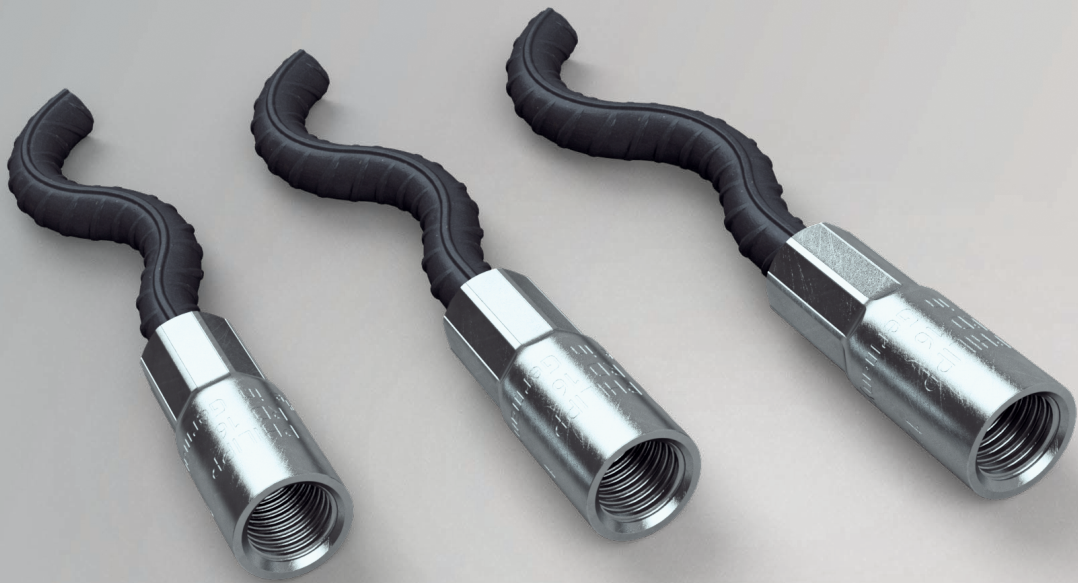


# Threaded transport anchor - short wavy tail



## Installation and Application Instruction



# Our products from the division BUILDING SOLUTIONS

## SERVICES

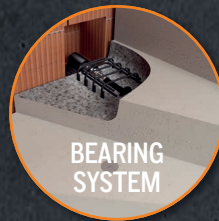
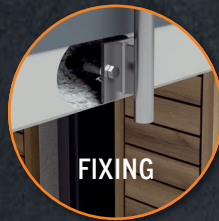
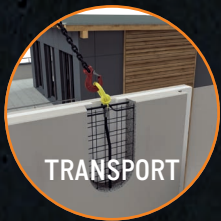
- » On-site tests -> we ensure that your requirements are properly covered by our planning.
- » Test reports -> for your safety and documentation.
- » Trainings -> the knowledge of your employees from planning and production is enhanced by our experts on site, online or via webinar.
- » Planning support -> latest design software, planning documents, CAD data and much more can be downloaded any time from [www.philipp-group.de](http://www.philipp-group.de).

## HIGH DEMANDS ON PRODUCT SAFETY AND PRACTICALITY

- » Close cooperation with notified bodies and - if necessary - approval of our solutions.

## TECHNICAL DEPARTMENT

- » Our expert-team will support you at any time during your planning phase with detailed advice.

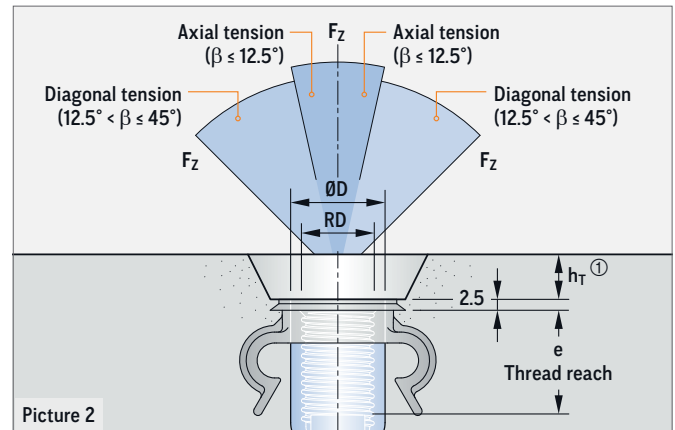
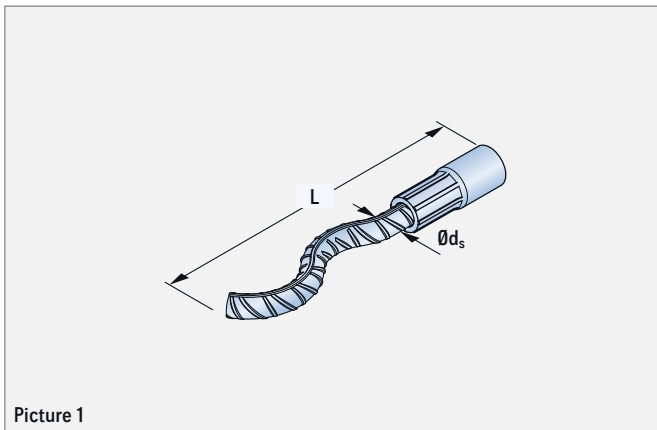


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# PHILIPP Threaded transport anchor - short wavy tail

## GENERAL PRODUCT INFORMATION



The Threaded transport anchor in the short wavy tail version is used for slabs and concrete elements of similar type. It is part of the PHILIPP Transport anchor system and complies with the VDI/BV-BS Guideline "Lifting inserts and lifting systems for precast concrete elements" (VDI/BV-BS 6205). The use of Threaded transport anchors requires the compliance with this Installation and Application Instruction as well as the General Installation Instruction and Application Instruction.

The Application Instructions for the belonging PHILIPP lifting devices as well as the data sheets of the belonging PHILIPP accessories 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 Installation and Application Instruction does not specify a repeated usage (e.g. ballasts for cranes) or a permanent fixation.



### EC-DECLARATION OF CONFORMITY

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



TABLE 1: DIMENSIONS

Ref. no. ② galvanised	Type	Dimensions					
		RD	ØD (mm)	L (mm)	e (mm)	Ød <sub>s</sub> (mm)	
67M12K	12	12	15.0	110	22	8	
67M16K	16	16	21.0	170	27	12	
67M20K	20	20	27.0	187	35	16	
67M24K	24	24	31.0	240	43	16	
67M30K	30	30	39.5	300	56	20	
67M36K	36	36	47.0	380	68	25	
67M42K	42	42	54.0	450	75	28	

① Mind the embedding depth  $h_T$  of the corresponding Recess former (picture 2).

② Also available in version stainless steel (ref. no. 75M\_\_VAK).

## GENERAL NOTES

### MATERIALS

The Threaded transport anchors consist of a twice-bended reinforcement bar B500B with a crimped-on insert. The threaded inserts are made of special high precision steel tubes and are galvanized according to common standards. This galvanization protects the anchor temporarily, from the storage at the producer site to the final installation in the concrete element.

### CORROSION

In order to avoid contamination or damage to the concrete surface of the precast concrete element due to corrosion of the transport anchor (stream of rust or similar), 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.

### CONCRETE STRENGTH

At the time of the first lift the concrete must have a minimum strength  $f_{cc}$  acc. to table 2. Given concrete strengths  $f_{cc}$  are cube compression strengths at the time of the first lifting.

### ELEMENT THICKNESSES, CENTRE AND EDGE DISTANCES

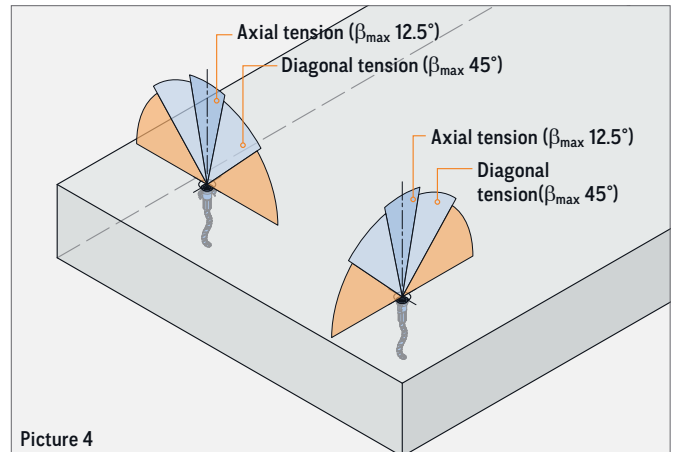
The installation and position of threaded transport anchors in precast concrete elements require minimum element dimensions and centre/edge distances for a safe load transfer. Table 2 shows the minimum thickness  $d_{min}$  of a unit which covers the load directions axial and diagonal tension.

### LOAD DIRECTIONS

The Threaded transport anchors (version: short wavy tail) can only be used for axial and diagonal tension exclusively.

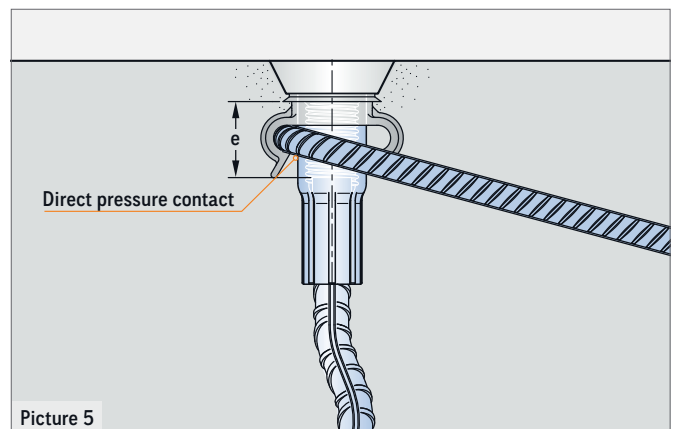
#### LATERAL TENSION

Lateral tension is not allowed within the whole transport chain. This also applies to a diagonal tension with angle more than 45°!

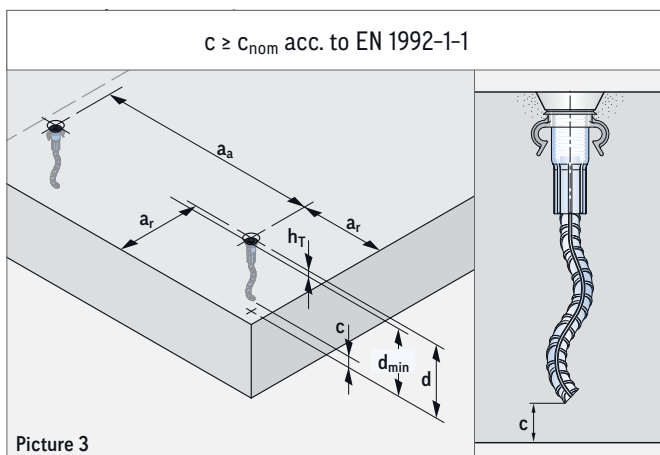


### REINFORCEMENT INSTRUCTIONS

Additional reinforcement for diagonal tension has to be installed with pressure contact to the anchor insert. The position of the direct pressure contact must be within the thread reach  $e$  of the insert (see picture 5). By using the Marking ring with clip (74KR\_CLIP) this position is guaranteed.



**RECESSED INSTALLATION**  
If the Threaded transport anchor is installed recessed (e.g. by using a recess former), the minimum thickness  $d_{min}$  has to be increased by  $h_T$  (picture 3).





# PHILIPP Threaded transport anchor - short wavy tail

## PERMISSIBLE LOAD BEARING CAPACITIES AND BOUNDARY CONDITIONS

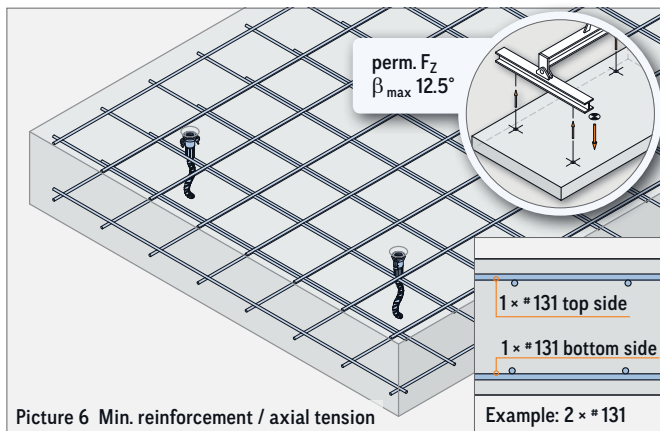
### AXIAL TENSION

In use of Threaded transport anchors precast units must be reinforced with a minimum reinforcement. Depending on the load case this can differ and is specified in table 2. This minimum reinforcement can be replaced by a comparable steel bar reinforcement. The user is personally responsible for further transmission of load into the concrete unit.



#### EXISTING REINFORCEMENT

Existing static or constructive reinforcement can be taken into account for the minimum reinforcement of the respective load case.

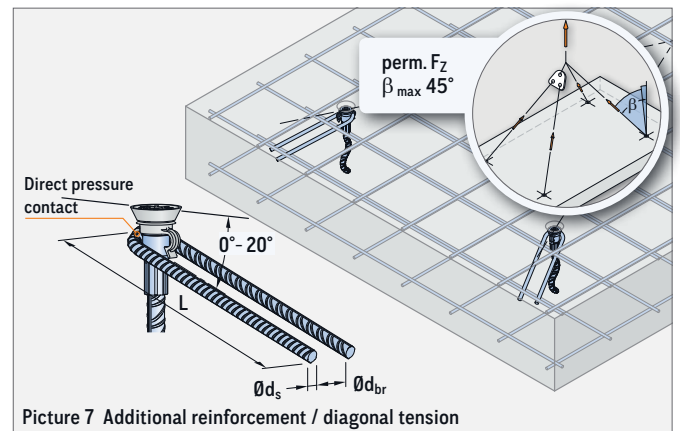


Picture 6 Min. reinforcement / axial tension

Example: 2 x #131

### DIAGONAL TENSION

If the Threaded transport anchor in short wavy tail version is used under diagonal tension  $\beta > 12.5^\circ$  an additional reinforcement according to table 2 is required. Here the reinforcement for diagonal tension is placed contrarily to the tensile direction (picture 7) and must have direct pressure contact to the anchor insert in the peak of its bending. The installation of the rebars for diagonal tension can be done in an angle of  $0^\circ$  bis  $20^\circ$  to the concrete surface. If an installation angle of  $0^\circ$  is given the Threaded transport anchor has to be installed in a deeper position (e.g. by using a recess former) in order to reach the minimum required concrete covering.



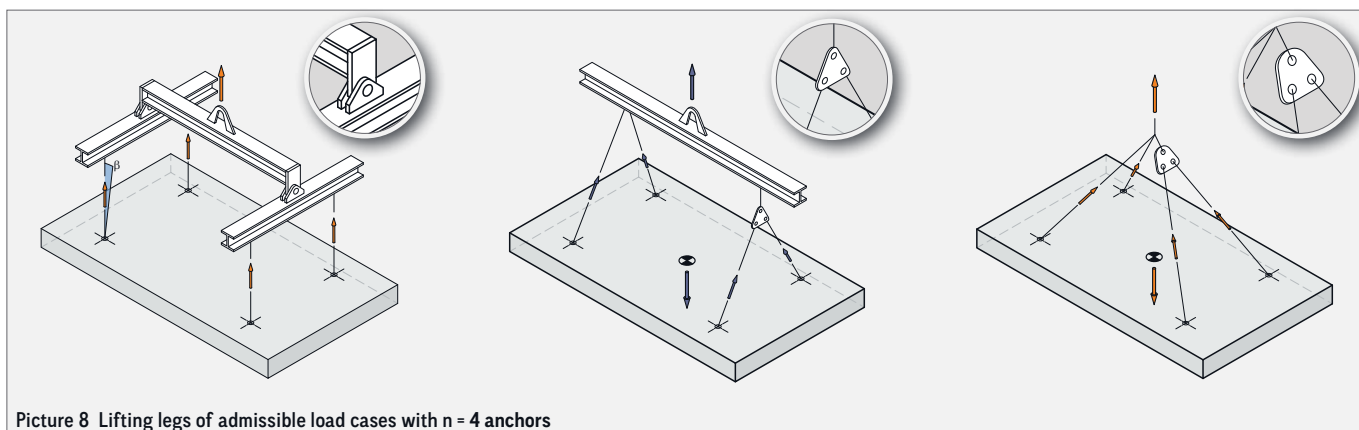
Picture 7 Additional reinforcement / diagonal tension

TABLE 2: AXIAL AND DIAGONAL TENSION AT FCC  $\geq 15$  N/mm<sup>2</sup>

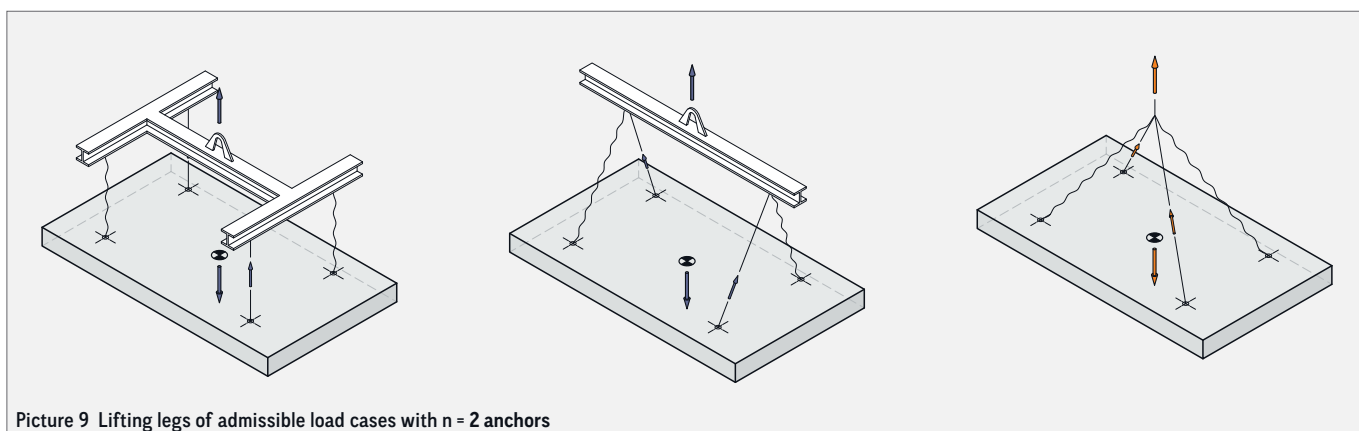
Load class	Minimum element thicknesses centre distances edge distances			Axial tension		Diagonal tension									
				perm. F <sub>Z</sub> (kN)	Reinforcement Mesh (square) (mm <sup>2</sup> /m)	perm. F <sub>Z</sub> (kN)	$\beta_{\max} 30^\circ$			perm. F <sub>Z</sub> (kN)	$\beta_{\max} 45^\circ$				
							Matte (quadrat.) (mm <sup>2</sup> /m)	Reinforcement $\varnothing d_s$ (mm)	Rebar (B500B) L (mm)		$\varnothing d_{br}$ (mm)	Mesh (square) (mm <sup>2</sup> /m)	Reinforcement $\varnothing d_s$ (mm)	Rebar (B500B) L (mm)	$\varnothing d_{br}$ (mm)
12	140	200	95	5.0	2 x #131	5.0	2 x #131	6	150	24	5.0	2 x #131	6	150	24
16	195	260	135	12.0	2 x #131	12.0	2 x #131	6	250	24	12.0	2 x #131	8	200	32
20	215	350	170	20.0	2 x #188	20.0	2 x #188	8	250	32	20.0	2 x #188	8	300	32
24	270	440	220	25.0	2 x #188	25.0	2 x #188	8	300	32	25.0	2 x #188	10	300	40
30	390	550	275	40.0	2 x #188	40.0	2 x #188	10	350	40	40.0	2 x #188	12	400	48
36	410	600	300	63.0	2 x #188	63.0	2 x #188	12	450	48	63.0	2 x #188	14	550	56
42	480	800	400	80.0	2 x #188	80.0	2 x #188	14	600	56	80.0	2 x #188	16	600	64

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

## ADMISSIBLE LOAD CASES



Picture 8 Lifting legs of admissible load cases with  $n = 4$  anchors



Picture 9 Lifting legs of admissible load cases with  $n = 2$  anchors

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