace components that are not in problem-free condition.

Only use original spare parts / wear parts / accessories. These parts are specially designed for the lifting pins. For parts purchased from third parties it cannot be guaranteed that they have been designed and manufactured to meet the requirements on stress and safety.

Parts and optional equipment not supplied by Erwin Halder KG are not approved for use on the lifting pins.

#### 2.1.2 Foreseeable misuse

Any use of the lifting pin beyond the intended use, and/or other use, can lead to serious injuries.

- Do not use the lifting pins if maintenance or inspection are lacking.
- Never use the lifting pins without locking.
- Do not use the lifting pins with constantly rotating loads.
- Do not use the lifting pins to lift, hold or carry people.
- Do not use unauthorised location holes.
- Avoid jerky loads.
- Overloading or misuse can lead to failure of the lifting equipment. The load can fall down. Only use the lifting pins with the approved loads.
- Do not operate the press button under load.



## 2.2 Staff requirements

The lifting pins may only be transported, installed, operated, maintained, repaired, commissioned and decommissioned, inspected or disposed of by persons who are qualified and / or instructed to do so. These persons must know the original operating instructions and act accordingly. The respective powers of the staff should be clearly defined.

The following qualifications for various fields of activity are specified in the original operating instructions:

### **Personnel to be trained**

Personnel to be trained, such as an apprentice or a temporary worker, are not aware of all the dangers that can occur when operating the lifting pins. They may only perform work on the lifting pins under the supervision of qualified or instructed personnel.

### **Instructed personnel**

Instructed personnel have been instructed by the operator or by qualified personnel about the tasks assigned to them and possible dangers in case of improper behaviour.

### **Qualified personnel**

Due to their technical training, knowledge and experience as well as knowledge of the relevant regulations, qualified personnel are able to carry out the work assigned to them and to independently recognise and avoid possible dangers.

### 2.2.1 Responsibilities

Improper handling can lead to considerable personal injury and damage to property. Therefore, have all activities carried out only by personnel qualified for them.

- Only persons who can be expected to carry out their work reliably are permitted as personnel. No persons may work on the lifting pins if their ability to react is impaired by drugs, alcohol, medication or similar.
- All persons working on the lifting pins must read the original operating instructions and confirm that they have understood them by signing them.
- Personnel to be trained may initially only work on the lifting pins under the supervision of qualified personnel. The completed and successful instruction must be confirmed in writing.

The operator is responsible for instructing the personnel.

### 2.2.2 Obligation of the staff

Before starting work, all persons charged with working on the lifting pins undertake

- to observe the basic regulations on work safety and accident prevention,
- to read the safety instructions and warnings in these original operating instructions and confirm by signature that they have understood them.

### 2.2.3 Unauthorised persons

Unauthorised persons who do not meet the qualification requirements for the personnel are not aware of the dangers in area of use.

- Keep unauthorised persons away from the area of use.
- If in doubt, speak to such persons and instruct them to leave the area of use.
- Interrupt work as long as unauthorised persons are in the area of use.

### 2.2.4 Instruction

The personnel must be instructed regularly by the operator. Record the execution of the instruction to better keep track.

Date	Name	Type of instruction	Instruction given by	Signature

## 2.3 General safety instructions

- The lifting pins may be put into operation and serviced only after these original operating instructions have been taken notice of.
- Only use the lifting pin for its intended purpose (see “2.1 Intended use”).
- Do not release the lifting pins if there are other people in the danger zone (under a hanging load, for example).
- When using the lifting pins, refrain from any kind of work that could impair the safety of persons or the lifting pins.
- Never use the lifting pins with defective components. Never put built-in components out of operation.
- Always keep the area of use of the lifting pins clean and tidy to avoid danger from dirt and parts lying around.
- Do not exceed the technical performance data (see “3.3 Technical data”).
- Keep all safety and danger warnings on the lifting pins in a legible condition and renew them as necessary.
- Operation and work on the lifting pins may only be carried out by qualified or instructed personnel (see “2.2 Staff requirements”).
- In case of malfunctions, stop using the lifting pins immediately. Have faults rectified by appropriately trained specialists or by Erwin Halder KG .
- Always keep the original operating instructions at the place the lifting pin is used. It must be ensured that all persons who carry out activities on or with the lifting pin can read the original operating instructions at any time.

## 2.4 Safety measures for environmental protection

During all work, comply with the regulations on waste avoidance and proper waste recycling or disposal.

Particularly during assembly and maintenance work as well as during decommissioning, care must be taken to ensure that groundwater-polluting substances such as cleaning liquids (containing solvents) and other chemical substances or emissions and other chemical substances or emissions do not pollute the ground or enter the sewer system. These substances must be collected in suitable containers, and stored, transported and disposed of in accordance with national regulations.

## 2.5 Special danger warnings / residual dangers

### 2.5.1 Symbols used on the lifting accessory



#### **Observe the original operating instructions**

This symbol indicates that the original operating instructions must be observed.



#### **CE marking**

The CE marking on the product is the manufacturer's declaration that the product complies with the essential requirements of the relevant European health, safety and environmental protection legislation.



Keep all safety and danger information on the lifting pin in a legible condition. Renew this information as necessary.

### 2.5.2 Dangers due to falling loads

#### **WARNING**

##### **Risk of injury from loads falling down when opening the lifting pin!**

A failure to observe this can result in death or serious injury!

- Make sure that the locking press button can never be actuated under load.
- Please note that during use an opening of the lifting pin must be ruled out by suitable countermeasures.
- During use or at work always wear the protective equipment necessary for the work in question.

### 2.5.3 Dangers from hot surfaces

#### **WARNING**



##### **Burning danger due to hot surfaces!**

Non-compliance may result in minor injuries!

Hot loads can transfer heat to the lifting pins!

- Wear protective gloves when working with hot loads.



## 2.5.4 Dangers due to incorrect use

### **DANGER**

**When working with the lifting pin there is a danger due to incorrect use!**

A failure to observe this will result in death or serious injury!

- Note that contamination (e.g. grinding sludge, oil and emission deposits, dust, etc.) can impair the function of the lifting pins.
- Never use the lifting pins as a protective device or safety function.
- Never use the lifting pins as a traction element.
- Prepare the installation sketch according to the specifications of the company Erwin Halder KG.
- Never use the lifting pins without locking.
- Never use the lifting pins with constantly rotating loads.
- Never use the lifting pins to lift, hold or carry people,
- Only use approved location holes.
- Before each use, check the lifting pins for visible defects (e.g. deformations, breaks, cracks, damage, missing balls, corrosion, function of the release).
- During use or at work always wear the personal protective equipment necessary for the work in question (protective clothing, protective gloves, safety helmet for overhead use, and safety shoes).
- Never colour-code the lifting pins (especially red), to avoid confusion with high-strength anchor points.
- Note that the load values only apply to lifting in a steel hole.

## 2.5.5 Crushing hazards

### **WARNING**



**Risk of injury due to crushing!**

Serious injuries may occur during operation!

- Never use the lifting pins with defective components. Never put built-in components out of operation.
- Make sure that the lifting pins are properly fastened.
- Make sure that no limbs of your own or other persons are under suspended loads.

## 2.5.6 Dangers due to suspended loads

### WARNING



**The following special hazards must be expected when operating the lifting pins:**

Hanging loads can fall down, causing a danger to life!

With suspended loads a risk of injuries such as scrapes, piercing, crushing or broken bones exists!

- During use or at work always wear the personal protective equipment necessary for the work in question (protective clothing, protective gloves, safety helmet and safety shoes).
- Make sure that you and other persons are not under suspended loads.
- Place or set down the load safely.
- The maximum load must not be exceeded (see "3.3 Technical data").
- Perform a daily function test before each start-up.
- In the event of mechanical damage, take the lifting pins out of operation immediately.
- Make sure that you use sufficiently dimensioned lifting pins for loads.
- Make sure that the locking press button is never actuated under load.

## 2.5.7 Dangers due to improper placement

### DANGER

**Danger due to improper placement of objects!**

Improper placement of objects on the lifting pins can lead to damage, malfunctions or total failure and impair safety!

- Please note that it is forbidden to place objects on the lifting pins. Remove all objects that are on the lifting pin.
- Make sure that workpieces are properly fastened.

## 2.5.8 Dangers due to the use of incorrect spare parts

### DANGER

**Danger due to use of incorrect spare parts!**

Incorrect or faulty spare parts can lead to damage, malfunction or total failure and impair safety!

- Only use original spare parts.
- Obtain the spare parts from Erwin Halder KG. You will find the necessary information on spare parts in the enclosed parts lists or in "1.5 Service / Customer service".

### 2.5.9 Crushing and cutting hazards for hands

#### **WARNING**



**On the lifting accessory there are crushing and cutting hazards for hands (movements of mechanical parts).**

A failure to observe this can result in serious injuries!

- While using the lifting accessory do not carry out any manual work on the lifting accessory.
- During use or at work always wear the personal protective equipment necessary for the work in question (protective clothing, safety goggles, protective gloves and safety shoes).

### 2.5.10 Dangers from unauthorised persons

#### **DANGER**



**On the lifting accessory there are dangers for unauthorised persons!**

A failure to observe this will result in death or serious injury!

- Check that there are no unauthorised persons on site.
- Prevent unauthorised persons from entering the area of use.

### 2.5.11 Dangers due to insufficient qualification

#### **DANGER**

**Risk of injury in case of insufficient qualification!**

Improper handling of the lifting pins can lead to considerable personal injury and material damage!

- Have all activities carried out only by personnel qualified for them.

### 2.5.12 Dangers when the lifting accessory is used by multiple persons

#### **DANGER**



**With the lifting pins there are dangers when the lifting accessory is used by multiple persons!**

A failure to observe this will result in death or serious injury!

- Note that the lifting pins may only be used by one person.
- Keep a sufficient distance away for safety during operation.

### 2.5.13 Hazards due to contamination

 **WARNING**

**Danger from contamination (e.g. grinding sludge, oil and emission deposits, dust, chips, etc.) can impair the function of the lifting pins!**

A failure to observe this can result in death or serious injury!

- Always keep the lifting pins clean.
  - Ensure a clean working environment.
  - During use always wear the protective equipment necessary for the work in question.
- 

### 2.5.14 Dangers due to damaged lifting pins

 **WARNING**

**Danger of life-threatening injuries due to damaged lifting pins!**

A failure to observe this can result in death or serious injury!

- Before each use, check the lifting pins for visible defects (e.g. deformations, breaks, cracks, damage, missing balls, corrosion, function of the release).
  - Remove damaged lifting pins immediately from any further use.
- 

### 2.5.15 Hazards due to cleaning liquids (containing solvents) and other chemical substances or emissions

 **WARNING**

**On the lifting pins there are dangers due to cleaning liquids (containing solvents) and other chemical substances or emissions!**

A failure to observe this can result in death or serious injury!

- Observe the safety regulations applicable to the product when handling cleaning liquids (containing solvents) and other chemical substances or emissions.
  - During use or at work always wear the protective equipment required for the work in question (respiratory protection, protective clothing, safety goggles, and protective gloves).
-



## 2.6 Personal protective equipment

When operating the lifting pins, regardless of the workplace risk assessment, personal protective equipment must be worn in order to minimise health hazards.

- During use or at work always wear the protective equipment necessary for the work in question.
- Do not wear rings, chains or other jewellery.
- Follow the instructions on personal protective equipment.

The symbols have the following meaning:



### **Protective clothing**

Protective clothing is close-fitting work clothing with low tear resistance, with tight sleeves and no protruding parts. It mainly serves as protection against getting caught by moving parts of the lifting accessory.



### **Safety shoes**

Wear non-slip safety shoes to protect against heavy falling parts or slipping on smooth surfaces.



### **Protective gloves**

Wear protective gloves to protect your hands from friction, abrasions, piercing or deeper injuries, and from contact with hot surfaces or chemical substances.



### **Safety goggles**

Wear safety goggles to protect against media escaping under high pressure or flying parts.



### **Safety helmet**

Wear a safety helmet to protect against falling or flying debris.



### **Respiratory protection**

Wear appropriate respiratory protection if applicable material-specific dust limits are exceeded.

The personal protective equipment must be provided by the operator and must comply with the applicable requirements.

In addition, the national regulations as well as specifications from the workplace risk assessment and, if necessary, internal instructions of the operator must be observed.

## 2.7 Notices for emergencies

### **Preventive measures**

- Always be prepared for accidents.
- Keep first aid equipment (first aid kit, blankets, etc.) within easy reach.
- Familiarise personnel with accident reporting, first aid, fire fighting and rescue facilities.
- Keep the access routes for rescue vehicles clear.

### **Measures to be taken in the event of accidents**

- Trigger an emergency stop on the hoisting system in which the lifting pins are used.
- Rescue people from the danger zone.
- In case of cardiac and/or respiratory arrest, initiate resuscitation immediately.
- In the event of personal injury, notify the first aid representative and an emergency doctor or the emergency services.
- Clear the access routes for rescue vehicles. If necessary, assign someone to instruct the rescue services.

## 2.8 Obligation of the operator

The lifting pins are used in the commercial sector. The operator of the lifting pins is therefore subject to the legal obligations for occupational safety.

In addition to the safety instructions in these original operating instructions, the safety, accident prevention and environmental protection regulations valid for the area of application of the lifting pins must be observed. The following applies in particular:

- The operator must ensure that the lifting pins are only used for their intended purpose (see "2.1 Intended use").
- The operator must always make the original operating instructions available in legible condition and in full at the place of use of the lifting pins.
- The operator must clearly regulate and define the responsibilities for installation, commissioning, operation, maintenance and cleaning.
- The operator may only allow persons to work on the lifting pins who have reached the minimum legal age.
- The operator may only allow sufficiently qualified and instructed personnel to work on the lifting pins.
- The operator must ensure that all employees who interact with the lifting pins have read and understood the original operating instructions.  
In addition, he must demonstrably train the personnel at regular intervals and inform them about the dangers.
- The operator must provide personal protective equipment for the personnel and ensure that it is used.
- The operator must ensure that no persons work on the lifting pins whose ability to react is impaired by drugs, alcohol, medication or similar.
- The operator must ensure there is adequate lighting in the area of use of the lifting pins.

Furthermore, the operator is responsible for ensuring that the lifting pins are always technically in perfect condition. The following therefore applies:

- The operator must ensure that the servicing intervals described in these original operating instructions are adhered to.
- The operator must have all components of the lifting pins checked regularly for proper functioning and completeness.
- The operator must regularly check that all safety and warning notices attached to the lifting pins are clearly legible and remain permanently attached to the lifting pins.

---

## 3 Description of the lifting pins

### 3.1 Overview

All illustrations in this document are for providing a basic understanding and may differ from the actual design.

#### 3.1.1 Overview of functional elements

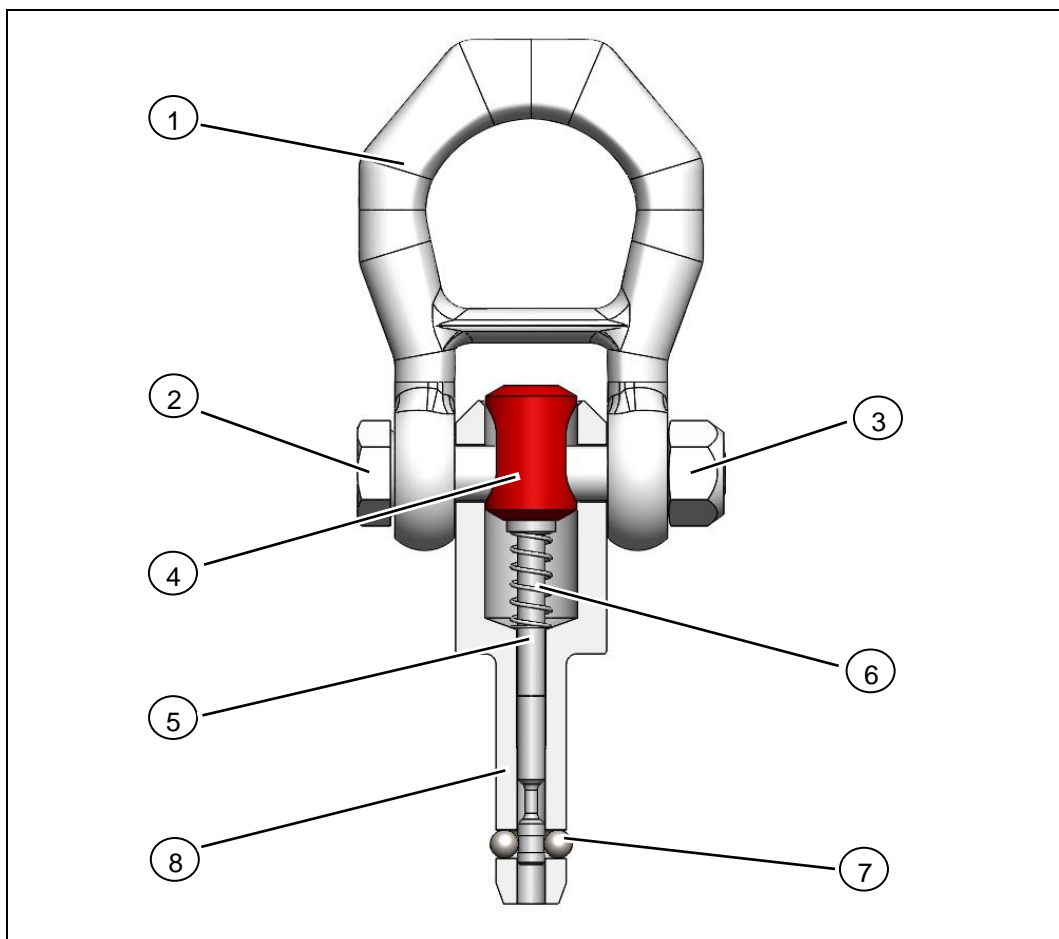


Figure 1: Overview of functional elements

- |   |                    |   |            |
|---|--------------------|---|------------|
| 1 | Shackle            | 5 | Press bolt |
| 2 | Hexagon head bolt  | 6 | Spring     |
| 3 | Hexagon nut        | 7 | Ball       |
| 4 | Press button (red) | 8 | Sleeve     |

### 3 Description of the lifting pins

#### 3.1 Overview

#### 3.1.2 Type plate overview / inscription

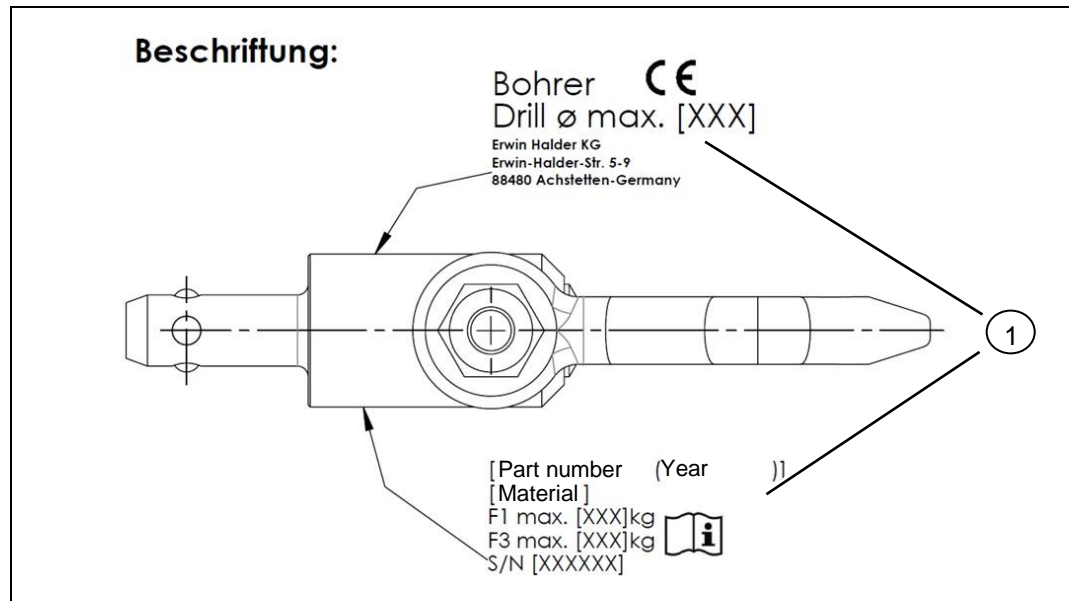


Figure 2: Type plate overview / inscription

- 1 Type plate / inscription of the lifting pin

## 3.2 Functional description

The lifting pins are intended exclusively as lifting/hoisting accessory for lifting and holding individual loads.

The lifting pins consist of the following components:

- Sleeve
- Balls
- Press bolt
- Press button
- Spring
- Bolt and nut
- Shackle

To insert the lifting pin, the operator must keep the press button pressed. This causes the balls to be retracted via the press bolt. The operator can now insert the lifting pin into the hole and then release the press button. The press button and the press bolt are reset by the spring and the balls are pushed out again. The lifting pin aligns itself under tensile load.

By pressing and holding the press button, the balls can retract again and the lifting pin can be removed from the hole. The press button can then be released again.

3 Description of the lifting pins  
3.2 Functional description

---

Installation examples:



Figure 3: Installation examples 1 - lifting pin

3 Description of the lifting pins  
3.2 Functional description

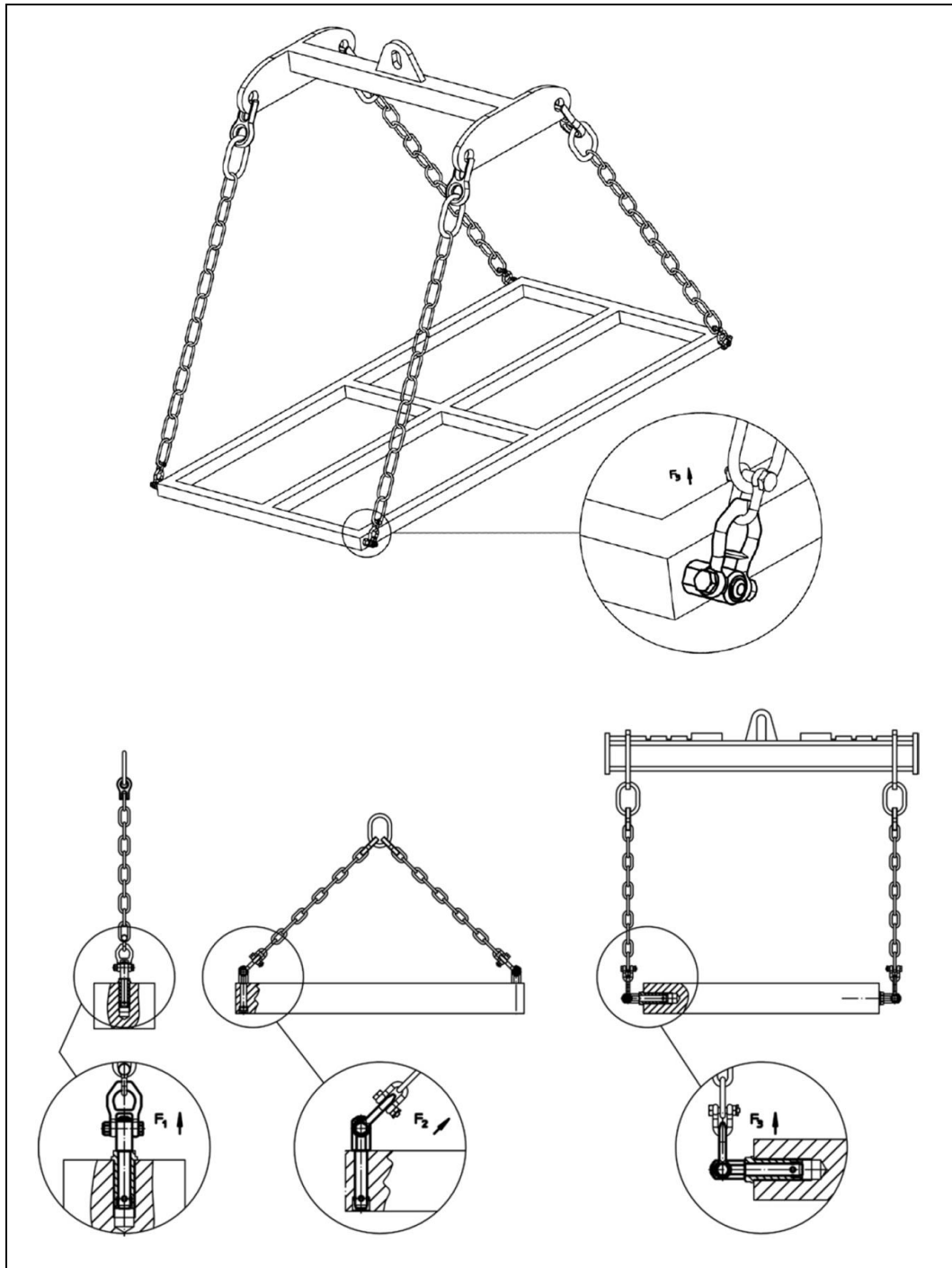


Figure 4: Installation examples 2 - lifting pin



### 3.2.1 Materials



Figure 5: Materials

- 1 Heat-treated steel, tempered, manganese-phosphated
- 2 Stainless steel 1.4542, precipitation-hardened

3.3 Technical data

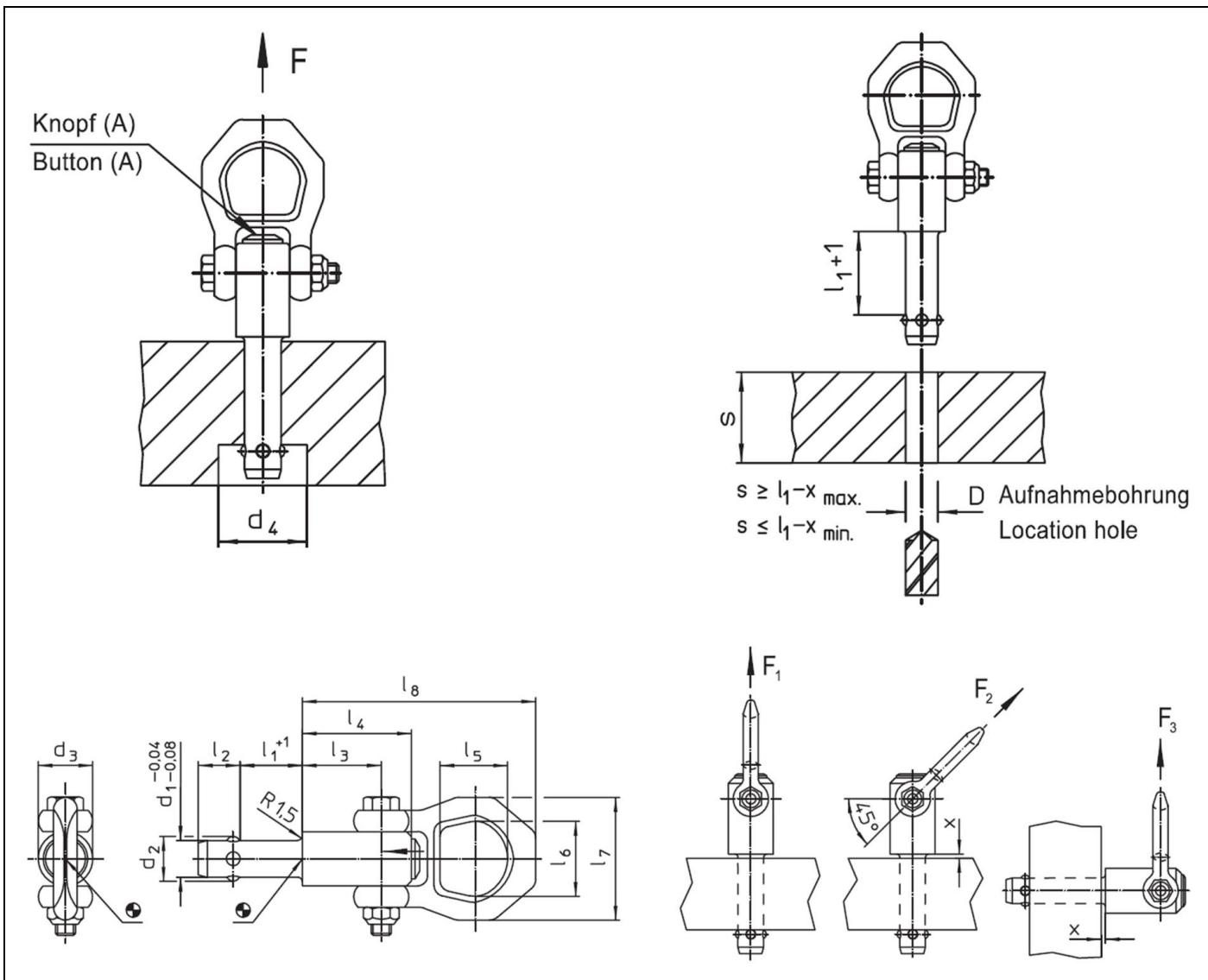


Figure 6: Dimensioned drawing – lifting pin

### 3 Description of the lifting pins

#### 3.3 Technical data

Dimensions														Load capacity <sup>1)</sup>			D H11	Item no.	
d <sub>1</sub>	l <sub>1</sub>	d <sub>2</sub>	d <sub>3</sub>	d <sub>4</sub> min.	l <sub>2</sub>	l <sub>3</sub>	l <sub>4</sub>	l <sub>5</sub>	l <sub>6</sub>	l <sub>7</sub>	l <sub>8</sub>	X min. <sup>1)</sup>	X max.	F <sub>1</sub>	F <sub>2</sub>	F <sub>3</sub>		Steel	Stainless steel
[mm]														[kN]			[mm]		
8.0	10	9.35	21.5	9.85	8.75	25.7	36.0	27.0	30	49	87.5	1.5	5	1.5	1.2	0.5	8.0	22350.0601	22350.0701
8.0	15	9.35	21.5	9.85	8.75	25.7	36.0	27.0	30	49	87.5	1.5	10	1.5	1.2	0.5	8.0	22350.0602	22350.0702
8.0	25	9.35	21.5	9.85	8.75	25.7	36.0	27.0	30	49	87.5	1.5	15	1.5	1.2	0.5	8.0	22350.0604	22350.0704
8.0	35	9.35	21.5	9.85	8.75	25.7	36.0	27.0	30	49	87.5	1.5	15	1.5	1.2	0.5	8.0	22350.0606	22350.0706
8.3	10	9.65	21.5	10.05	8.75	25.7	36.0	27.0	30	49	87.5	1.5	5	1.5	1.2	0.5	8.3	22350.0611	22350.0711
8.3	15	9.65	21.5	10.05	8.75	25.7	36.0	27.0	30	49	87.5	1.5	10	1.5	1.2	0.5	8.3	22350.0612	22350.0712
8.3	25	9.65	21.5	10.05	8.75	25.7	36.0	27.0	30	49	87.5	1.5	15	1.5	1.2	0.5	8.3	22350.0614	22350.0714
8.3	35	9.65	21.5	10.05	8.75	25.7	36.0	27.0	30	49	87.5	1.5	15	1.5	1.2	0.5	8.3	22350.0616	22350.0716
10.0	15	11.70	21.5	12.20	10.20	25.7	36.0	27.0	30	49	87.5	1.5	10	2.7	2.4	2.1	10.0	22350.0621	22350.0721
10.0	25	11.70	21.5	12.20	10.20	25.7	36.0	27.0	30	49	87.5	1.5	10	2.7	2.4	2.1	10.0	22350.0623	22350.0723
10.0	35	11.70	21.5	12.20	10.20	25.7	36.0	27.0	30	49	87.5	1.5	10	2.7	2.4	2.1	10.0	22350.0625	22350.0725
10.0	50	11.70	21.5	12.20	10.20	25.7	36.0	27.0	30	49	87.5	1.5	10	2.7	2.4	2.1	10.0	22350.0627	22350.0727
12.0	15	14.20	21.5	14.70	11.00	25.7	36.0	27.0	30	49	87.5	1.5	10	3.5	3.2	2.8	12.0	22350.0631	22350.0731
12.0	25	14.20	21.5	14.70	11.00	25.7	36.0	27.0	30	49	87.5	1.5	15	3.5	3.2	2.8	12.0	22350.0633	22350.0733
12.0	35	14.20	21.5	14.70	11.00	25.7	36.0	27.0	30	49	87.5	1.5	15	3.5	3.2	2.8	12.0	22350.0635	22350.0735
12.0	50	14.20	21.5	14.70	11.00	25.7	36.0	27.0	30	49	87.5	1.5	15	3.5	3.2	2.8	12.0	22350.0637	22350.0737
13.8	25	16.20	21.5	16.70	13.00	25.7	36.0	27.0	30	49	87.5	1.5	15	3.8	3.5	2.8	13.8	22350.0651	22350.0751
13.8	50	16.20	21.5	16.70	13.00	25.7	36.0	27.0	30	49	87.5	1.5	35	3.8	3.5	2.8	13.8	22350.0653	22350.0753
13.8	75	16.20	21.5	16.70	13.00	25.7	36.0	27.0	30	49	87.5	1.5	35	3.8	3.5	2.8	13.8	22350.0655	22350.0755
16.0	25	18.60	25.0	19.20	15.10	31.0	44.5	27.0	30	49	92.8	1.5	15	4.8	4.5	4.1	16.0	22350.0641	22350.0741
16.0	50	18.60	25.0	19.20	15.10	31.0	44.5	27.0	30	49	92.8	1.5	35	4.8	4.5	4.1	16.0	22350.0643	22350.0743
16.0	75	18.60	25.0	19.20	15.10	31.0	44.5	27.0	30	49	92.8	1.5	40	4.8	4.5	4.1	16.0	22350.0645	22350.0745
20.0	50	24.50	30.0	25.00	19.70	36.5	52.0	32.6	36	56	114.0	1.5	25	10.0	8.5	6.5	20.0	22350.0673	22350.0773
20.0	75	24.50	30.0	25.00	19.70	36.5	52.0	32.6	36	56	114.0	1.5	30	10.0	8.5	6.5	20.0	22350.0675	22350.0775



<sup>1)</sup> with 5-fold safety against breakage

#### 3.3.1 Ambient conditions

Permissible ambient temperature during operation

-30 °C up to +250 °C

Permissible ambient temperature during storage

-10 °C up to +60 °C

Permissible humidity

max. 60%

#### 3.3.2 Intended service life

The intended service life of the lifting pin, taking into account the intended use and maintenance intervals, is a maximum of **16,000** load cycles for all part numbers.

---

## 4 Transport and storage

The lifting accessory will be delivered to the customer by a transport company authorised by Erwin Halder KG .

### 4.1 Controls at the time of acquisition by the recipient

On arrival of the lifting pins at the customer's premises, they must be inspected for visible transport damage.

- Report any transport damage immediately to the delivering agent.

### 4.2 Packaging

A contributing factor to the choice of packaging is the transportation route. Unless otherwise contractually agreed, the packaging shall comply with the HPE packaging guidelines laid down by the Bundesverband Holzmittel, Paletten, Exportverpackung e.V. (Federal Association of Wood Products, Pallets, Export Packaging) and the Verein Deutscher Maschinenbauanstalten (Mechanical Engineering Industry Association).

- Pay attention to the symbols on the packaging:

Examples of symbols on packaging:

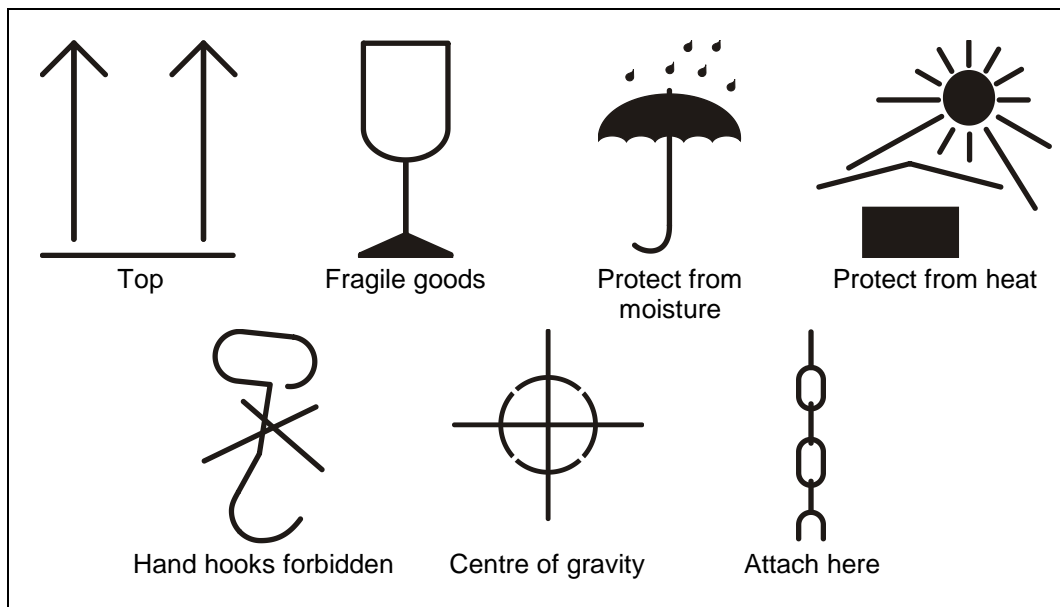


Figure 7: Examples of symbols on packaging

#### 4.2.1 Unpacking

Proceed as follows when unpacking the lifting pins

- Remove the packaging. Dispose of packaging materials such as foils and adhesive tapes properly.
- Do not throw away the original packaging. Keep it for re-transport.
- Check the delivery for completeness by comparing it to your order.
- It is essential that you keep the supplied documents; they contain important information on how to use the lifting pin.
- Check the package contents for visible transport damage.
- If you notice any transport damage or discrepancies between the contents of the package and your order, please inform Erwin Halder KG.

#### 4.2.2 Re-packaging

See chapter 4.2.1 Unpacking.

### 4.3 Notes on hazards during transport

#### **WARNING**



**The following special hazards must be expected when transporting the lifting pins (package units or pallets):**

Hanging loads can fall down, causing a danger to life!

A danger of tipping over exists during unsecured transport!

Protruding edges can lead to bruising or cuts!

- Only use approved load carrying devices.
- During use or at work always wear the personal protective equipment necessary for the work in question (protective clothing, protective gloves, safety helmet and safety shoes).
- Make sure that you and other persons are not under suspended loads.

- Please also read the chapter "2 Safety".
- The lifting pins (package unit or pallet) may only be transported by appropriately qualified and instructed personnel (forklift / crane driver with qualification certificate) and in compliance with all safety instructions.
- When selecting suitable lifting devices and lifting accessories, always consider the weight of the heaviest component.
- Wear protective clothing, safety shoes, protective gloves and a safety helmet when working.
- Always secure the transport route with an additional person.

## 4 Transport and storage

### 4.4 Permitted aids for transport

---

- Ensure that no persons are standing in the path of transport or under suspended loads.
- Always lift the packing units or pallets of the lifting pin slowly and carefully to ensure stability and safety.
- Remove transport safeguards (if present).

## 4.4 Permitted aids for transport

Shackles or hooks must be selected according to the transport weight of the packaging units or pallets of the lifting pin and are only to be attached to the holding points provided for this purpose.

Avoid contact of the carrying chains or ropes with the packing units or pallets of the lifting pins. If this is not possible, take appropriate precautions to prevent damage to the packing units or pallets of the lifting pins.

Adjust the length of the carrying means so that the packaging units or pallets of the lifting pins can be transported horizontally.

## 4.5 Scope of delivery

The scope of delivery of the lifting pin consists of the following components:

- lifting pin
- Brief operating instructions

## 4.6 Interim storage

If the lifting pins are not used immediately after delivery, they must be stored carefully in a protected place. The lifting pins must be stored temporarily in such a way that they are protected from cold, moisture, dirt and mechanical influences.

For the recommended storage conditions of the lifting pins, please refer to chapter “3.3.1 Ambient conditions”.



In case of improper storage, no liability will be accepted for any damage caused!

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## 5 Assembly

The lifting pins are completely assembled by Erwin Halder KG.

### 5.1 Notes on hazards during assembly

#### **WARNING**

##### **Risk of injury due to unsuitable assembly materials!**

Unsuitable assembly materials can lead to serious injuries during operation!

- Only use the supplied assembly materials.

### 5.2 Preparatory measures

Before assembling the lifting pins, make sure that

- Additional lighting equipment (hand-held lamps) is available for the work,
- The assembly area is cleaned and dust-free,
- The necessary tools are available for the assembly.

### 5.3 Choice of location of use

#### 5.3.1 Necessary operating and maintenance areas



When selecting the location of use, take into account the ambient conditions (see “3.3.1 Ambient conditions”).

When selecting the location of use, take into account the necessary operating and maintenance areas.

Make sure there is clear space around the lifting pins.

The operator must ensure there is adequate lighting in the location of use of the lifting pins.

### 5.3.2 Requirements for the location of use

#### **WARNING**

##### **Risk of injury due to instability!**

If incorrectly assembled, a risk of serious injury exists due to instability of the individual component groups when using the lifting pins!

- Note that the location of use must be:
  - flat, horizontal,
  - temperature resistant, non-flammable and
  - vibration-free
- Have the installation work carried out only by authorised and instructed personnel.
- During assembly, observe the tightening torques of all screw connections.
- During use or at work always wear the protective equipment required for the work in question (such as protective clothing and safety shoes).

#### **WARNING**

##### **Risk of injury due to lack of space!**

A risk of serious injuries such as scratches, piercing or broken bones exists from work equipment and/or components being arranged too closely together!

- The location of use of the lifting pins must be selected in such a way that the room to manoeuvre necessary for personnel in the work area is not restricted or impeded.
- Maintain the room to manoeuvre according to ergonomic guidelines and standards.
- Cordon off the danger area.
- Keep unauthorised persons away.
- Designate a person to be in charge.



When selecting the set-up location, take into account the necessary operating and maintenance areas.

The clearance at the lifting pins should not be less than the required room to manoeuvre all around.



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## 6 Commissioning

### 6.1 Safety measures before commissioning

#### **WARNING**

##### **Risk of injury due to lack of space!**

A risk of injuries such as scratches, piercing or broken bones exists from work equipment and/or components being arranged too closely together!

- The set-up location of the lifting pins must be selected in such a way that the room to manoeuvre necessary for personnel in the work area is not restricted or impeded.
- Only allow qualified personnel to carry out commissioning.
- Cordon off the danger area.
- Keep unauthorised persons away.
- Designate a person to be in charge.

---

Make yourself sufficiently familiar with

- the operating elements of the lifting pins,
- the equipment of the lifting pins,
- the way the lifting pins works,
- the immediate vicinity of the lifting pins,
- the measures for emergencies.

Perform the following activities before initial commissioning or recommissioning:

- Check and make sure that all components are installed and working.
- Check the lifting pins for visible damage; immediately rectify any defects found or report them to the supervisory staff – the lifting pin may only be operated in perfect condition.
- Check and make sure that only authorised persons are in the work area of the lifting pins and that no other persons are endangered by use of the lifting pins.
- Remove all objects and other materials from the place of use that are not required for the operation of the lifting pins.
- Keep a commissioning log.

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## 7 Operation

### 7.1 Safety measures during normal operation

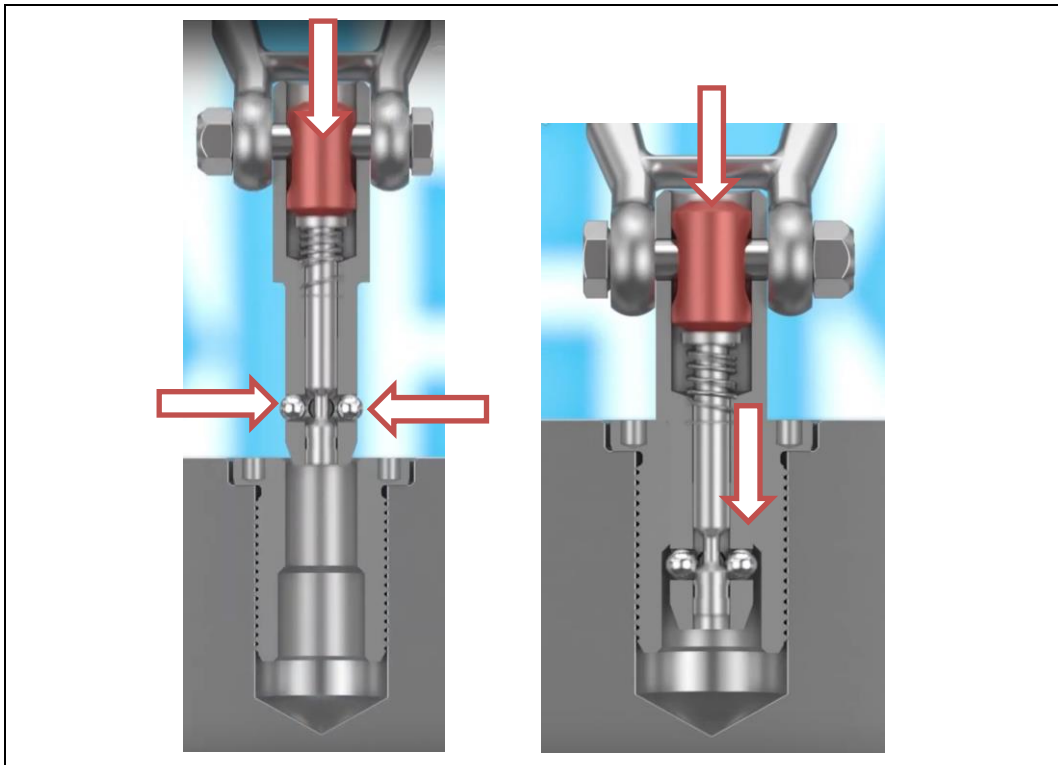
- Do not remove or disable any components while the lifting pins are being used.
- Make sure that no unauthorised persons are in the work area of the lifting pins.
- Make sure that no persons or limbs of persons are under suspended loads during operation.

Perform the following control activities once a day:

- Check the lifting pins for externally visible damage.
- Check the function of all components of the lifting pins.

### 7.2 Example application

**Insert:**



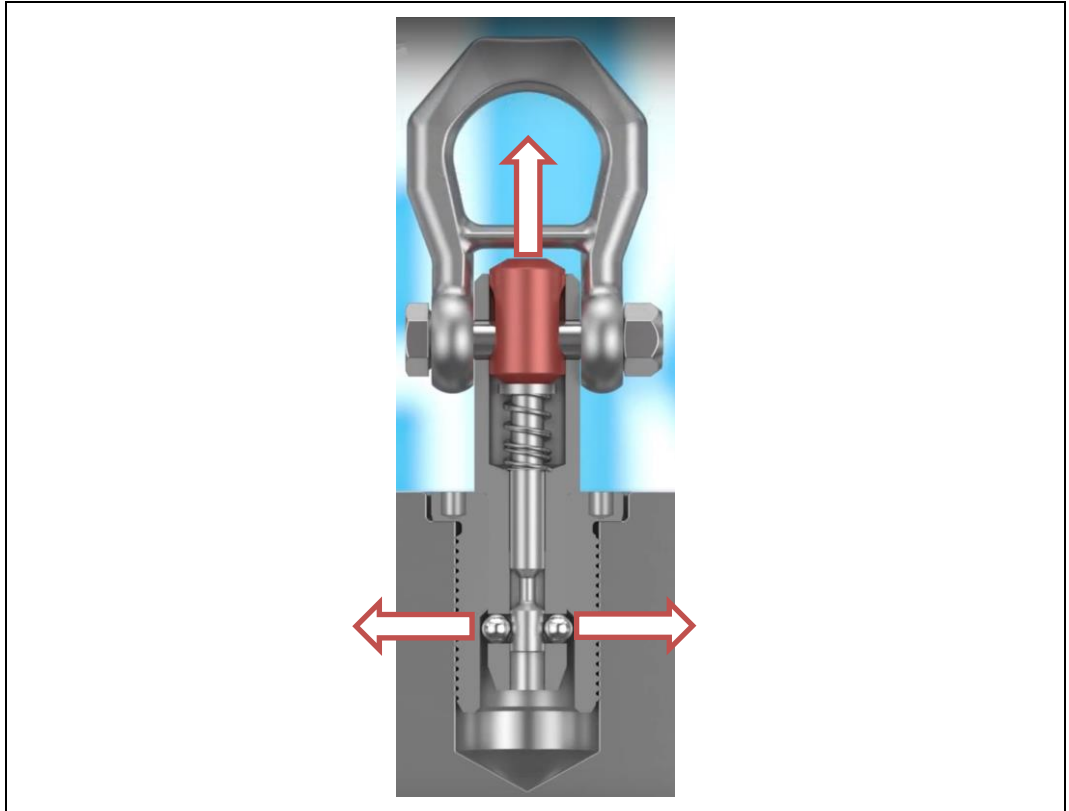
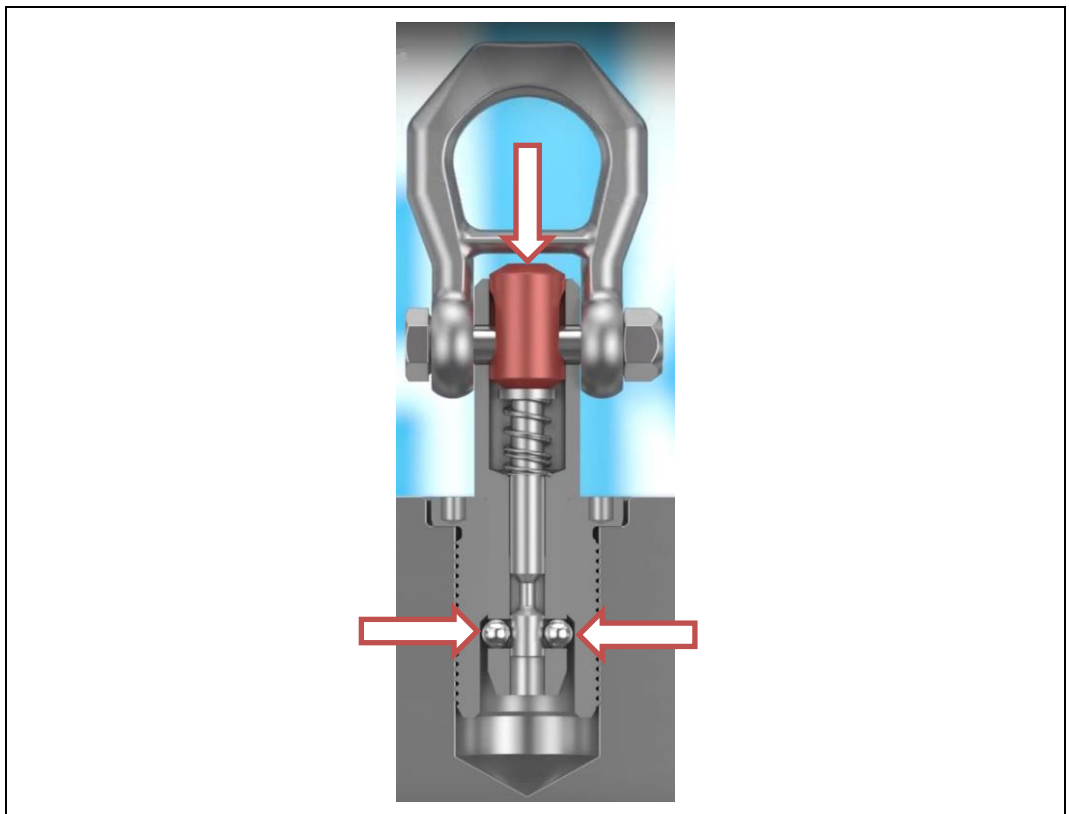


Figure 8: Example application - Insert

**Withdraw:**



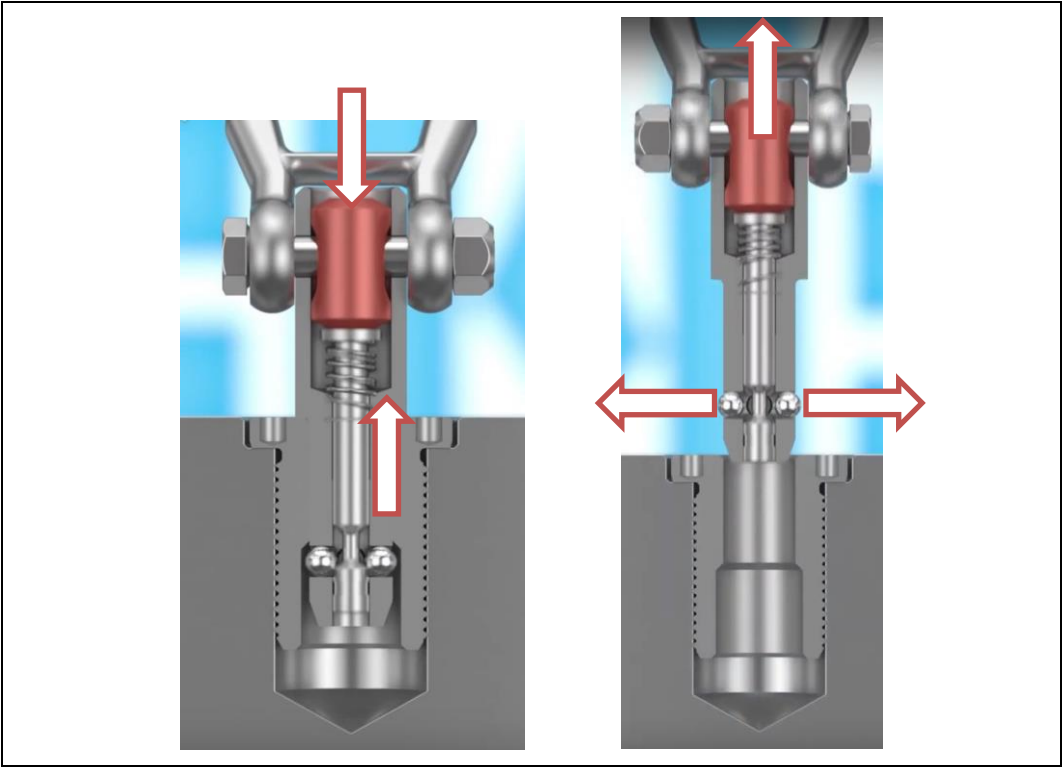


Figure 9: Example application - Withdraw

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## 8 Malfunctions

### DANGER

#### **On the lifting accessory hazards exist during troubleshooting!**

Failure to observe the instructions may result in damage, malfunctions or total failure of the lifting pins, as well as impairment of the safety of the lifting pins!

- Only allow qualified personnel to carry out troubleshooting.
  - Take damaged lifting pins out of service immediately.
- 

### 8.1 Malfunctions and corrective measures

Malfunction	Cause	Corrective measures
<b>Balls no longer retract or can be pushed out</b>	Contamination in the openings	Clean the lifting pin
<b>Balls no longer retract or can be pushed out</b>	Exceeding of the service life or overloading by user	lifting pin replacement
<b>Balls missing</b>	Improper handling	lifting pin replacement
<b>Shackles are no longer movable</b>	Overloading	lifting pin replacement

---

## 9 Maintenance

### 9.1 Safety measures during maintenance work

Carry out the prescribed maintenance work such as cleaning, lubricating, servicing and inspection on time.

Observe the maximum permissible load cycles (see "3.3 ") and, as soon as the maximums are reached, make the lifting pins unusable and dispose of them. This applies even if no external wear is visible.

Note the following points before carrying out the maintenance work:

- Cordon off access to the area of use of the lifting pins. Make sure that no unauthorised persons are in the area of use of the lifting pins.
- Make sure that all components have cooled down to ambient temperature.
- Only carry out work on low-mounted components in a squatting position, not in a bent position. Carry out work on components mounted high up in an upright, straight posture.
- Immediately replace all lifting pins that are not in perfect working order.
- Only use original spare parts.
- Make sure that suitable collection containers are available for all substances (cleaning agents or other chemical substances) hazardous to groundwater.

After the servicing work has been completed and before using the lifting pins, carry out the following activities:

- Check all previously loosened screw connections once again for tightness.
- Check that all previously removed components are properly reinstalled.
- Make sure that all tools, materials and other equipment used have been removed from the area of use.
- Clean the area of use. Remove any fluids that may have leaked out (e.g. cleaning agents) and similar substances.
- Make sure that all components of the lifting pins are working properly again.

## 9.2 Inspection and maintenance work

### 9.2.1 Maintenance intervals

Maintenance item	Maintenance work	See section
<b>Daily</b>		
Entire lifting pin	Visual inspection	9.2.2.1
<b>Weekly</b>		
Entire lifting pin	Cleaning	9.2.3.1
Entire lifting pin	Functional test	9.2.3.2
Entire lifting pin	Visual inspection, warning and information signs	9.2.3.3
<b>Annually</b>		
Entire lifting pin	Inspection by an expert	9.2.4.1

### 9.2.2 Maintenance - daily

#### 9.2.2.1 Visual inspection

- Check the lifting pin for
  - mechanical damage,
  - wear on the balls,
  - dirt deposits (such as grinding sludge, oil and emulsion deposits, dusts, etc.) and
  - unfamiliar noises.
- Report any damage immediately to your supervisor.

#### 9.2.3 Maintenance - weekly

##### 9.2.3.1 Cleaning

Proceed as follows to clean the lifting pin:

- Thoroughly clean all lifting accessory components and remove dirt, dust and foreign objects from the entire lifting accessory area. Use machine cleaning agents for this purpose. Never clean the lifting pin with high-pressure cleaners or degreasing cleaning agents.

##### 9.2.3.2 Functional test

- Check whether the return of the balls (pushing out) occurs automatically by the spring force.
- Check all other components for functionality.
- Report any damage immediately to your supervisor.

##### 9.2.3.3 Visual inspection of warning and information signs

- Check all warning and information signs of the lifting pin for completeness and legibility.
- Report any damage immediately to your supervisor.

#### 9.2.4 Maintenance - annual

##### 9.2.4.1 Inspection by an expert

- Have load bearing equipment inspected by an expert at least once a year.
- Please also note that additional tests may be required according to the conditions of use and operational conditions or as extraordinary tests according to "Use of load bearing equipment in hoisting operations "DGUV regulation 100- 500 (previously BGR 500).



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## 10 Dismantling and disposal

### DANGER



#### **Risk of serious injury due to improper decommissioning / disposal!**

A failure to observe this will result in death or serious injury!

- Have the disassembly work carried out only by qualified or instructed personnel. Note that the personnel must have practical experience in dismantling the lifting accessory.
  - Do not stand under suspended loads during disassembly work.
  - Please note that in case of an overhead application or horizontal application, the load must be secured against falling before opening the lifting pins.
  - During use or at work always wear the protective equipment required for the work in question (e.g. protective clothing, safety shoes, protective gloves and safety helmet).
  - In case of doubt, please contact Erwin Halder KG.
-

## 10.1 Disassembly

### **WARNING**

#### **Danger from disassembly work!**

During disassembly there is a risk of injuries such as scratches, piercing or crushing!

- Only allow instructed and authorised personnel to carry out disassembly work.
- Please note that in case of an overhead application or horizontal application, the load must be secured against falling before opening the lifting pins.
- During use or at work always wear the protective equipment required for the work in question (e.g. protective clothing, safety goggles, safety shoes and safety helmet).

### **WARNING**

#### **Danger of injury due to work equipment arranged too closely together!**

A failure to observe this can result in death or serious injury!

- Cordon off the danger area.
- Keep unauthorised persons away from the danger area.
- Appoint a person to be responsible for the disassembly work.
- During use or at work always wear the protective equipment required for the work in question (e.g. protective clothing, safety goggles, safety shoes and safety helmet).

## 10.2 Disposal

### **WARNING**



#### **Risk of environmental pollution / waste of resources!**

A failure to comply can cause environmental damage!

- Only allow instructed and authorised personnel to carry out disposal work.
- Collect and separate liquids.
- Cleansers and auxiliary materials used to clean the lifting pins must be disposed of in accordance with local regulations and in compliance with the instructions in the manufacturer's safety data sheets.
- Separate materials and packaging waste by type and recycle them.
- Observe local recycling regulations.

---

## **11 Annex**

### **11.1 EC Declaration of Conformity**

On the following pages you will find the EC Declaration of Conformity for these lifting pins and the attached documents.



## EC Declaration of Conformity

(original declaration of conformity)

Manufacturer / Authorised Representative:	Erwin Halder KG Erwin-Halder-Straße 5-9 88480 Achstetten-Bronnen
Authorised person, for the compilation of the technical documentation:	Erwin Halder KG Erwin-Halder-Straße 5-9 88480 Achstetten-Bronnen
Product:	lifting pin
Article group:	EH 22350.XXXX
Function:	The lifting pins are intended exclusively as lifting/hoisting accessory for lifting and holding individual loads.

We hereby declare that the lifting accessory described above complies with all relevant provisions of the Machinery Directive 2006/42/EC.

Other standards applied:

- EN ISO 12100
- EN 13155

88480 Achstetten-Bronnen, 03.11.2022

Stefan Halder, Management