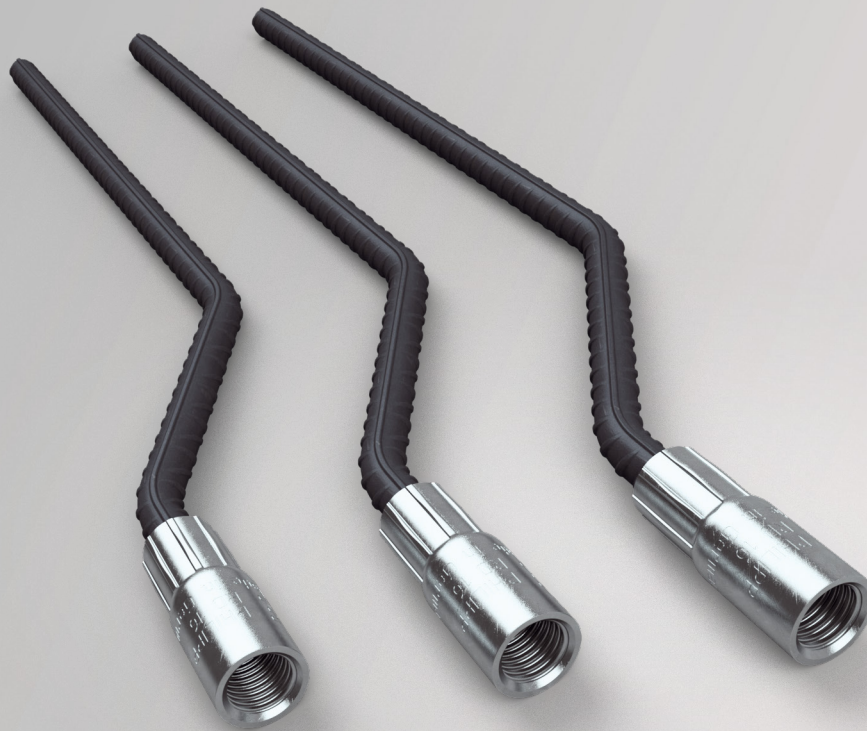


# Threaded transport anchor - offset



**Installation and Application Instruction**



# Our products from the division BUILDING SOLUTIONS

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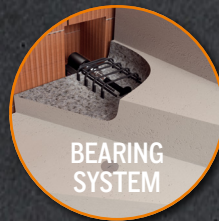
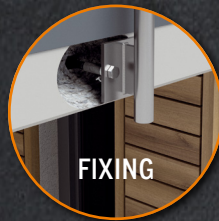
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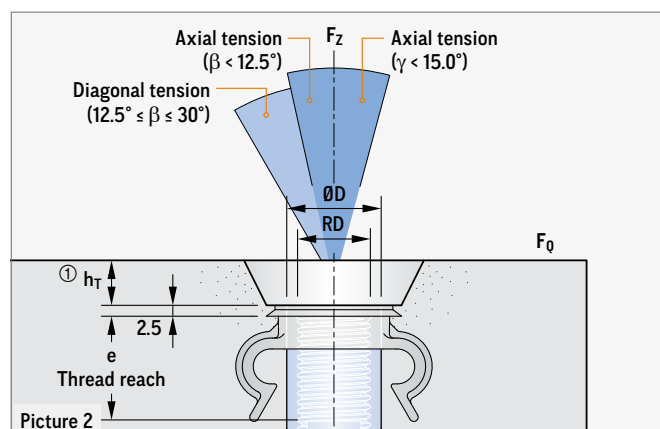
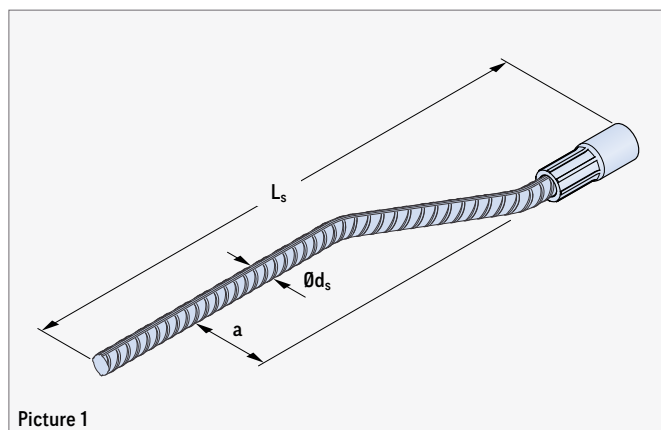


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# Threaded transport anchor - offset

## GENERAL PRODUCT INFORMATION



A threaded anchor with offset enables to balance an inclination of reinforced concrete sandwich panels during lifting and mounting. It is part of the PHILIPP Transport anchor system and complies with the VDI/BV-BS Guideline "Lifting inserts and lifting insert systems for precast concrete elements" (VDI/BV-BS 6205). The use of Threaded transport anchors requires the compliance with this Installation Instruction as well as the General Installation Instruction. The Installation and Application Instructions for the belonging PHILIPP lifting devices (Lifting loop with threaded end, "Wirbelstar", "Lifty") as well as the data sheets of the belonging

PHILIPP accessories (Plastic nailing plates, Retaining caps KH etc.) must be followed also. The anchor may only be used in combination with the mentioned PHILIPP lifting devices. Threaded transport anchors are designed for the transport of precast concrete units only. Multiple use within the transport chain (from production to installation of the unit) means no repeated usage. This transport anchor is not specified for a repeated usage (e.g. ballasts for cranes).

TABLE 1: DIMENSIONS

Ref. no bright zinc plated	Type	RD	ØD (mm)	L <sub>s</sub> (mm)	a (mm)	e (mm)	Ød <sub>s</sub> (mm)
67M30GK	RD 30	30	39.5	750	60	56	20
67M36GK	RD 36	36	47.0	950	60	68	25
67M42GK	RD 42	42	54.0	1100	70	80	28
67M52GK	RD 52	52	67.0	1400	90	100	32

① Mind the embedding depth of the corresponding nailing plate and retaining cap (picture 2).

## MATERIALS

The threaded anchor consists of a rebar bended twice (B500B) with a crimped-on insert. The threaded inserts are made of special high precision steel tubes and are galvanised according to common standards. This galvanisation protects the anchor temporarily from the storage at the producer site to the final installation in the concrete element.

If the surface of a concrete element has to fulfil special conditions (e.g. no stream of rust) the insert can be delivered in stainless steel alternatively.

Here the cut surface of the reinforcement bar is protected by a special sealing against corrosion.

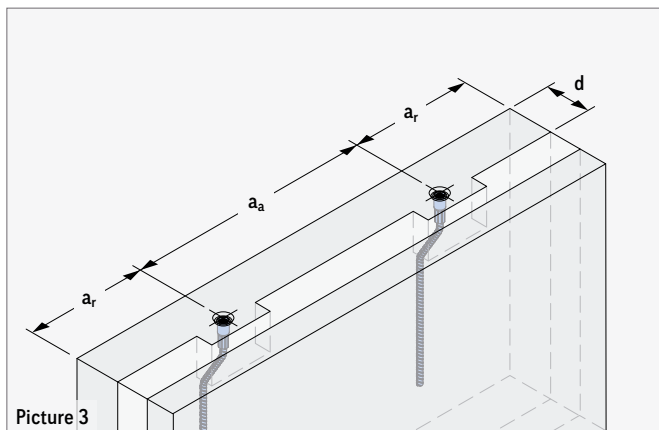


## EC DECLARATION OF CONFORMITY

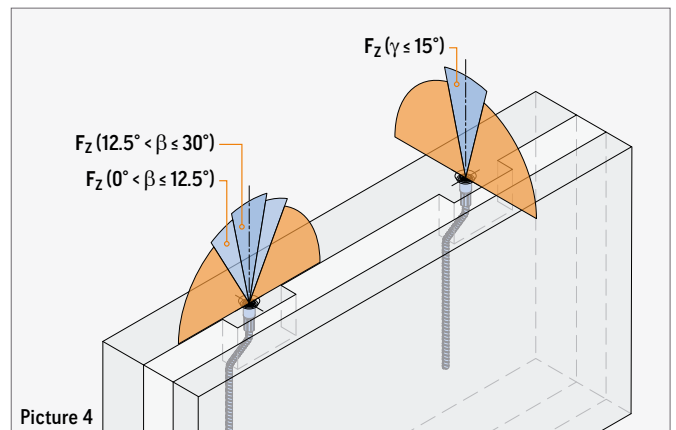
The EC Declaration of Conformity (DoC) of the Threaded transport anchor - offset tail can be downloaded from our website [www.philipp-group.de](http://www.philipp-group.de) or is available on request.



## BEARING CAPACITIES



Picture 3



Picture 4

### ELEMENT THICKNESSES, CENTRE AND EDGE DISTANCES

The installation and position of threaded anchors in precast concrete units require minimum element dimensions and centre distances for a safe load transfer. Table 2 shows the minimum thickness  $d$  of a unit to cover the load directions axial and diagonal tension  $\beta \leq 30^\circ$ .



### DIAGONAL TENSION

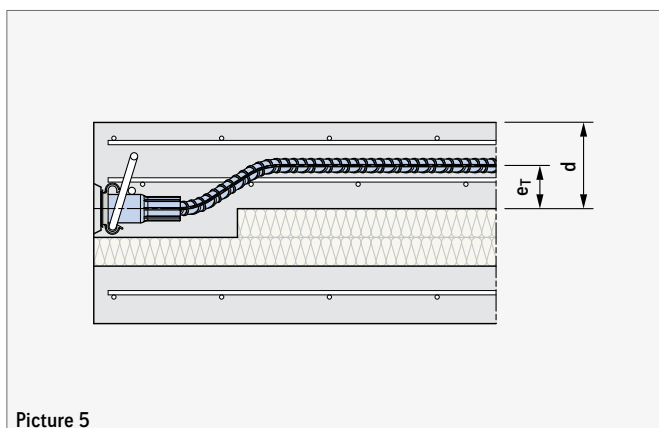
Lateral tension ( $\gamma > 15^\circ$ ) is not permitted within the whole transport chain! This also applies to a diagonal tension with angle  $\beta$  more than  $30^\circ$ !

TABLE 2: PERMISSIBLE LOAD BEARING CAPACITIES

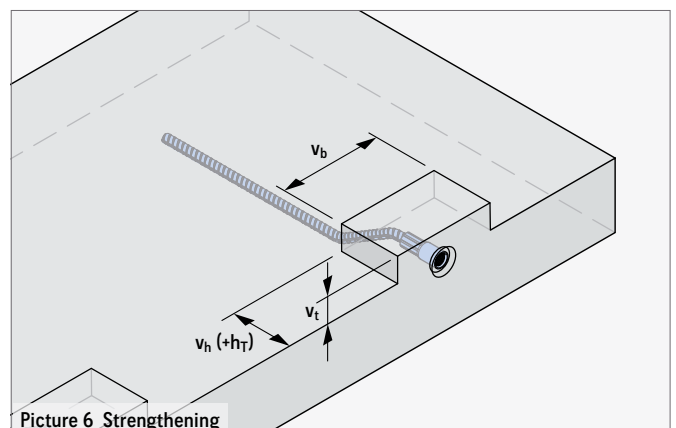
Load class	Element thicknesses and edge distances				Strengthening			perm. F if $f_{cc} 15 \text{ N/mm}^2$		perm. F if $f_{cc} 25 \text{ N/mm}^2$
	$d$ (mm)	$e_T$ (mm)	$a_a$ (mm)	$a_r$ (mm)	$v_t$ (mm)	$v_b$ (mm)	$v_h$ (mm)	Axial tension perm. $F_Z$ $0^\circ - 12,5^\circ$ (kN)	Diagonal tension perm. $F_Z$ $12,5^\circ - 30^\circ$ (kN)	Diagonal tension perm. $F_Z$ $0^\circ - 30^\circ$ (kN)
30	120	60	1000	500	40	200	200	40.0	40.0	40.0
36	150	75	1000	500	40	200	200	63.0	47.6	61.5
42	160	80	1000	500	40	300	240	80.0	53.4	68.9
52	180	90	1500	750	60	300	380	125.0	107.7	125.0

② If the threaded anchor is installed in recessed position  $v_h$  must be increased accordingly.

- To determine the correct type please refer also to our General Installation Instruction.
- The weight of 1.0 t corresponds to 10.0 kN.



Picture 5



Picture 6 Strengthening



# Threaded transport anchor - offset

## REINFORCEMENT

### MAIN REINFORCEMENT (AXIAL / DIAGONAL TENSION)

For the installation of Threaded transport anchors offset the precast elements must be reinforced with a minimum reinforcement (table 3). This minimum reinforcement can be replaced by a comparable steel bar reinforcement.



#### EXISTING REINFORCEMENT

Existing static or constructive reinforcement can be taken into account for the minimum reinforcement according to table 3.

Additionally, for both axial and diagonal tension a reverse reinforcement and longitudinal reinforcement is required for the surface reinforcement (acc. to table 3, picture 7 and 8).

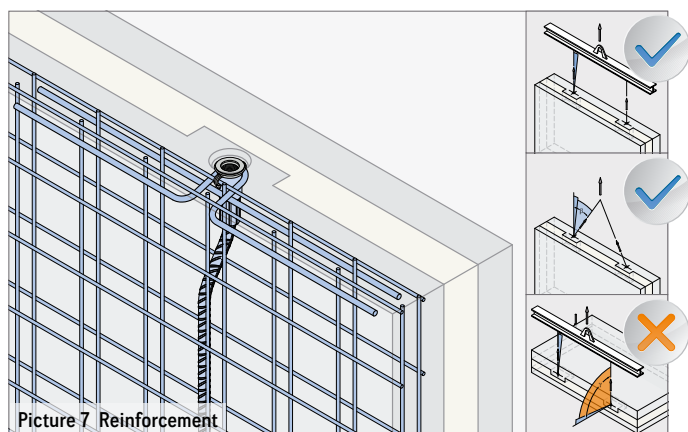
Pressure contact between the additional reinforcement and the threaded insert of the anchor is required. Position of the direct pressure contact between insert and additional reinforcement must be within the thread reach of the insert.

At the first time of lifting the concrete must have a minimum strength  $f_{cc}$  acc. to table 2. The user is personally responsible for further transmission of load into the concrete unit.

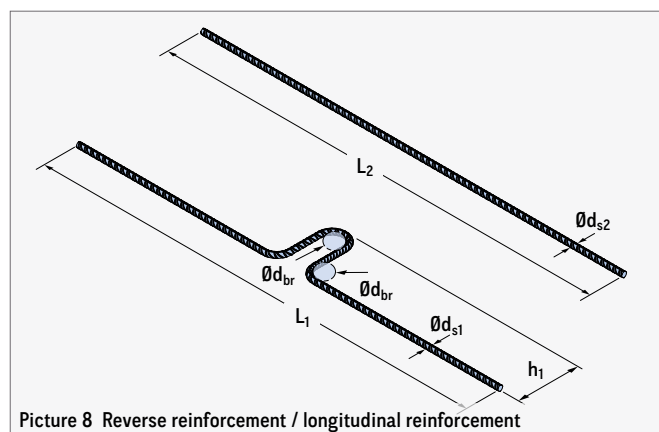


#### CENTER OF GRAVITY

The Threaded transport anchor offset must be installed above the centre of gravity, in order to avoid a tipping of the concrete unit during lifting.



Picture 7 Reinforcement



Picture 8 Reverse reinforcement / longitudinal reinforcement

TABLE 3: REINFORCEMENT

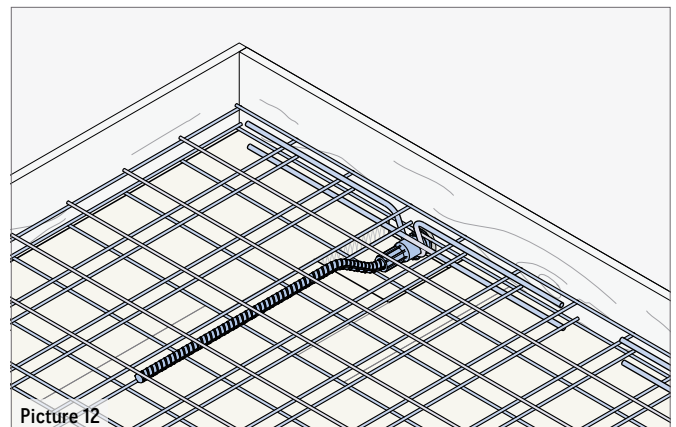
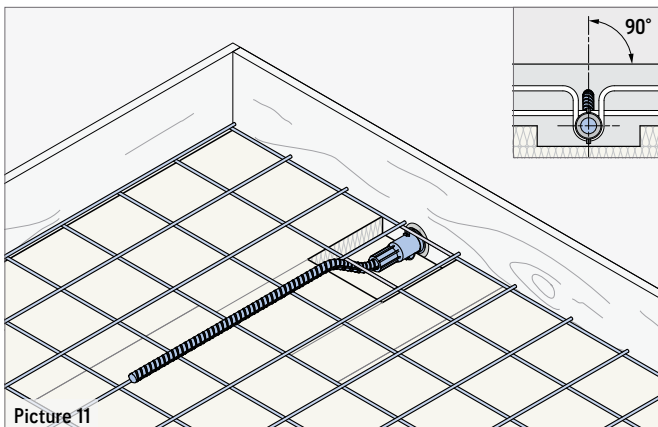
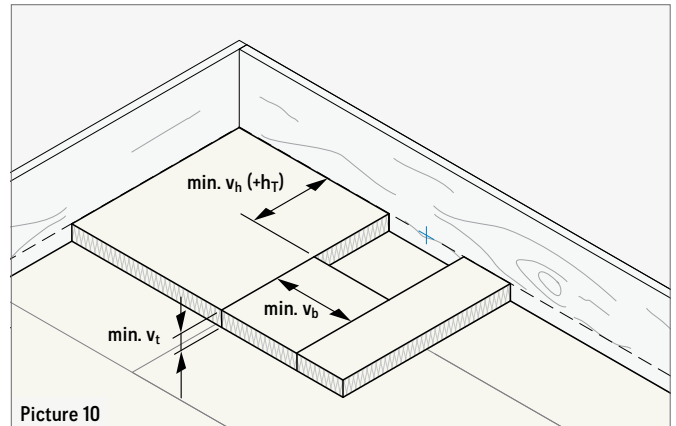
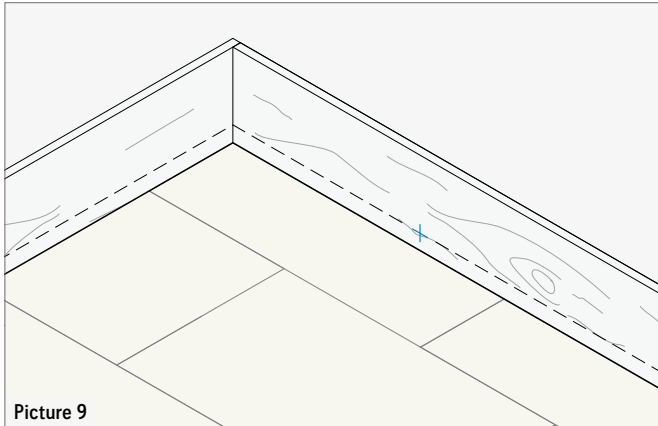
Load class	Mesh reinforcement (square) (mm <sup>2</sup> /m)	Reverse reinforcement B500A				Longitudinal reinforcement B500A	
		Øds1 (mm)	L1 (mm)	h1 (mm)	Ødbr (mm)	Øds2 (mm)	L2 (mm)
30	2 × 188	10	840	120	40	10	840
36	2 × 188	12	1000	140	48	12	1000
42	2 × 188	14	1000	163	56	14	1000
52	2 × 188	16	1200	185	70	16	1200

## INSTALLATION

### INSTALLATION OF THE TRANSPORT ANCHOR

The Threaded transport anchor offset can be installed flush to the surface as well as in recessed position using a nailing plate. If the threaded transport anchor is installed in recessed position the height  $v_h$  of the strengthening must be increased by  $h_T$  of

the nailing plate (acc. to the corresponding datasheet). The direction of the offset of the transport anchor must be installed always right-angled to the surface of the bearing layer (picture 11).



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