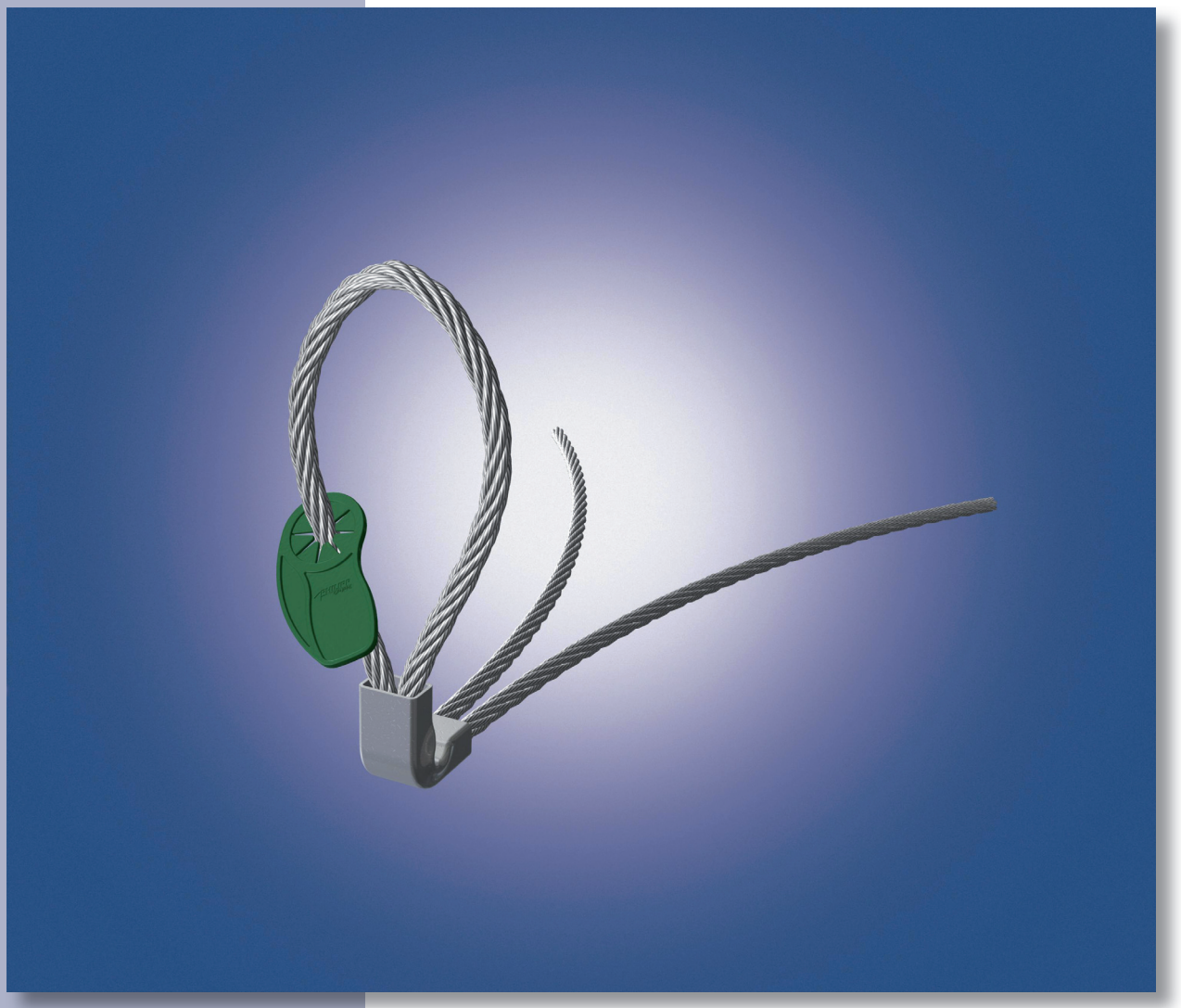
DIN EN ISO 9001
Reg.-Nr. 73 100 1561

PHILIPP GROUP

QUALITY MADE IN GERMANY

PHILIPP Angled Loop

Installation Instruction



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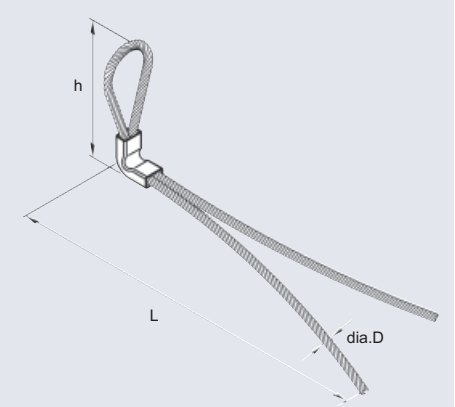
INSTALLATION INSTRUCTION OF PHILIPP ANGLED LOOP

The **PHILIPP Angled Loop** is part of the **PHILIPP Transport Anchor Systems**.

The use of the **PHILIPP Angled Loop** requires the compliance with this installation instruction and the general part.

The **PHILIPP Angled Loop** is designed for the transport of precast units. Multiple uses within the transport chain (from production to installation of the unit) are no repeated uses. Repeated uses are inadmissible.



Picture 1

Table 1: Load Bearing Capacities and Dimensions

Art.-Nr.	Type	Load Bearing Capacities F_Z 0°-30° [kN]	Dimensions [mm] dia. D	h	L	Weight [kg/100 pcs.]	PU [pcs.]
44W10180350	2,5	25.0	10	180	350	43.0	1
44W12230380	4,0	40.0	12	230	380	62.0	1
44W14230380	5,2	52.0	14	230	380	84.0	1

Special versions are available on request.

For ascertainment of the right load bearing capacity please follow our general installation instruction and technical advice. The weight of 1.0ton results in 10kN.

*The rope diameter D is only a guide value and can vary due to the rope construction.

1. Material

The **PHILIPP Angled Loop** consists of steel wire rope and is bent through a cold crimped ferrule.

2. Application

Prior concreting the **PHILIPP Angled Loop** is installed onto the mould. To ensure a fixed position of the **PHILIPP Angled Loop** during concreting and compaction the **PHILIPP Angled Loop** must be fixed onto the reinforcement or prestressed rebars. The additional lateral rebar must have pressure contact with the **PHILIPP Angled Loop**. The open ends of the **PHILIPP Angled Loop** have to be fixed during installation with a spread of 30cm. The lifting tackle is hooked on the upper end of the loop which sticks out of the concrete.

4. Application Limitations

During stocking of the precast units the **PHILIPP Angled Loop** must not be snapped off in an inadmissible way.

Stocking the precast units outside can lead to a reduction of the corrosion resistance. In case of corrosion the transport of the precast units with the angle loops is inadmissible.

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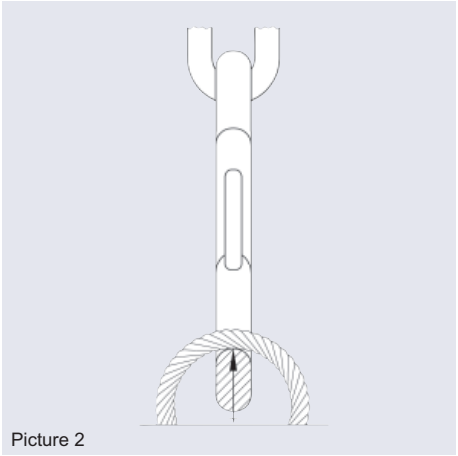
During the use of **PHILIPP Angled Loops** the following points must be taken into account:

- the use of destroyed **PHILIPP Angled loops** with wire break, crushes, buckling and corrosion is not allowed.
- contact of the **PHILIPP Angled Loops** with acid and brine must be avoided.
- the **PHILIPP Angled Loops** must not be loaded by diagonal tension with an inclination of $\beta \geq 30°$ (Picture 4).
- The recess for the hook must be chosen in a way that during hook up the **PHILIPP Angled Loop** no inadmissible lever arm occurs.

5. Safety Advice

The transition radius of the load hooks must comply with the rope diameter of the **PHILIPP Angled Loop**. The use of too small, too big or too sharp edged load hooks leads to an earlier replacement state. Welding or other strong heat influences at the **PHILIPP Angle Loop** are inadmissible.

In case of the use of shackles the pin diameter must not be smaller than twice the rope diameter.



Picture 2

6. Reinforcement

For installation of the **PHILIPP Angled Loop** the concrete units need to have a minimum surface reinforcement (Table 2).

An already existing static-structural reinforcement may be taken into account on requested minimum reinforcement.

This minimum reinforcement can be replaced by comparable stirrups with longitudinal reinforcement.
Should it be necessary to cut out single bars for installation of **PHILIPP Angled Loop**, they have to be replaced by bars with equal diameter, strength and sufficient overlapping length according to DIN 1045-1. At first time of lifting the concrete strength must be **15 N/mm²**. The user is personally responsible for further transmission of load into the

Table 2: Minimum Reinforcement

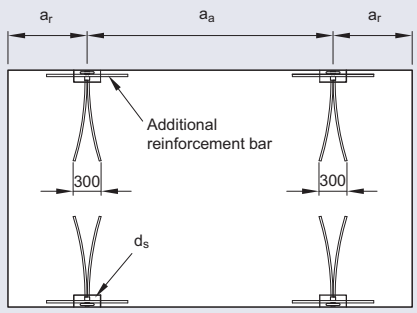
Type	Load Bearing Capacity 0°- 45° [kg]	Mesh Reinforcement (quadratic) [mm²/m]	Stirrup	
			dia. d_s [mm]	L [mm]
2,5	2500	188	14	300
4,0	4000	188	16	350
5,2	5200	188	20	400

7. Axis Distances, Edge Distances and Unit Thicknesses

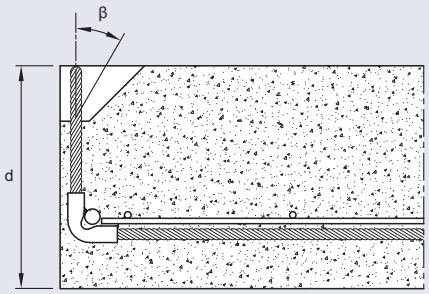
To ensure a safe load transfer, the installation and positioning of the **PHILIPP Angled Loop** minimum dimensions and minimum axis distances are required. These values are given in Table 3.

Table 3: Minimum Axis Distance, Minimum Edge Distance, Minimum Thickness of the Unit

Type	a_a [mm]	a_r [mm]	d [mm]
2,5	1000	500	200
4,0	1000	500	270
5,2	1000	500	270



Picture 3



Picture 4