

Approval body for construction products
and types of construction

Bautechnisches Prüfamt

An institution established by the Federal and
Laender Governments



European Technical Assessment

ETA-17/0488
of 6 December 2021

English translation prepared by DIBt - Original version in German language

General Part

Technical Assessment Body issuing the
European Technical Assessment:

Deutsches Institut für Bautechnik

Trade name of the construction product

HALFEN HLX Lift-Box

Product family
to which the construction product belongs

Elevator lifting device

Manufacturer

Leviat GmbH
Liebigstraße 14
40764 Langenfeld
DEUTSCHLAND

Manufacturing plant

Plant 1
Plant 2

This European Technical Assessment
contains

9 pages including 3 annexes which form an integral part
of this assessment

This European Technical Assessment is
issued in accordance with Regulation (EU)
No 305/2011, on the basis of

EAD 330075-01-0601, Edition 10/2018

This version replaces

ETA-17/0488 issued on 18 October 2018

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Specific Part

1 Technical description of the product

The HALFEN HLX Lift-Box is a pre-installed elevator lifting device consisting of an anchor and a wire loop or a chain link located in a plastic housing. The anchor is realised by pressed threaded pipe (T-Fixx) or an internal threaded socket with washer and bolt or a threaded rod with washer and nut.

The elevator lifting device is fully embedded in concrete and anchored by bonding and mechanical interlock.

The product description is given in Annex A.

2 Specification of the intended use in accordance with the applicable European Assessment Document

The performances given in Section 3 are only valid if the HALFEN HLX Lift-Box is used in compliance with the specifications and conditions given in Annex B.

The verifications and assessment methods on which this European Technical Assessment is based lead to the assumption of a working life of the HALFEN HLX Lift-Box of at least 50 years. The indications given on the working life cannot be interpreted as a guarantee given by the producer, but are to be regarded only as a means for choosing the right products in relation to the expected economically reasonable working life of the works.

3 Performance of the product and references to the methods used for its assessment

3.1 Safety in case of fire (BWR 2)

Essential characteristic	Performance
Reaction to fire	Class A1

3.2 Safety and accessibility in use (BWR 4)

Essential characteristic	Performance
Load bearing capacity	See Annex C 1
Minimum edge distances and spacing	See Annex C 1

4 Assessment and verification of constancy of performance (AVCP) system applied, with reference to its legal base

In accordance with EAD No. 330075-01-0601, the applicable European legal act is: [97/161/EC].

The system to be applied is: 2+

5 Technical details necessary for the implementation of the AVCP system, as provided for in the applicable EAD

Technical details necessary for the implementation of the AVCP system are laid down in the control plan deposited with Deutsches Institut für Bautechnik.

Issued in Berlin on 6 December 2021 by Deutsches Institut für Bautechnik

Dipl.-Ing. Beatrix Wittstock
Head of Section

beglaubigt:
Tempel

installed condition

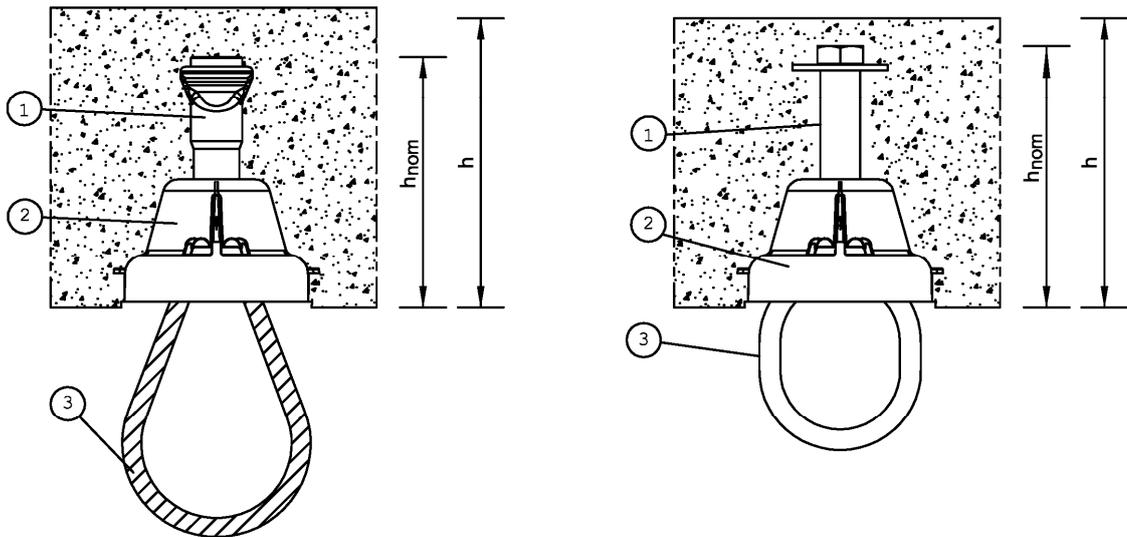


Table 1: product versions

Type	load step	description	h_{nom}	minimum concrete strength	anchor (1)	box (2)	receiver (3)
[-]	[-]	[-]	[mm]	[MPa]	[-]	[-]	[-]
HLX15 Lo	1,5	HALFEN HLX Lift-Box 1500 loop	133,0	C25/30	T-Fixx	HALFEN LB 2.0	wire loop
HLX20 Lo	2,0	HALFEN HLX Lift-Box 2000 loop	139,5	C25/30	sleeve anchor	HALFEN LB 2.0	wire loop
HLX20 Li	2,0	HALFEN HLX Lift-Box 2000 link	139,0	C25/30	sleeve anchor	HALFEN LB 2.0	chain link
HLX20 Li N	2,0	HALFEN HLX Lift-Box 2000 link	140,5	C25/30	spacer sleeve with nut	HALFEN LB 2.0	chain link
HLX40 Li	4,0	HALFEN HLX Lift-Box 4000 link	209,5	C25/30	sleeve anchor	HALFEN LB 2.0	chain link
HLX40 Li S	4,0	HALFEN HLX Lift-Box 4000 link	189,5	C30/37	sleeve anchor	HALFEN LB 2.0	chain link
HLX40 Li N	4,0	HALFEN HLX Lift-Box 4000 link	218,0	C25/30	spacer sleeve with nut	HALFEN LB 2.0	chain link
HLX40 Li S N	4,0	HALFEN HLX Lift-Box 4000 link	198,0	C30/37	spacer sleeve with nut	HALFEN LB 2.0	chain link

HALFEN HLX Lift-Box

Product description
Installed condition, product versions

Annex A1

product versions

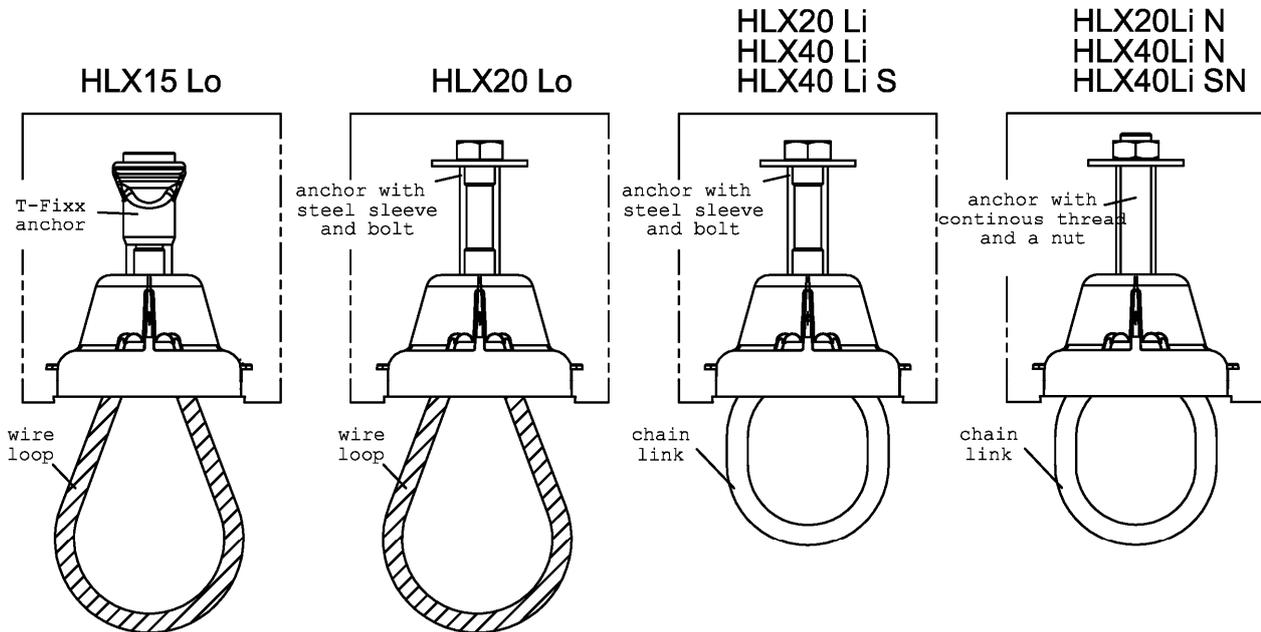


Table 2a: anchoring in concrete

Type	anchoring element			box + cover
	sleeve	bolt / nut	washer	[-]
HLX15 Lo	T-Fixx 20x65	-	-	HALFEN Lift-Box
HLX20 Lo	threaded sleeve 20x55	bolt M20x25 8.8 GV	M20 60x4 GV	HALFEN Lift-Box
HLX20 Li	threaded sleeve 21x58	bolt M16x20 8.8 GV	M16 50x3 GV	HALFEN Lift-Box
HLX20 Li N	spacer sleeve 21x58	nut M16 12.9 GV	M16 50x3 GV	HALFEN Lift-Box
HLX40 Li	threaded sleeve 28x125	bolt M20x30 8.8 GV	M20 60x4 GV	HALFEN Lift-Box
HLX40 Li S	threaded sleeve 28x105	bolt M20x30 8.8 GV	M20 60x4 GV	HALFEN Lift-Box
HLX40 Li N	spacer sleeve 28x125	nut M20 12.9 GV	M20 60x4 GV	HALFEN Lift-Box
HLX40 Li S N	spacer sleeve 28x105	nut M20 12.9 GV	M20 60x4 GV	HALFEN Lift-Box

Table 2b: load transfer by wire loop or chain link

Type	description	receiver	thread
HLX15 Lo	HALFEN HLX Lift-Box 1500 loop	wire loop	Ø10 6x19 WC1770A
HLX20 Lo	HALFEN HLX Lift-Box 2000 loop	wire loop	Ø10 6x19 WC1770A
HLX20 Li	HALFEN HLX Lift-Box 2000 link	chain link	Ø11 chain link grade 8
HLX20 Li N	HALFEN HLX Lift-Box 2000 link	chain link	Ø11 chain link grade 8
HLX40 Li	HALFEN HLX Lift-Box 4000 link	chain link	Ø13 chain link grade 8
HLX40 Li S	HALFEN HLX Lift-Box 4000 link	chain link	Ø13 chain link grade 8
HLX40 Li N	HALFEN HLX Lift-Box 4000 link	chain link	Ø13 chain link grade 8
HLX40 Li S N	HALFEN HLX Lift-Box 4000 link	chain link	Ø13 chain link grade 8

HALFEN HLX Lift-Box

Annex A2

Product description
Assembled system

Specifications of intended use

Anchorage subject to:

- Cast-in into the roof of an elevator shaft to transfer the load from the elevator car to the concrete slab during the elevator installation.
- Static and quasi-static loads

Base materials

- Compacted, reinforced and unreinforced normal concrete without fibres acc. to EN 206:2013
- Strength class C25/30 to C50/60 according to EN 206:2013
- Cracked or uncracked concrete

Use conditions (environmental conditions)

- Anchorages subject to dry internal conditions

Design

- Anchorages are designed under the responsibility of an engineer experienced in the field of anchorages and concrete work.
- Verifiable calculations and design drawings must be prepared taking into account the loads to be anchored

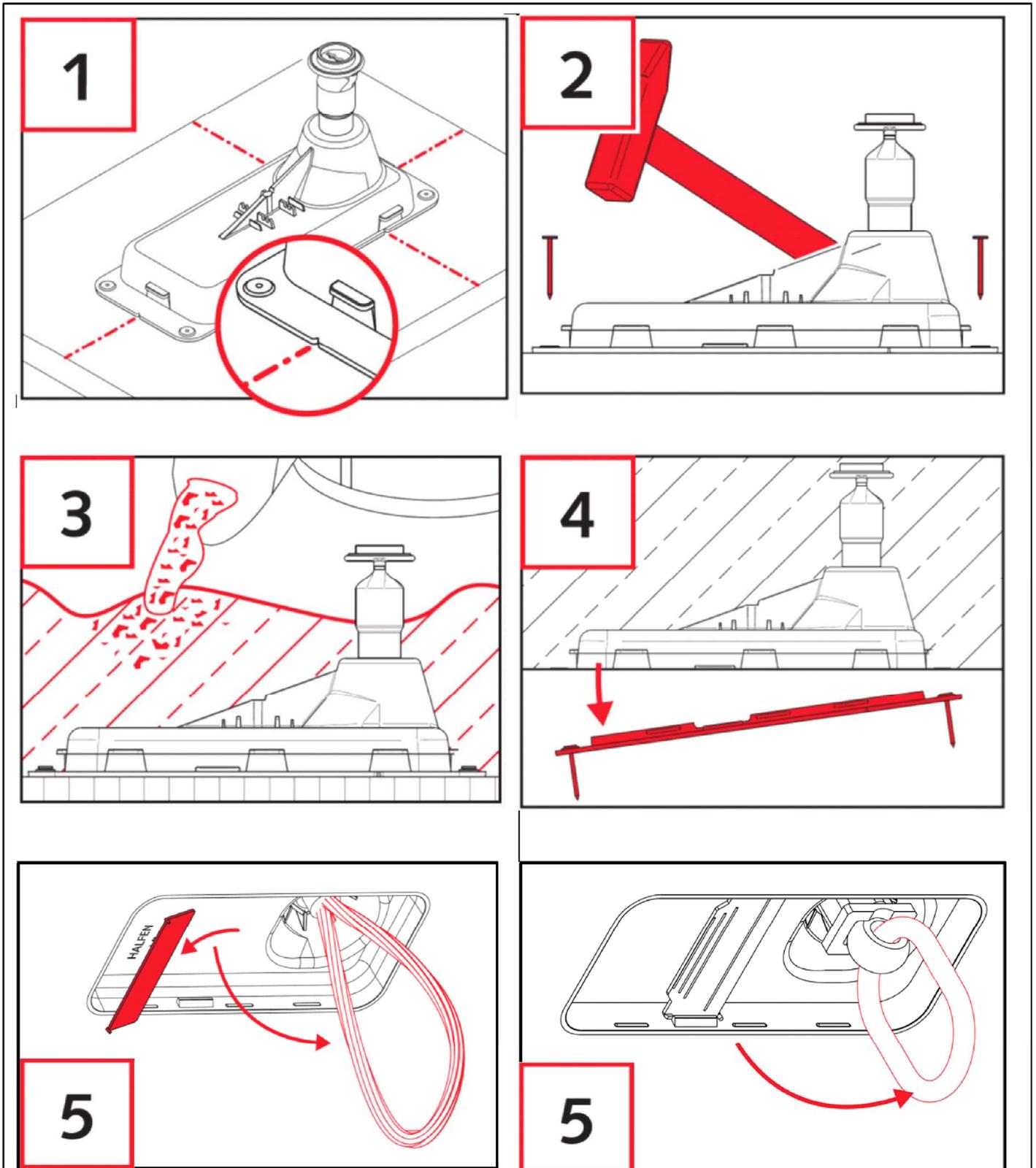
Installation

- Anchor installation carried out by appropriately qualified personnel and under the supervision of the technical site manager.
- Use of the box only as supplied by the manufacturer, without alterations or replacement of components.
- The box is fixed to the formwork in such a way that it cannot move when the reinforcement is laid or when the concrete is placed and compacted.
- Adequate compaction of the concrete around the anchor and especially around the head of the anchor, e.g. without significant voids.

HALFEN HLX Lift-Box

Annex B1

Intended use



HALFEN HLX Lift-Box
Product description
Installation instructions

Annex B2

installation, edge distances and design values of resistance

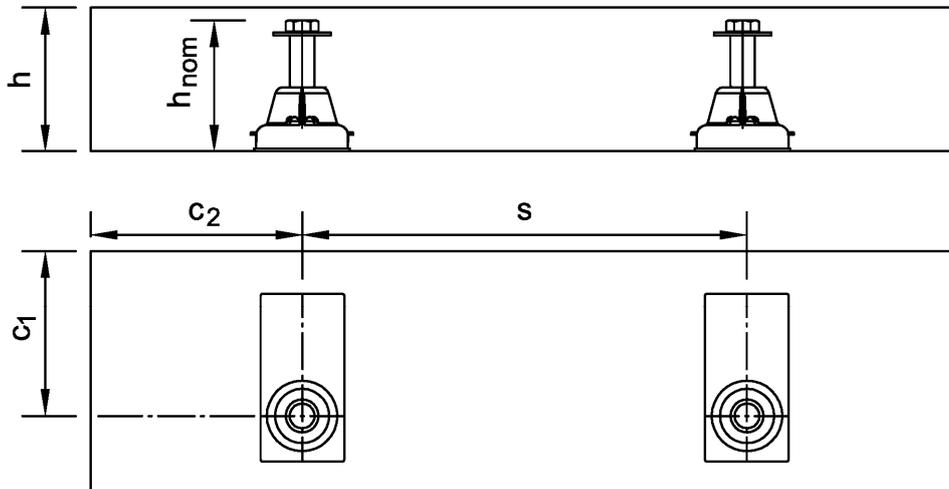
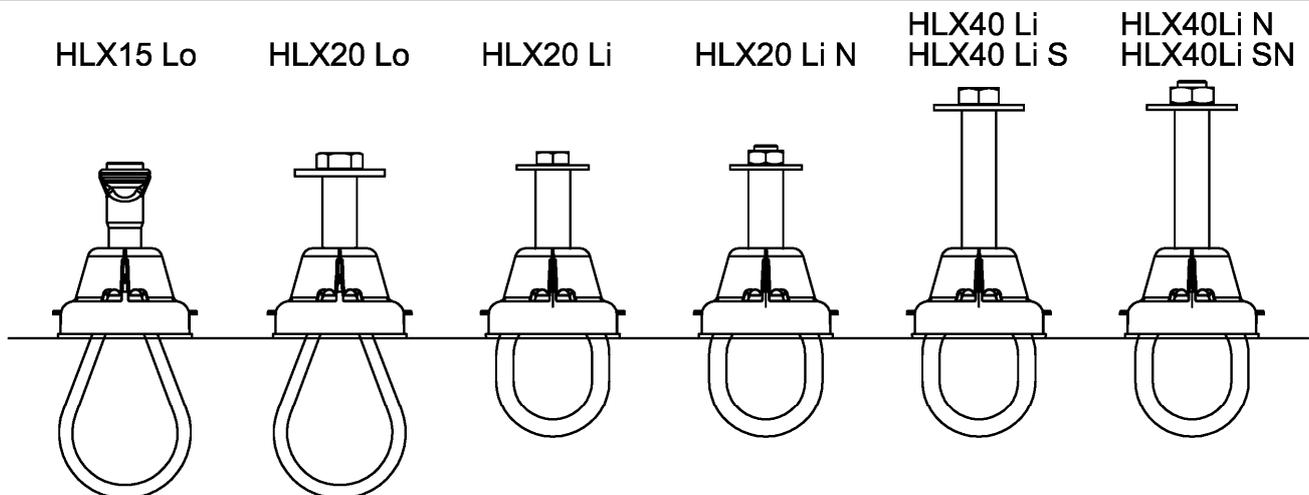


Table 3: installation parameter and load bearing capacity values

Type	load step	h_{nom}	min h	minimum concrete strength	min c_1 min c_2	min s	characteristic capacity F_{Rk}	design capacity F_{Rd}
[-]	[-]	[mm]	[mm]	[-]	[mm]	[mm]	[kN]	[kN]
HLX15 Lo	1,5	133,0	150	C25/30	250	500	59,2	14,8
HLX20 Lo	2,0	139,5	150	C25/30	250	500	78,8	19,7
HLX20 Li	2,0	139,0	150	C25/30	250	500	78,8	19,7
HLX20 Li N	2,0	140,5	150	C25/30	250	500	78,8	19,7
HLX40 Li	4,0	209,5	220	C25/30	350	700	157,2	39,3
HLX40 Li S	4,0	189,5	200	C30/37	350	700	157,2	39,3
HLX40 Li N	4,0	218,0	220	C25/30	350	700	157,2	39,3
HLX40 Li S N	4,0	198,0	200	C30/37	350	700	157,2	39,3



HALFEN HLX Lift-Box

Annex C1

Product description
Installation parameter and load bearing capacity