

## Installation, use and maintenance booklet

### Ladder hook

Personal protective equipment  
against falls from a height

UNI EN 517 TYPE A

UNI EN 795 CLASS A

Maintenance

**1/year**

Class

**A**

Certificato UNI EN 795

EUROPEAN  
CERTIFICATION BODY



**VENETA  
ENGINEERING**  
Impresa di servizi di ingegneria, consulenza e certificazione  
per la sicurezza dei lavoratori dal 1988 al 2008

0505

Operators

**2**



**10 year warranty**

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## Contents

1. Introduction and field of application	3
2. HB Security Ladder Hook specifications	4
2.1 Drawing of the HB Security Ladder hook	4
2.2 Drawing of the wall bracket for the HB Security Ladder hook	4
2.3 Drawing of the flat bracket for the HB Security Ladder hook	5
2.4 Drawing of the flat bracket for the HB Security Ladder hook	5
3. Technical design data	6
3.1 NB:	6
3.2 Testing of fasteners	6
3.3 Minimum installation height from eaves to ground level	7
4. HB Security Ladder hook installation instructions	8
4.1 Safety precautions before installation	9
4.2 Checks before installation	9
4.3 Installation procedure	9
4.4 HB Security Ladder hook fastening examples	11
5. Proper use of the ladder hook	12
6. Removal of device at end of work	12
7. Use of the PPE during manual handling, installation, use and removal of the HB Security Ladder Hook	13
8. Identification of the HB Security Ladder hook	14
9. Identification tag	14
10. Ordinary inspections of the HB Security Ladder hook as prescribed by the manufacturer	14
11. Warranty and warranty limitations	15
12. Test certificates	15

# 1. Introduction and field of application

The **Ladder Hook** designed and produced by **HBSecurity** is an anchoring device against falls from a height that protects the operator's outdoors ascent to and descent from the roof using a portable ladder.

The **HBSecurity Ladder Hook** is a device that allows to temporarily fasten the ladder to the building, thus eliminating any risk of its falling over or of slipping away. The **HBSecurity Ladder Hook** has a ring to which one fastens a vertical fall prevention guide. The operator fastened to the vertical guide is protected from the risk of falling from a height when ascending or descending the ladder.

The **HBSecurity Ladder Hook** uses three types of fastening bracket, making it capable of better adapting to the characteristics of the structure:

- Wall-mounted bracket: for installation on facades
- Flat bracket: for installation on flat surfaces
- Inclined bracket: for installation on inclined roofs

The **HBSecurity Ladder Hook** can be removed at end of work.

The **HBSecurity Ladder Hook** has passed the inspection tests as per UNI EN 795:2002 for class A1 devices and as per UNI EN 517:2006 Type A at the testing lab Laboratorio di Prove Veneta Engineering S.r.l..

The **HBSecurity Ladder Hook** complies with the provisions of Leg. Decree 81/2008 as amended as regards the safe access to work places at a height.

The **HBSecurity Ladder Hook** **must** be used only by authorised personnel previously trained as per Leg. Decree. 81/2008 as amended and equipped with the PPEs required for carrying out work at a height.

The **HBSecurity Ladder Hook** can be used by up to 2 operators simultaneously.

The **HBSecurity Ladder Hook** is guaranteed for 10 years from the date of purchase. The warranty features are described in the chapter "Warranty and Warranty Limitations".

**Upon receiving the material, the purchaser should check its integrity and that it corresponds to the order made. Should the purchaser find any damages to the safety device or missing material, he/she must notify the retailer or HB HBSecurity by no later than 7 working days.**

In the event of operator fall when using the **HBSecurity Ladder Hook**, the elements fastening it to the bearing structure and/or the hook itself

undergo very large stress loads. Therefore, after a fall, a qualified technician must check the **HBSecurity Ladder Hook**, the fastening elements and the structure. The technician shall issue a formal approval for use of the anchoring device or will provide indications on how to restore safety conditions.

Should the **HBSecurity Ladder Hook** or any fastening components be damaged by the fall, the technician shall order their replacement, also prescribing forbidden access to the work area until the entire fall prevention system has been fully restored.

The use of original elements is highly recommended.

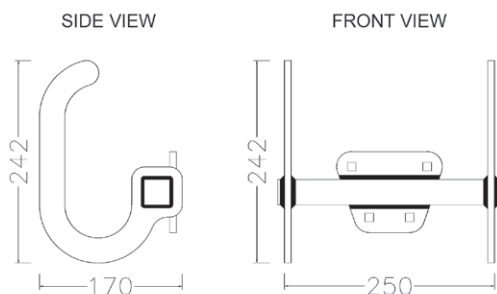
The HBSecurity Ladder Hook requires periodical checking as per the provisions of UNI EN 365 item 4.4 b.

Of equal importance is the checking of the efficiency of the device and of its fastening to the structure. Should the device be installed in an aggressive environment, the inspection should be performed every six months or earlier.

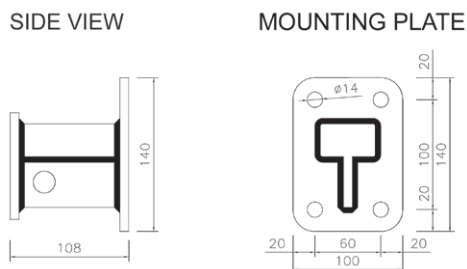
The HBSecurity Ladder Hook **IS NOT** a lightning rod, and therefore **MUST NOT** be connected to the grounding system. Should the building stand in a lightning risk area, ask the intervention of an electrical engineer for the necessary measures.

## 2. HB Security Ladder Hook specifications

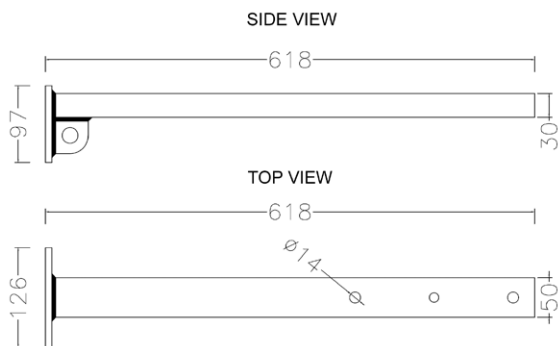
### 2.1 Drawing of the HB Security Ladder hook



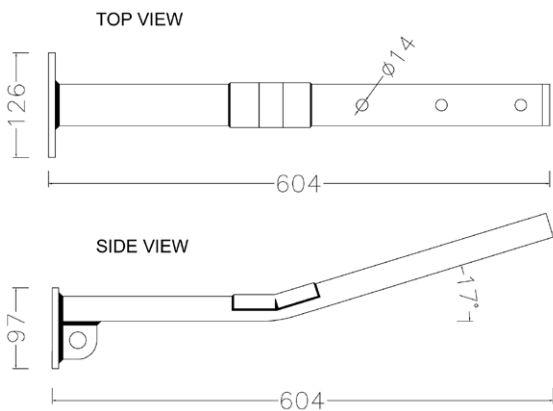
### 2.2 Drawing of the wall bracket for the HB Security Ladder hook



## 2.3 Drawing of the flat bracket for the HB Security Ladder hook



## 2.4 Drawing of the flat bracket for the HB Security Ladder hook



### Materials

AISI 304 L stainless steel  
Protection: acid passivation

## 3. Technical design data

### 3.1 NB:

The HBSecurity Ladder Hook **MUST** be used in combination with PPEs fitted with energy absorbers compliant with UNI EN 355.

The safety project must contain indications regarding the type and length of the restraint cable, in accordance with the sizes and geometry of the work area at a height, with the presence of obstacles along the fall trajectory, the presence of frangible surfaces at ground level, and the height from the ground.

Fastening to the bearing structure **MUST** be **CHECKED** by a qualified technician.

The HBSecurity Ladder Hook can be used to limit the pendulum effect and impact with any obstacles further below, as prescribed by UNI 11158.

The HBSecurity Ladder Hook can also be used for creating a safe ascent route from the point of access to the roof to the main safety line system.

The HBSecurity Ladder Hook is certified for use by **2** operators simultaneously

### 3.2 Testing of fasteners

Fasteners **MUST** be checked before installation as per the provisions set forth in Annex A.2 to the UNI EN 795 standard.

When checking the fastenings, take into account the device's deformability. The Flat and Inclined brackets are designed to buckle when certification loads are reached.

Each single fastener must be CE certified and marked as per the corresponding standard of reference.

Design strength for the 12 kN anchor. The fastening check must take into account all load directions envisaged. The plastic behaviour of the device must be taken into account during the check.

Table 1 GENERAL DATA

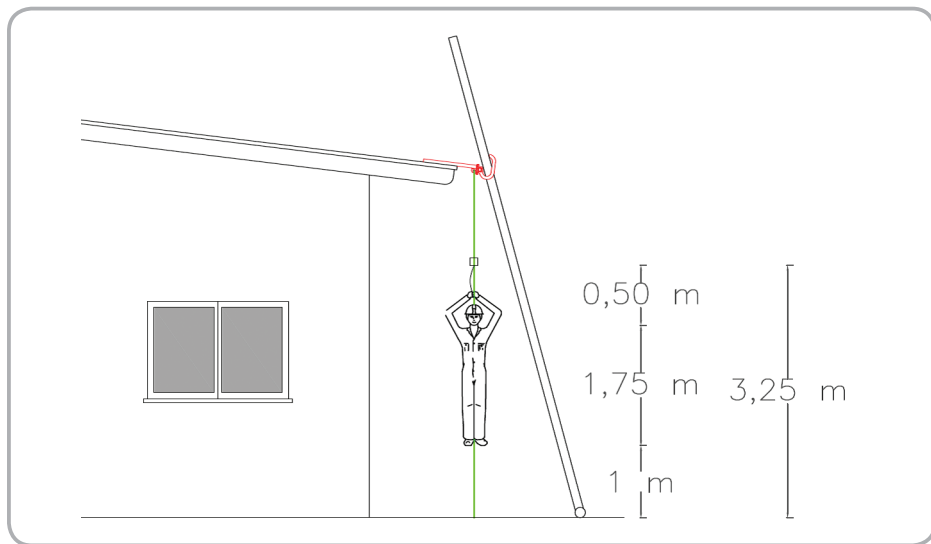
Number of users	max.	2 operators simultaneously
Project strength at the ultimate limit state ULS for the anchor	kN	12

### 3.3 Minimum installation height from eaves to ground level

**WARNING:** the length of the lanyard connecting the vertical guide to the harness and the use of the energy absorber shall be assessed in function of the fall clearance distance and the envisaged height of fall. If a free fall not longer than 60 cm is

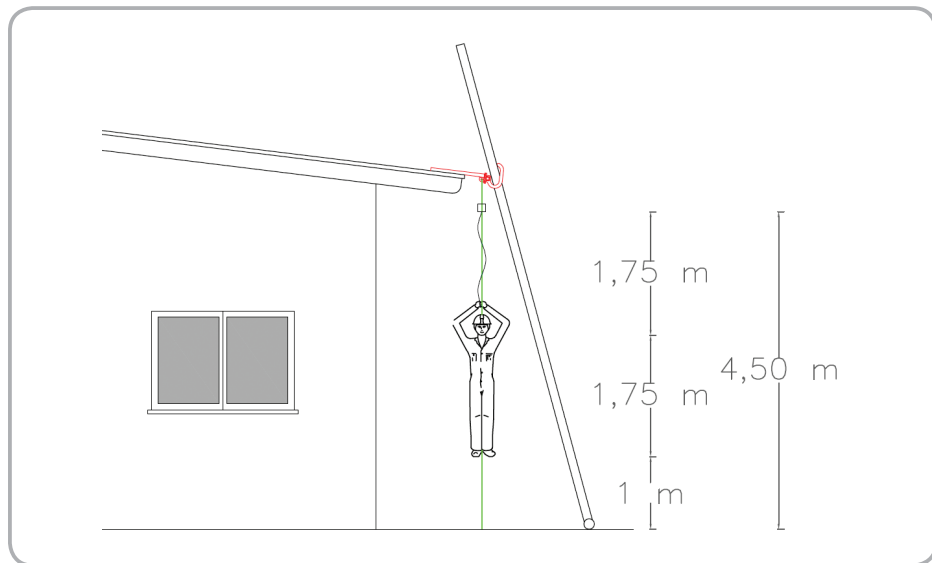
envisaged, it is possible to use the system without energy absorber (check the user conditions set by the manufacturer of the brake on the vertical guide).

Fall clearance without energy absorber



**NOTE:**

Assuming a harness-guide connection lanyard 50 cm long and an arrest without travel of the arrest runner on the vertical guide.



## NOTE:

Assuming the harness-guide connection with the energy absorber only and an arrest without travel of the arrest runner on the vertical guide.

## 4. HB Security Ladder hook installation instructions

**HBSecurity recommends that the HBSecurity Ladder Hook be installed by personnel qualified by the manufacturer.**

Installers shall carry out the installation following the indications of this booklet and of the safety

project, and in compliance with the provisions of Annex A to UNI EN 795.



## 4.1 Safety precautions before installation

- For work at a height, HBSecurity recommends a team of at least 2 operators.
- In the event of fall of an operator, the emergency rescue intervention time MUST be maximum 30 minutes to prevent permanent injury to the fallen operator.
- Check that the area below the work area is protected from the falling of objects. Otherwise, a sufficiently wide area must be fenced off and its access forbidden to people and vehicles.
- The installer must also protect himself/herself by wearing a harness and by connecting the harness to a suitable anchor point (chimney stacks are not considered suitable anchor points). The use of portable fall prevention devices is recommended (UNI EN 795 Cl. B, supplied separately by HBSecurity).
- If needed, use temporary masonry work or bucket lifts.

## 4.2 Checks before installation

- The installer must check the integrity of the HBSecurity Ladder Hook, make sure it is marked HB Security and bears a serial number. Should the hook prove defective in such a way as to jeopardise installation or use, or should it bear no markings, the installer must replace it before proceeding with the installation.
- The installer must check that the support materials (joists, masonry work, hollow-core concrete structures, etc.) on which the HBSecurity Ladder Hook is to be anchored is capable of withstanding the project stresses indicated in previous chapters, as envisaged by UNI EN 795 item 8.

## 4.3 Installation procedure

- Identify the installation point indicated in the safety project;
- Remove any roofing (roof tiles, wood, etc.) and insulation material;
- Test fastener extraction near the fastening site (make sure this does not affect fastener performance) by measuring its resistance to extraction. Check that the measured strength is equal to or higher than that requested by the calculations of the qualified technician;

- Fasten the HBSecurity Ladder Hook using the fasteners indicated [see: fastening examples]. If the support does not allow for hole drilling or the insertion of screws or plugs, fasten the HBSecurity Ladder Hook using specifically manufactured hardware. The tightening torque values to be used are indicated by the screw, bolt and pin manufacturers;
- Restore the roof elements previously removed, making sure that the insulation material is put back in place properly;
- Set up the vertical guide;
- Install an eyebolt in the wall to which the bottom of the ladder can be tied;
- Install an anchor point on the roof at the landing point, so as to make access and recess operations easier and safer;
- Post the identification table, fully compiled, in the place(s) of access to the at height work area.

Once the installation is completed, fill in the statement of installation attached hereto (Annex 3 – Statement of correct installation).

#### FINAL CHECK:

Once installed, check the integrity of the entire device. Now the device is ready for use.

**NB**

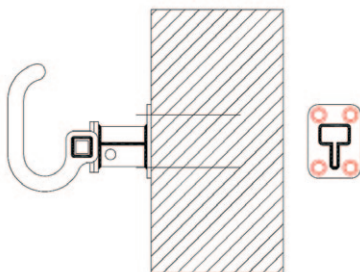
Post the identification table, fully compiled, in the place of access

#### FASTENING INSTRUCTIONS:

**NB**

The following indications must not be used in place of the fastening calculation by a qualified technician envisaged in UNI EN 795 Annex A item A.2. The following indications are only examples. HB Security provides no warranty as regards fastenings.

#### 4.4 HB Security Ladder hook fastening examples



##### Fastening on concrete

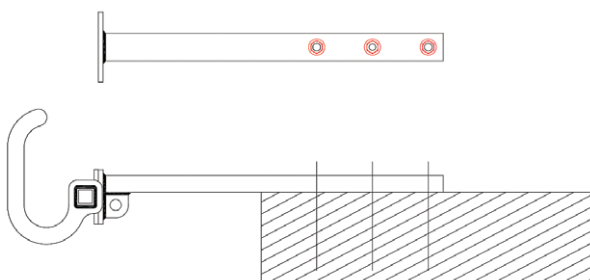
Anchoring on concrete with 3 wedge anchor M12

Tightening torque: 30-40 Nm

##### Fastening on wood

Anchoring on wood with 3 wood screws M12x160mm

Tightening torque: 30 Nm



##### Fastening on concrete

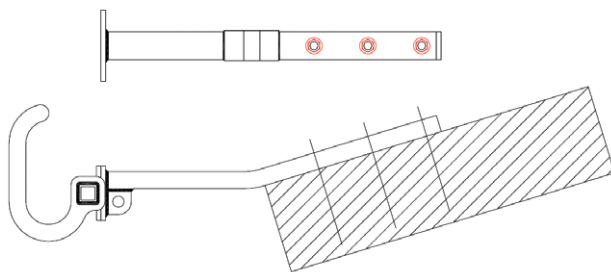
Anchoring on concrete with 3 wedge anchor M12

Tightening torque: 30-40 Nm

##### Fastening on wood

Anchoring on wood with 3 wood screws M12x160mm

Tightening torque: 30 Nm



## Fastening on concrete

Anchoring on concrete with 3 wedge anchor M12

Tightening torque: 30-40 Nm

## Fastening on wood

Anchoring on wood  
with 3 wood screws M12x160mm  
Tightening torque: 30 Nm

## 5. Proper use of the ladder hook

### Ladder positioning:

Position the ladder's rung within the hook's horns, then rotate the ladder until its feet are planted on the ground. Check that the ladder's inclination angle is between 65 and 75 degrees. Check that the top of the ladder rises at least 1.20 m above the roof landing level.

### Ladder ascent and descent:

The operator, standing in a safe place (on the ground or on the roof, anchored to an anchor point) shall connect his/her harness to the vertical guide. The operator may ascend or descend the ladder only after having secured the harness to the guide.

When close to the roof landing point, the operator shall anchor his/her harness to the anchor point pre-installed on the roof.

## 6. Removal of device at end of work

Device removal at the end of work shall be performed by applying the same precautions as when it was installed.

## 7. Use of the PPE during manual handling, installation, use and removal of the HB Security Ladder Hook

N.B.: The following indications are generic and must not replace the corporate safety procedures or the safety operation plan the operator is expected to comply with. According to the type

of environment and equipment available, other protection devices might be required (such as collective protective equipment) that are not mentioned in this booklet.

During installation, use and maintenance of the HBSecurity Ladder Hook, the following PPEs is recommended (NOT included with the HBSecurity Ladder Hook):

- Safety footwear
- Abrasion-proof gloves
- Work suit
- Protection helmet
- Protection goggles (if required during installation)
- Suitable protection system for falls from a height



N.B.: Before gaining access to the at height work place, visually check the PPE's integrity. Verify that the safety system has undergone periodical inspection by checking the inspection logging on

the register or on the identification tag. Always check the harness and the other PPEs and put them on properly before exposing one's self to the risk of falling from a height.

## 8. Identification of the HB Security Ladder hook

The HBSecurity Ladder Hook is identifiable via the data engraved on the base and listed in the identification table. The data is:

HB Security CE0505  
UNI EN 795 class D  
Batch No. xxxx/year

Using the Batch Number, the HBSecurity internal tracing system can trace back to the supply batches of all of the components of the HBSecurity Ladder Hook.

This can also be done via the DDT number indicated on the sale bill.

## 9. Identification tag

**HBSecurity** DPI PPE

INSTALLATORE / INSTALLER

DATA DI INSTALLAZIONE / INSTALLATION DATE

Lunghezza massima DPI (lune)  
Maximum length of PPE (rope) m

Altezza minima dal suolo  
Minimum height from the ground m

PRODOTTI INSTALLATI  
INSTALLED PRODUCTS

TIPOLOGIA  
TYPE

LOTTO  
BATCH NUMBER

DATA ULTIMA VERIFICA  
LAST CONTROL DATE

**UNI EN 795 cl.C - D**  
4 Numero massimo utilizzatori  
Maximum number of users

**UNI EN 795 cl.A**  
2 Numero massimo utilizzatori  
Maximum number of users

1 8  
2 9  
3 10  
4 11  
5 12  
6 13  
7 14

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## 10. Ordinary inspections of the HB Security Ladder hook as prescribed by the manufacturer

The annual inspection of the safety devices by qualified personnel is mandatory. The personnel shall log the inspection into this booklet and on the identification tag posted next to the access point.

As regards installations in aggressive locations, the inspection must be anticipated according to the type of environment (every six months or earlier).

The inspections shall follow the control plan indicated in Annex 2 - Check List of minimal periodic checks. After the inspection, the technician shall log the inspection in Annex 5.

The periodical check of the waterproofing is very important, because water infiltrations could jeopardise the effectiveness of the fastening and the structural strength.

## 11. Warranty and warranty limitations

The **HBSecurity Ladder Hook** is guaranteed against all manufacturing defects.

### Warranty conditions:

- 1) The replacement or restoration of any products showing non-structural defects, subject to preliminary notification by the client and verification by the manufacturer, shall occur at the time of the next periodical inspection carried out by personnel enabled by the manufacturer to carry out such inspections.
- 2) Any manufacturing defects that should be observed in time and be capable of generating structural problems to any component of the **HBSecurity Ladder Hook**, subject to notification by the client and verification by the manufacturer, shall be eliminated as soon as possible, compatibly with the intervention timing, including by replacement of the defective component.
- 3) Any intervention costs shall be charged to the manufacturer, subject to notification of the defect being sent within two years after product installation, after which the manufacturer shall guarantee only the sending of the replacement material. The parts intended for replacement of any defective parts shall be shipped to the local dealer or directly to the authorized installer.
- 4) The warranty shall be null and void if the product or one of its parts is tampered with.

Warranty does not apply to:

- Pieces deteriorated following on-site testing, inappropriate use of the device, lack of periodical inspections, faulty installation, tampering, inappropriate installation carried out by unqualified personnel.
- Use of the product with unsuitable accessories.
- Installation in aggressive environments.

For ten-year guarantee coverage, RETURN a fully compiled copy of the Statement of correct installation – Annex 4 to this booklet. This guarantee shall start on the purchase date.

## 12. Test certificates

The test certificates of **HBSecurity** products can be downloaded from the website [www.hbsecurity.it](http://www.hbsecurity.it) within the reserved area. Registration is mandatory for accessing the reserved area.



## High technology, maximum reliability

HBSecurity's mission is to meet the safety needs of work at height. Focusing on people by supplying consulting and training services for operators, HBSecurity is a dynamic company engaged in an ongoing search for the most effective and efficient solutions for the safety and peace of mind of rooftop workers.

The logo for HBSecurity, featuring the company name in white sans-serif font on a red rectangular background. A small icon of a safety helmet is positioned above the letter 'i' in 'Security'.

**[www.hbsecurity.it](http://www.hbsecurity.it)**  
**Customer service +39 0471818125**

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