

Angled loop



Installation and Application Instruction

Our products from the division BUILDING SOLUTIONS

SERVICES

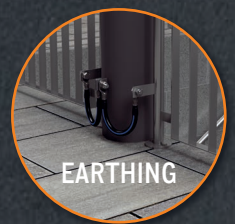
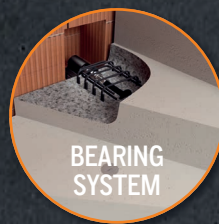
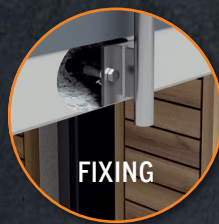
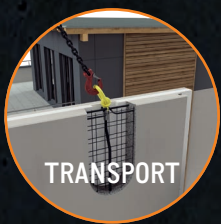
- » On-site tests -> we ensure that your requirements are properly covered by our planning.
- » Test reports -> for your safety and documentation.
- » Trainings -> the knowledge of your employees from planning and production is enhanced by our experts on site, online or via webinar.
- » Planning support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

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 Angled loop

GENERAL PRODUCT INFORMATION

The Angled loop is part of the PHILIPP transport anchor systems. The use of the Angled loop requires the compliance with this Installation Instruction and Application Instruction as well as the General Installation Instruction and Application Instruction.

Angled loops 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. A repeated use (e.g. ballasts for cranes) is not allowed.

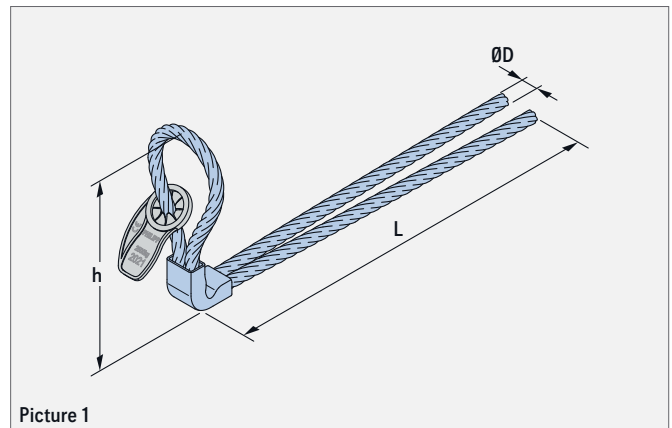


TABLE 1: PERMISSIBLE LOAD BEARING CAPACITIES AND DIMENSIONS

Ref. no.	Type	Perm. load F 0°-30° (kN)	Dimensions		
			ØD (mm)	h (mm)	L (mm)
44W10180350T	● 2.5	25.0	10	180	350
44W12230380T	● 4.0	40.0	12	230	380
44W14230380T	● 5.2	52.0	14	230	380

- To determine the correct type please refer also to our General Installation Instruction and Application Instruction.
- The weight of 1.0 t corresponds to 10.0 kN.
- Special versions available on request.
- Rope diameter ØD is a standard value and can vary depending on the wire rope construction.

MATERIALS

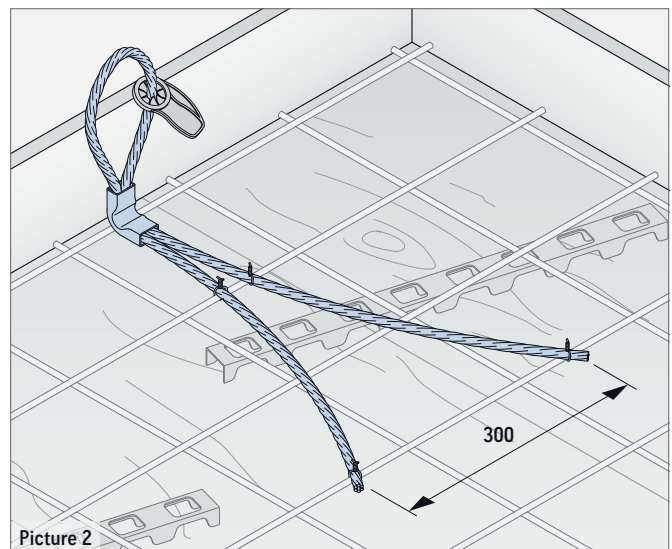
The Angled loops consist of a wire rope and is formed to a loop by a cold-formed ferrule.

APPLICATION

Prior concreting the precast element the Angled loops are installed to the formwork. In order to guarantee the position of the Angled loops during concreting and compacting it must be fixed to the reinforcement. A necessary reinforcement bar (picture 4 and table 2) shall be installed with pressure contact to the loop. Both open ends of the Angled loop have to be fixed during installation with a spread of ca. 30 cm (picture 2). When the element is ready the lifting device can be hooked on the upper end of the Angled loop sticking out of the concrete.

APPLICATION RESTRICTIONS

During storage of the concrete units please make sure that the Angled loops are not bent in any way. With an outdoor storage of the precast units the loops sticking out are exposed to the elements and this may lead to a reduction of the bearing capacity. In the event of significant corrosion, a transport with the Angled loops is not permitted.



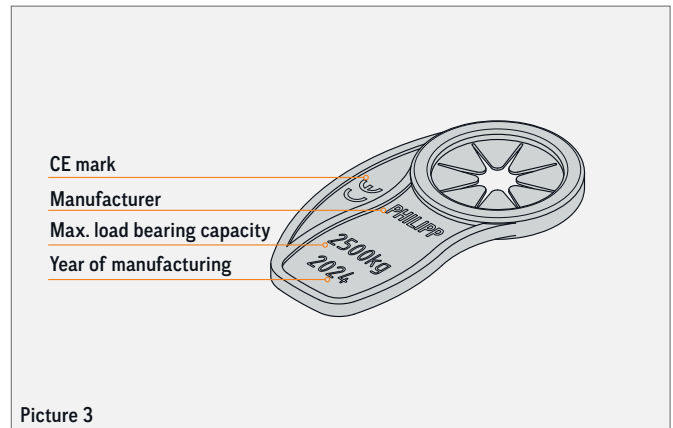
MARKING / REINFORCEMENT

MARKING

In order to identify the types of the Angled loop visually they are marked with a coloured tag. This tag must also be visible at the segment sticking out after concreting. With its fins the tag guarantees an easy fixing to this part of the Angled loop sticking out of the element.

Following data are given on the tag:

- » Manufacturer (PHILIPP)
- » CE mark
- » Bearing capacity (e.g. 2500 kg)
- » Year of manufacturing (e.g. 2024)



Picture 3

EC-DECLARATION OF CONFORMITY

The EC Declaration of Conformity (DoC) of the Angled loop can be downloaded from our website www.philipp-group.de or is available on request.



REINFORCEMENT

For the installation of Angled loops precast units must be reinforced with a minimum reinforcement near surface and one reinforcement bar acc. to picture 4 and table 2.

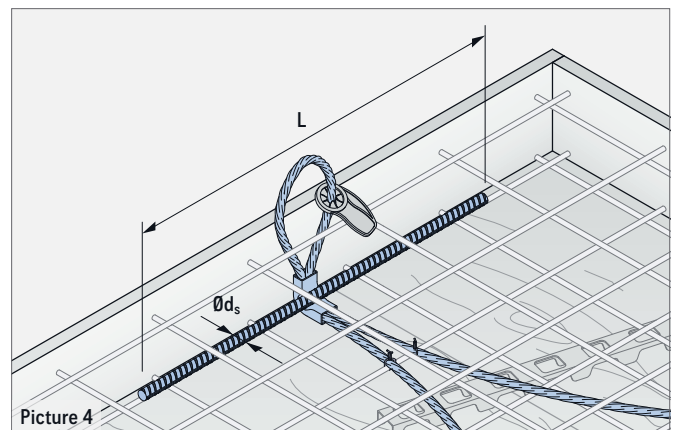


PROTECTION STICKER

Existing static or constructive reinforcement can be taken into account for the minimum reinforcement according to table 2.

This minimum reinforcement can be replaced by comparable reinforcement bars. Should it be necessary to cut single bars for the installation of Angled loops these have to be replaced by bars of the same diameter, strength and enough lap length according to EC 2.

At the first time of lifting the concrete must have a minimum strength of **15 N/mm²**. The user is personally responsible for further transmission of load into the concrete unit.



Picture 4

TABLE 2: REINFORCEMENT

Type	Bearing capacity 0° - 30° (kg)	Mesh reinforcement (square) (mm ² /m)	Additional reinforcement	
			Ød _s (mm)	L (mm)
2.5	2500	188	14	300
4.0	4000	188	16	350
5.2	5200	188	20	400

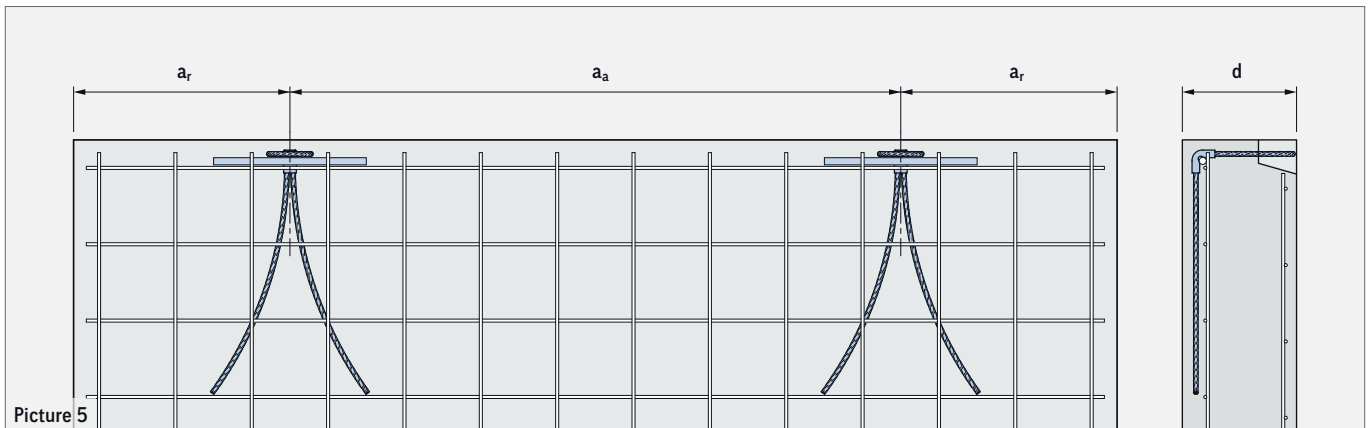
INSTALLATION / SAFETY

CENTRE AND EDGE DISTANCES, ELEMENT THICKNESSES

The installation and position of Angled loops in precast concrete units require minimum dimensions and centre/edge distances for a safe load transfer. These are given in table 3.

TABLE 3: CENTRE DISTANCES (a_a), EDGE DISTANCES (a_r) AND ELEMENT THICKNESSES (d)

Type	a_a (mm)	a_r (mm)	d (mm)
2.5	1000	500	200
4.0	1000	500	270
5.2	1000	500	270



WELDING!

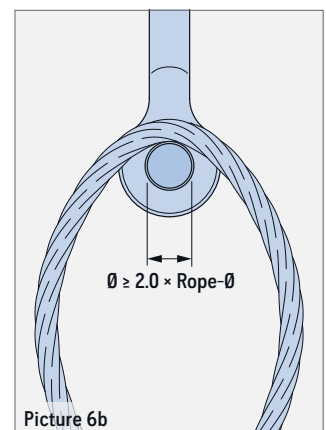
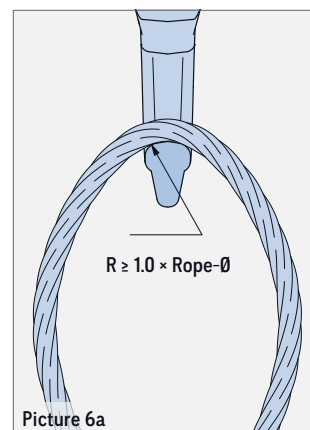
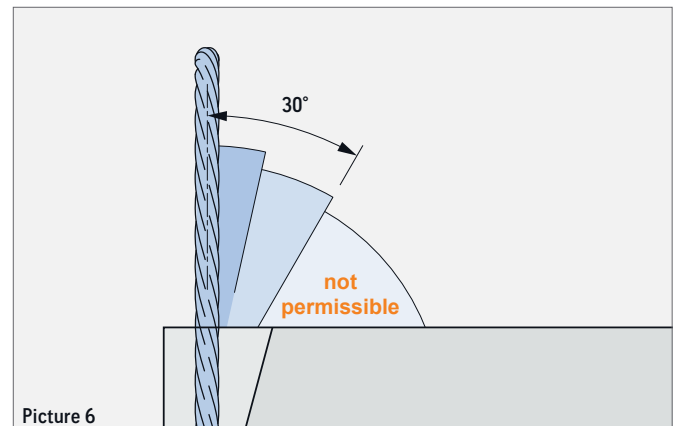
Welding or other strong heat influences on the Angled loop are not allowed.

SAFETY NOTICES

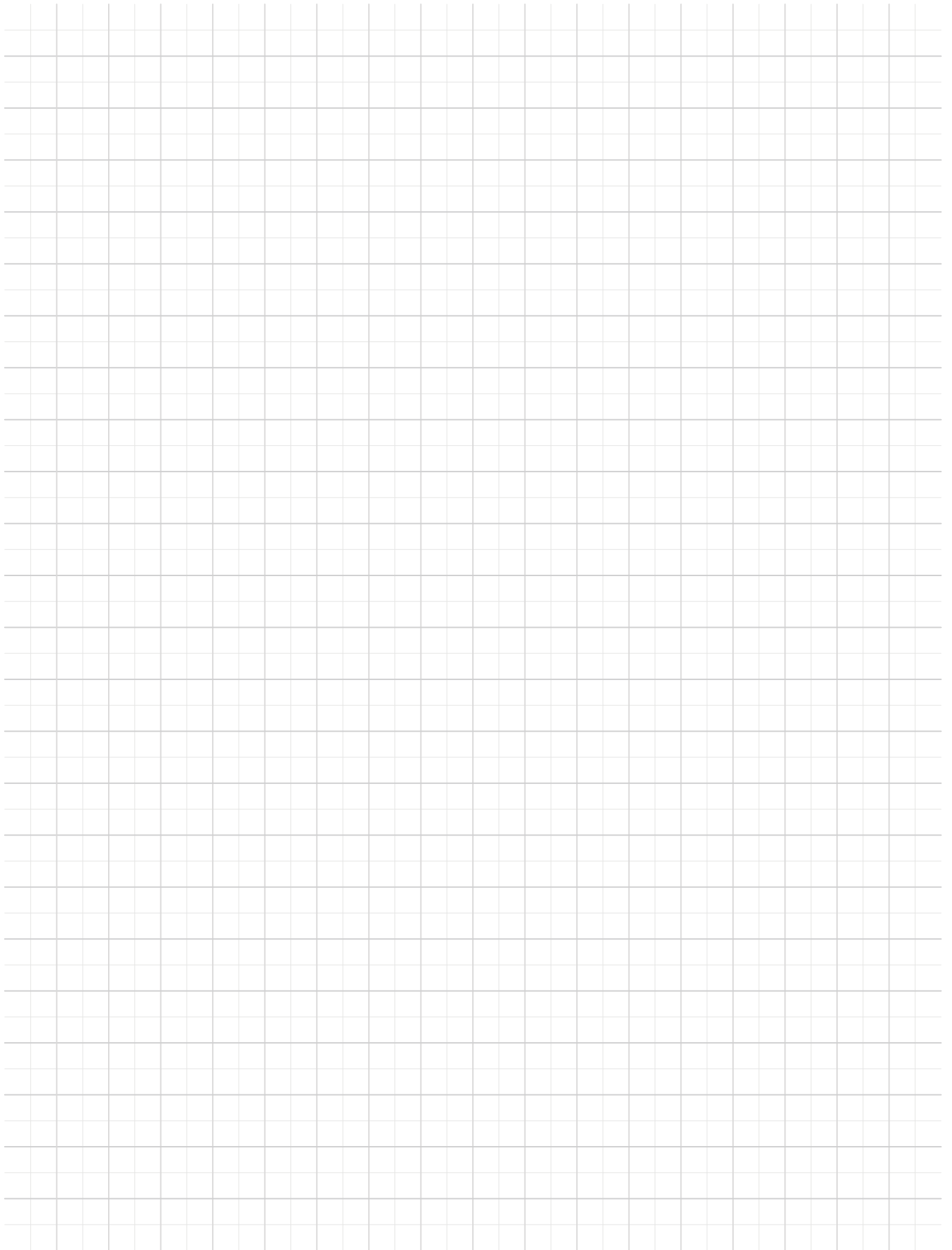
The transition radii of used hooks must be the same or larger than the actual rope diameter of the Angled loop (picture 6a). Using a shackle the pin must be at least two times of the wire rope diameter of the Angled loop (picture 6b). By using too small, too large or sharp-edged hooks the lifetime of the lifting device will be reduced.

During use of Angled loops the following must be considered:

- » The use of damaged Angled loops with broken strands, contusions, kinks or corrosion pits is not allowed.
- » Contact of Angled loops with acids or alkalis must be avoided.
- » The Angled loops can only be used with a diagonal tension of max. 30° (picture 6).
- » As to avoid an inadmissible lever action during rigging of the Angled loop an appropriate recess for the hook must be chosen.



NOTES



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