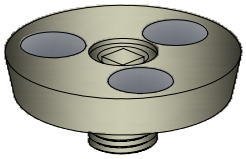
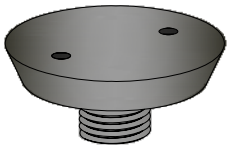
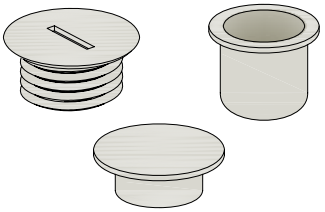
# Threaded System Accessories

SALON TUKITUOTE

## Instructions of use

| | | |
|---|---|---|
|  |  |  |
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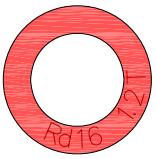
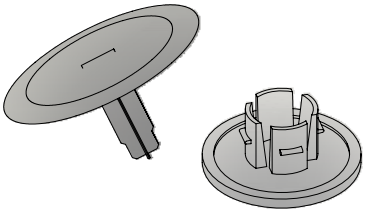
|  |  |  |
| **Data Ring** (page 7) | **Lifting Loop LL** (pages 8-9) | **Lifting Loop with Pressure Plate/ Lifting Loop "Goliath"** (pages 10-12) |
|  |  | |
| **Lifting Eye** (pages 13-15) | **Cover Plates** (page 16) | |

# Magnetic Holder – Type HM4

The Magnetic Holders are special suitable to fix Lifting or Fixing Anchors of Threaded System with steel formworks. The used Neodymmagnets have, in contrast to other available magnetic holders which had been used in this case, a very strong adhesion even at a small room. Deviation heights respectively diameters you get on demand. The thread-pins are changeable or welded. The refitting of adhesion is possible.

**Material:** magnet,
recess disc – steel, zinc plated

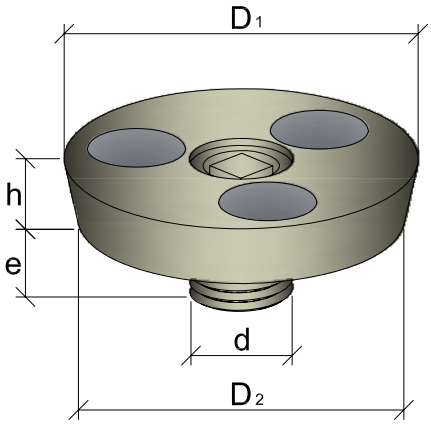



**Table 1: Magnetic Holder – Type HM4 with changeable thread-pin (and snap rings) or with hexagon socket and thread-pins welded on**

| Article | d Thread | Adhesion [kPa] | e [mm] | h [mm] | $D_1$ [mm] | $D_2$ [mm] |
|---|---|---|---|---|---|---|
| **HM4-3** | M8-M24 | 50 | 15 | 12 | 65 | 60 |
| **HM4-6** | M8-M24 | 100 | 15 | 12 | 65 | 60 |

*for this a hex key Ø10 mm is used*

| | | | | | | |
|---|---|---|---|---|---|---|
| **HM4-8** | M24-M52 | 120 | 20 | 22 | 100 | 96 |
| **HM4-12** | M24-M52 | 180 | 20 | 22 | 100 | 96 |
| **HM4-8** | M24-M52 | 120 | 20 | 15 | 113 | 101 |
| **HM4-12** | M24-M52 | 180 | 20 | 15 | 113 | 101 |

*for this a 24er socket wrench is used*

**Table 2: Magnetic Holder – Type HM4-P fitting to Pfeifer-system and for pressure plate lifting loops**

| Article | d Thread | Adhesion [kPa] | e [mm] | h [mm] | $D_1$ [mm] | $D_2$ [mm] |
|---|---|---|---|---|---|---|
| **HM4-P-12** | M12 | 100 | 15 | 10 | 50,5 | 47 |
| **HM4-P-14** | M14 | 100 | 15 | 10 | 55,5 | 52 |
| **HM4-P-16** | M16 | 100 | 15 | 10 | 59,2 | 56 |
| **HM4-P-18** | M18 | 100 | 15 | 10 | 62,5 | 59 |
| **HM4-P-20** | M20 | 150 | 15 | 10 | 73,5 | 70 |
| **HM4-P-24** | M24 | 150 | 15 | 12 | 78,2 | 74 |

*for this a hex key Ø10 mm is used*

| | | | | | | |
|---|---|---|---|---|---|---|
| **HM4-P-30** | M30 | 120 | 20 | 12 | 94,2 | 90 |
| **HM4-P-36** | M36 | 120 | 20 | 12 | 105,2 | 101 |
| **HM4-P-42** | M42 | 120 | 20 | 15 | 115,3 | 110 |
| **HM4-P-52** | M52 | 120 | 20 | 15 | 135,3 | 130 |

*for this a 24er socket wrench is used*

**Table 3: Magnetic Fixing – Type HM4-** D **fitting to DEHA-perfecthead with changeable thread-pin (and snap rings)** or **with hexagon socket and thread-pins welded on**

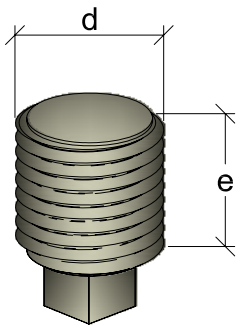
| Article | d Thread | Adhesion [kPa] | e [mm] | h [mm] | $D_1$ [mm] | $D_2$ [mm] |
|---|---|---|---|---|---|---|
| **HM4-D-30/10M12** | M12 | 50 | 15 | 10 | 40 | 30 |
| **HM4-D-30/10M16** | M16 | 50 | 15 | 10 | 50 | 30 |

*for this a hex key Ø5 mm is used*

| | | | | | | |
|---|---|---|---|---|---|---|
| **HM4-D-45/10** | M18-M24 | 100 | 15 | 10 | 55 | 45 |
| **HM4-D-40/10** | M30-M36 | 120 | 20 | 10 | 70 | 60 |
| **HM4-D-85/10** | M42 | 120 | 25 | 10 | 95 | 85 |
| **HM4-D-85/10** | M52 | 120 | 25 | 10 | 95 | 85 |

*for this a hex key Ø10 mm is used*

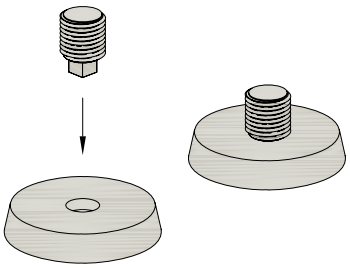
## 1. Thread Pin for Magnetic Fixing – Type HM4



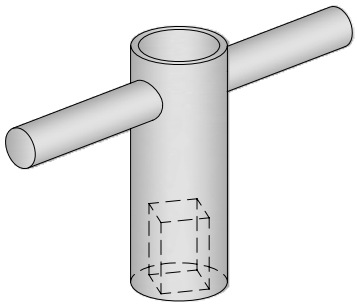

At delivery, the magnet plate is supplied with a thread pin in a particular size, but it also can be used in combination with other sizes. To achieve a particular flexibility, this thread pin can be ordered independent of the magnetic plate. An easy exchange of the thread pins is made possible by a safety-ring, under which help the pin is fixed at the underside of the plate.

**Table 4: Thread Pin for HM4**

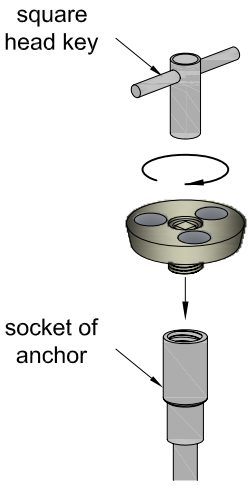
| Article | Thread d [mm] | e [mm] |
|---|---|---|
| **56130** | M10 | 10 |
| **56131** | M12 | 10 |
| **56132** | M14 | 10 |
| **56133** | M16 | 10 |
| **56134** | M18 | 10 |
| **56135** | M20 | 10 |
| **56136** | M24 | 10 |

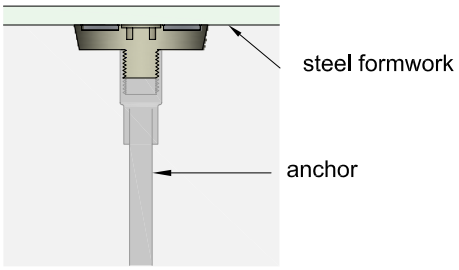


## 2. Key for Magnetic Fixing – Type HM4



This is a square headed key, under which help the pin of the magnetic holder is turned into the thread of the anchor. After the concrete process, the magnet is removed out of the hard concrete by turning left.



# Nailing Plate

Nailing Plates are used when it's necessary to fasten anchors of Threaded Lifting System (Bar Anchors, Waved Anchors and Lifting Sockets) to wooden formwork. Nailing Plate eliminate the possibility of getting concrete or pollution into the Socket.

**Material:** plastic

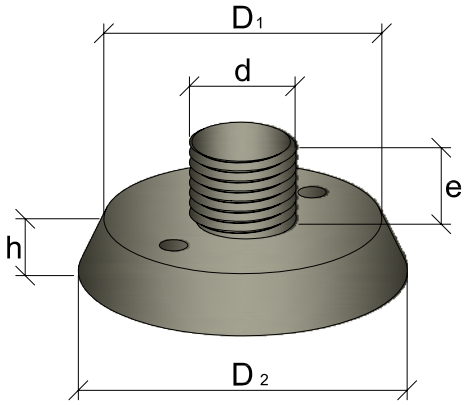
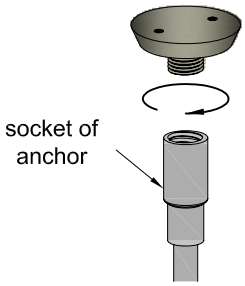


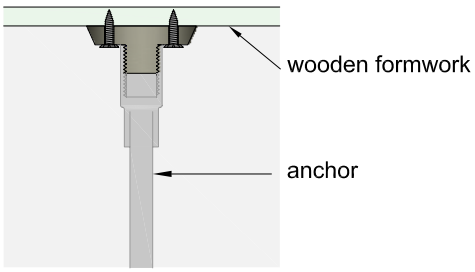

**Table 1: Nailing Plate TPK**

| Article | Thread | d [mm] | e [mm] | h [mm] | $D_1$ [mm] | $D_2$ [mm] |
|---|---|---|---|---|---|---|
| **0900S** | M10 | 10 | 10 | 10 | 30 | 40 |
| **0900** | M12 | 12 | 10 | 10 | 30 | 40 |
| **0902** | M14 | 14 | 10 | 10 | 30 | 40 |
| **0904** | M16 | 16 | 10 | 10 | 45 | 58 |
| **0906** | M18 | 18 | 10 | 10 | 45 | 58 |
| **0908** | M20 | 20 | 10 | 10 | 45 | 58 |
| **0910** | M24 | 24 | 10 | 10 | 45 | 58 |
| **0912** | M30 | 30 | 10 | 10 | 60 | 70 |
| **0914** | M36 | 36 | 10 | 10 | 60 | 70 |
| **0916** | M42 | 42 | 12 | 12 | 86 | 96 |
| **0918** | M52 | 52 | 12 | 12 | 86 | 96 |

**Table 2: Nailing Plate TPM**

| Article | Thread | d [mm] | e [mm] | h [mm] | $D_1$ [mm] | $D_2$ [mm] |
|---|---|---|---|---|---|---|
| **01311** | M12 | 12 | 15 | 15 | 42 | 60 |
| **01312** | M16 | 16 | 15 | 15 | 42 | 60 |
| **01314** | M20 | 20 | 15 | 15 | 42 | 60 |

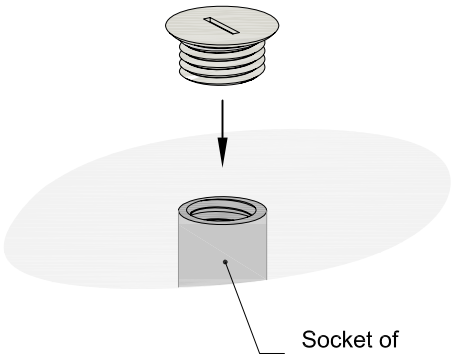


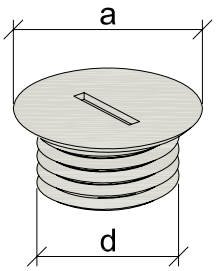



# Protective Caps

Protective Caps are used to seal anchors of Threaded Lifting System (Bar Anchors, Waved Anchors and Lifting Sockets) and prevent various substances such as residual concrete, dust, snow etc. from penetrating into the socket, protecting the anchor thread from clogging up. Caps can be either pushed-in or screwed-in.

**Material:** plastic



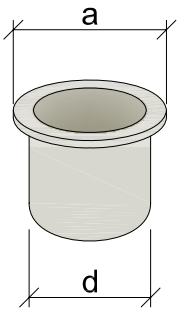




**Table 1: Protective Cap ST**

| Article | Type | d [mm] | a [mm] |
|---|---|---|---|
| **01331** | M12 / Rd12 | 12 | 15 |
| **01332** | M16 / Rd16 | 16 | 20 |
| **01333** | M20 / Rd20 | 20 | 24 |
| **01334** | M24 / Rd24 | 24 | 28 |

Packing Unit: 500 pieces

**Table 2: Protective Cap MT**

| Article | Type | d [mm] | a [mm] |
|---|---|---|---|
| **01300** | M10 | 10 | 13 |
| **01301** | M12 | 12 | 15 |
| **01302** | M16 | 16 | 18 |

Packing Unit: 100 pieces

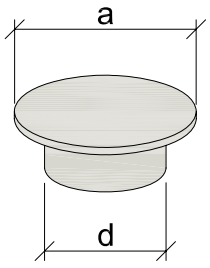


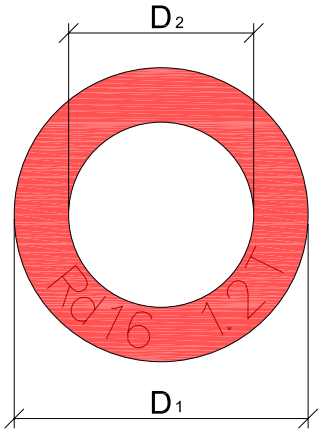

**Table 3: Protective Cap MK**

| Article | Type | d [mm] | a [mm] |
|---|---|---|---|
| **0950** | M12 / Rd12 | 12 | 14 |
| **0952** | M14 / Rd14 | 14 | 16 |
| **0954** | M16 / Rd16 | 16 | 19 |
| **0956** | M18 / Rd18 | 18 | 21 |
| **0958** | M20 / Rd20 | 20 | 24 |
| **0960** | M24 / Rd24 | 24 | 28 |
| **0962** | M30 / Rd30 | 30 | 33 |
| **0964** | M36 / Rd36 | 36 | 36 |
| **0966** | M42 / Rd42 | 42 | 45 |
| **0968** | M52 / Rd52 | 52 | 55 |

Packing Unit: 100 pieces

# Data Ring

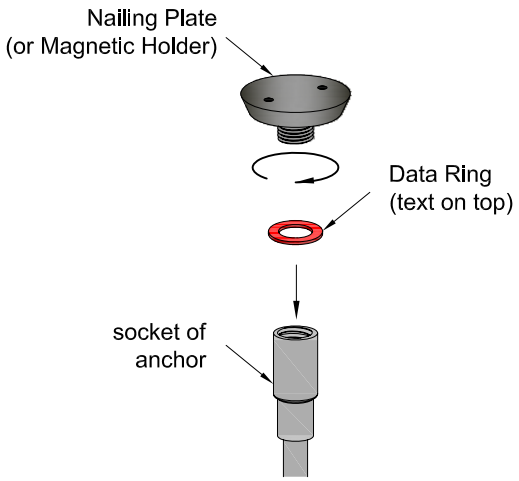
Data Ring can be used for all anchors of Threaded Systems and guarantee the marking of anchors cast in precast concrete units. Data Rings are color-coded according to load range. Data Ring is put between the anchor and the fixing element (Holding Disc or Magnetic Holder) with text on the side of the fixing element. After removing the formwork, the identification of the lifting anchor is clearly visible already concreted into the precast unit. Data Ring shows the thread size and the maximum working load.




**Material:**
plastic

**Table 1: Data Ring**

| Article | Thread | $D_1$ [mm] | $D_2$ [mm] | Color | |
|---|---|---|---|---|---|
| **56951** | 12 | 21 | 12 | Pastel orange | |
| **56953** | 14 | 25 | 14 | White | |
| **56954** | 16 | 27 | 17 | Fire red | |
| **56955** | 18 | 31 | 19 | Light pink | |
| **56956** | 20 | 33 | 21 | White green | |
| **56957** | 24 | 38 | 26 | Anthracite grey | |
| **56958** | 30 | 48 | 32 | Emerald green | |
| **56959** | 36 | 54 | 38 | Light blue | |
| **56971** | 42 | 59 | 44 | Silver grey | |
| **56972** | 52 | 76 | 54 | Yellow | |



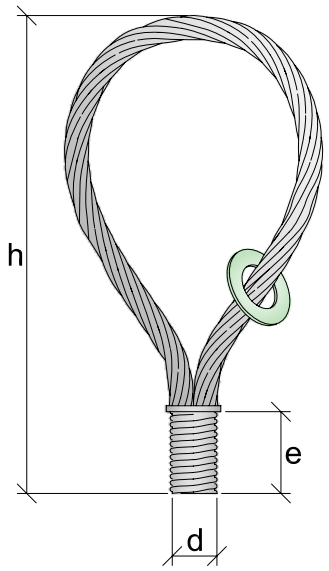
# Lifting Loop LL

Lifting Loops “Type LL” are to be used as lifting device for the lifting anchors of Threaded Lifting System (Bar Anchors, Waved Anchors and Lifting Sockets)

They are the most economic lifting loop and are suitable for most applications, particularly site operations. They are not suitable for turning or pitching.

Threaded lifting loops "Type LL" can be applied with the threaded anchor with appropriate thread Rd or metric. Identification disk shows the size of thread and maximum working load.

*Lifting Loops with changed wire length on request.*




**Materials:**

- Galvanized steel wire DIN 3060 (DIN EN 12385-4)
- Wire strength class: 1 770 N/mm$^2$

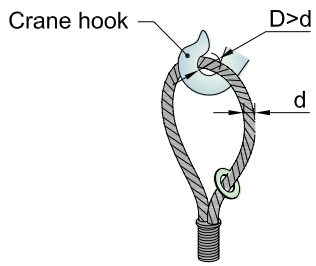
**Table 1: Lifting Loop “Type LL” (with Rd or metric thread)**

| Rd thread | | Metric thread | | Maximum working load [t] | d [mm] | e [mm] | h [mm] |
|---|---|---|---|---|---|---|---|
| Article | Type | Article | Type | | | | |
| **0650** | Rd 12×22 | **0651** | M 12×22 | 0.5 | 12 | 22 | 155 |
| **0652** | Rd 14×24 | **0653** | M 14×24 | 0.8 | 14 | 24 | 155 |
| **0654** | Rd 16×27 | **0655** | M 16×27 | 1.2 | 16 | 27 | 155 |
| **0656** | Rd 18×34 | **0657** | M 18×34 | 1.6 | 18 | 34 | 190 |
| **0658** | Rd 20×35 | **0659** | M 20×35 | 2.0 | 20 | 35 | 215 |
| **0660** | Rd 24×37 | **0661** | M 24×37 | 2.5 | 24 | 37 | 255 |
| **0662** | Rd 30×50 | **0663** | M 30×50 | 4.0 | 30 | 50 | 300 |
| **0664** | Rd 36×65 | **0665** | M 36×65 | 6.3 | 36 | 65 | 340 |
| **0666** | Rd 42×70 | **0667** | M 42×70 | 8.0 | 42 | 70 | 425 |
| **0668** | Rd 52×80 | **0669** | M 52×80 | 12.5 | 52 | 80 | 480 |

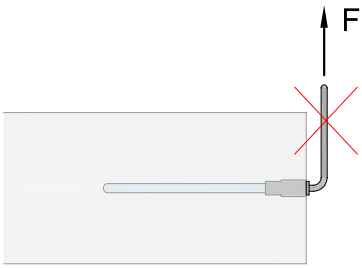
## Instructions for use of Lifting Loops LL

### 1. Handling and use

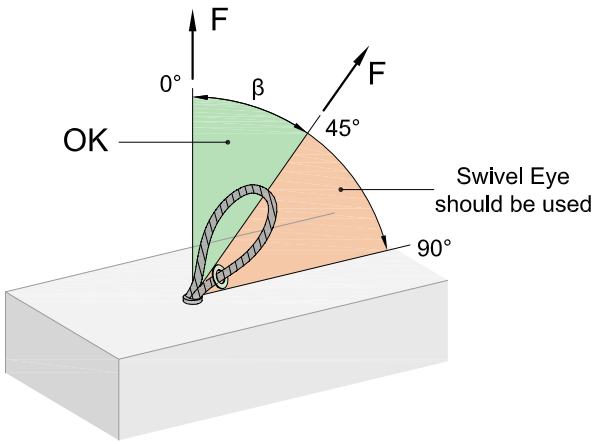
- The Lifting Loops LL must be completely screwed into the lifting anchor threaded sockets. If necessary, dirty threads in the lifting anchor must be cleaned.
- Threaded Lifting loops should only be attached to the unit after the concrete strength has reached 15 N/mm$^2$. In some cases it may be economic and practical to leave the loops with the unit until final installation.
- Check that the radius of the hook is at least the diameter of the rope:




- Not suitable for turning or pitching:




- Maximum permissible lifting angle of the loops:




The lifting shall be planned in such a way so that the lifting angle β < 45°. At a larger angle, the **Swivel Eye**, **Lifting Loop with Pressure Plate** or **Lifting Loop "Goliath"** should be used.

### 2. Condition of Lifting Loops LL

The condition of the lifting loops shall be checked regularly. According to the standard DIN 3088 the lifting loop is not to be used shall one of the following faults be detected:

- 4 ruptures of wire at the distance the length of which is equal to three diameters of wire
- 6 ruptures of wire at the distance the length of which is equal to six diameters of wire
- 16 ruptures of wire at the distance the length of which is equal to thirty diameters of wire
- braiding rupture, deformation caused by pressure
- bended parts or swells at the bends
- thread damage at the wire chunk
- obvious wear, corrosive damage and other visible defects

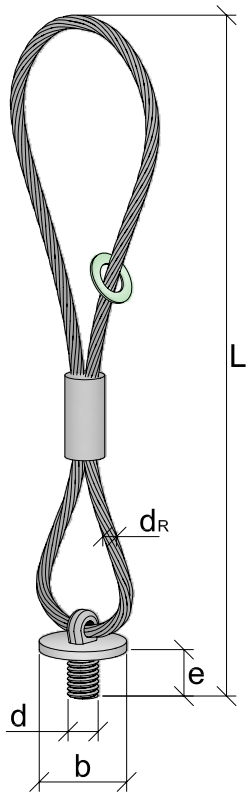
# Lifting Loop with Pressure Plate / Lifting Loop "Goliath"

Lifting Loops with Pressure Plate and Lifting Loops "Goliath" are to be used as lifting device for the lifting anchors of Threaded Lifting System (Bar Anchors, Waved Anchors DWL and DWK, Sockets, Crimped Sockets, Flat Steel Anchors)

The Lifting Loop eye is welded on the base plate. The retracted rope loop allows stress forces from all directions.

Threaded Lifting Loops with Pressure Plate can be applied with the threaded anchor with appropriate thread Rd while Lifting Loops "Goliath" – with metric thread. Identification disk shows the size of thread and maximum working load.

*Lifting Loops with changed wire length on request.*




**Materials:**

- Galvanized steel wire DIN 3060 (DIN EN 12385-4)
- Wire strength class: 1 770 N/mm$^2$

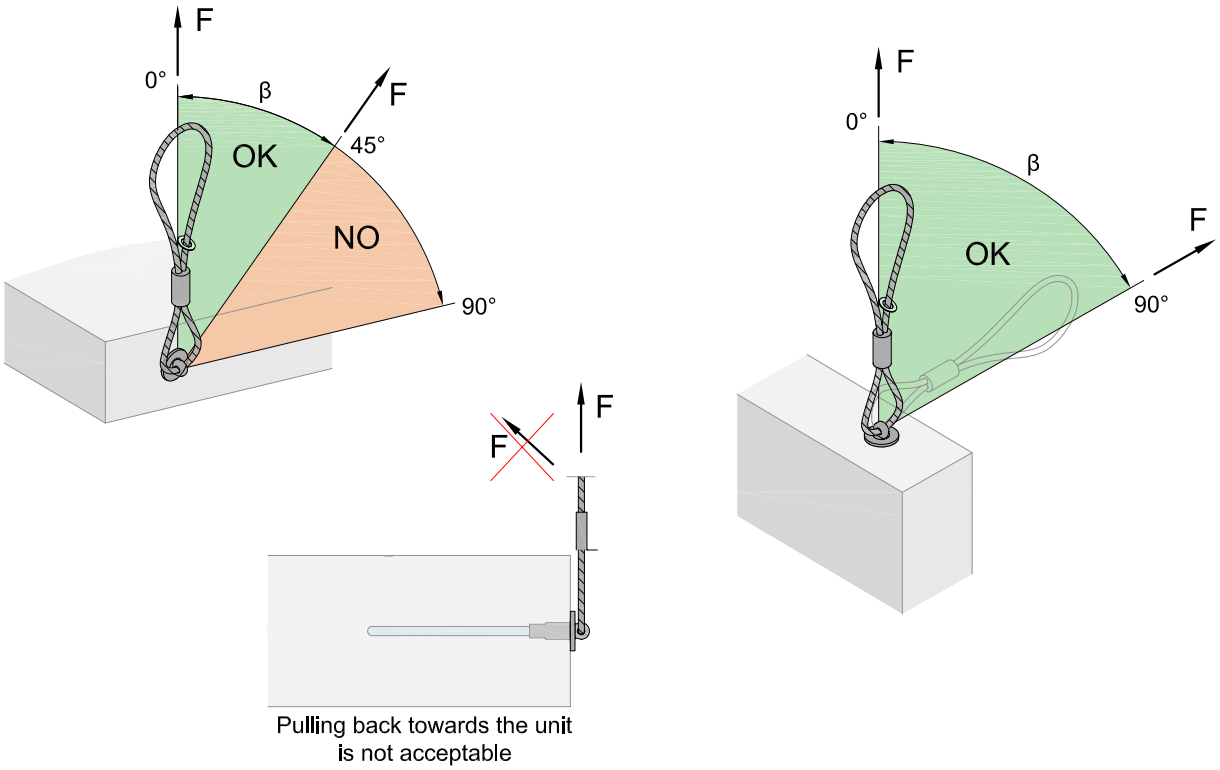
**Table 1: Lifting Loop with Pressure Plate / Lifting Loop "Goliath"**

| Lifting Loop with Pressure Plate | | Lifting Loop "Goliath" | | Max. working load [t] | d [mm] | e [mm] | b [mm] | L [mm] | $d_r$ [mm] |
|---|---|---|---|---|---|---|---|---|---|
| **Article** | **Type** | **Article** | **Type** | | | | | | |
| **0650G8PL** | Rd 12 | **0651G8** | M 12 | 0.5 | 12 | 16 | 47 | 335 | 8 |
| **0654G8PL** | Rd 16 | **0655G8** | M 16 | 1,2 | 16 | 21 | 56 | 385 | 8 |
| **0658G8PL** | Rd 20 | **0659G8** | M 20 | 2,0 | 20 | 26 | 68 | 470 | 10 |
| **0660G8PL** | Rd 24 | **0661G8** | M 24 | 2,5 | 24 | 31 | 74 | 550 | 12 |
| **0662G8PL** | Rd 30 | **0663G8** | M 30 | 4,0 | 30 | 39 | 90 | 590 | 1 |
| **0664G8PL** | Rd 36 | **0665G8** | M 36 | 6,3 | 36 | 47 | 103 | 780 | 18 |
| **0666G8PL** | Rd 42 | **0667G8** | M 42 | 8,0 | 42 | 55 | 96 | 860 | 20 |
| **0668G8PL** | Rd 52 | **0669G8** | M 52 | 12,5 | 52 | 68 | 120 | 1080 | 26 |

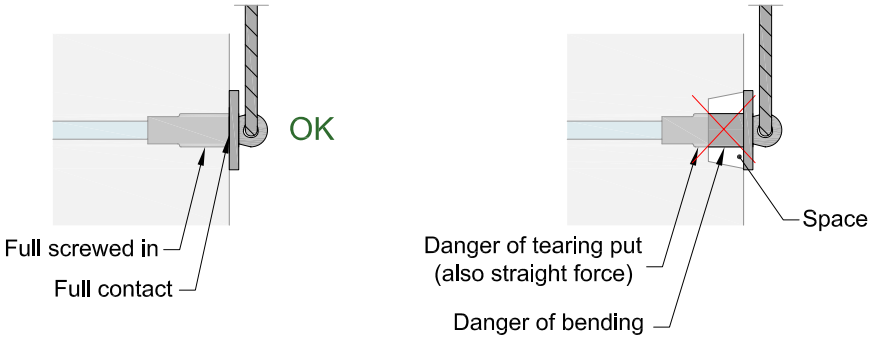
## Instructions for use of Lifting Loops

### 1. Handling and use

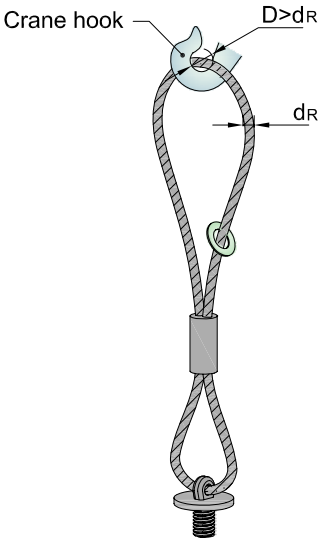
- The Lifting Loops must be completely screwed into the lifting anchor threaded sockets. If necessary, dirty threads in the lifting anchor must be cleaned. It is easier to screw in the threaded bolt if this is lightly oiled before.
- Threaded Lifting Loops should only be attached to the unit after the concrete strength has reached 15 N/mm$^2$. In some cases it may be economic and practical to leave the loops with the unit until final installation.
- Maximum permissible lifting angles of the loops:




- Check if there is full contact with the concrete:



- Check that the radius of the hook is at least the diameter of the rope:




to achieve a better durability a hook radius of 5 times of the rope is recommended

## 2. Condition of Lifting Loops

The condition of the lifting loops shall be checked regularly. According to the standard DIN 3088 the lifting loop is not to be used shall one of the following faults be detected:

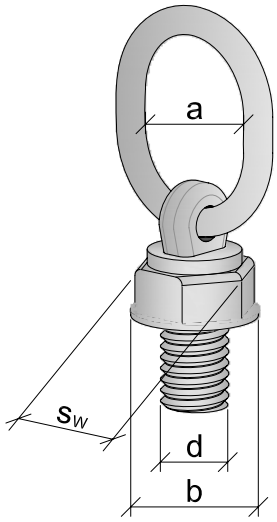
- 4 ruptures of wire at the distance the length of which is equal to three diameters of wire
- 6 ruptures of wire at the distance the length of which is equal to six diameters of wire
- 16 ruptures of wire at the distance the length of which is equal to thirty diameters of wire
- braiding rupture, deformation caused by pressure
- bended parts or swells at the bends
- thread damage at the wire chunk
- obvious wear, corrosive damage and other visible defects

# Lifting Eye

Lifting Eyes are to be used as lifting device for the lifting anchors of Threaded Lifting System (Bar Anchors, Waved Anchors and Lifting Sockets). They are specially designed to allow angled lifts, such as turning / pitching.

Lifting Eyes are more durable than wire lifting loops and may be used repeatedly, subject to inspection for damage. The Lifting Eye automatically adapts in all directions of the inclined forces.

Lifting Eye can be applied with the threaded anchor with appropriate thread Rd.




**Materials:**
- zinc-plated

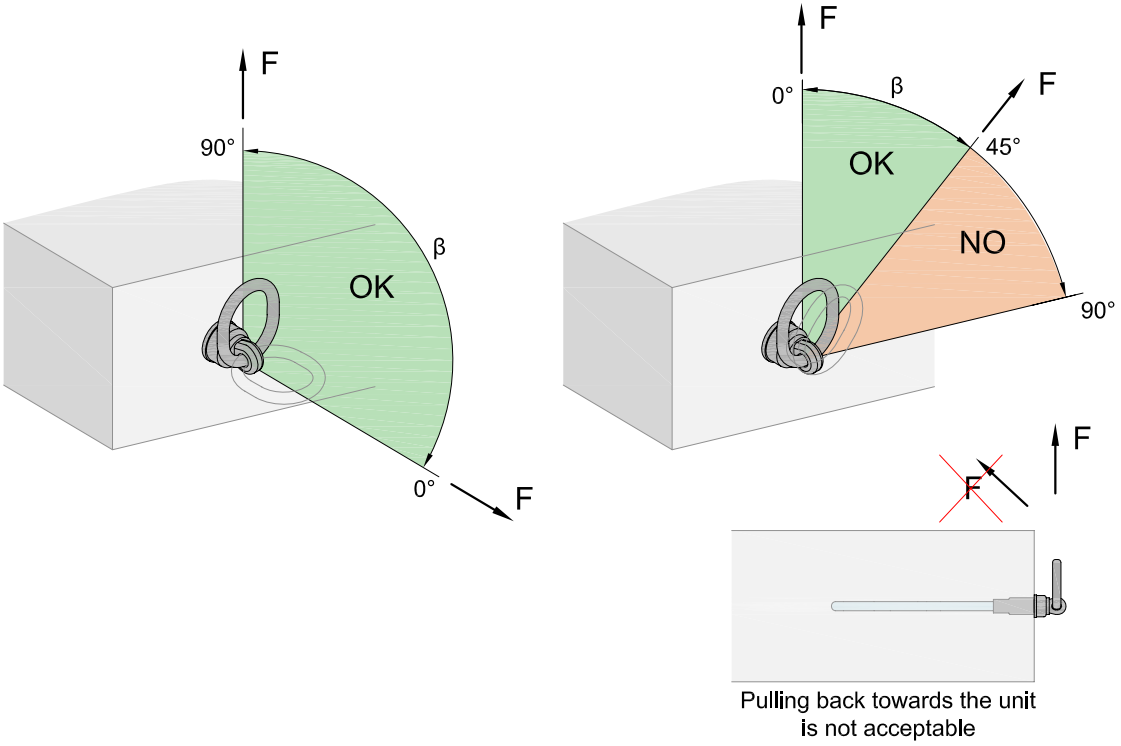
**Table 1: Lifting Eye**

| Article | Maximum working load [t] | Type | d [mm] | b [mm] | $s_w$ [mm] |
|---|---|---|---|---|---|
| **0602** | 0.5 | Rd 12 | 12 | 36 | 30 |
| **0604** | 0,7 | Rd 14 | 14 | 36 | 30 |
| **0606** | 1,25 | Rd 16 | 16 | 36 | 30 |
| **0608** | 1,6 | Rd 18 | 18 | 50 | 30 |
| **0610** | 2,0 | Rd 20 | 20 | 50 | 30 |
| **0612** | 2,5 | Rd 24 | 24 | 57 | 46 |
| **0614** | 4,0 | Rd 30 | 30 | 66 | 46 |
| **0616** | 6,3 | Rd 36 | 36 | 80 | 65 |
| **0618** | 8,0 | Rd 42 | 42 | 80 | 80 |
| **0620** | 12,5 | Rd 52 | 52 | 80 | 80 |

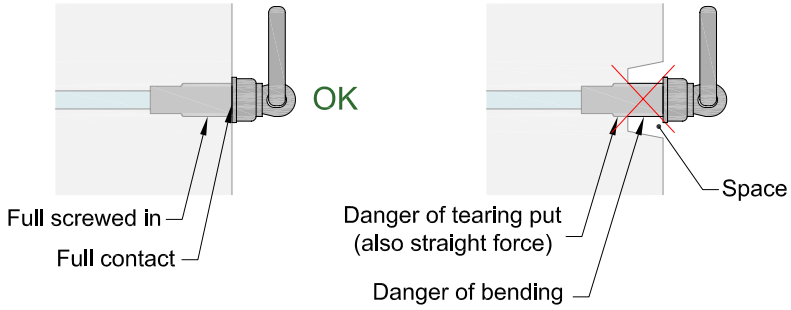
## Instructions for use of Lifting Eye

### 1. Handling and use

- The Lifting Eye must be completely screwed into the lifting anchor threaded sockets. If necessary, dirty threads in the lifting anchor must be cleaned. It is easier to screw in the threaded bolt if this is lightly oiled before.
- Lifting Eye should only be attached to the unit after the concrete strength has reached 15 N/mm$^2$. In some cases it may be economic and practical to leave the Lifting Eyes with the unit until final installation.
- Maximum permissible lifting angles of the Lifting Eyes:




- Check if there is full contact with the concrete:



## 2. Condition of Lifting Eye

Lifting Eyes have to be controlled by an expert at least once a year, according to UVV VBBG 9a. The condition of the lifting loops shall be checked regularly. The Lifting Eye must be discarded when:

- the thread pitch is either damaged or has been torn out, or the threaded bolt has bent
- the oval ring has bent and jut out above its plane
- the oval ring has become 10% thinner at any place or show more than 5% elongation through wear and tear (Table 2)
- the eye, which is welded on to the rotary plate has warn more than 10% in its cross section (Table 3)

**Table 2: Dimensions of the oval ring**

| Type | t [mm] | $t_{max}$ = 1,05 t | d [mm] | $d_{min}$ = 0,9 d |
|---|---|---|---|---|
| Rd 12 | 90,0 | 94,5 | 10,2 | 9,2 |
| Rd 14 | 90,0 | 94,5 | 10,2 | 9,2 |
| Rd 16 | 110,0 | 115,5 | 13,3 | 12,0 |
| Rd 18 | 110,0 | 115,5 | 13,3 | 12,0 |
| Rd 20 | 110,0 | 115,5 | 16,5 | 14,9 |
| Rd 24 | 135,0 | 141,7 | 18,5 | 16,7 |
| Rd 30 | 160,0 | 168,0 | 23,0 | 20,7 |
| Rd 36 | 180,0 | 189,0 | 27,0 | 24,3 |
| Rd 42 | 180,0 | 189,0 | 27,0 | 24,3 |
| Rd 52 | 260,0 | 273,0 | 36,0 | 32.4 |

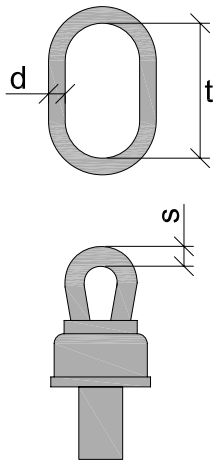
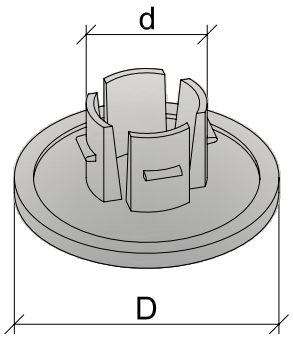



**Table 3: Dimensions of the eye ring**

| Type | s [mm] | $s_{min}$= 0,9 s |
|---|---|---|
| Rd 12 | 13,5 | 12,1 |
| Rd 14 | 16,0 | 14,4 |
| Rd 16 | 18,0 | 16,2 |
| Rd 18 | 21,0 | 18,9 |
| Rd 20 | 22,5 | 20,2 |
| Rd 24 | 28,0 | 25,2 |
| Rd 30 | 30,0 | 27,0 |
| Rd 36 | 35,0 | 31,5 |
| Rd 42 | 40,0 | 36,0 |
| Rd 52 | 45,0 | 40,5 |

# Cover Plates

The purpose of plastic Cover Plates PL and Cover Caps PT is to hide the thread hole of the internal thread anchor unnecessarily remaining exposed. Cover Plates and Cover Caps are of different colors according to the colors of the targeted use. Using the right-colored covering parts achieves an extremely finished and beautiful looking result on the concrete surface.




**Material:** plastic

**Table 1: Cover Cap PT**

| Article | Type | D, thread M / Rd | D [mm] | Color | |
|---|---|---|---|---|---|
| **10350** | PT 16 V | M12 / M16 | 35 | White | |
| **10351** | PT 16 VH | M12 / M16 | 35 | Light gray | |
| **10352** | PT 16 H | M12 / M16 | 35 | Gray | |
| **10355** | PT 16 P | M12 / M16 | 35 | Reddish (Natural gravel) | |
| **10350-1** | PT 16 M | M12 / M16 | 35 | Black | |
| **10356** | PT 24 V | M20 / M24 | 35 | White | |
| **10357** | PT 24 VH | M20 / M24 | 35 | Light gray | |
| **10358** | PT 24 H | M20 / M24 | 35 | Gray | |
| **10362** | PT 24 P | M20 / M24 | 35 | Reddish (Natural gravel) | |
| **10363** | PT 30 VH | M30 | 45 | Light gray | |
| **10364** | PT 30 H | M30 | 45 | Gray | |
| **10365** | PT 30 P | M30 | 45 | Black | |

- Cover Caps PT with thread M12 / M16 and M20 / M24 is suitable for both sizes

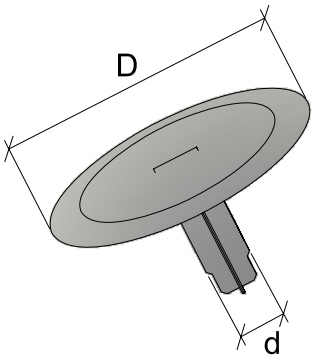



**Table 2: Cover Plate PL**

| Article | D, thread M / Rd | D [mm] | Color | |
|---|---|---|---|---|
| **01370** | M16 | 95 | Gray | |
| **01371** | M16 | 95 | White | |

- Cover Plate PL can be pasted into a larger threaded hole