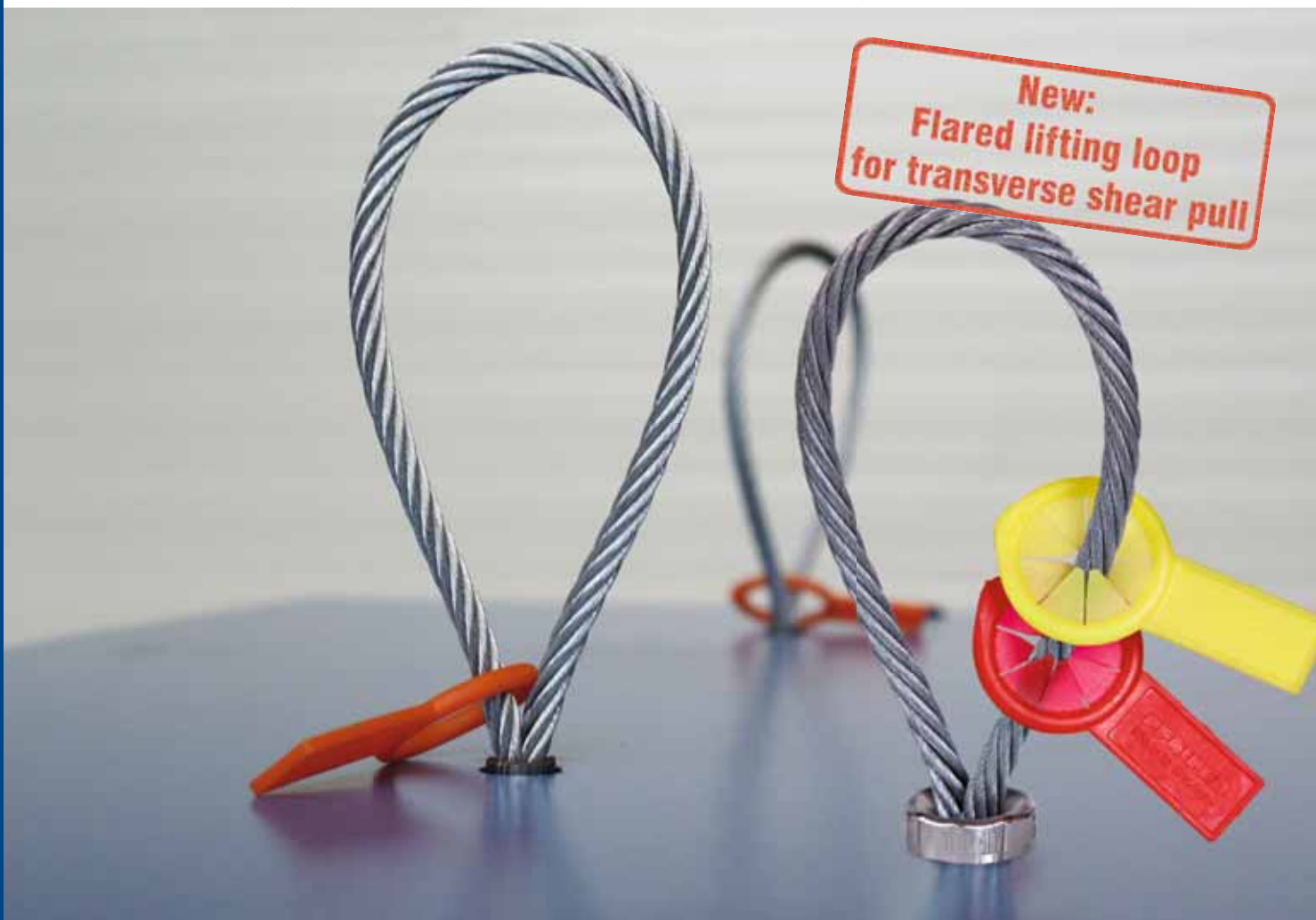


**New:  
Flared lifting loop  
for transverse shear pull**



09/2017

## PFEIFER Lifting loops for machine transport

**PFEIFER  
SEIL- UND HEBETECHNIK  
GMBH**  
DR.-KARL-LENZ-STRASSE 66  
D-87700 MEMMINGEN  
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# You're on the safe side with PFEIFER lifting loops!



## Advantages in use

- Flexible ropes conforming to EN standards
- Parallel shear pull up to 45° is easily possible with the standard lifting loops
- Transversal shear pull up to 90° is possible with the flared lifting loop
- Special rounding of the ferrule to prevent damage to the rope in the case of transversal shear pull up to 90°
- Special ferrules made of special steel



## Advantages in installation

- Load capacity identification tags in the PFEIFER colour coding
- Metric ISO thread



## Advantages in purchasing

- Constant manufacturing quality due to self-developed, NC-controlled, special automatic machines
- Cost-effective system



## Advantages in quality

- Lifting device conforming to the EC machinery directive 2006/42/EC
- Fatigue, alternating bending and tensile tests by official testing body
- Galvanized wire ropes with steel braid core
- In-production quality assurance through test plans with tensile tests, etc.
- All products are manufactured at our headquarter in Memmingen. The DIN EN ISO 9001:2000 certification issued to us is further proof of the well-functioning quality management in our company.



**We developed the threaded anchor system around 50 years ago. And we have technically perfected it on and on. You can benefit from that today. Your choice of the original from PFEIFER is at the same time your guarantee of quality and safety.**

# PFEIFER lifting loops for machine transport

Item no. 05.054

For use by:

- trained and qualified personal



**PFEIFER**

Machine transport

Lifting devices

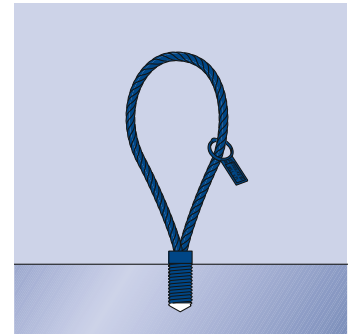
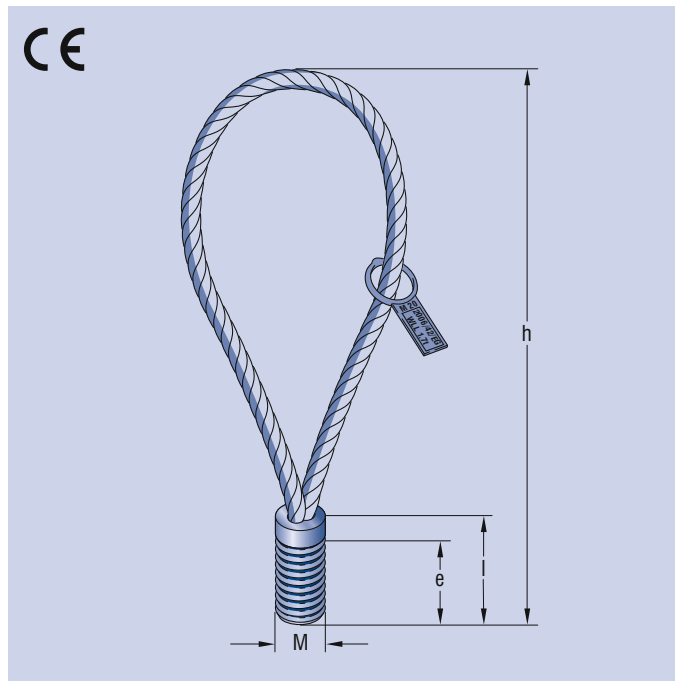
The attachment and lifting of heavy and very heavy machines is child's play and extremely cost-effective with PFEIFER lifting loops for machine transport.

The design is as simple as could be: a metric thread is cut into a load-bearing steel machine frame; the rope eye is screwed into this thread. The rope eye serves as a safe lifting point for the crane hook for all transport

movements. Several lifting loops can be used, depending on the weight of the machine.

## Rope eye materials:

Highly flexible, galvanized steel wire rope, threaded part made of plain steel



Ref. no.	Item no.	Maximum working load limit [t]		Thread M	Dimensions [mm]			Weight approx. kg/pcs.
		WLL 0°	WLL 45°		e	h	l	
05.054.123	245152	0,5	0,5	12 x 1,75	20	155	27	0,06
05.054.143	245154	0,7	0,5	14 x 2,00	23	155	32	0,08
05.054.163	245155	1,0	0,75	16 x 2,00	25	155	36	0,12
05.054.183	245157	1,4	1,0	18 x 2,50	29	190	40	0,17
05.054.203	245159	1,7	1,3	20 x 2,50	33	215	45	0,24
05.054.243	245161	2,5	1,8	24 x 3,00	40	255	54	0,39
05.054.303	245162	4,0	3,0	30 x 3,50	56	300	68	0,73
05.054.363	245163	5,4	4,0	36 x 4,00	67	340	81	1,28
05.054.423	245164	8,0	6,0	42 x 4,50	80	425	95	2,14
05.054.523	245165	12,5	8,5	52 x 5,00	97	480	117	3,62

# PFEIFER flared lifting loop for machine transport

Item no. 05.074

For use by:

- trained and qualified personal



**PFEIFER**

Machine transport

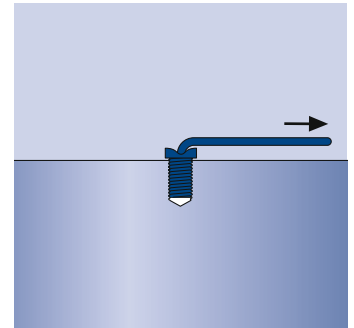
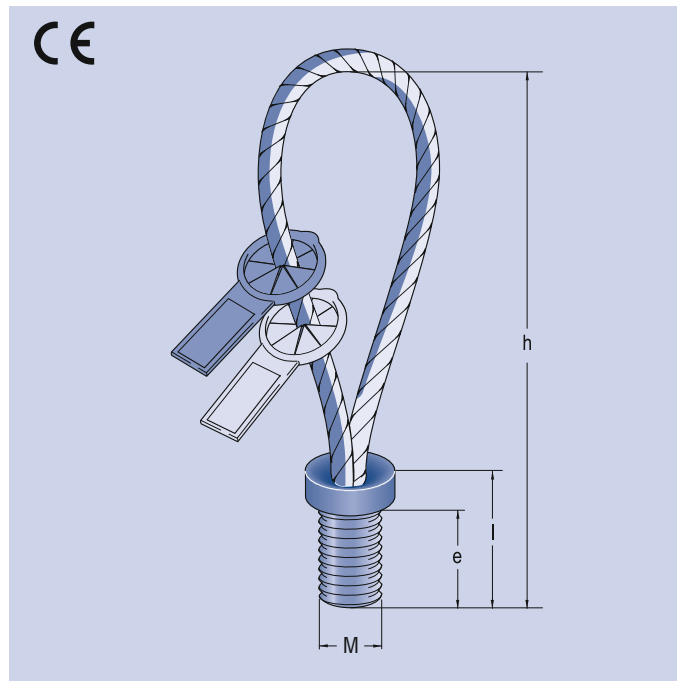
Lifting devices

The PFEIFER flared lifting loop for machine transport is an economical and flexible lifting device. Machines can easily be attached and lifted. This is possible under straight pull, parallel shear pull and transversal shear pull.

**Advantages:** Low-cost, great flexibility in all directions, long service life, safe attachment, unambiguous identification through PFEIFER colour coding.

## Material:

Highly flexible, galvanized all-steel wire rope, threaded part in special steel, plain

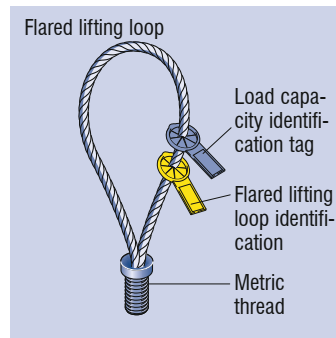
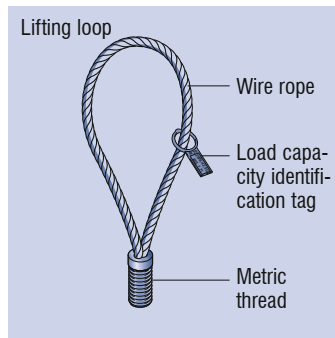


PFEIFER flared lifting loop

Ref. no.	Item no.	Type/Size	Maximum working load limit [t]			Thread M	Dimensions [mm]			Weight approx. [kg/piece]
			WLL 0°	WLL 45°	WLL 90°		e	h	l	
05.074.123	270111	M 12	0,45	0,25	0,225	M 12 x 1,75	21	155	31,5	0,08
05.074.163	270112	M 16	1,00	0,65	0,50	M 16 x 2,00	24	158	38	0,12
05.074.203	270113	M 20	1,70	1,15	0,85	M 20 x 2,50	33	219	49	0,24
05.074.243	270114	M 24	2,35	1,65	1,175	M 24 x 3,00	39	255	57	0,44
05.074.303	270115	M 30	4,05	2,40	2,025	M 30 x 3,50	53	305	73	0,73
05.074.363	270116	M 36	5,00	3,55	2,50	M 36 x 4,00	63	340	91	1,42

# Operating manual for PFEIFER flared lifting loops and PFEIFER lifting loop for machine transport

## Product description

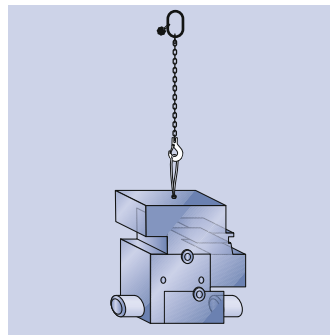
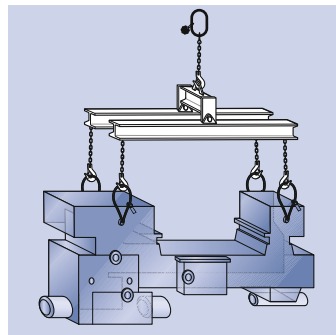
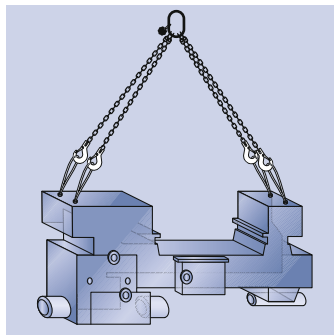


Lifting loop and flared lifting loop made of highly-flexible steel rope with swaged, bright steel ferrule with metric thread, for the attachment of machines.

## Safety

All necessary working coefficients have been taken into account in accordance with the machinery directive (2006/42/EC).  
Safety against failure:  $\gamma_s = 5$

## Intended use



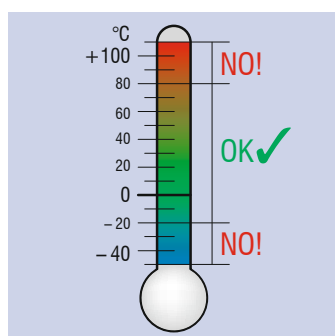
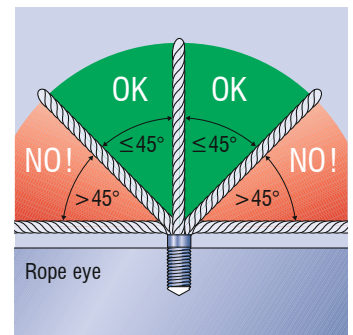
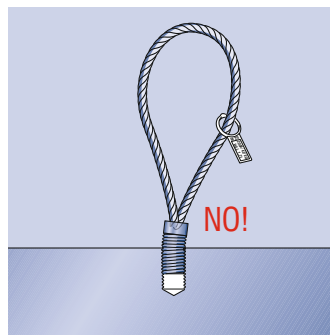
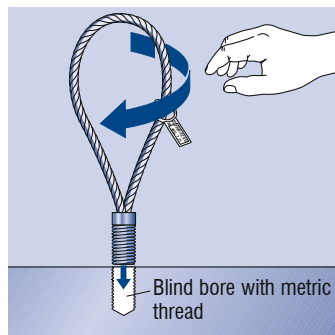
The lifting loop is used for the attachment of machines. For this purpose it is screwed into the thread in a load-bearing steel frame. The layout or the load application and positioning of the thread and the forces in the steel frame are to be planned by an engineer.

**Warning:** In case of doubt regarding the safe use of the attachment point, there is a danger of structural elements falling down and injuring or even killing people. Use the lifting point only after obtaining written consent from a technical expert!

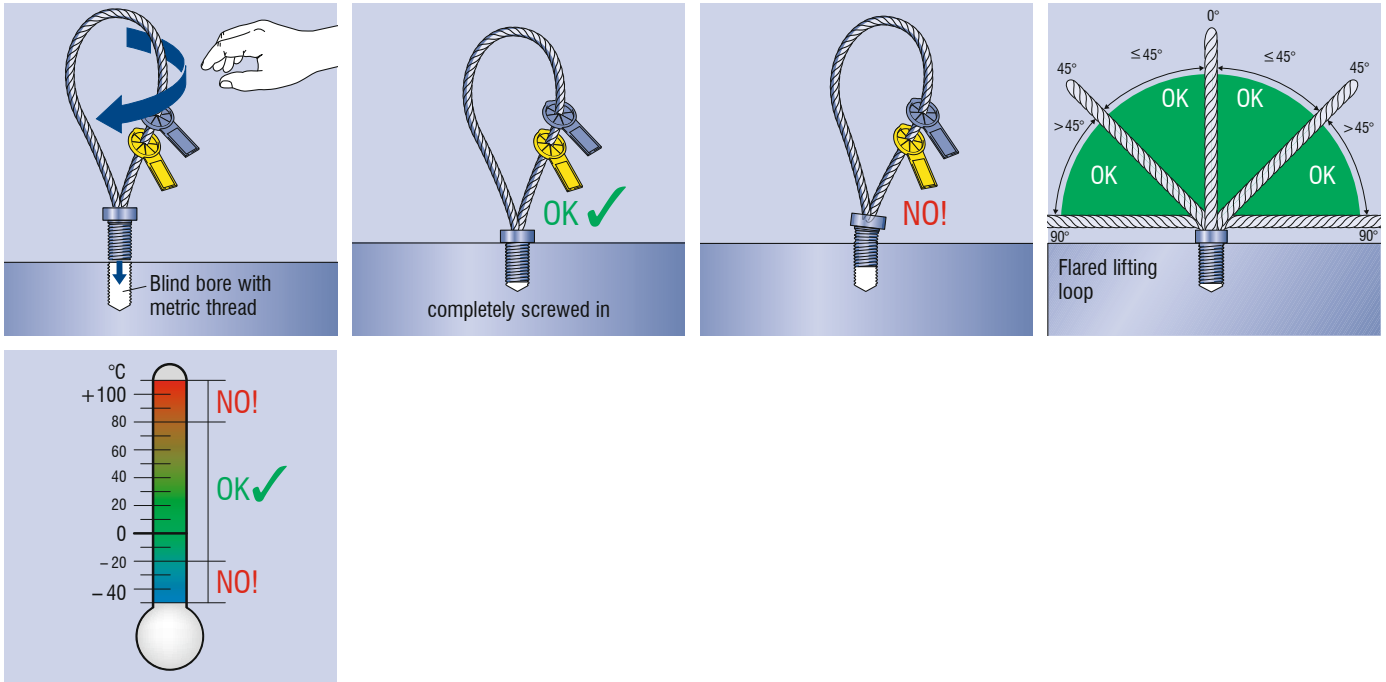
### Thread requirements

- Base material  $\geq$  S 355
- $R_e \geq 355$  N/mm<sup>2</sup>
- $R_m \geq 510$  N/mm<sup>2</sup>
- Metric ISO thread according DIN 13 – 20, tolerance class 6G

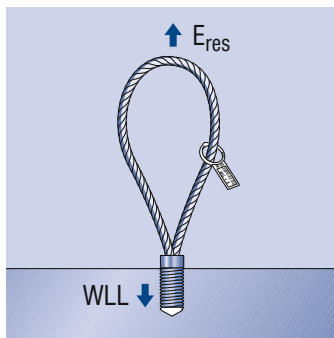
## Rope eye



## Flared lifting loop



## Dimensioning



**!** Resulting action  $\leq$  maximum carrying capacity (Working Load Limit)

$$E_{res} \leq WLL$$

**!** **Notice:** Take into account that the working load limit in the case of parallel shear pull up to 45° is lower than with straight pull. Angles greater than 45° are permitted exclusively with the flared lifting loop.

**!** **Warning:** When attaching the machine, a rope eye is screwed into a pre-cut thread in a load-bearing steel frame over the entire thread length of the rope eye. Under-dimensioning can lead to the falling of the machine and thus to death. The thread must be dimensioned by an engineer.

Table 1 – lifting loop

Type / thread M	Maximum working load limit		Load capacity identification tag colour coding	Minimum screw-in depth t [mm]	Minimum deflection radius R [mm]
	WLL 0° [t]	WLL 45° [t]			
12 x 1,75	0,5	0,5	Pastel orange	23	9,0
14 x 2,00	0,7	0,5	Pure white	25	9,0
16 x 2,00	1,0	0,75	Flame red	28	10,5
18 x 2,50	1,4	1,0	Light pink	32	12,0
20 x 2,50	1,7	1,3	Pastel green	36	14,5
24 x 3,00	2,5	1,8	Anthracite grey	43	16,5
30 x 3,50	4,0	3,0	Emerald green	60	21,0
36 x 4,00	5,4	4,0	Light blue	70	24,0
42 x 4,50	8,0	6,0	Silver grey	83	30,0
52 x 5,00	12,5	8,5	Sulphur yellow	100	36,0

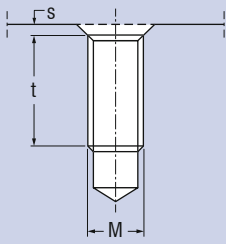
Table 2 – flared lifting loop

Type / thread M	Maximum working load limit [t]			Load capacity identification tag colour coding	Minimum screw-in depth t [mm]	Bore dimension variant B		Minimum deflection radius R [mm]	S [mm]
	WLL 0°	WLL 45°	WLL 90°			a [mm]	b [mm]		
12 x 1,75	0,45	0,25	0,225	Pastel orange	23	9	20,5	9,0	3 x 45°
16 x 2,00	1,00	0,65	0,50	Flame red	27	10	27,5	10,5	5 x 45°
20 x 2,50	1,70	1,15	0,85	Pastel green	36	11	30,5	14,5	6 x 45°
24 x 3,00	2,35	1,65	1,175	Anthracite grey	42	12	35,5	16,5	7 x 45°
30 x 3,50	4,05	2,40	2,025	Emerald green	54	13	41,5	21,0	8 x 45°
36 x 4,00	5,00	3,35	2,50	Light blue	66	20	53,5	24,0	9 x 45°

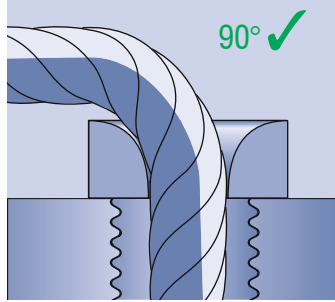


# Installation and usage

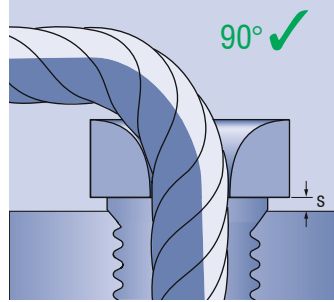
Blind bore flared lifting loop variant A:



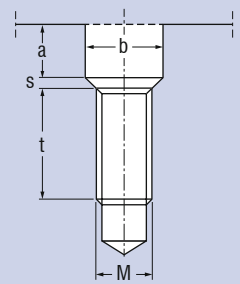
Variant A without gap



Variant A with gap



Blind bore flared lifting loop variant B:



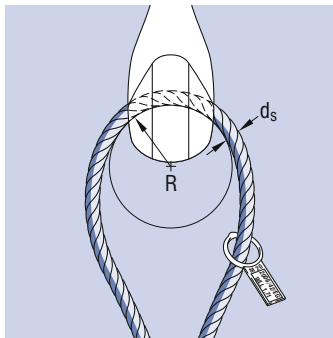
**Warning:** An inadequate screw-in depth reduces the safety level or can even result in failure. This can result in injury or death to persons. Screw the thread in fully to the last turn! (See Table 1/2 for screw-in depths)

**Warning:** Angles of inclination greater than 45° increase the load and can lead to premature failure of lifting loops. Danger to life!  
**Flared lifting loops must always be used for loads > 45°!**

Table 3 – max. gap dimensions

Type	Gap dimension
Rd 12	≤ 1,75 mm
Rd 16	≤ 2,00 mm
Rd 20	≤ 3,00 mm
Rd 24	≤ 4,00 mm
Rd 30	≤ 4,00 mm
Rd 36	≤ 6,00 mm

**Notice:** The flared lifting loop can be installed recessed or flush with the surface. The illustrations for the hole must be observed geometrically for this.

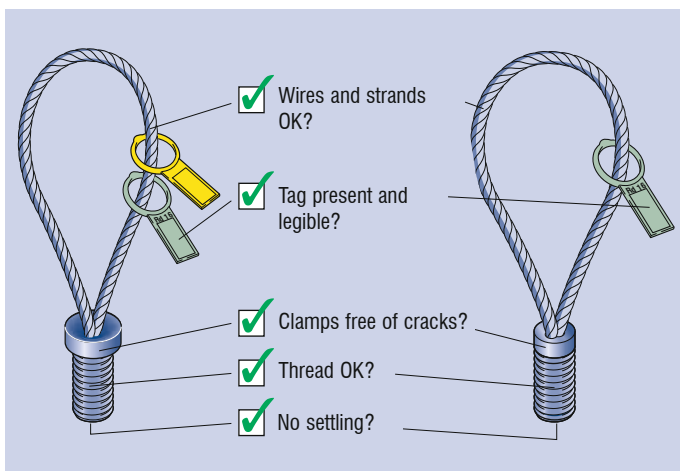


**Notice:** Before use, the working load limit specified on the respective identification tag on the rope eye must be compared with the maximum dead weight of the machine or steel component! (Plausibility check)

**Notice:** The deflection radius of the hook or shackle that is intended to be used for lifting must not be smaller than 1.5 times the rope diameter, as otherwise it will act like a sharp edge.

- Internal threads must be checked for the presence of foreign bodies before screwing in the lifting loops. These must be removed if necessary.
- The lifting loops must not be screwed in with force, e.g. using tools, but only by hand.
- Stiff threads must be lubricated.
- A rope eye that wobbles after screwing in indicates a potential fault.
- Non-moving threads must not be used!

## Initial test and discarding time



PFEIFER lifting loops for machine transport must not be used any longer if one of the following damage has occurred:

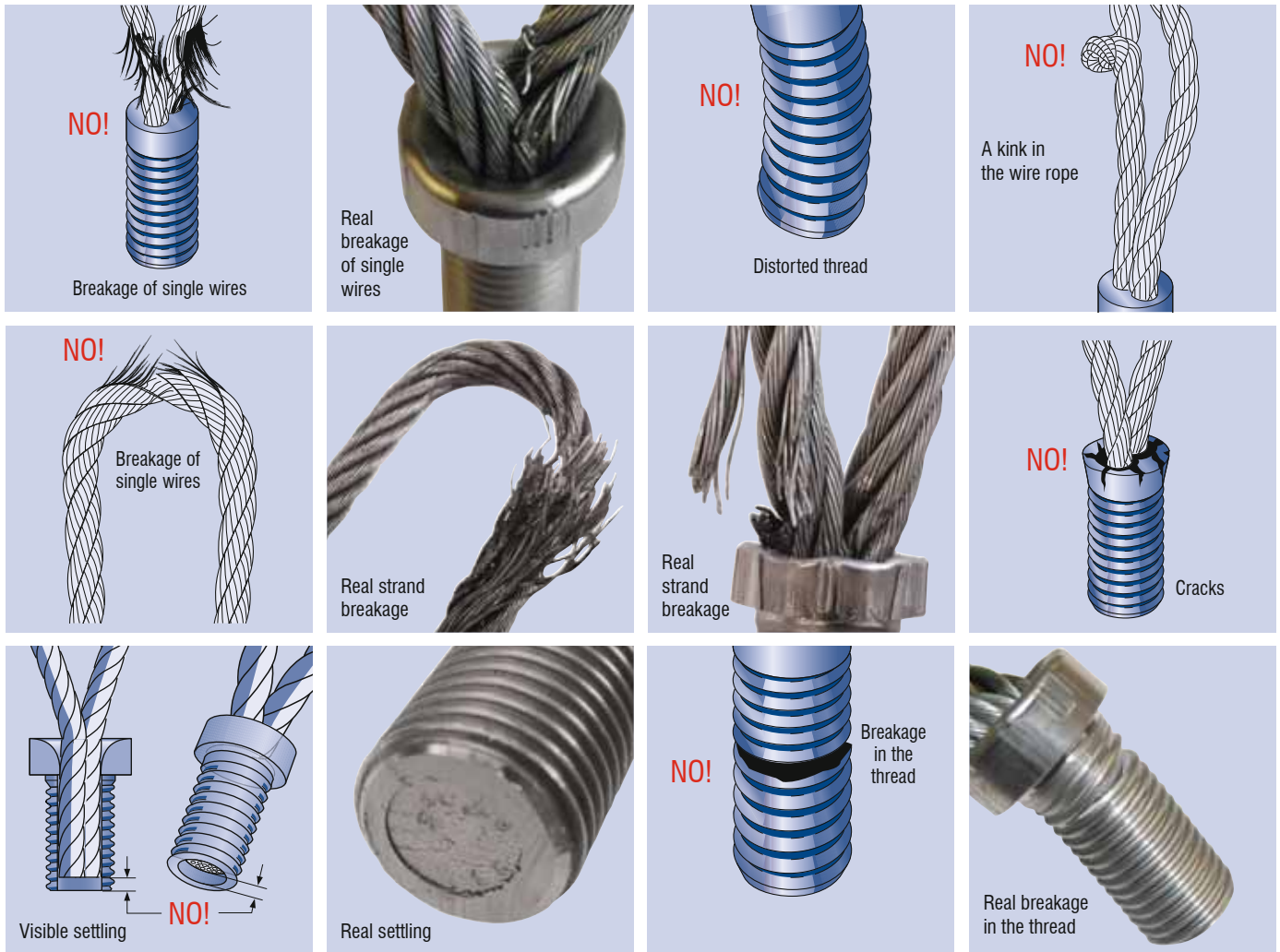
- breakage of 4 wires over a rope length of 3x the rope diameter or an entire strand
- crushing of the wire rope
- deformation or damage to the wire rope or the threaded socket
- heavy wear
- corrosion pits
- connection between wire rope and ferrule loosened or detached

**Warning:** Any modification to the rope and clamp causes a weakening of the rope eye with the risk of failure and consequent falling of the structural element. Do not perform any repair work – dispose of the lifting device instead.

**Caution:** Lifting loops must not be used if the identification is missing or illegible!

**Notice:** Before using for the first time, at least once a year and after special events, the lifting loops for machine transport must be examined by the authorised specialist according to the specified criteria. The parts must be metallically pure for this.

## Initial test and discarding time

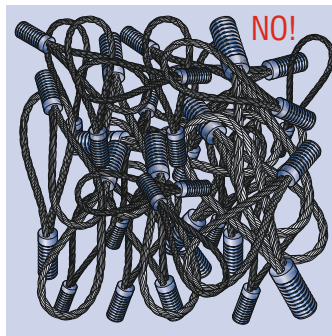
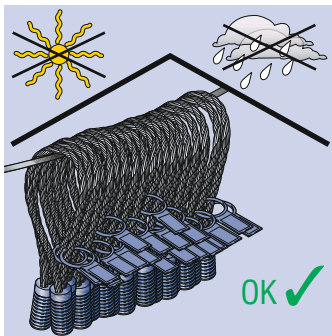


## Misuses

**Warning:** Use of the anchor by untrained personnel results in the risk of incorrect use and the risk of items falling down, causing injury or death to persons. Use only trained personnel!

**Warning:** Use of the lifting loops for lashing during transport of the machine is not permissible since this can lead to the load falling and so to injury and death of persons. Use these lifting loops only for the lifting and moving of machines.

## Storage





## Inspection service



The PFEIFER Inspection Service, with specially trained inspection technicians (EN 473) and the most modern equipment, is available to take over from you the responsibility for carrying out the legally prescribed inspection of your hoists, lifting and attachment devices. We can test at your site with one of our mobile vehicles with examination equipment, at our headquarters or in our branch locations.



The quality of our products and services is what underlies our success.

## EC declaration of conformity according to the EC machinery directive 2006/42/EC, appendix II 1A

The manufacturer **PFEIFER SEIL- UND HEBETECHNIK GMBH**  
DR.-KARL-LENZ-STRASSE 66  
D-87700 MEMMINGEN

declares that the following lifting device according to article 2 d) with the product designation in the sizes:

**PFEIFER lifting loops with metric thread M 12, 14, 16, 18, 20, 24, 30, 36, 42, 52**  
**PFEIFER flared lifting loops with metric thread M 12, 16, 20, 24, 30, 36**

is, due to design and construction, conform with the DIRECTIVE 2006/42/EC of the European Parliament and of the council of 17 May 2006 on machinery, and amending DIRECTIVE 95/16/EC (recast) – **EC Machinery Directive 2006/42/EC**

### Applied harmonised standards

DIN EN ISO 14121-1:2007-12

Safety of machinery – Risk assessment - Part 1: General principles

### The person responsible for the creation and maintenance of the technical documentation is

Dipl.-Ing. Christoph Neef  
Head of Technical Department – Concrete Connecting and Lifting Systems

PFEIFER Seil- und Hebeteknik GmbH  
Memmingen, 07/06/2017

ppa. Dipl.-Ing. Matthias Kintscher  
Business Unit Manager,  
Connecting and Lifting Systems

i.V. Dipl.-Ing. Christoph Neef  
Manager, Development Connecting  
and Lifting Systems

Notes

A large grid area for taking notes, consisting of a 30x30 grid of small squares. The grid is empty and occupies most of the page below the 'Notes' header.

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**08331-937342**

Building project

SENDER'S DETAILS

Company
Street
Post code, Place
Contact name
PHONE
Fax

## PFEIFER lifting loops for machine transport

**PFEIFER lifting loops for machine transport**



















Item	Quantity	Ref. no.	Type	Size	Unit price in EUR	Total price per item in EUR

Please take into account the **packing units**.  
 This order is based on the General Terms of Sales and Delivery of the PFEIFER company, of which you are aware.

**Total** **EUR**  
 plus packing and shipping costs

Delivery address \_\_\_\_\_  
 (state only if \_\_\_\_\_  
 different from the \_\_\_\_\_  
 ordering address) \_\_\_\_\_  
 \_\_\_\_\_

\_\_\_\_\_ Date and signature

-  Lifting Anchor Systems  
Thread System
-  Lifting Anchor Systems  
BS Anchor System
-  Lifting Anchor Systems  
WK Anchor System
-  Fixing Systems  
DB Anchor 682  
for Permanent Fixing
-  Fixing Systems  
Socket Dowels  
Polyamide Sockets
-  Fixing Systems  
HK Assembly Anchor System
-  Connection Systems  
Column Shoe System  
Wall Shoe System
-  Connection Systems  
Stell Bearing  
Staircase Bearing VarioSonic
-  Connection Systems  
Sandwich Anchor System  
Delta Anchor System
-  Connection Systems  
Concrete Earthing System BEB
-  Reinforcement Systems  
VS®-Wire Rope Loop System
-  Reinforcement Systems  
PH Reinforcement Continuity System
-  Cable Tension Members  
Tension Rod System
-  Attachment Materials  
(Wire Ropes, Chains, Textiles)
-  Lashing Systems
-  Grabs for Reinforcing Steel  
Balancing Spreader Beams

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