

PHILIPP GROUP

PHILIPP Cast-in lifting hoop



VB3-T-041-en - 01/16

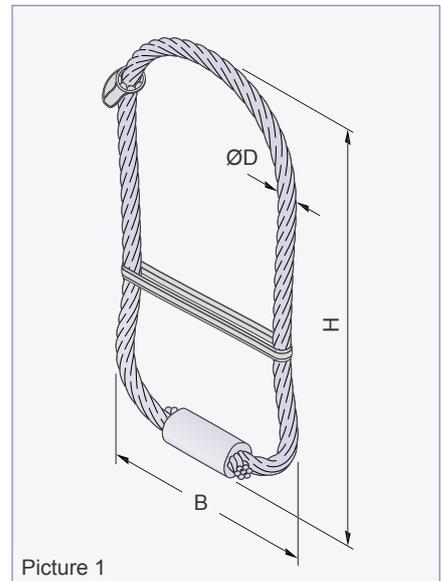
Type 28 - Type 99

Data sheet

PHILIPP Cast-in lifting hoop

The Cast-in lifting hoop is part of the PHILIPP transport anchor system. Cast-in lifting hoops 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.

Depending on the individual application and load direction it might be necessary to contact our technical department.



For special solutions please contact our technical department under +49 (0) 60 21 / 40 27-318 or by e-mail to technik@philipp-group.de.

Table 1: Permissible load bearing capacities and dimensions

Ref.-No. bright	Ref.-No. galvanised	Type	perm. F _Z ① 0° - 30° [kN]	Colour code	H ② [mm]	B ③ [mm]	ØD ② [mm]	Weight [kg/pc.]
441280	442280	28.0	280	● Pure white	800	375	32.0	9.7
441320	442320	32.0	320	● Jet black	880	426	32.0	11.1
441370	442370	37.0	370	● Salmon orange	950	440	36.0	15.2
441420	442420	42.0	420	● Salmon orange	1000	480	38.0	19.3
441470	442470	47.0	470	● Salmon orange	1100	520	44.0	20.9
441520	442520	52.0	520	● Salmon orange	1200	550	44.0	27.1
441570	442570	57.0	570	● Salmon orange	1350	645	44.0	30.8
441650	442650	65.0	650	● Salmon orange	1430	690	48.0	36.1
441750	442750	75.0	750	● Salmon orange	1530	725	50.0	46.1
441850	442850	85.0	850	● Salmon orange	1680	850	52.0	55.1
441990	442990	99.0	990	● Salmon orange	1800	900	56.0	67.6

① Load bearing capacity of steel.

② Dimensions H and B are standard values and can vary depending on the position of the fixation strap.

③ Rope diameter ØD is a standard value and can vary depending on the wire rope construction.

- To determine the correct type please refer also to our General Installation Instruction.

- The weight of 1,0 t corresponds to 10,0 kN.

General Information / Application

Materials

Cast-in lifting hoops are made of steel wire rope. Both ends of the wire rope are bonded together by a ferrule and form a loop. The Cast-in lifting hoops are available in a bright and galvanised version.

Marking

In order to identify the type of the Cast-in lifting hoop visually it is 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 Cast-in lifting hoop sticking out of the element.

Following data are given on the tag:

- Producer PHILIPP
- Bearing capacity e.g. 32000 kg
- Year of manufacturing e.g. 2016

Corrosion

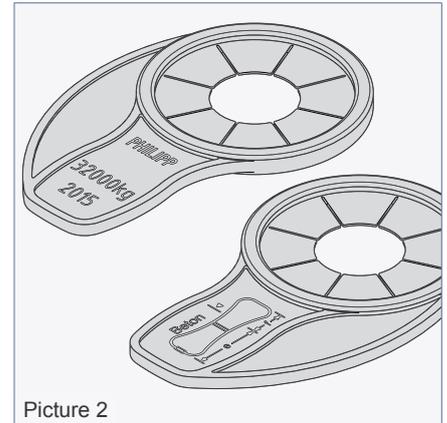
Aluminium ferrules should be avoided because of corrosion if an increased chlorine equivalent in the concrete is used. For this application a Cast-in lifting hoop with a steel ferrule is more suitable and can be delivered by PHILIPP on request. An increased chlorine equivalent exists if the values given in the German standards DIN EN 206-1 and DIN 1045-2 are exceeded. Furthermore the DIHT-guide-line must be taken into account.

Installation

If Cast-in lifting hoops are installed in an open side of a mould they must be fixed carefully to the reinforcement so that the embedded depth is guaranteed (Picture 3).

It might be necessary to add some steel bars. Here attention has to be paid not to place those steel bars directly to the ferrule of the hoop.

 Welding or other strong heat influences on the lifting hoops are not allowed.

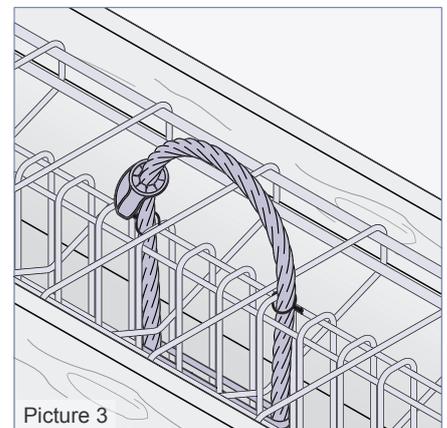


Picture 2

 The aluminium ferrule used in Cast-in lifting hoops must not be placed near-surface of the concrete element. The concrete cover for the ferrule has to be determined using following equation.

$$c_{\text{Ferrule}} \geq 1.2 \cdot c_{\text{min}}$$

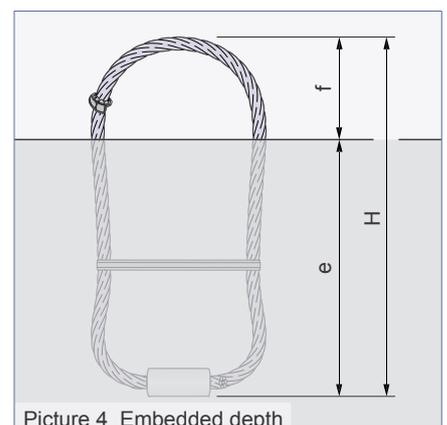
(DIN EN 1992-1-1 part 4 a. tab. 4.4N)
(DIN EN 1992-1-1/NA tab. NA.4.4)



Picture 3

Table 2: Embedded depth

Type	e [mm]	f [mm]
28.0	560	240
32.0	630	250
37.0	670	280
42.0	700	300
47.0	770	330
52.0	850	350
57.0	950	400
65.0	1000	430
75.0	1070	460
85.0	1170	510
99.0	1250	550



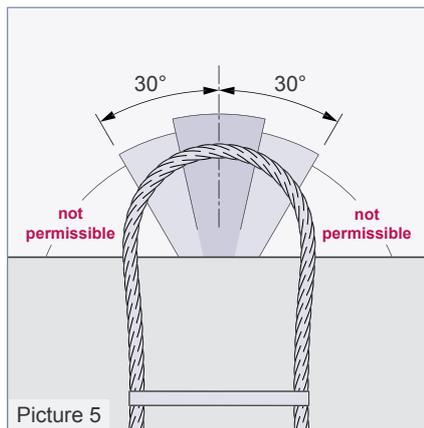
Picture 4 Embedded depth

Application and safety

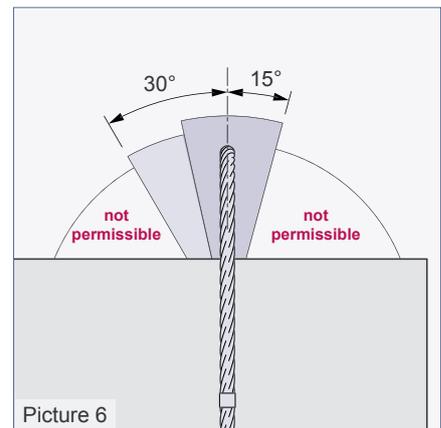
Permissible load directions

Cast-in lifting hoops can be used only for axial and diagonal tension $\beta \leq 30^\circ$.

 Lateral tension is not allowed within the whole transport chain! This also applies to a diagonal tension with angle β more than 30° !



Picture 5

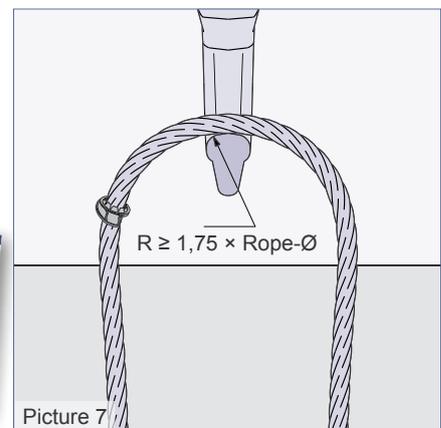


Picture 6

Safety notices

By using too small, too large or sharp-edged hooks the lifetime of the lifting device will be reduced. The transition radii of used hooks must be at least 1.75 times of the wire rope diameter of the Cast-in lifting hoop (Picture 7). Using a shackle the pin must be at least 3.5 times of the wire rope diameter of the Cast-in lifting hoop (Picture 8).

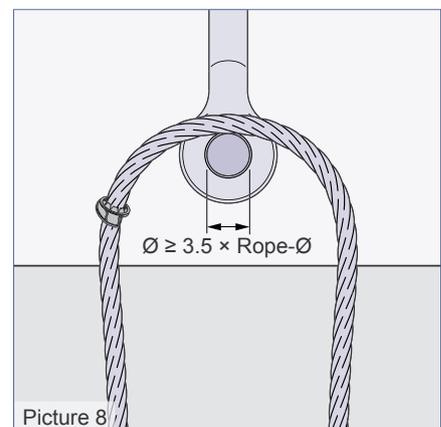
 In order to guarantee the correct transition radius we recommend to use our Wire protection pulley. This is available in six dimensions for all our Cast-in lifting hoops from 0.8 up to 99.0 to. For more details please refer to the separate data sheet of the Wire protection pulley.



Picture 7

During use of Cast-in lifting hoops the following must be considered:

- The use of damaged Cast-in lifting hoops with broken strands, contusions, kinks and corrosion pits is not allowed.
- Contact of Cast-in lifting hoops with acids and alkalis must be avoided.
- Misuse of Cast-in lifting hoops because of wrong load directions must also be avoided.
- Lever arms caused by rotating, tilting and swinging which result in local blow-out failures in the concrete or broken wire ropes are inadmissible!



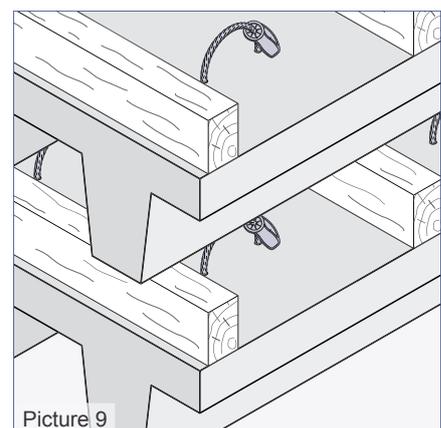
Picture 8

Storage of the precast units

During storage of the concrete units please make sure that the Cast-in lifting hoops are not bent in any way. This can be guaranteed by using a spacer (e.g. a squared timber) between the concrete elements.

An outdoor storage of the concrete units can lead to corrosion and as a result to a reduction of the bearing capacity.

 If a significant corrosion appears to the installed Cast-in lifting hoops they cannot be used for lifting anymore.



Picture 9