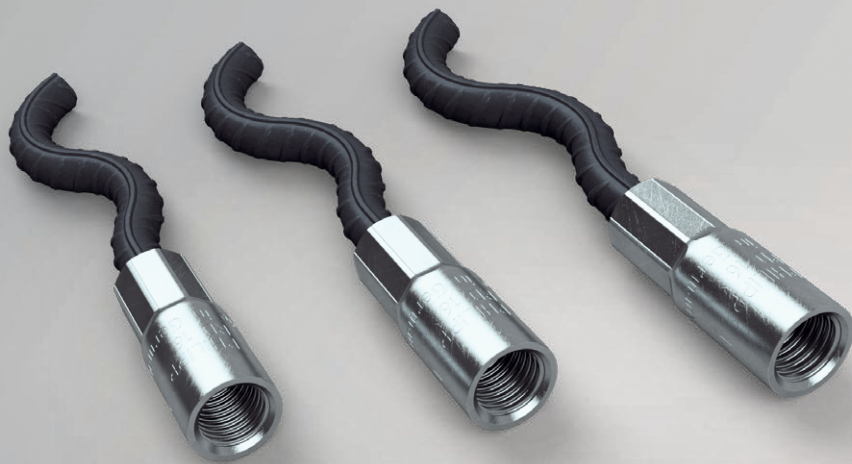


PHILIPPGROUP

PHILIPP Threaded transport anchor



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Version: short wavy tail

Installation and Application Instruction

Transport and mounting systems for prefabricated building

■ Technical department

Our staff will be pleased to support your planning phase with suggestions for the installation and use of our transport and mounting systems for precast concrete construction.

■ Special designs

Customized to your particular needs.

■ Practical tests on site

We ensure that our concepts are tailored precisely to your requirements.

■ Inspection reports

For documentation purposes and your safety.

■ On-site service

Our engineers will be pleased to instruct your technicians and production personnel at your plant, to advise on the installation of precast concrete parts and to assist you in the optimisation of your production processes.

■ High safety level when using our products

Close cooperation with federal materials testing institutes (MTIs), and official approvals for the use of our products and solutions whenever necessary.

■ Software solutions

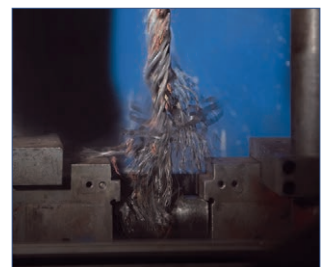
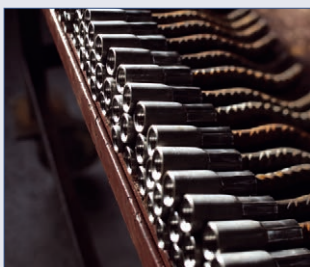
The latest design software, animated videos and CAD libraries can always be found under www.philipp-gruppe.de.

■ Engineering contact

Phone: +49 6021 4027-318
E-mail: technik@philipp-gruppe.de

■ Sales contact

Phone: +49 6021 4027-300
E-mail: tum@philipp-gruppe.de



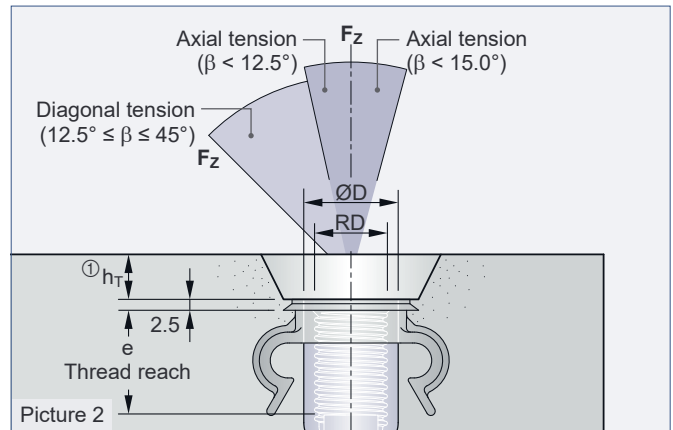
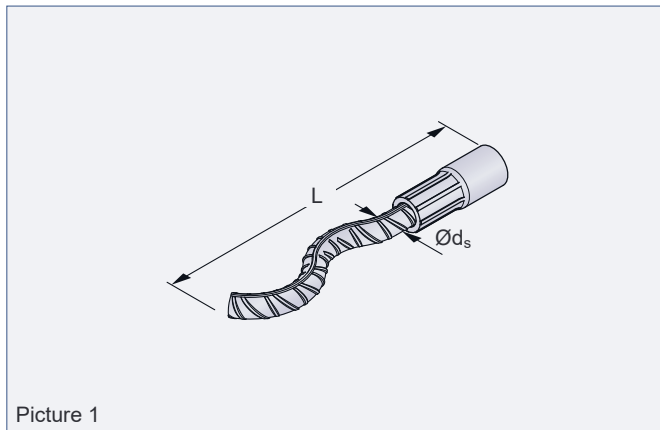
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PHILIPP Threaded transport anchor - short wavy tail

PHILIPP Threaded transport anchor - short wavy tail



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.

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.



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



Table 1: Dimensions

Ref. no.② galvanised	Type	Dimensions					Weight [kg/100 pcs.]
		RD	ØD [mm]	L [mm]	e [mm]	Øds [mm]	
67M12K	12	12	15.0	110	22	8	6.0
67M14K	14	Type RD 14 of the threaded transport anchor system is no longer available				10	11.0
67M16K	16	16	21.0	170	27	12	20.0
67M18K	18	Type RD 18 of the threaded transport anchor system is no longer available				14	27.0
67M20K	20	20	27.0	187	35	16	37.0
67M24K	24	24	31.0	240	43	16	50.0
67M30K	30	30	39.5	300	56	20	110.0
67M36K	36	36	47.0	380	68	25	190.0
67M42K	42	42	54.0	450	75	28	290.0

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

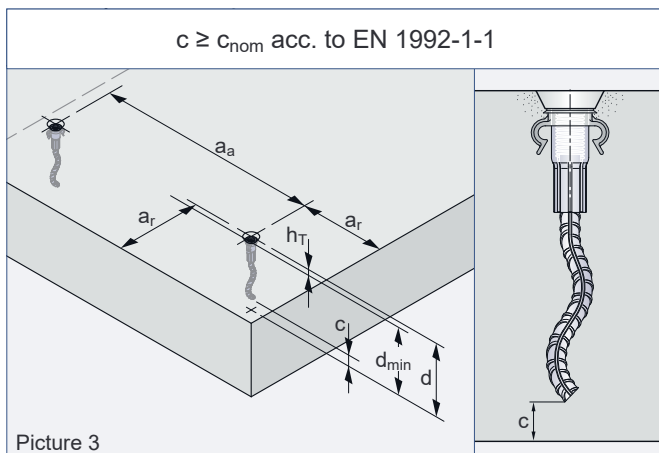
At the time of the first lift the concrete must have a minimum strength f_{cc} acc. to table 2. Given concrete strengths f_{cc} are cube compression strengths at the time of the first lifting.

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 of a unit which covers the load directions axial and diagonal tension.



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).



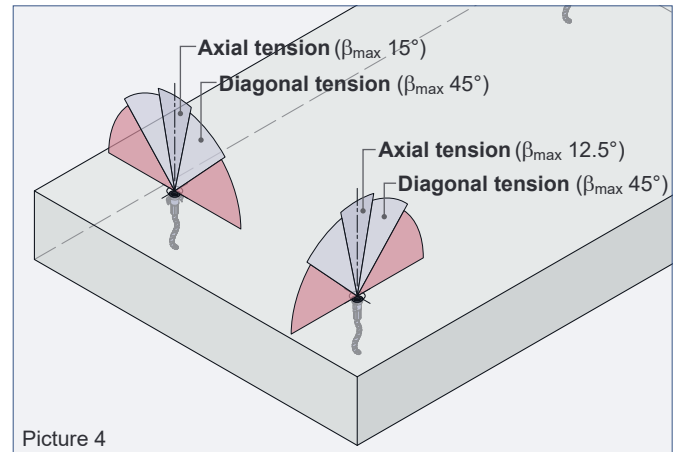
Picture 3

Load directions

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



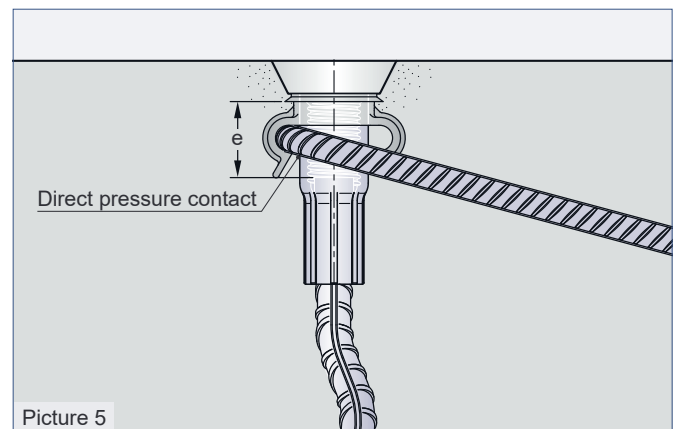
Lateral tension is not allowed within the whole transport chain. This also applies to a diagonal tension with angle β more than 45° !



Picture 4

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.



Picture 5

PHILIPP Threaded transport anchor - short wavy tail

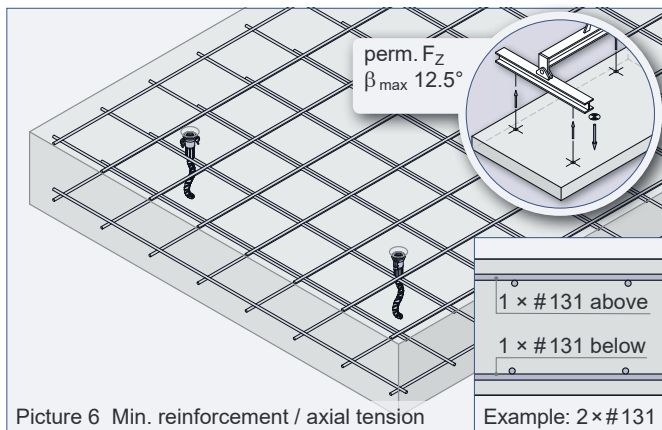
Axial- and diagonal tension: Permissible load bearing capacities and boundary conditions

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 static or constructive reinforcement can be taken into account for the minimum reinforcement.

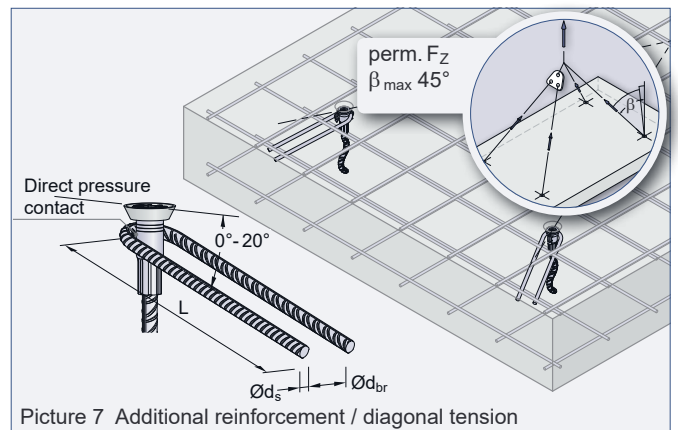


Picture 6 Min. reinforcement / axial tension

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° bis 20° to the concrete surface. If an installation angle of 0° 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.



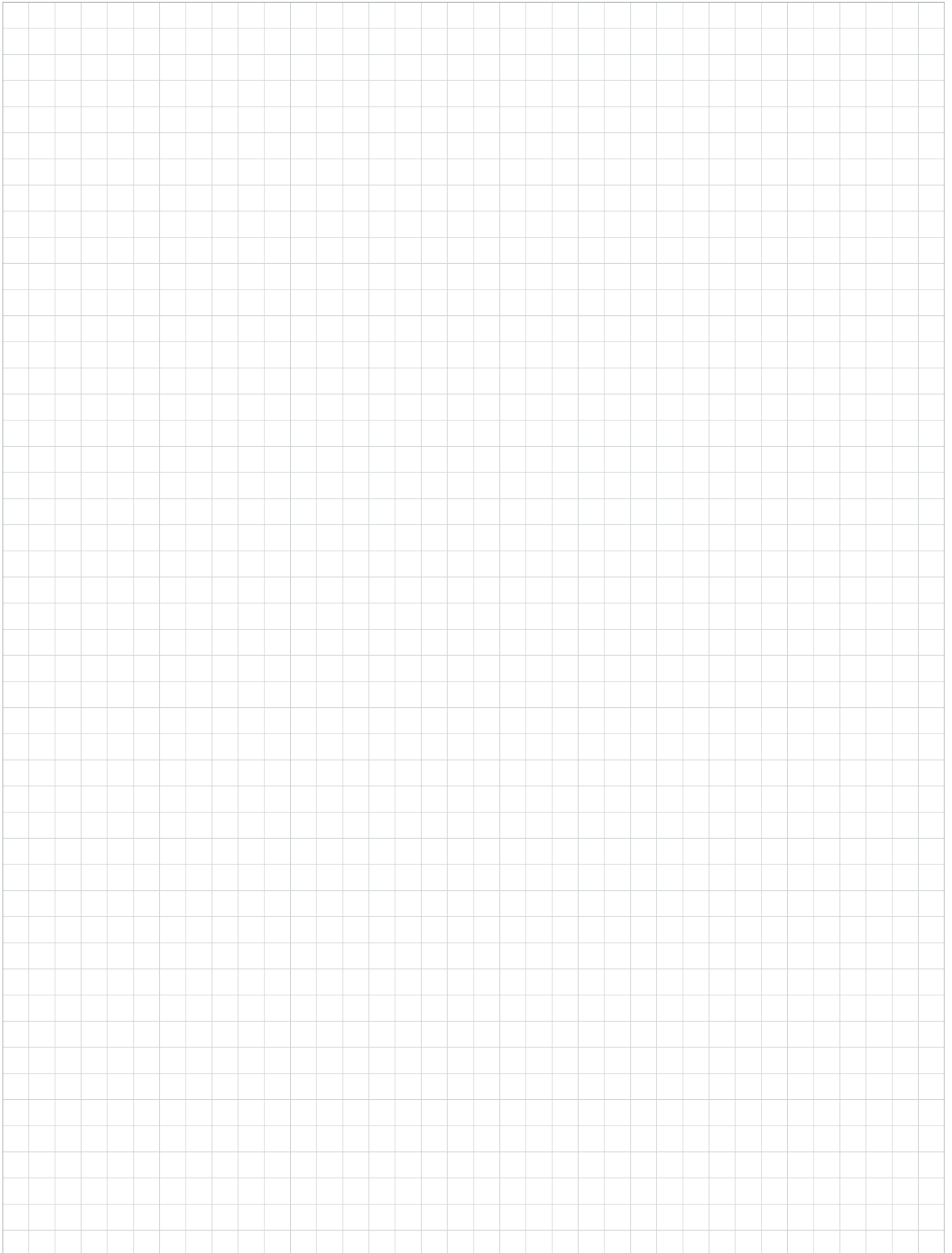
Picture 7 Additional reinforcement / diagonal tension

Table 2: Axial and diagonal tension at $f_{cc} \geq 15 \text{ N/mm}^2$

Load class	Minimum element thicknesses centre distances edge distances			Axial tension		Diagonal tension									
				perm. F_z [kN]	Reinforcement Mesh (square) [mm ² /m]	perm. F_z [kN]	$\beta_{max} 30^\circ$			perm. F_z [kN]	$\beta_{max} 45^\circ$				
							Reinforcement Mesh (square) [mm ² /m]	Rebar (B500B) \varnothing_{ds} [mm]	L [mm]		\varnothing_{db} [mm]	Reinforcement Mesh (square) [mm ² /m]	Rebar (B500B) \varnothing_{ds} [mm]	L [mm]	\varnothing_{db} [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
14	160	200	115	8.0	2 x #131	8.0	2 x #131	6	200	24	8.0	2 x #131	6	200	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
18	202	300	155	16.0	2 x #188	16.0	2 x #188	8	200	32	16.0	2 x #188	8	250	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.

Notes



Our customers trust us to deliver.

We do everything in our power to reward their faith and we start each day intending to do better than the last. We provide strength and stability in an ever-changing world. We provide it support.

Welcome to the PHILIPP Group

Sustainable
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PHILIPPGROUP



PHILIPP GmbH

Lilienthalstrasse 7-9
63741 Aschaffenburg
Phone: + 49 6021 40 27-0
Fax: + 49 6021 40 27-440
info@philipp-group.de

PHILIPP GmbH

Roßlauer Strasse 70
06869 Coswig/Anhalt
Phone: + 49 34903 6 94-0
Fax: + 49 34903 6 94-20
info@philipp-group.de

PHILIPP GmbH

Sperberweg 37
41468 Neuss
Phone: + 49 2131 3 59 18-0
Fax: + 49 2131 3 59 18-10
info@philipp-group.de

PHILIPP ACON Hydraulic GmbH

Hinter dem grünen Jäger 3
38836 Dardesheim
Phone: + 49 39422 95 68-0
Fax: + 49 39422 95 68-29
info@philipp-group.de



PHILIPP Vertriebs GmbH

Leogangerstraße 21
5760 Saalfelden / Salzburg
Phone + 43 6582 7 04 01
Fax + 43 6582 7 04 01 20
info@philipp-gruppe.at

For more information visit our website: www.philipp-group.de