User manual Leenstra slab lock clamps

USER MANUAL

Leenstra slab lock clamps

Clamp in conformity with Machinery Directive 2006/42/EC

Project number	: 17778
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The Leenstra slab lock clamp is exclusively intended for hoisting pre-stressed hollow-core slabs that meet the requirements laid down in this manual.

This means that you are using the safest and most robust slab lock clamp on the market. Using the clamp correctly will enhance your safety. You should therefore read this manual before using the clamp.

This manual covers:
- The Leenstra extendable slab lock clamp with legs (figure 1a)
- The Leenstra extendable slab lock clamp (figure 1b)
- The Leenstra slab lock clamp (figure 1c)

Figure 1a: Leenstra extendable slab lock clamp with legs

Figure 1b: Leenstra extendable slab lock clamp

Figure 1c: Leenstra slab lock clamp

Check before use

- Check that the inspection date on the clamp is no more than one year old (see figure 2).
- Check that there are no loose parts on the clamp.
- Inspect the general condition of the clamp, checking for parts that look worn, broken or poorly treated, such a dents and deformed materials.
- Each of the clamp jaws must be fitted with a safety chain to prevent them from falling out.
- Check that the hoisting eyes on both the top and the bottom of the spreader beam are not deformed.
- Check that the profile of the slab complies with the specifications stated on the clamp.
- For this purpose see the clamp types table and the accompanying specifications on the last page.
- Make sure that the weight of the load is less than the maximum working load of the slab lock clamp and the clamp jaws separately.
- This maximum working load is stated on the spreader beam and on the clamp jaws.
- The clamp profile of the clamp jaw must not be bent (this should be curved 1 till 3 mm inwards over its length).
- The type plate must be present, completely filled-in and legible (figure 2).

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CE

Registration number	2160282
Construction year	2016
Working Load Limit	4.000 KG
Weight	190 KG
Specification(see user manual/scan QR)	Q

Figure 2: type plate and inspection sticker

You must not put the slab lock clamp into use if one or more of the above points are not correct. In that case you should contact the slab lock clamp supplier.

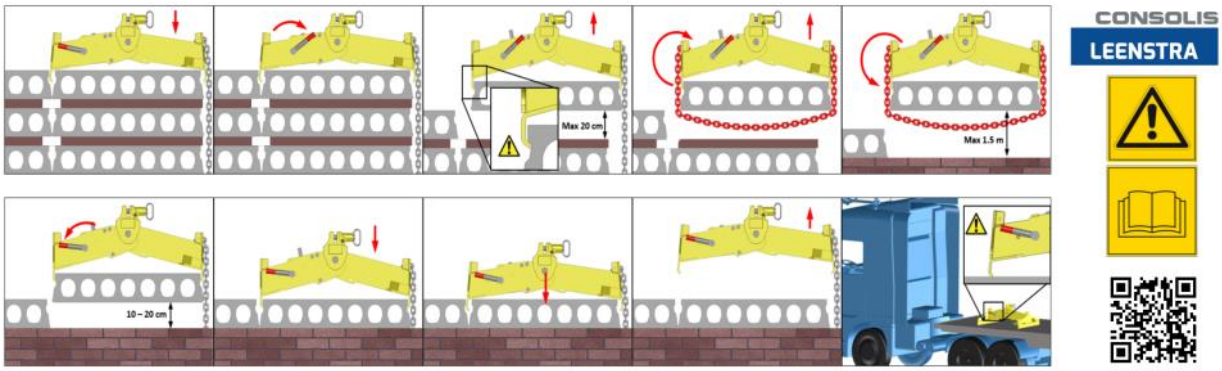
Teamwork between mechanics and the crane driver
When moving the floor slabs the crane driver should be aware that the mechanics have limited freedom of movement. The greatest care must be taken when using the crane to position the floor slabs. If the floor slab has to be turned, the hoisting hook must be so far away from the mechanic that he is only just able to turn the floor. Otherwise the turning floor will be above the mechanic. This is dangerous and is not permitted.
The load must not be hoisted above people. Make agreements on this subject if there are many people working in the area where the floors are being laid.

Use the Leenstra fall arrestor
The mechanics must take precautionary measures against falling when placing the floors. Leenstra B.V. supplies top quality, approved fall protection systems that have been specifically designed to safely position hollow-core slabs.

Figure 3a: Leenstra fall arrestor APV 018025C

Figure 3b: Leenstra fall arrestor PAV 058015C

Quick guide (this must be affixed to the clamp)

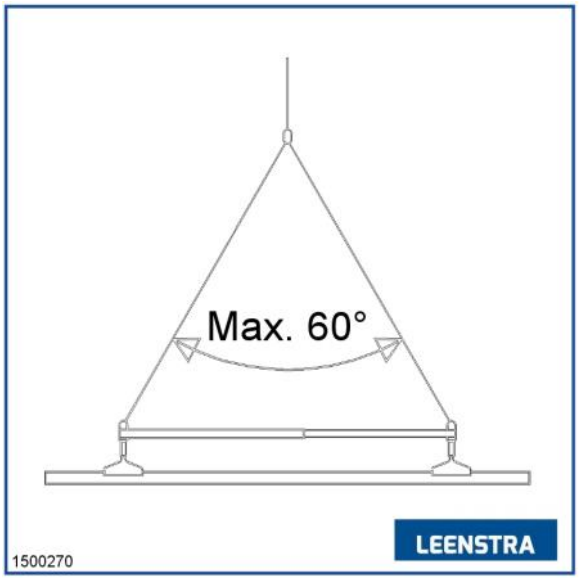


Positioning the slab lock clamp

When placing the slab lock clamp on the floor slab the middle of the slab lock clamp must be placed directly above the centre of gravity of the floor being hoisted. Floor slab manufacturers usually mark the position of the centre of gravity. If the clamp is placed directly above this, the floor will remain horizontal when it is hoisted. The maximum angle of the hollow-core slab floor is 11 degrees from the horizontal. Make sure that the slab lock clamp is positioned in such a way that the operating handle of the clamp jaw is on the side where the operator will be. That way the operator who is positioning the floor can operate the clamp and release the safety chain just before the floor is positioned. Consider this before hoisting the floor slab from the ground or the lorry.

Positioning the hoisting chain on the spreader beam

The angle of the two chains that are used to hoist the slab lock clamp must not exceed 60 degrees. Special attention must be paid to this if the length of an adjustable spreader beam is altered.



Transporting the slab lock clamp

The balance beam must be placed against one side when the slab lock clamp is being transported. If a chain or belt is tightened over the balance beam, the traction must not exceed 700 kg. If this limit is exceeded there is a danger that the hoisting rings will bend and possibly be rendered unusable.

A good transport method is to secure both clamp jaws on the lorry. By placing a belt between the balance beam and the clamp jaw you can prevent the balance beam from moving back and forth.

Hoisting short floor slabs
To hoist short floor slabs that cannot be hoisted with the two clamp jaws of the slab lock clamp owing to their limited length, we recommend the Leenstra slab lock clamp for short slabs. This clamp jaw has two safety chains to guarantee safety.

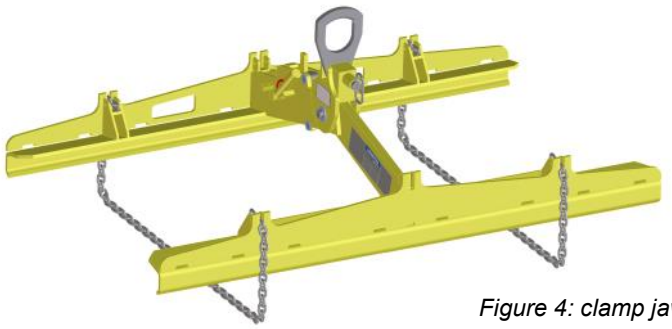


Figure 4: clamp jaw for short slabs

Incorrect use of the clamp jaw
We strongly advise against using a single clamp jaw under the balance beam.

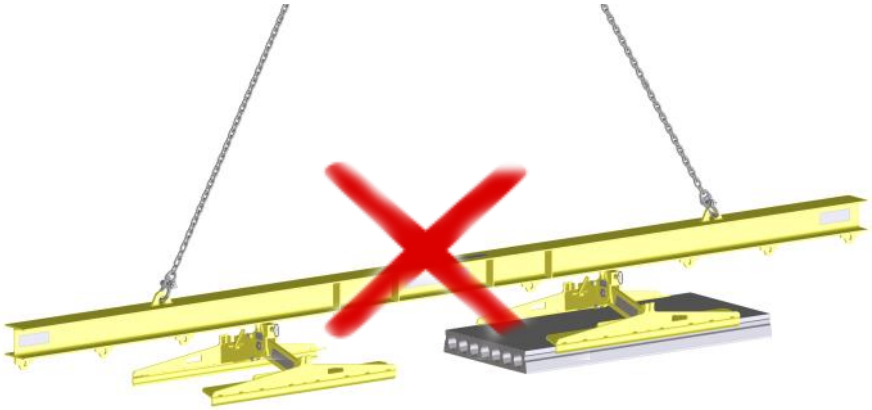


Figure 5a: incorrect use of the slab lock clamp

Do not place the floor slab half-way into the clamp. Use the entire length of the clamp jaw to clamp the slab.

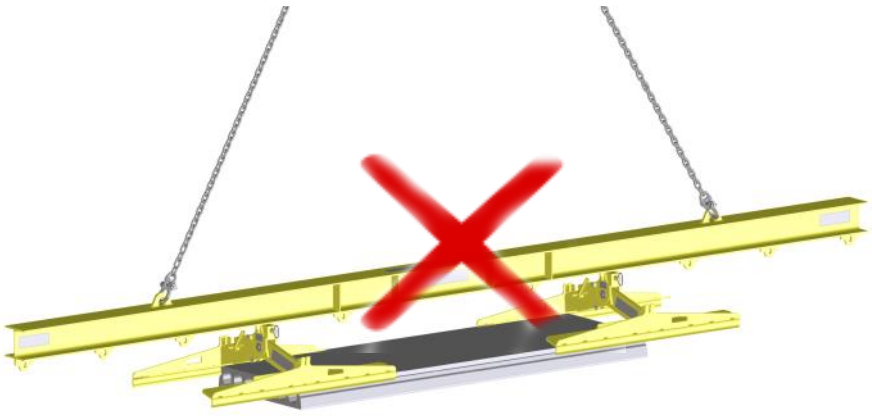
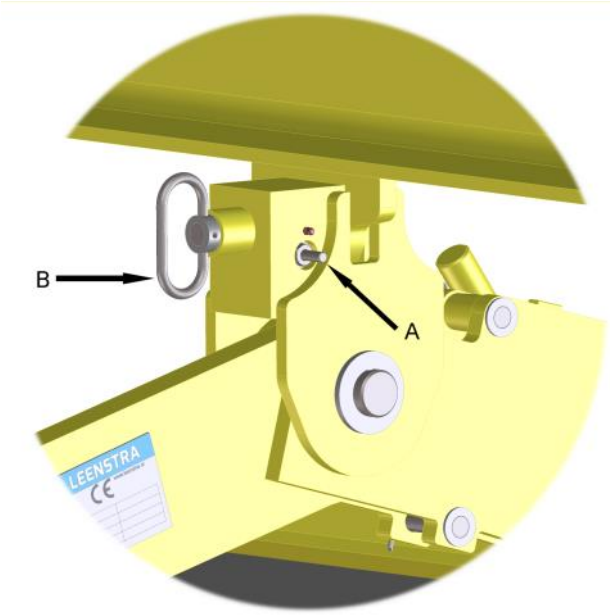


Figure 5b: incorrect use of the slab lock clamp

Moving the clamp jaw under the balance beam.
In response to new developments the head of the clamp jaw was adapted to a new model in 2013. This was done to improve robustness and simplify operation.

The procedure for both the old and the new type is given below.

Clamp jaw with head from after 2013:

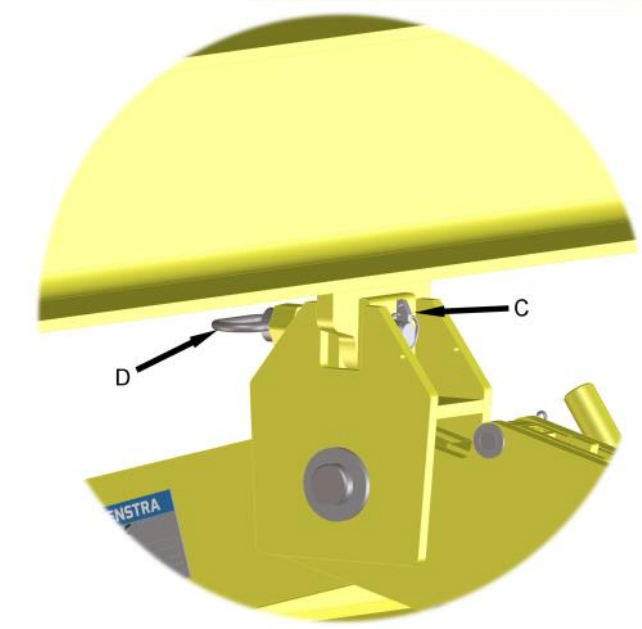


The slab lock clamp must be placed on the ground to move the clamp jaw under the balance beam. The balance beam must remain suspended on the hoisting hook so that it stays upright. Press in safety catch A and tighten connection pin B. The clamp jaw has now been separated from the balance beam. Hold connection pin B in and move the balance beam with the crane to the desired hoisting ring. Press the hoisting ring into the head of the clamp jaw by carefully moving the balance beam. Once this is properly positioned, release connection pin B. The safety catch now automatically returns to its locked position.

Figure 6: head of the clamp jaw model after 2013

Please note! The clamp jaws must always be mounted symmetrically under the balance beam.

Clamp jaw with head from before 2013:



The slab lock clamp must be placed on the ground to move the clamp jaw under the balance beam. The balance beam must remain suspended on the hoisting hook so that it stays upright. Take the safety pin C out of the connection pin D and tighten connection pin D. The clamp jaw has now been separated from the balance beam. Hold connection pin D in and move the balance beam with the crane to the desired hoisting ring. Press the hoisting ring into the head of the clamp jaw by carefully moving the balance beam. Once this is properly positioned, release connection pin D. The safety pin C must then be placed back through the connection pin D.

Figure 7: head of the clamp jaw model before 2013

Please note! The clamp jaws must always be mounted symmetrically under the balance beam.

Adjusting the extendable spreader beam
The adjustable spreader beam can be slid in and out. The method used to do this differs between balance beams.
Spreader beam with legs:
Place the spreader beam on the ground with the legs extended. Fit the hoisting chain to the extendable section. Use the crane to hoist the chain until it is tight and the spreader beam is lifted just above the ground. Take the locking pin out of the holder (1) and slide the spreader beam in or out until the locking pin can be placed in a hole. Now put the locking pin back.
Spreader beam without legs:
Place the spreader beam with the clamp jaws on the ground. Fit the hoisting chain to the hoisting eyes on the spreader beam. Hoist the chain with the crane until the clamp jaw rises just above the ground. Take the locking pin out of the holder (1) and slide the spreader beam in or out until the locking pin can be placed in a hole. Now put the locking pin back.

(1) A spring-mounted locking pin cannot be taken out of the holder but must be raised. As soon as the locking pin comes out of the hole the balance beam will no longer be prevented from sliding.

Inspection and certification
The Leenstra clamp is in conformity with Machinery Directive 2006/42/EC.
The complete slab lock clamp must be inspected by an expert annually. The inspection must be laid down in writing in the inspection certificate. Your safety strongly depends on the correct performance of the annual inspection. We advise you to use a reputable company for this purpose. This company must have comprehensive knowledge of these slab lock clamps.

To rule out any risk, we advise you to have the inspection and certification carried out by Leenstra B.V. or persons recommended by Leenstra B.V.
They are the parties that are most familiar with the slab lock clamp.

We advise you to have the balance beams visually inspected once a year and to have them tested once every four years. We recommend having the clamp jaws visually inspected and tested annually. The factor for testing is one-and-a-half times the maximum work load. Repairs may only be carried out by the manufacturer or persons designated by the manufacturer.

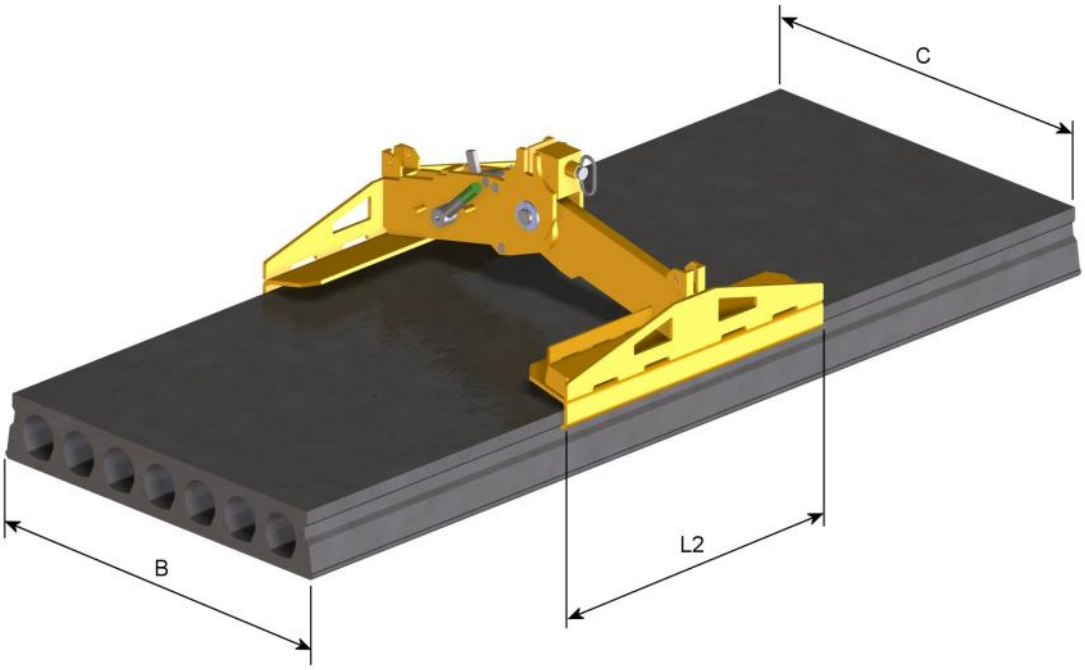
Maintenance
The slab lock clamp must be cleaned each time it is used and kept free of concrete and cement remnants. Make sure that the clamp is entirely free of contamination. The locking sections must be lightly lubricated during each inspection. If the head of the clamp jaw has a lubrication nipple, this can be used for that purpose. The moving parts of a sliding balance beam must be lightly lubricated. We advise against using excessive lubrication. The grease will cause dirt to accumulate, which could adversely affect operation.

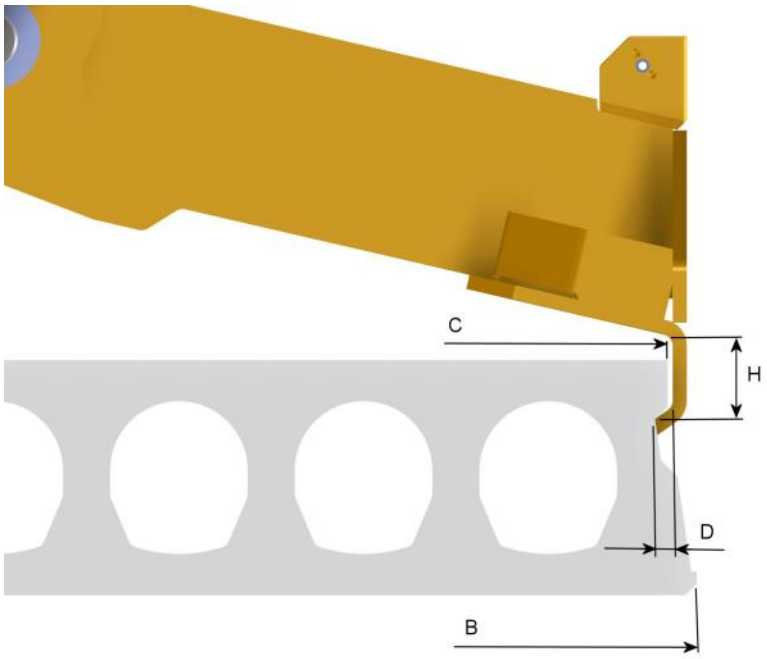
Resale in other countries
If the Leenstra slab lock clamp is sold in a country with a language other than that in which it was originally delivered, the seller is obliged to supply this manual and the instruction stickers in the user's language.

Warning
In the above text we have set out the floor's measurement parameters. We advise you to contact Leenstra B.V. if you are using floors that are different from the set requirements or if you have doubts about the suitability of the clamps. Tests can be arranged for your floor type if required. We may also be able to supply a different type of clamp that suits your purposes. Leenstra B.V. cannot be held liable for the consequences of the slab lock clamp being used inexpertly or incorrectly.

The specification of the slab lock clamp

The clamp type is indicated on the type plate with a letter (since May 2016). The specifications of the slab lock clamp are related to this clamp type. The letter and the accompanying specifications are given in the table below. The specifications of slab lock clamps from before May 2016 can be obtained via info@leenstra.nl by stating the slab lock clamp's registration number and the year of construction.





The specification of the slab lock clamp

Klemtype	Klembeklengte - L2 [mm]	Klembekhoogte - H [mm]	klembereik - C [mm]	gripdiepte - D [mm]
F	600	70	334-354	14
G	1000	70	530-570	14
H	600	70	530-570	14
I	600	70	530-570	14
J	600	100	530-570	14
K	600	150	530-570	14
L	1500	70	1130-1170	7
M	1500	70	1130-1170	7
N	2000	70	1130-1170	7
O	2400	70	1130-1170	7
P	600	70	1130-1170	14
Q	1000	70	1130-1170	14
R	1500	70	1130-1170	14
S	2000	70	1130-1170	14
T	2400	70	1130-1170	14
U	1000	70	1130-1175	14
V	2000	70	1130-1175	14
W	1000	70	1164-1194	14
X	800	245	1130-1170	14
Y	1000	245	1130-1170	14
Z	1300	70	1130-1170	14
AA	600	50	1130-1170	14
AB	1000	50	1130-1170	14
AC	2000	50	1130-1170	14
AD	600	60	1130-1170	14
AE	1000	60	1130-1170	14
AF	2000	60	1130-1170	14