HBSecurity

Installation, use and maintenance booklet

Rail and Runners

Personal protective equipment against falls from a height
UNI EN 795 CLASS D
CE 0505 MARKING

Maintenance 1/year

Class D
Certificato UNI EN 795

EUROPEAN CERTIFICATION BODY
VENETA ENGINEERING 0505

Operators 4

10 year warranty

Issue date
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Revision
02.00

CE 0505

HBSecurity

Contents

CE 0505

1. General information

HBSecurity produces anchoring devices against falls used to protect all workplaces at a height, according to Lgs.Decree 81/2008 as amended and to a certified control system.

The product test certificates and these instructions can be downloaded from the websitewww.hbsecurity.it.

The owner of the building and/or the safety manager shall store the documentation regarding the installed fall arrest devices and shall deliver them to the operators who shall use such devices.

- Device instructions:
- Safety project
- Testing of fasteners;
- Proper installation statement;
- Periodical inspections register.

2. Rail use

Access to workplaces at a height must be allowed, and the installation and use of any fall arrest anchoring devices must be carried out, only to/by specifically trained personnel.

WARNING: the following instructions are not designed for teaching at-height work techniques.

In order to install the devices correctly, it is recommended that the operator(s) have attended installation courses held by the manufacturer. In particular, for correct use of the fall arrest devices the operators should have attended a PPE Category 3 and at-height-work course.

The HBSecurity Rail can be used simultaneously by up to 4 operators.
The HBSecurity Runners can be used by only 1 operator.

The HBSecurity Rail is a structural device that allows operators to work totally retained and suspended.

The HBSecurity Rail **MUST** be used with PPEs fitted with energy absorbers compliant with EN 355, unless specified otherwise in the safety project written up by a qualified technician.

In the event of a fall, the operator remains suspended above ground. To avoid the onset of symptoms linked to suspension, that may sometimes have irreversible and mortal consequences, a team of at least two operators capable of handling the emergency situation is recommended. Operators therefore must be equipped with an emergency handling plan and relating rescue equipment.

After a fall, the device must be inspected by a qualified technician who will then issue a formal approval for use. Until then, the device must be taken out of service.

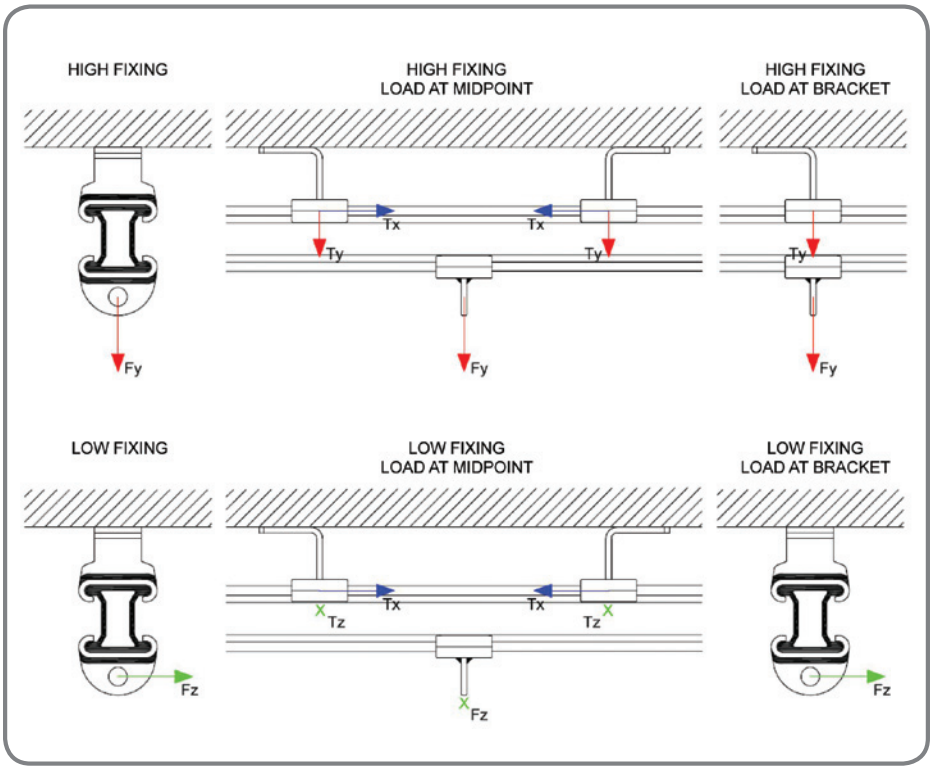
Should any components of the device or of the fastening be damaged, the technician shall order its replacement. The use of original elements is highly recommended.

The HBSecurity Rail 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.

3. Device performance data

The following table shows the project performance data in the event of a stress force of 9kN (9kN = 6kN + 3kN = OPERATOR FALL FORCE + BRAKING FORCE OF 3 OPERATORS).

These values refer to the maximum stresses envisaged at the head of the starting points, but can also be applied to intermediate points.



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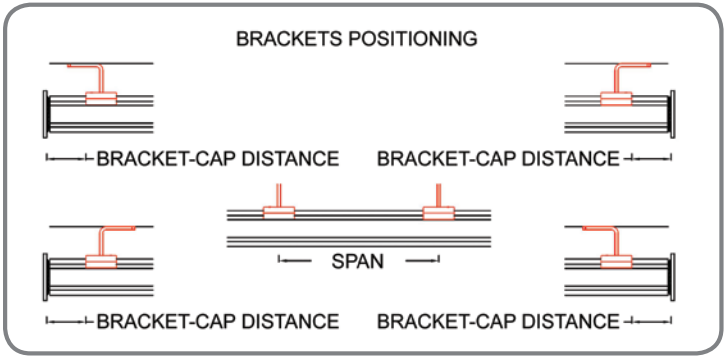
THEORETICAL PROJECT DATA WITH Fy = 9kN (design loads at the ultimate limit state ULS, net of the safety coefficients):					
Span (m)	Bracket-to-cap distance	Lanyard length (mm)	Load on bracket Ty – Tz (kN)	Load on centre line	
				Ty – Tz (kN)	Tx (kN)
1	0	0	9	4.5	0
2	0	0.45	9	4.5	0
3	0	0.55	9	4.5	4.0
4	0	0.65	9	4.5	9.0
5	10	0.70	9	4.5	9.0
6	20	1.35	9	4.5	9.0

For intermediate spans, refer to worst case values.
A safety coefficient of 2 is recommended with the use of the table values.

3.1 Distance between brackets

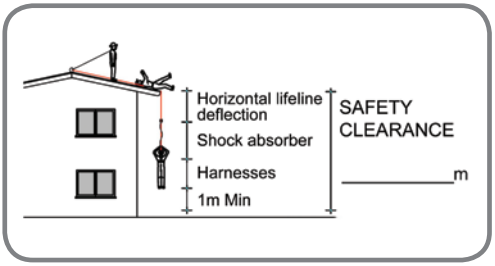


3.2 Fall clearance calculation and PPE length

The fall clearance is the distance covered by the operator in a fall. This distance must be shorter than the total height of the working area above any possible impact surfaces. Should this distance not be ensured, the engineer shall order the use of total restraint measures, closing the operator within a safety area.

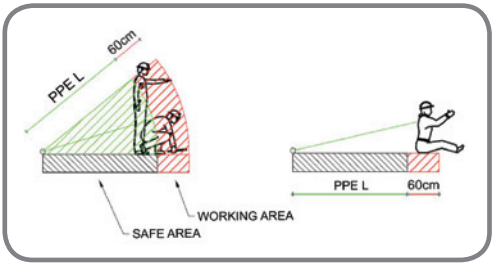
The installer shall indicate the height of fall and the PPE's maximum length (between anchoring point and harness attachment).
This information is essential in preventing falls beyond the working area's perimeter and/or the operator's impact with the ground or with interfering structures.

Calculation of MINIMUM HEIGHT:



FALL CLEARANCE =
LANYARD LENGTH (SEE TABLE) +
ENERGY ABSORBER EXTENSION 1.75m Min +
HARNESS HEIGHT 1.75m Min +
RESIDUAL AIR CLEARANCE 1m Min =
= 4.5m + device sag

Calculation of PPE LENGTH:



PPE LENGTH = LANYARD LENGTH MUST KEEP THE OPERATOR WITHIN THE SAFETY AREA, PREFERABLY AT A DISTANCE FROM THE EDGE SUCH AS TO PREVENT THE OPERATOR FROM OVERREACHING IT EVEN IF HE/SHE ACCIDENTALLY FALLS.

N.B.: the correct design of the safety layout of the roof envisages the impossibility of operator falls (totally prevented fall); the operator may work with a fixed-length or adjustable-length lanyard (the use of an energy absorber is mandatory).

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3.3 Testing of fasteners

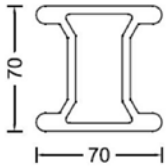
Fasteners MUST be checked **before installation** as per the provisions set forth in Appendix A to the **UNI EN 795 standard**.

Carry out the check along the main directions indicated in the layout scheme and relating pulling data.

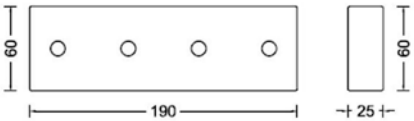
3.4 Maximum load table for suspended work

Configuration	Span (m)	Maximum load (kg)
	1.5	1800
	2	1350
	3	900
	4	680
	5	540
	6	450

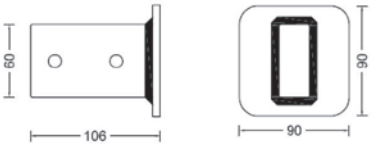
3.5 Device and components design



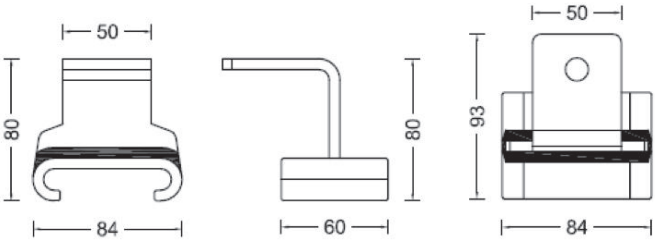
Rail:
in aluminium alloy 4.5 mm doubly symmetrical section 70x70mm, available as bars 1.5 - 3 m long;



Couplings:
Aluminium section 60x25 mm to be fastened with M10 bolts;

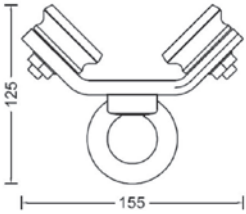


End-stop plug:
AISI 304 stainless steel 6 mm thick to be fastened with M10 bolts.



Fastening bracket:
in AISI 304 stainless steel, thickness 6 mm. Allows for direct fastening to the structure or to specific supporting carpentry.

ECO runner:
in AISI 304 stainless steel, thickness 6 mm. Allows for anchorage of only one operator. Suitable for tethered work.



Runner for suspended work:
in AISI 304 stainless steel, thickness 10 mm. with 4 ball-bearing supported wheels, allows operator to work suspended. Max 1 operator, high anchoring.

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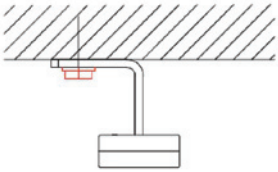
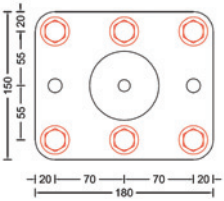
3.6 Fastening example

DIRECT FASTENING
TO THE STRUCTURE



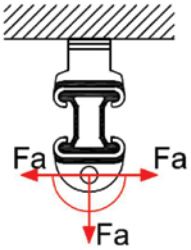
RISER POLE H35

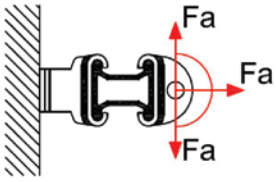


Fastening on concrete	Fastening on wood
1 threaded bar M12x160mm with chemical anchor Tightening torque: from 40 to 50 Nm (check chemical anchor data sheets)	6 wood screws M12x160mm Tightening torque: 30 Nm (check screw data sheets)

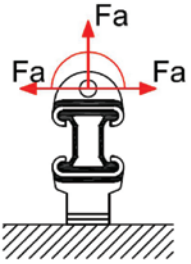
4. Installation layouts

INSTALLATION ON CEILING





INSTALLATION ON FLOOR



INSTALLATION ON WALL

5. Installation instructions

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.

The device must be installed in a position above the operator and at a minimum distance of 2 metres from the perimeter. A central positioning of the device with respect to the work area is preferable, so as to have a univocal PPE length or a length that is not a possible source of adjustment errors.

When installing on inclined roofs, complete the installation with an adequate number of snow hooks to protect the device.

5.1 Preliminary checks prior to installation

- The installer shall check the integrity of all components, shall make sure that all of the material is HBSecurity original and that it bears the punch stamp with the serial number.
- The installer shall check the suitability of the support materials (beams, masonry structures, concrete-and-masonry structures, etc.) on which the structural anchoring devices will be fastened.
- The installer shall check that the installation has been done as per plan and shall verify the fastenings.

5.2 Installation procedure

- Identify the installation point with reference to the safety project;
- Fasten the initial bracket to the structure (or to the bearing carpentry). To prevent the runner from touching nearby structures, the bracket's fastening hole must be made at least 90 mm from any side structures;
- Fasten the second bracket;
- Check in the table if it is necessary to leave any space between the closing plug and the bracket, and insert the first section of the rail fitted with the end-stop plug. Leave the tolerance indicated in the Bracket-Plug distance table, or make the plug adhere to the bracket without tolerance; in this case, double the Bracket-Plug distance when positioning the last bracket;

- Continue with the installation by alternating bracket with rail;
- Join the sections using the joints, fastening them with the bolts indicated. Proceed until the rigid rail line is completed, in accordance with bracket centre distance;
- Check in the table if it is necessary to leave any space between the closing plug and the bracket. If necessary, leave this tolerance for the last bracket to be installed. If tolerance has not been left on the first bracket, double the Bracket-Plug distance tolerance on the last bracket;
- When using a non-flip end-stop plug, remember to insert the runners before fastening the closing plug;
- When using the flip end-stop plug, it is possible to remove the runner without removing the plug;
- Post the identification table, fully compiled, in the place(s) of access to the work area at a height;
- Once installation is completed, fill in the correct installation statement form.

5.3 On-site fastener testing methods

Checking of fastener extraction:
Test fastener extraction near the fastening site (make sure this does not affect fastener performance) by measuring its resistance to extraction. Check that the resistance measured is higher than that required by the calculation of the qualified technician.

On site testing:
After having fastened the ends and intermediate points of the device, apply a trial force at the head of the device (do not exceed operating force). Application of a force compliant with the geometrical characteristics of the line installed and in the direction of traction is recommended. This method can be used for installations with bearing carpentry, in which case position a male eyebolt at the head of the device and apply the load to the eyebolt.

5.4 Final check

Once installed, check the entire device for integrity. Especially check that the centre distances between the brackets are correct, that all components necessary have been used and that all elements are intact.

Now that the device is ready for use, the fall arrest PPEs, the winder, the harness, etc. can be mounted on it.

6. Use of eco runner

Access to workplaces at a height must be allowed, and the installation and use of any fall arrest anchoring devices must be carried out only to and by specifically trained personnel.

WARNING: the following instructions are not designed for teaching at-height work techniques.

In order to install the devices correctly, it is recommended that the operator(s) have attended installation courses held by the manufacturer. In particular, for correct use of the fall arrest devices the operators should have attended a PPE Category 3 and at-height-work course.

The HBSecurity ECO runner can be used by only 1 operator.

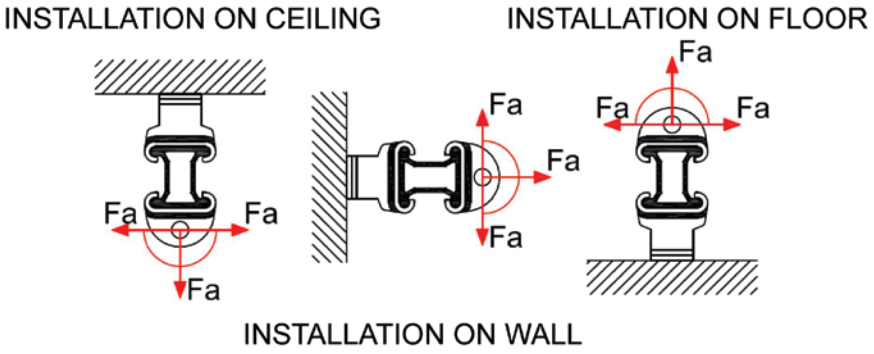
The HBSecurity ECO Runner is a device that allows operators to be totally retained during work. Suspended operation is recommended in order to prevent damage to the contact surface of HBSecurity Rail.

The HBSecurity ECO Runner **MUST** be used with fitted with energy absorbers compliant with EN 355, unless specified otherwise in the safety project written up by a qualified technician.

After a fall, the device must be inspected by a qualified technician who will then issue a formal approval for use. Until then, the device must be taken out of service.

Should any components of the device or of the fastening be damaged, the technician shall order its replacement. The use of original elements is highly recommended.

Possible applications:
The HBSecurity ECO Runner is designed to be used in any pulling direction.



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7. Use of runner for suspended work

Access to workplaces at a height must be allowed, and the installation and use of any fall arrest anchoring devices must be carried out, only to/by specifically trained personnel.

WARNING: the following instructions are not designed for teaching at-height work techniques.

In order to install the devices correctly, it is recommended that the operator(s) have attended installation courses held by the manufacturer. It is also recommended that operators have attended a Work on Cables course to be able to correctly use the runner for suspended work.

The HBSecurity Runner for suspended work can be used by only 1 operator.

The HBSecurity SUSPENSION Runner for suspended work is a device that allows operators to work suspended.

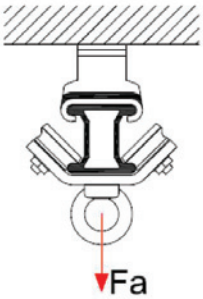
Whenever the risk of operator falling is possible, the use of HBSecurity SUSPENSION Runner **MUST** be used with fitted with energy absorbers compliant with EN 355, unless specified otherwise in the safety project written up by a qualified technician.

After a fall, the device must be inspected by a qualified technician who will then issue a formal approval for use. Until then, the device must be taken out of service.

Should any components of the device or of the fastening be damaged, the technician shall order its replacement. The use of original elements is highly recommended.

Possible applications:
The HBSecurity SUSPENSION Runner is designed to be used with the HBSecurity Rail installed above the operator.

INSTALLATION ABOW OPERATOR



8. Other information

When installed outdoors or in aggressive environments, when possible, remove the runners when finished using. This will extend conservation of the device and prevent undesired accumulation of dust and grit on the runner and on the rail.

9. Removal of device at end of work

Removal of the device when finished using must be carried out following the same precautions applied during assembly. It is possible to remove the runners only when a flip end-stop plug is used.

10. Identification

Each HBSecurity Rail is identifiable via the data engraved on the device itself:
Using the Batch Number, the HBSecurity internal tracing system can trace back to the supply batches of all of the components of the HBSecurity Rail.

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

11. Ordinary inspections

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.
The inspections shall be the ones indicated in the list given further below. After the inspection, the technician shall log the inspection on the identification tag and shall issue the periodical inspection report.

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

Inspections:

- Inspection of the **device**: corrosion level, absence of deformation, abrasions, wear and tear, breaks, etc.
- Inspection of the **waterproofing** of the roof as regards the single components of the fall arrest system and of the absence of water infiltrations. In the event of infiltrations, check the device fasteners.
- Inspection of the **runner**: corrosion level, absence of deformation, abrasions, wear and tear, breaks, etc.

- Inspection of the presence of the **tags** and their correct compilation and preservation.
- Inspection of the **documentation**.

12. Useful life of the device

The device has unlimited life in absence of causes that require its placing out of service, subject to periodical checks being carried out at least once every 12 months starting from the date of installation.

The factors that can shorten the useful life of the device and require its placing out of service are the following:

- Very frequent use;
- Damage to device components;
- Aggressive environment;
- Abrasion, shock, crushing;
- Installation errors:
- Operator's fall;
- On-site device testing.

13. Transportation

Protect the product from the risk of damage. Manual handling of the packages must be done in compliance with the limitations indicated in Leg. Decree 81/2008 as amended.

14. Storage

Store the product in a dry place, away from aggressive environments or from any other possible source of damage or deterioration.

15. Warranty and warranty limitations

The HBSecurity Rail is guaranteed for 10 years from the date of purchase, subject to the following conditions:
The components of the HBSecurity Rail are guaranteed against all manufacturing defects. The warranty extends to the replacement of any defective parts.

Condizioni di garanzia:

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 Rail, 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.

5) The environmental conditions of reference are those indicated in ISO 9223 and in UNI EN ISO 14713.

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.
- Device intervention following operator fall.
- Installation in aggressive environments.

16. Liability

HBSecurity or the dealer shall be held harmless with regard to damage, injury or death caused by inappropriate use, tampering, use of non-original products, inappropriate installation, failure of the fastenings or of the installation structure.
It is the user's responsibility to understand and follow the instructions for the correct installation and use of the device, to use the device only for the activities it has been designed for and to apply all possible safety precautions and procedures. Before using the device, the user must put in place an effective procedure for the handling of any emergencies.
The user shall be held personally responsible for the correct use of the device. Should the user not be in the position to accept this responsibility, THE DEVICE SHOULD NOT BE USED.

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17. EC certificate of conformity

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The Manufacturer HBSecurity

Hereby declares
that the fall-arresting device

HBSecurity Safety Line

- conforms to and has been manufactured in accordance with directive 89/686/EEC and with the national harmonized standards Legislative Decree 475/1992, Legislative Decree 10/1997 and any amendments thereto, under the supervision of the Notified Body No. 0505, Veneta Engineering ;
- is identical to the PPE subject of the CE certification statement: 0505-DPI-1059 HBSecurity Line issued by Veneta Engineering Srl, the Notified European Certification Body No. 0505 for Directive 89/686/EEC;
- has passed the resistance and performance tests envisaged in UNI EN 795 Class D, confirming the declared class. The tests have been carried out in the Veneta Engineering laboratory, ref. Via Lovanio, 8-10, Verona.

Cortaccia (BZ), 28-12-2012
The Legal Representative

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Cortaccia (BZ), VAT No. 02695270211
Tel +390471818125 - Fax +390471818708
www.hbsecurity - info@hbsecurity.it

18. Proper installation statement

The undersigned _____

Installer of the firm:

registered with the Chamber of Commerce of _____ unde No _____

As concerns the installation of anchoring devices on the building located at:

Address _____ No. _____

City of _____ County _____

Hereby declares:

to have installed, to the best of his/her abilities in compliance with the indications of UNI EN 795:2002, the anchoring devices listed as follows:

Quantity	Class	Product designation	Serial numbers

Date _____

Installer's signature _____

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19. Periodical inspections register

Date	Inspector's signature	Inspection result	Notes

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.

HBSecurity

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