

HARKEN[®]
Binario R27 LongSpan
Instruction Manual



Read the manual carefully before using the system.

Translation of the
original instructions

UR27LS-A 26-05-2020



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Before installing or using the Harken R27 LS rail, read the instructions contained in this Manual thoroughly.

This instruction manual is an integral part of the product, and it supplies all the necessary information for its correct installation, safe use and maintenance.

If you don't understand some of the instructions, please contact Harken's authorized dealer/installer. Harken shall not be liable for damages, injuries or death caused by a non-compliance to the safety and other instructions contained in this manual.

This manual is intended for qualified installers. The installer is responsible for integrating the supplied information according to current legislations.

This manual, including the information supplied by the installer, must be stored by the client and made available to the user. It must be stored in a suitable place, near the fail arrest system entrance, and it must be made available to the user.

This manual may be modified without notice.

See <http://www.harkenindustrial.com> for updated versions.

**WARNING!**

It is essential for the safety of the user that if the product is re-sold outside the original country of destination the reseller shall provide instructions for use, for maintenance, for periodic examination and for repair in the language of the country in which the product is to be used.

SAFETY INFO

- Harken R27 LS rail must be installed by personnel authorized by Harken or Harken dealer or by qualified personnel trained on the installation of the Harken R27 LS rail, and on PPE (Personal Protective Equipment)
- The rail installer must make sure that the structure where the rail will be installed is suitable to fasten the device and to support the loads for which the rail has been certified.
- The type of structure anchor/fixing must be defined by a qualified professional.
- The procedure to fasten the rail to the base must be documented in suitable reports, made available for future consultation.
- Each rail has maximum load limits, which mostly depend on the structure where it is installed and on the distance between the anchor/fixing; those limits must not be exceeded.
- The R27 LS rail must be used solely with Harken trolleys (IN9606, IN9608, IN9565, IN158, IN9606.CLEAR, IN9608.CLEAR, IN9565.CLEAR, IN158.CLEAR, INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK)), wearing suitable PPE (Personal Protective Equipment) compliant with the laws in force on workplace safety.
- Before using the rail, check its path and the falling hazards, evaluating the minimum fall clearance and choosing the PPE with shock absorber deployment most suitable to the type of hazard.
- Before each use, check the system for any trace of wear, corrosion, deformation, loose connection, etc... In case of doubts, if a rail seems unsafe, it must be checked by Harken or Harken dealer's authorized personnel or by qualified personnel.
- All operators using the rail must observe the instructions for uses, and especially the number of operators it can support at the same time.
- In case of extreme weather events, do not use the rail
- In case of fire or if the rail has been struck by lightning, stop using it, report the issue to Harken Approved Installer &/or Harken to arrange a detailed inspection by Approved & Qualified Personnel.
- Do not change the rail in any way, unless previously authorized in writing by Harken Or Harken dealer's authorized personnel or by qualified personnel.
- Harken shall not be liable for injuries or damages resulting from an improper use of the rail.
- The system must be used only by physically and psychically healthy personell. Cardiac and circulatory problems, taking medications, alcohol and drugs could compromise the safety of the user when working at height.
- Before installing and using the system, it is mandatory to organize the safety plan in case emergencies occur during the work.

R27 LS RAIL

The anodized aluminium R27 LS rail (INR27.LS) must be fastened to a supporting structure using suitable brackets. A low friction trolley (IN9606, IN9608, IN9565, IN158, IN9606.CLEAR, IN9608.CLEAR, IN9565.CLEAR, IN158.CLEAR, INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK)), is to be installed to the rail, providing a compliant EN795:2012 Class B mobile anchorage point. This assembly includes a rigid fall arrest system, designed to be used and installed in horizontal position ($\pm 5^\circ$), with floor, wall and ceiling mount. By installing and using this system correctly, the risk of the operators falling whilst working at height can be eliminated or significantly reduced.

Furthermore, the R27 LS rail can be used as a Rope Access Anchorage System, to provide a safe anchorage for twin rope working (rope access & work positioning), with good anchor mobility under load.

COMPONENTS

The R27 LS rail must be used with the following components:

Rail



Extruded anodized aluminium rail of 3 m of length. The rail can be supplied also bent. For more details, refer to the Bent Rail chapter.

Brackets

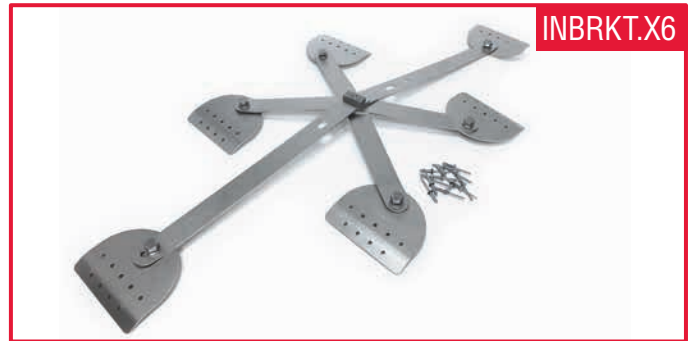


Four types of stainless steel brackets, including all necessary bracket/rail coupling accessories (bracket/structure anchor/fixing are not included; they must be selected and specified by the Approved Installer at the design stage).



Extruded aluminium bracket, including the necessary bracket/rail coupling accessories (bracket/structure anchor/fixing are not included; they must be selected and specified by the Approved Installer at the design stage).

Brackets for metal roof



Brackets for metal roof. For more information, refer to the specific manual.

Connectors



Stainless steel “unsupported” connector, to connect a rail to the adjacent one.



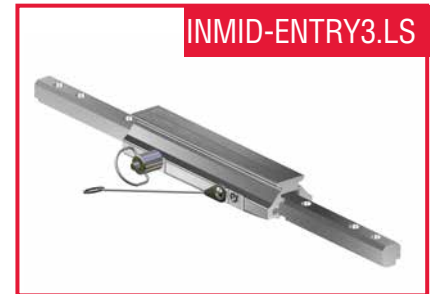
Extruded aluminium connector, to be used with extruded brackets if it is possible to fasten it to the structure (otherwise, the stainless steel “unsupported” connector must be used).



Alignment pin (two alignment pins are required to connect the rail).



Connector to be used with aluminium extruded brackets. Allows the insertion of the trolley along the line.



Connector to be used with stainless steel brackets. Allows the insertion of the trolley along the line.

Turntables



L (90°) Turntable. It permits to realize a continuous line with direction changes of right angle (90°).



T (90° - 180°) Turntable. It permits a three ways intersection (0° - 90° - 180°).

Terminals



Fixed stainless steel end fitting.



Removable aluminium end fitting.



Pair of fixed aluminium end fittings.



Opening aluminium endstop.

Trolleys



Three types of trolleys (single trolley for fall arrest system and double trolley for human suspension). The .CLEAR versions have natural coloration (showed above), the others are black anodized.



The two INCAR trolleys has been designed to be used solely with R27 and R27 LongSpan Harken rails and the related accessories, as an adjustable anchorage point for fall arrest. Moreover the INCAR1-CURVE trolleys has been designed to be used also for the rope access (human suspension). The (BLACK) versions are black anodized, the others have natural coloration (showed above).

For the rail, bracket and connector technical characteristics and installation instructions, refer to the technical sheets in chapter “Technical Sheets” and in chapter “Installation”.

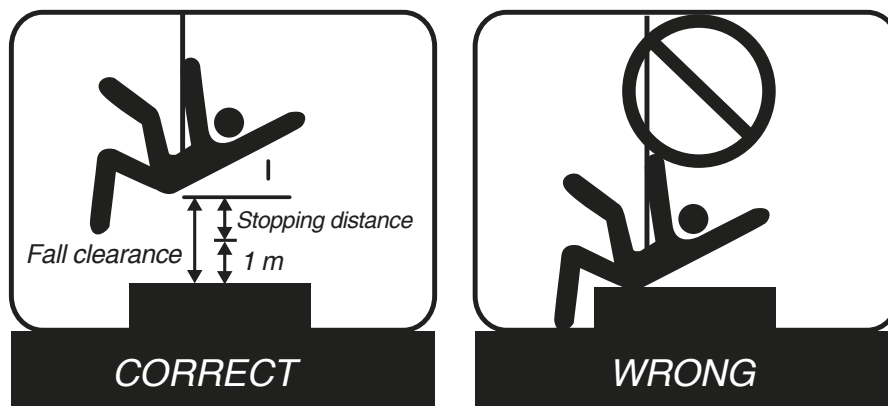
PREREQUISITES AND LIMITATIONS

The R27 LS rail has been designed to support any accidental operator fall. In order to guarantee its correct operation, and maintain the mechanical integrity in case of fall, each used must wear the Personal Protective Equipment (PPE) recommended by workplace safety regulations.

All PPE must be certified and marked according to the relevant national regulations. By using the personal protective equipment, in case of a fall, the force transmitted to the operator (and consequently to the trolley sliding on the rail) will be no greater than a maximum **6 kN**.

Personal Fall-arrest systems used with this equipment must meet controlling regulations for the country of use.

Fall clearance - There must be sufficient clearance below the user to arrest a fall before the user strikes the ground or other obstruction and it consists of the stopping distance plus the free space of 1 m under the feet of the user. See appropriate documentation published by regulatory authority.



WARNING!

It is essential for safety to verify the fall clearance required beneath the user at the workplace before each occasion of use, so that in the case of a fall there will be no collision with the ground or other obstacle in the fall path.



WARNING!

The use of non-compliant PPE can result in severe injuries, including death.



WARNING!

To avoid personal injury, the R27 and R27 INCAR trolley and rail must be used with a full body safety harness (EN361 approved) and the full body harness is the only acceptable body holding device that can be used in a fall arrest system. With a full body harness can be used also a working harness or chair (EN361 and /or EN813 approved). It must be used also a fall arrest device (EN353/2 approved) and an energy absorber (EN355 approved) that meet also Fall Protection standards as required by the local regulating authority for the country of use. Connectors (hooks, carabiners and D-rings EN362 approved) must be capable of supporting at least 22 kN (5000 lb).



WARNING!

Consult Harken when using this equipment in combination with components or subsystems other than those described in this manual. Altering or intentionally misusing this equipment may cause the system to fail which can cause a fall, which could result in severe injury or death.

Before using the Access Rail system make sure that all the people and objects are clear of the systems's moving components.

The R27 LS rail is subject to the following limitations:

- the maximum number of operators per 3 m span is equal to 4, when used as Fall Arrest System and 2 operators per 1,5 m span when used as Human Suspension System. This number may vary based on the structure to which the system is installed and on the distance between the structure fastening brackets



Fall Arrest (4 operators)

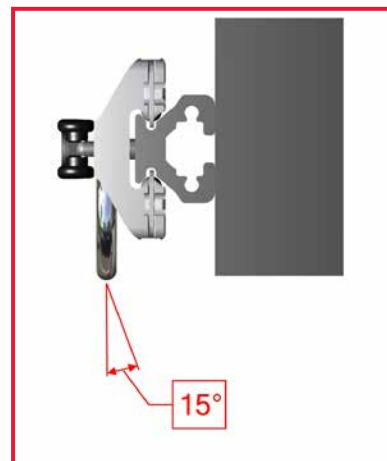
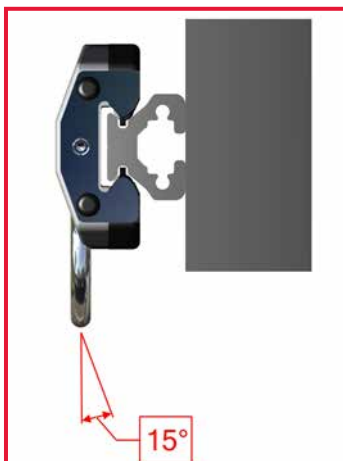


Human Suspension (2 operators)

- do not exceed the maximum number of operators allowed at the same time
- it must be used only by qualified operators trained on the system correct use
- it can be installed with a maximum inclination of 5 degrees with respect to the horizontal plane
- it cannot be used for purposed different than the intended purpose
- it cannot be used as load lifting system
- it cannot be modified, tampered with or repaired
- When using this equipment, the employer must have a rescue plan and the means at hand to implement it. The plan must be communicated to authorized persons and rescuers. The system and trolley integrity **MUST** be assessed prior to any rescue for the safest and quickest recovery.

Load angle limitation

Rails must run within 5° of horizontal, but can be mounted at various angles on the vertical mounting structure. Harken IN9606, IN9606.CLEAR, IN9608, IN9608.CLEAR, IN9565, IN9565.CLEAR, IN158, IN158.CLEAR, INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK) trolleys have the ability to handle loading at an angle up to 15° beyond vertical. Loads beyond 15° from vertical will overload trolley. See images below.



DESIGN

PREREQUISITES AND LIMITATIONS

Preliminary info

The fall arrest system must be suitably designed by a qualified professional, since the correct installation and subsequent safety of the users depend on its correct design.

The following are of the utmost importance:

- analysis of the installation location, in order to define the position where the rail will be installed;
- definition of anchor points (where the anchor brackets will be placed);
- distance between fastening brackets;
- how to fasten the brackets to the supporting structure (the Approved Designer/Installer and/or Structural Engineer will decide whether to use mechanical or chemical dowels, bolts, screws... depending on the anchorage structure's characteristics).

Consider all factors that will affect safety during use of this equipment. Rail must be laid out and positioned strictly in accordance with drawings and specifications supplied by the project authorized architect or other suitably qualified person. System must meet controlling work at height regulations for country of use. Installer shall ensure suitability of base materials and structural materials to which rail is fixed, follows controlling work at height regulations for country of use, and ensures base and structural materials are capable of sustaining a proof test force.

The weakest structural materials have been simulated in laboratory to evaluate the anchor device and its fastening. Anyway, the test results don't supply any information on the structure capability to bear the loads, which can occur during the use. The capability to bear the loads connected to a fall arrest is subjected to different assessments, which are excluded from the application of the Regulations for which the product is certified.



NOTE!

The fastening system must always be designed by a qualified professional.



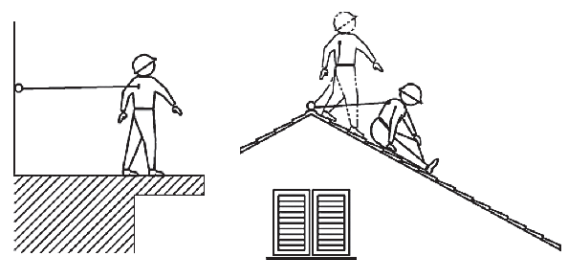
WARNING!

The structure where the R27 LS rail will be installed must have structural characteristics so as to support at least the maximum loads of 15 kN in the horizontal and perpendicular direction, that could be transmitted in service from the anchor device to the structure. This value has been recorded on the anchor device during the dynamic strength and integrity test and must be taken into account in order to evaluate the base material, the structural anchorages or the anchor/fixing correctly. Thus, the system designer must carry out the necessary checks to verify that the system can be solidly fastened to the structure and that it can withstand the loads in case of fall.



NOTE!

The fall arrest system must be designed, if applicable, for TOTALLY PREVENTED or CONTAINED falls, so as to prevent the significant mechanical stress due to the risk of falling.



WARNING!

It is essential for safety that the anchor device or anchor point should always be positioned, and the work carried out in such a way, as to minimise both the potential for falls and potential fall distance.



WARNING!

In the fall arrest system it is necessary to verify the absence of sharp edges, which could trailing or looping lanyards or lifelines. The design of the fall arrest system must avoid pendulum falls, which could cause post-fall oscillation of the body with possible impact against obstacles.

The R27 LS rail can be installed with a maximum inclination of 5 degrees with respect to the horizontal plane. In order to prevent bi-metallic corrosion events, we recommend that a suitable insulating washer/spacer, be fitted between dissimilar metals, or other dissimilar materials that could cause corrosion. The R27 LS rail must be connected to the lightning protection, in compliance with current regulations.

Placing the rail

The R27 LS rail can be floor, ceiling, wall and intermediate angle-mounted



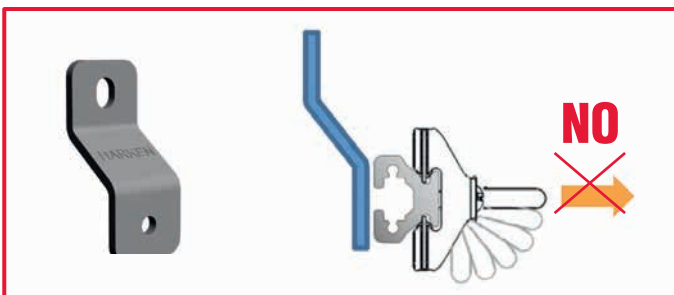
NOTE!

For optimum trolley performance on the rail, we recommend to place the rail so that the load is perpendicular to the sliding plane of the trolley on the rail.



Sliding plane

In order to better install the rail in the recommended position (with the suspension force perpendicular to the sliding plane), you can choose between different types of brackets, compliant with the different fastening situations. The following brackets **CANNOT** be installed in the load application directions indicated:



Type of use and distance between the brackets

The brackets and the connectors don't change considering the different type of use (FALL ARREST or SUSPENSION), instead the maximum distance between the anchor/fixing can vary considerably. Thus, it is important, while designing the system, to define the specification of use.

For use as fall arrest system:

FALL ARREST

Maximum fixing span of 3m between brackets

Maximum 4 operators per span

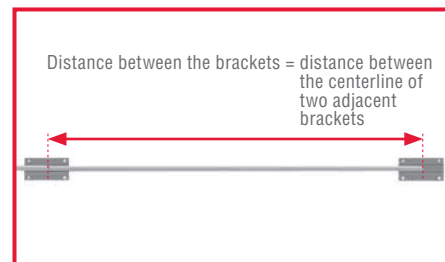
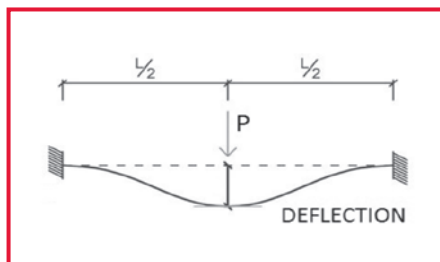
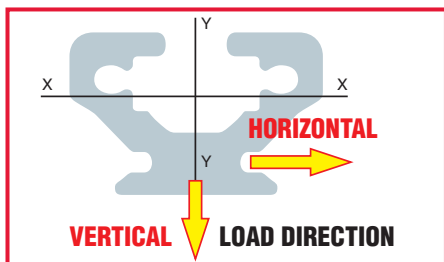
For use as Uman Suspension System, to increase the system stiffness and thus the operator comfort, we recommend:

HUMAN SUSPENSION

Maximum fixing span of 1.5m between brackets

Maximum 2 operators per span

The following table shows the theoretical deflection arrow as a function of the static load and of the distance between the anchoring brackets.



LOAD APPLIED IN THE HORIZONTAL DIRECTION				
Span/Load [mm]	1000 [N] [mm]	2000 [N] [mm]	3000 [N] [mm]	4000 [N] [mm]
500	0,11	0,21	0,32	0,43
750	0,36	0,72	1,09	1,45
1000	0,86	1,71	2,57	3,43
1250	1,67	3,35	5,02	6,70
1500	2,89	5,79	8,68	11,58
1750	4,60	9,19	13,79	18,38
2000	6,86	13,72	20,58	27,44
2250	9,77	19,53	29,30	39,07
2500	13,40	26,80	40,19	53,59
2750	17,83	35,67	53,50	71,33
3000	23,15	46,30	69,46	92,61


LOAD APPLIED IN THE VERTICAL DIRECTION				
Span/Load [mm]	1000 [N] [mm]	2000 [N] [mm]	3000 [N] [mm]	4000 [N] [mm]
500	0,16	0,32	0,49	0,65
750	0,55	1,10	1,64	2,19
1000	1,30	2,60	3,90	5,20
1250	2,54	5,08	7,61	10,15
1500	4,39	8,77	13,16	17,54
1750	6,96	13,93	20,89	27,86
2000	10,40	20,79	31,19	41,58
2250	14,80	29,60	44,40	59,21
2500	20,30	40,61	60,91	81,21
2750	27,02	54,05	81,07	108,10
3000	35,08	70,17	105,25	140,34

Furthermore, in order to evaluate the system fall clearance correctly, the following table shows the maximum deflection measured during the dynamic and integrity resistance test, carried out in compliance with Standard EN 795:2012 (paragraph 4.4.4.2) and Standard CEN/TS 16415:2013 (paragraph 4.2.5.1). The test carried out with the weakest configuration - single span with 3 m distance to the INLKNK.LS juncture at the centre of the span - is shown below. The brackets used to fasten the rail to the structure are the INBRKT.3 stainless steel brackets. The test has been carried out near the joint at the centre of the span.

LOAD APPLIED IN THE HORIZONTAL DIRECTION				
Span/Load [mm]	1 persona [mm]	2 persone [mm]	3 persone [mm]	4 persone [mm]
3000	370	380	395	410

LOAD APPLIED IN THE VERTICAL DIRECTION				
Span/Load [mm]	1 persona [mm]	2 persone [mm]	3 persone [mm]	4 persone [mm]
3000	405	410	430	455

Furthermore, in order to correctly define the distance between the brackets, it is necessary to evaluate the resistance of the structure to which it is fastened.



WARNING!
An incorrectly fastened system may not guarantee the adequate resistance to a fall, with consequent grave risks and danger of fatal injuries.

Coloured rail

The standard rail is supplied in (CLEAR) anodized aluminium color. Aluminium rail, brackets and connectors can be supplied on request, powder coating or anodized colored. Stainless steel brackets and connectors can be supplied powder coating coloured. For more information, contact Harken.

Bent rail (valid for all trolleys)

The straight rail can be installed on bent surfaces, which have a minimum bending radius of 15 m. The bedding rail can be done manually in the 3 directions during the installation procedure and to do this, it is necessary to install the rail using a minimum of four brackets with a maximum distance of 1 m between a bracket and another.



For bending radius included between 2,75 m and 15 m in all the three directions, it's possible to require the bending rail to Harken. The bent rail has 25 cm of straight rail at the extremity due to the production process. For more information contact Harken. See paragraph **Installation Layout – bent rail 1, 2 and 3**.

Binari curvi a 90° (validi solo per i carrelli INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK))

The rails INR27-CURVE FLAT.LS, INR27-CURVE CONVEX.LS and INR27-CURVE CONCAVE.LS have a bend radius of 90° and can only be used with the trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK). These rails also have a straight section of 250mm at the ends.

For angles less than 90° it is possible to cut the rail. See paragraph Installation layout - track INR27-CURVE FLAT.LS, INR27-CURVE CONVEX.LS, INR27-CURVE CONCAVE.LS for angles of less than 90°.



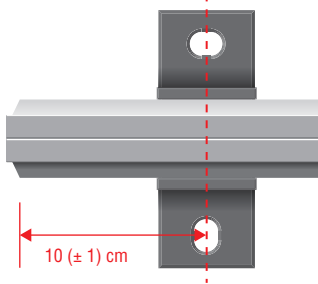
Installation layout – aluminium brackets and connectors

Brackets and connectors used



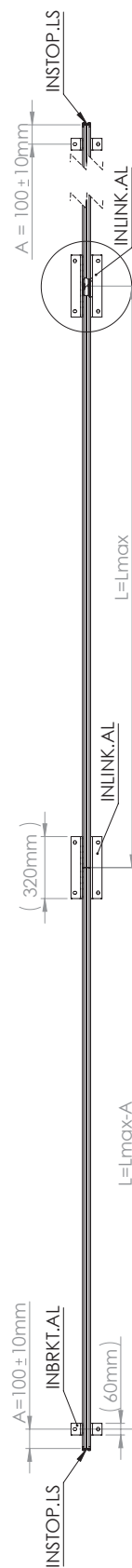
NOTE!

The rail termination should extend by 10 (± 1) cm beyond the bracket centerline

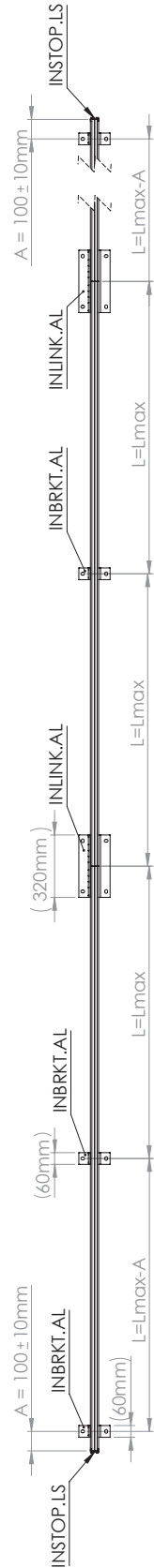


Configurations

FALL ARREST SYSTEM: L max 3000mm



HUMAN SUSPENSION SYSTEM: L max 1500mm



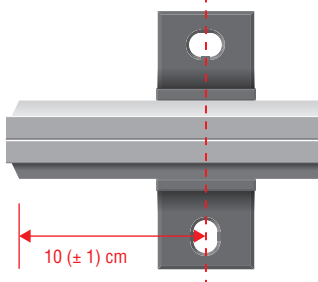
Installation layout – stainless steel brackets and connectors

Brackets and connectors used



NOTE!

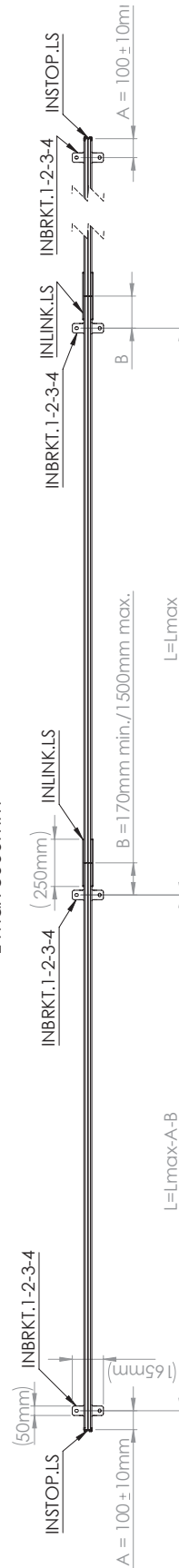
The rail termination should extend by 10 (± 1) cm beyond the bracket centerline



Configurations

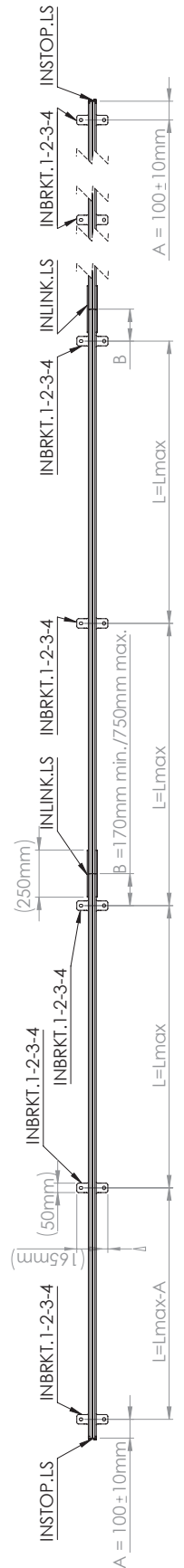
FALL ARREST SYSTEM:

L max 3000mm



HUMAN SUSPENSION SYSTEM:

L max 1500mm



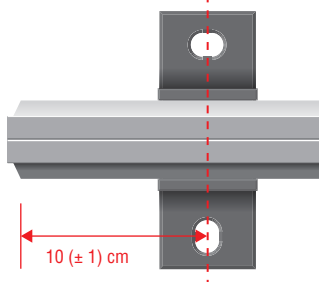
Installation layout – brackets for roof

Brackets and pin used



NOTE!

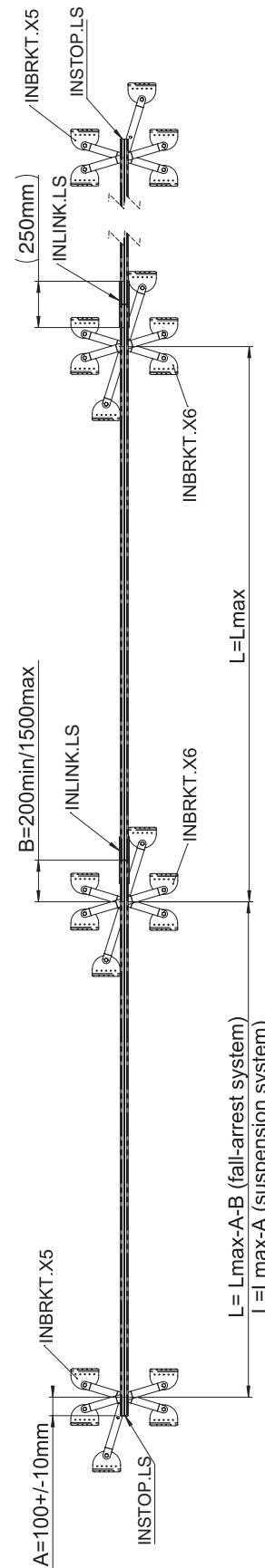
The rail termination should extend by end sections by 10 (± 1) cm beyond the bracket centerline



Configurations

FALL-ARREST SYSTEM:

$L_{max} = 3000mm$

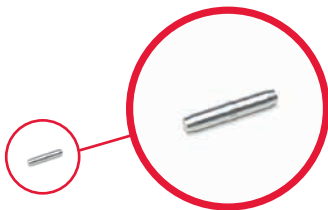


HUMAN SUSPENSION SYSTEM:

$L_{max} = 1500mm$

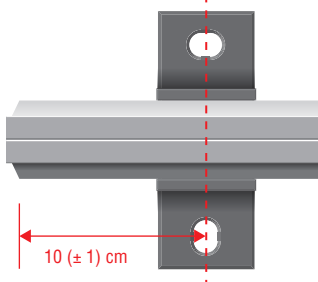
Installation layout – connessione senza connettori

Brackets and pin used



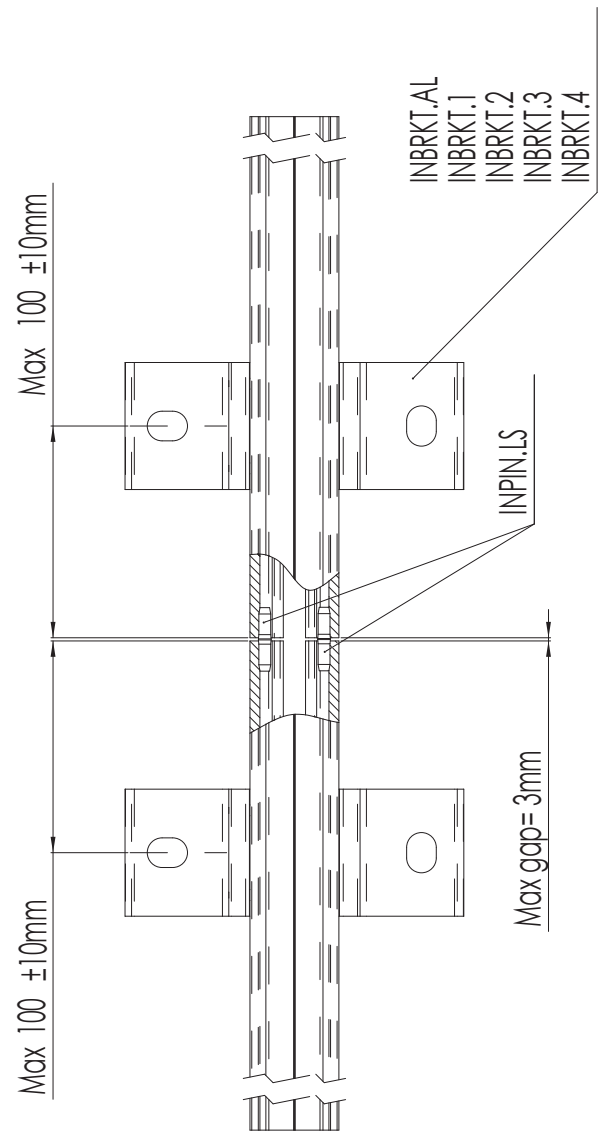
NOTE!

The rail termination should extend by end sections by 10 (± 1) cm beyond the bracket centerline



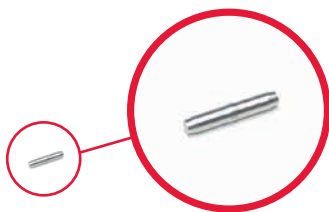
Configurations

CONNECTION WITHOUT CONNECTOR

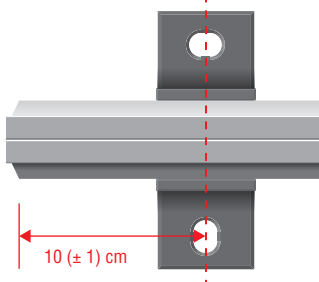


Installation layout – bent rail 1

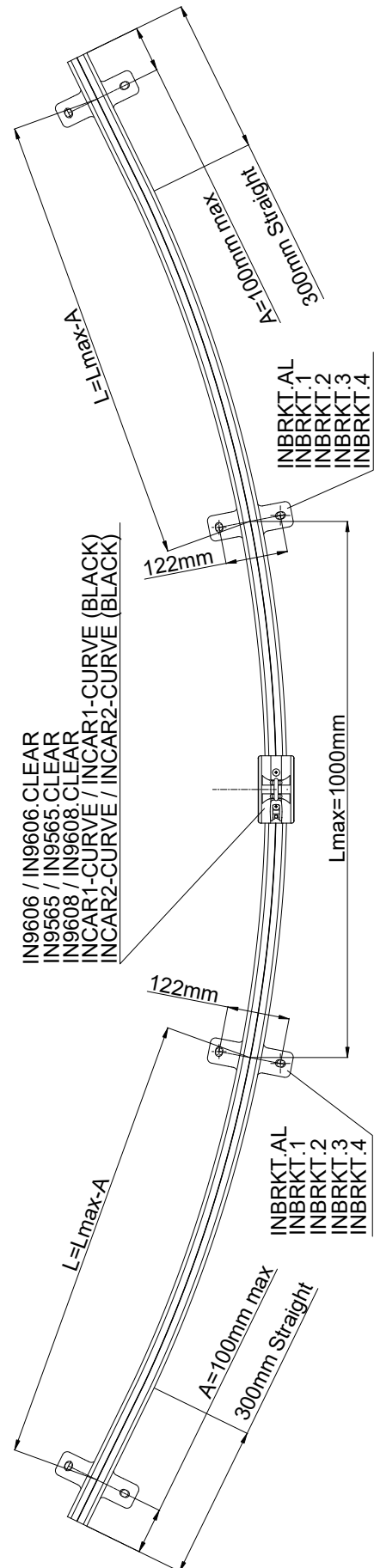
Brackets and pin used



NOTE!
The rail termination should extend by 10 (± 1) cm beyond the bracket centerline

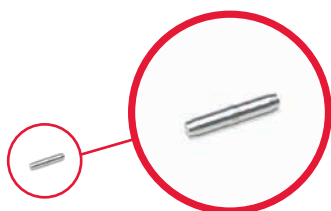


Configurations



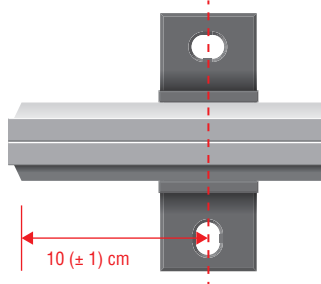
Installation layout – bent rail 2

Brackets and pin used

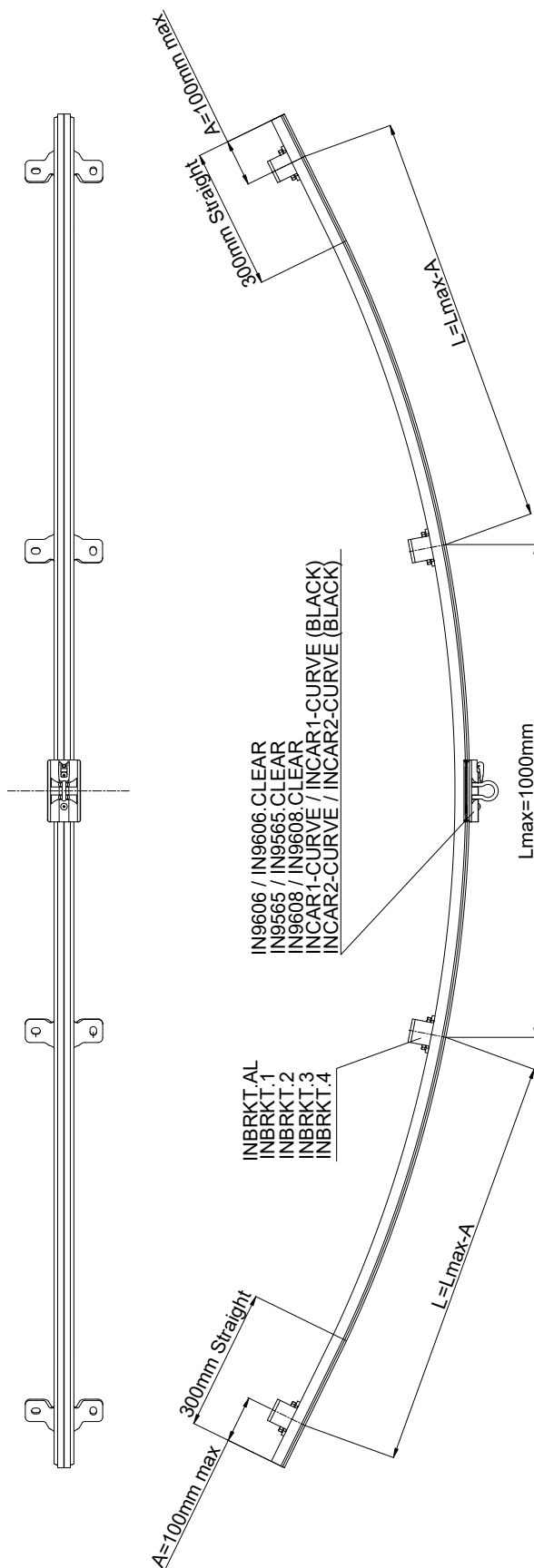


NOTE!

The rail termination should extend by 10 (\pm 1) cm beyond the bracket centerline

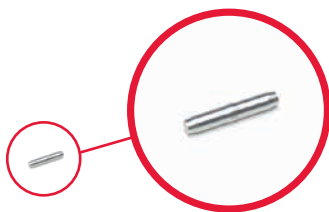


Configurations



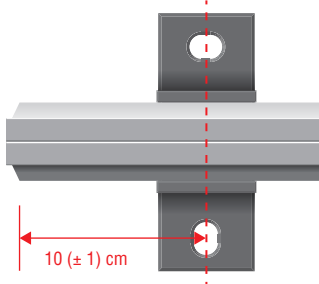
Installation layout – bent rail 3

Brackets and pin used

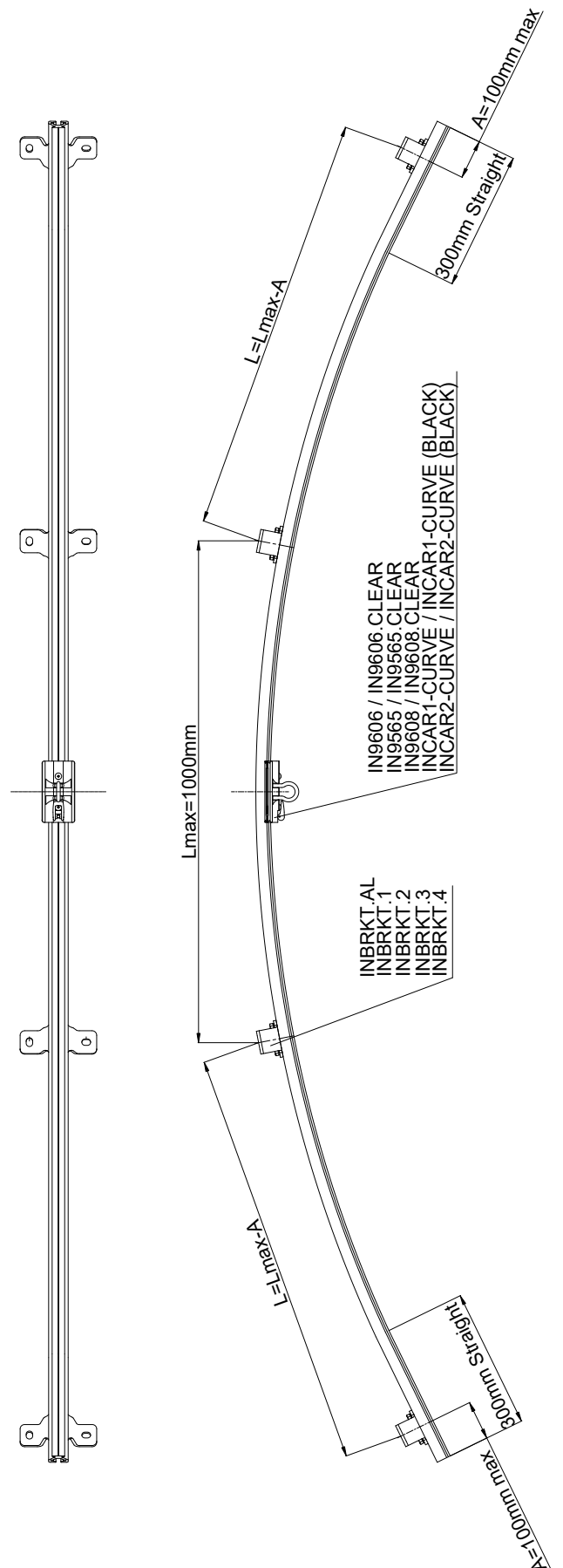


NOTE!

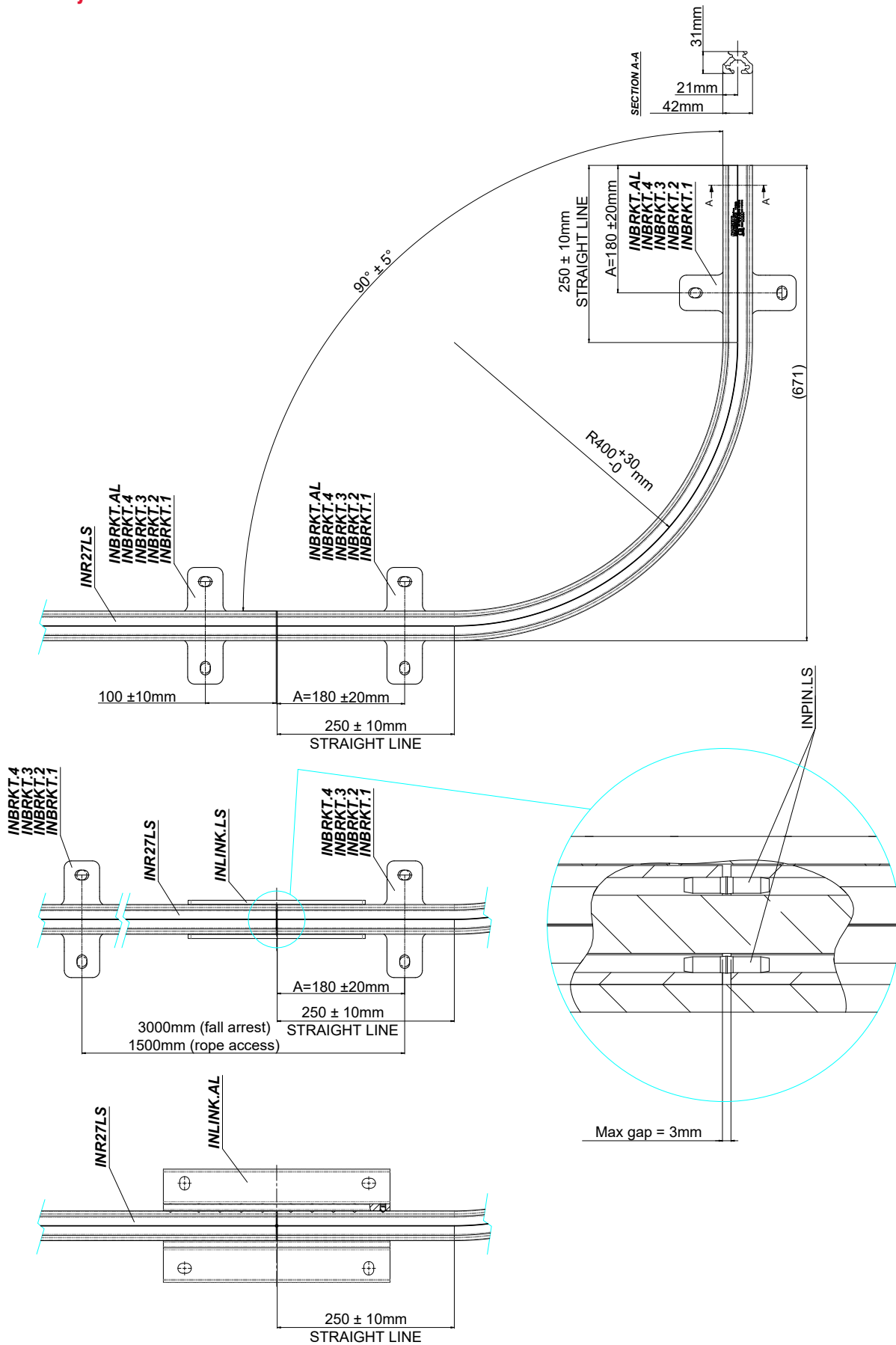
The rail termination should extend by 10 (± 1) cm beyond the bracket centerline



Configurations



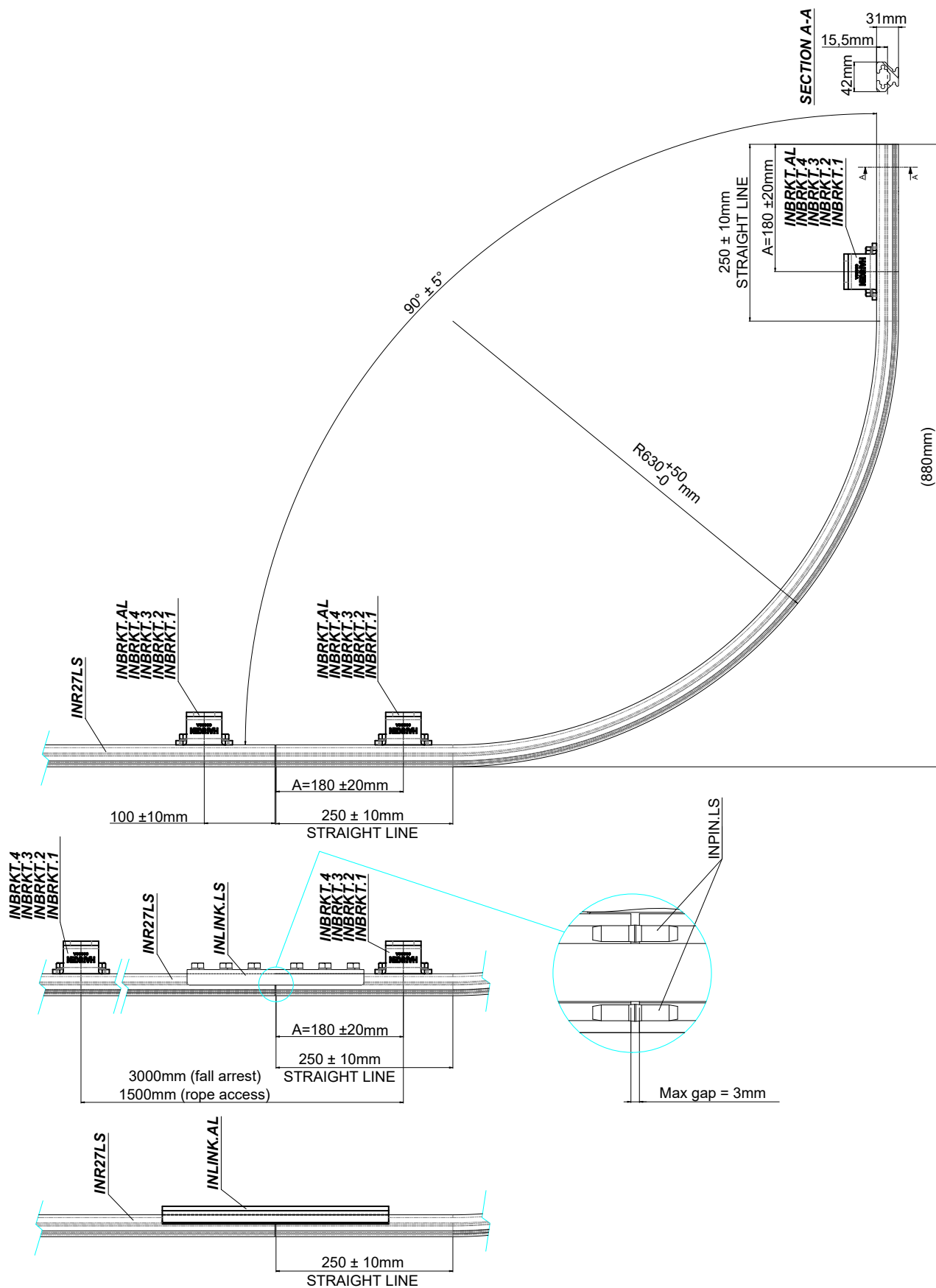
Installation layout – rail INR27-CURVE FLAT.LS



NOTE!

Only for use with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).

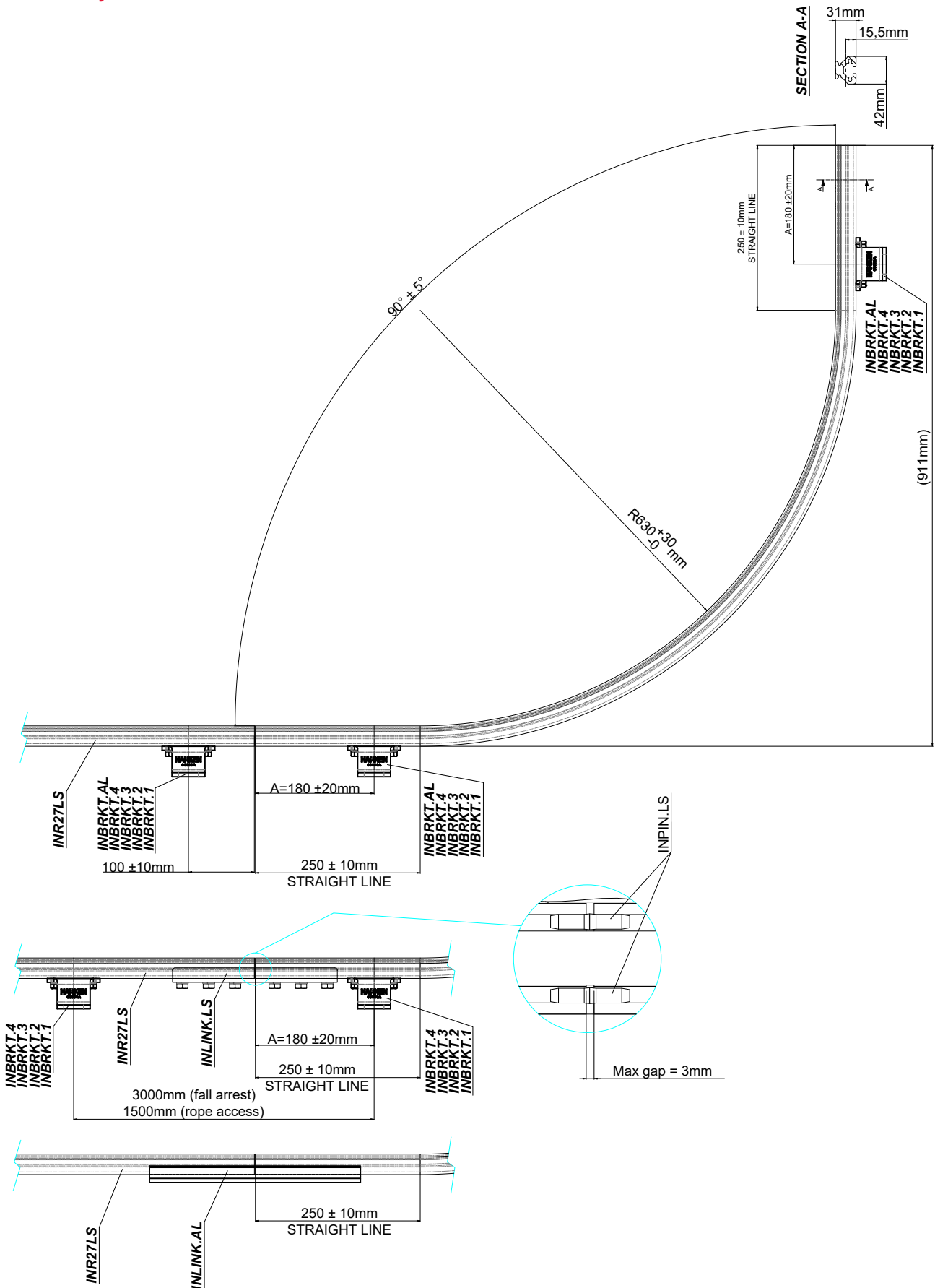
Installation layout – rail INR27-CURVE CONVEX.LS



NOTE!

Only for use with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).

Installation layout – rail INR27-CURVE CONCAVE.LS



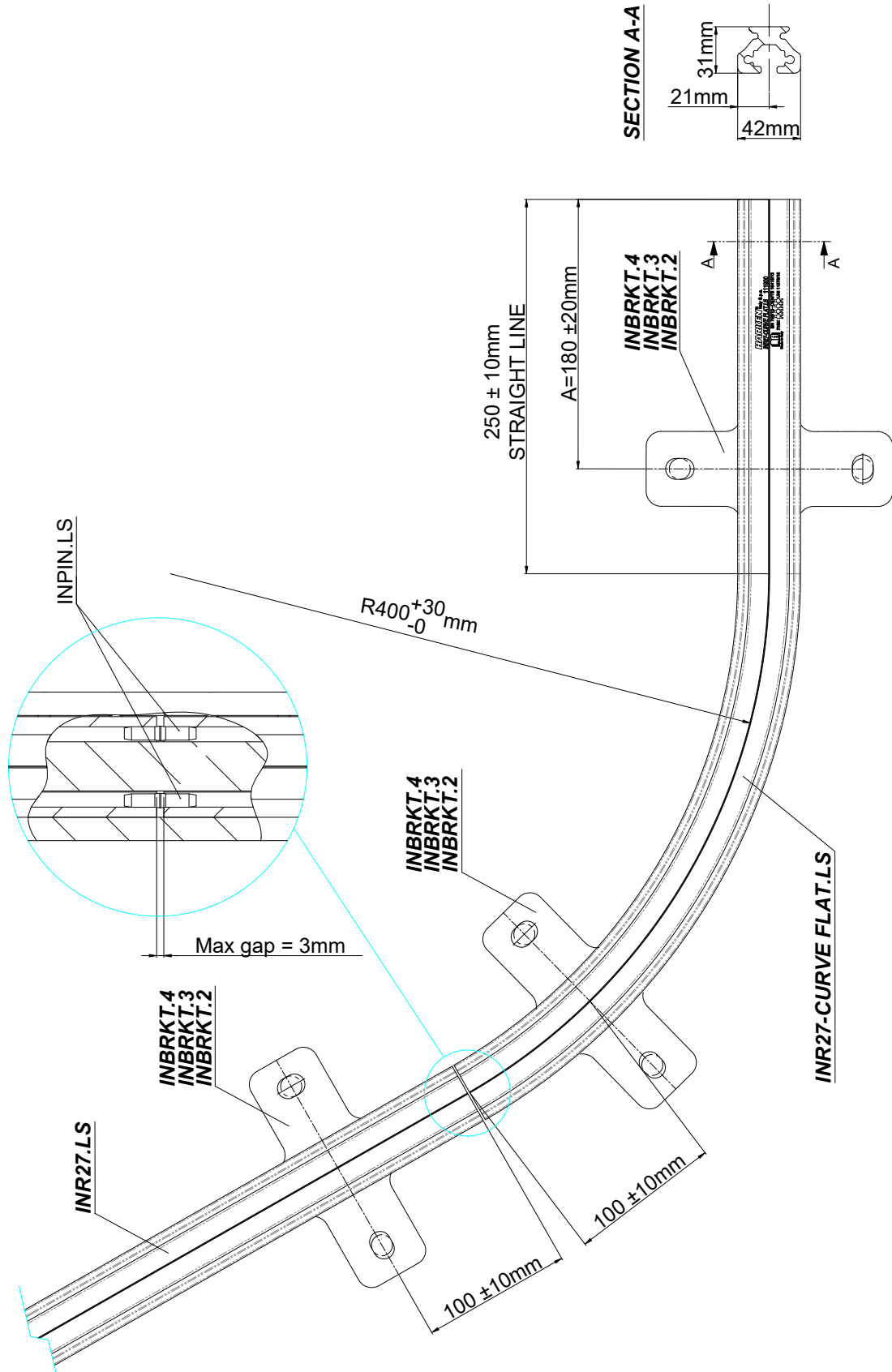
NOTE!

Only for use with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).

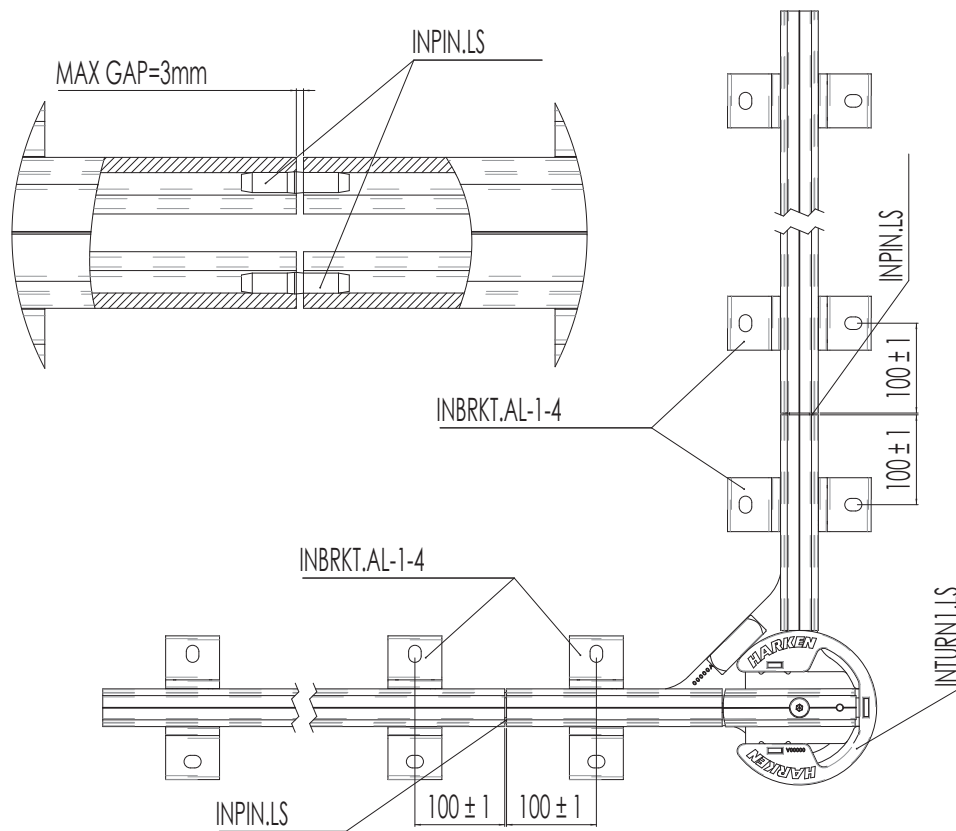
Installation layout – rail INR27-CURVE FLAT.LS, INR27-CURVE CONVEX.LS, INR27-CURVE CONCAVE.LS for angles less then 90°

For the rails INR27-CURVE FLAT.LS, INR27-CURVE CONVEX.LS and INR27-CURVE CONCAVE.LS in case of need of bending angles less than 90°, the Customer can cut the rail and install at distance of $100 \pm 10\text{mm}$ on both ends the brackets INBRKT.2, INBRKT.3 or INBRKT.4.

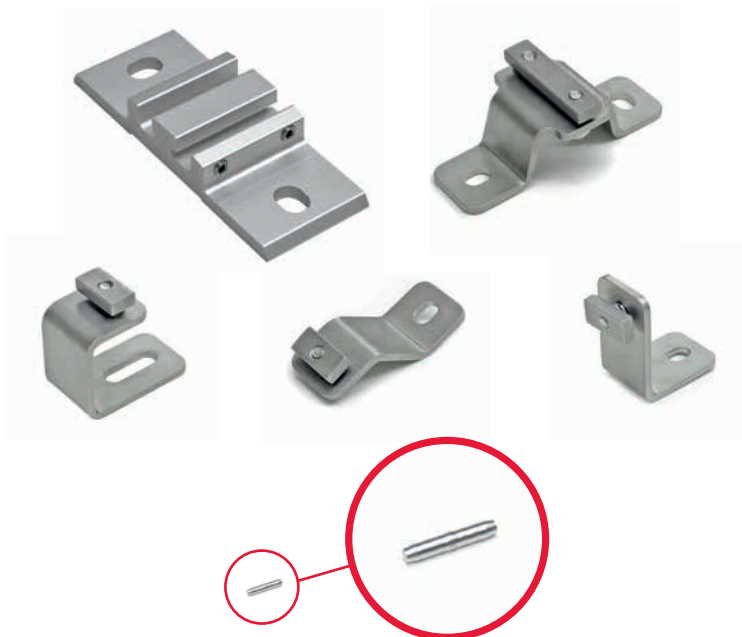
For installation with INBRKT.1 contact Harken support.



Installation layout – turntable INTURN1.LS

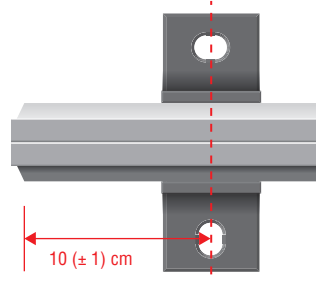


Brackets and pin used

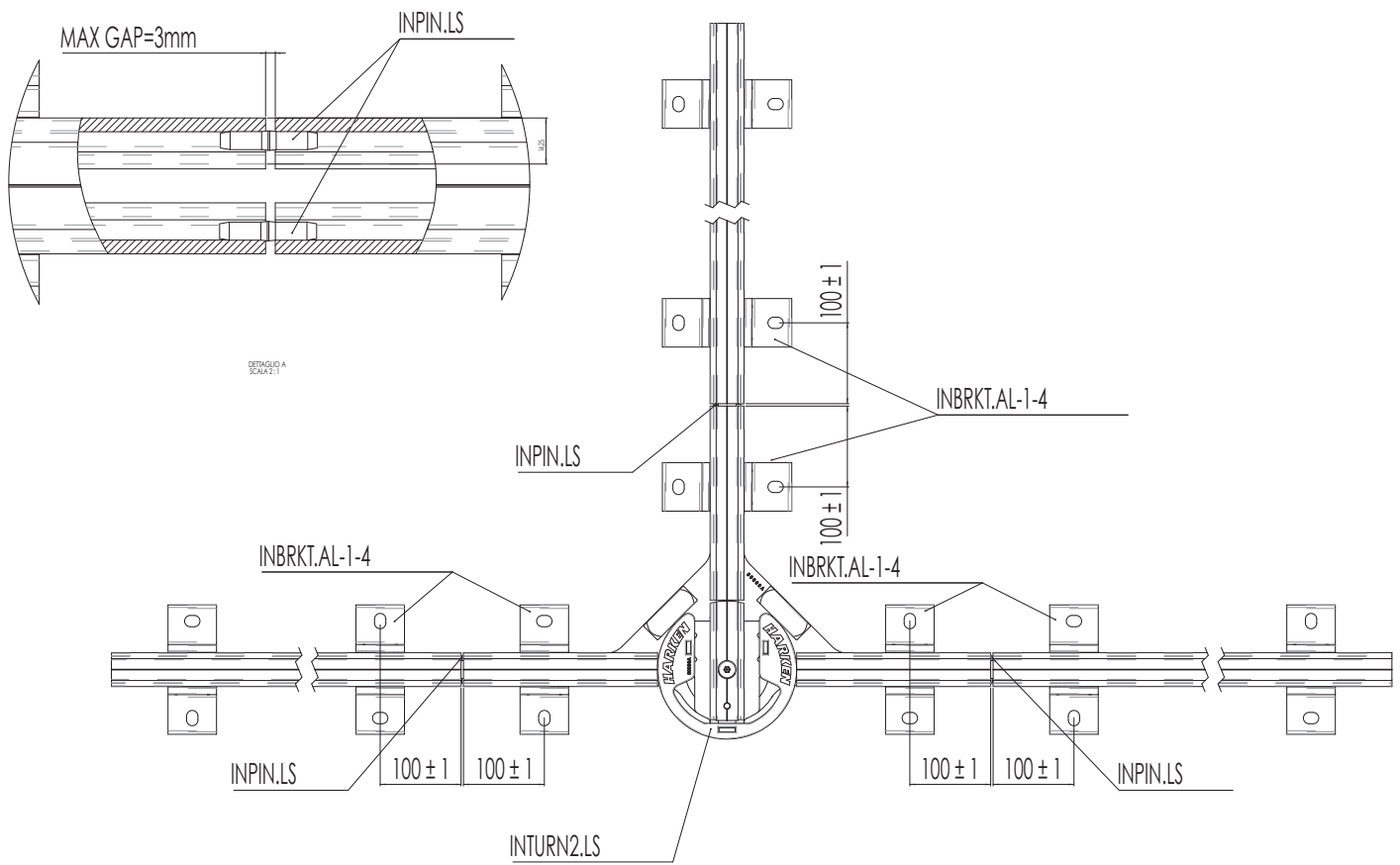


NOTE!

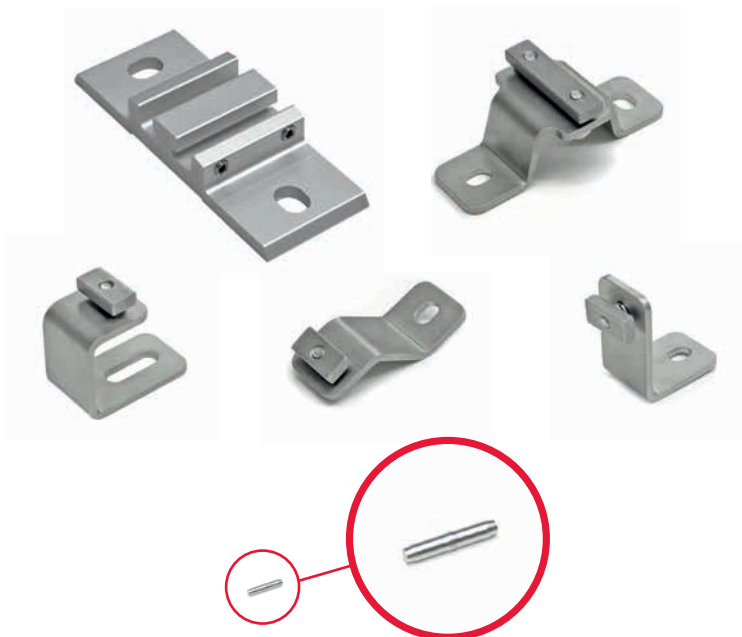
The rail termination should extend by 10 (± 1) cm beyond the bracket centerline



Installation layout – turntable INTURN2.LS

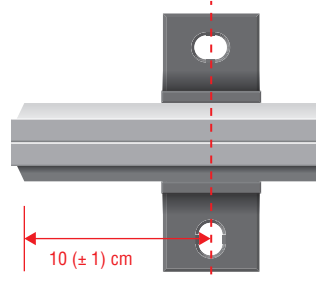


Brackets and pin used

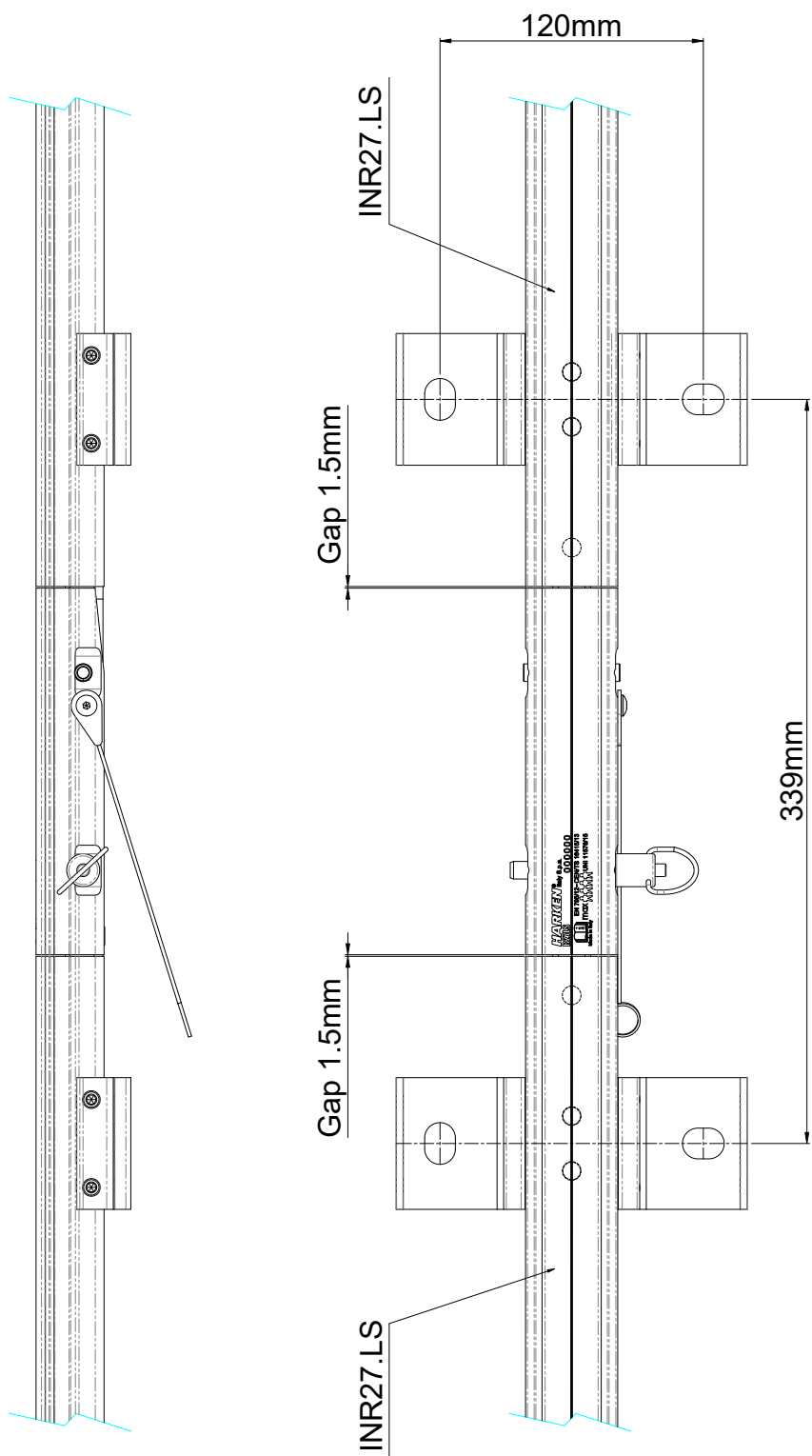


NOTE!

The rail termination should extend by end sections by 10 (± 1) cm beyond the bracket centerline



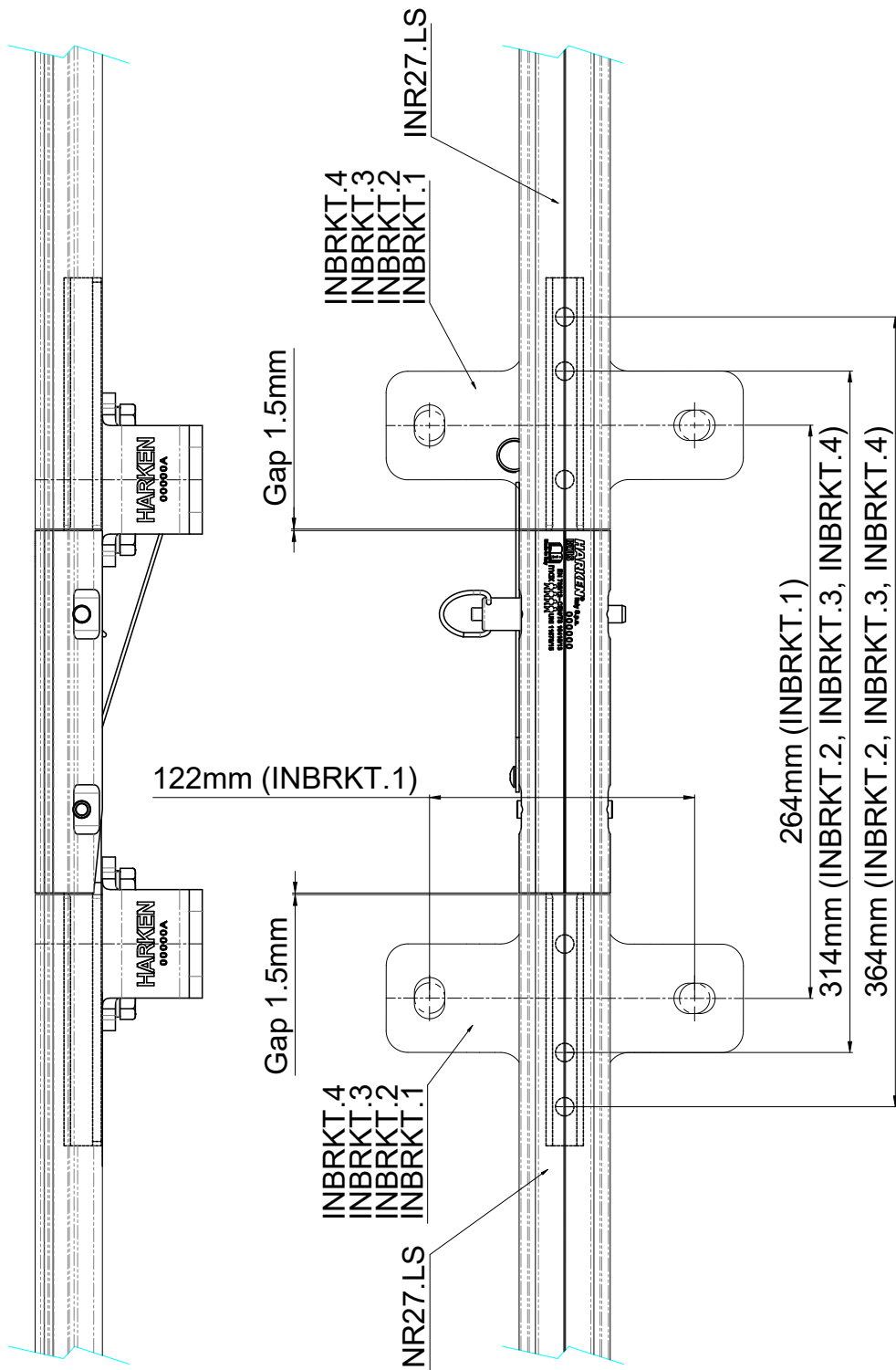
Installation layout – Connector INMID-ENTRY1.LS



Brackets and alignment pins used. For the installation of the brackets see the relevant paragraph in the INSTALLATION chapter.



Installation layout – Connector INMID-ENTRY3.LS



Brackets and alignment pins used. For the installation of the brackets see the relevant paragraph in the INSTALLATION chapter.



USE OF ACCESSORIES

Turntables

Turntables permits to modify the trolley direction without disconnecting from the system. To do this operation, it is necessary to insert the trolley in the turntable and rotate the turntable in the direction selected. In case of the use of two trolleys for the human suspension application, use two trolleys not rigidly connected.

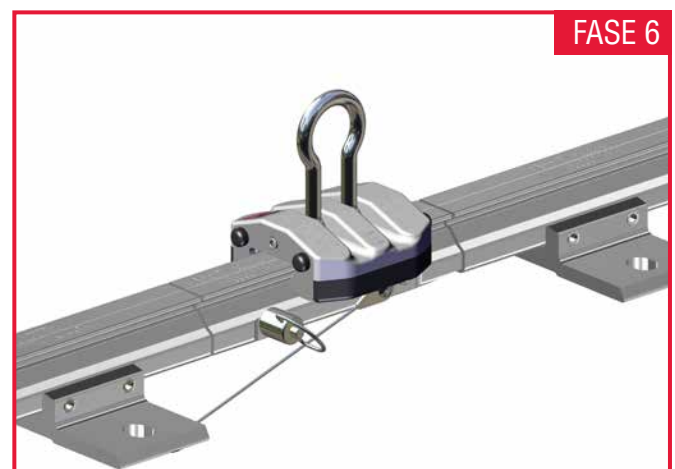
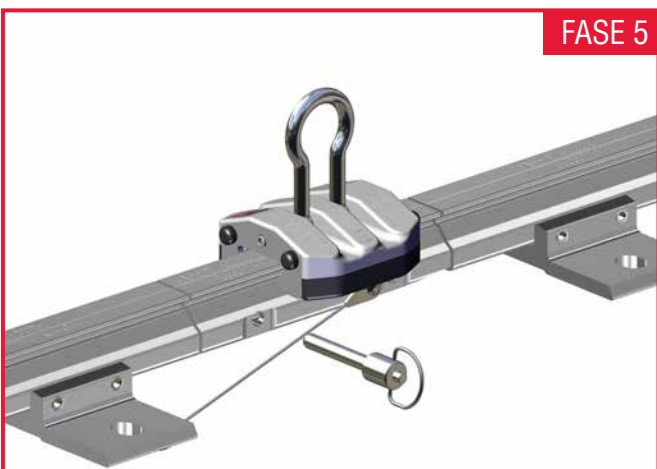
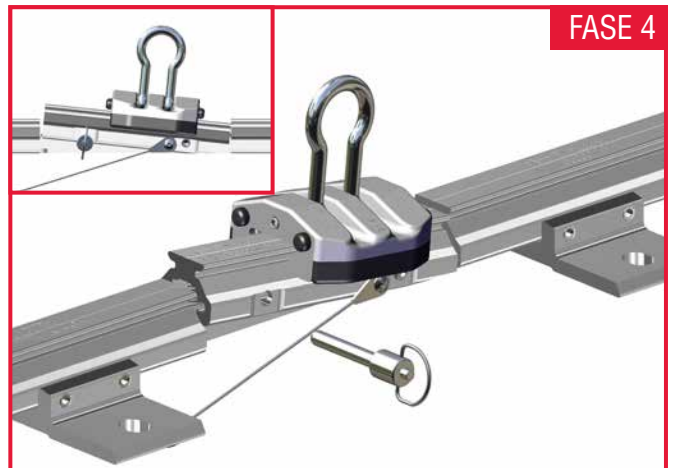
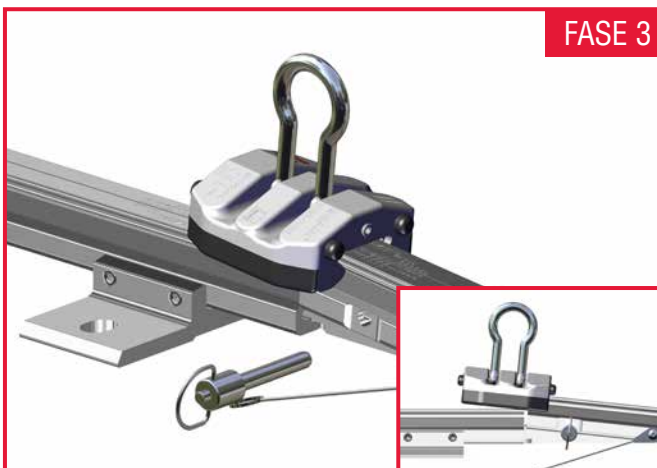
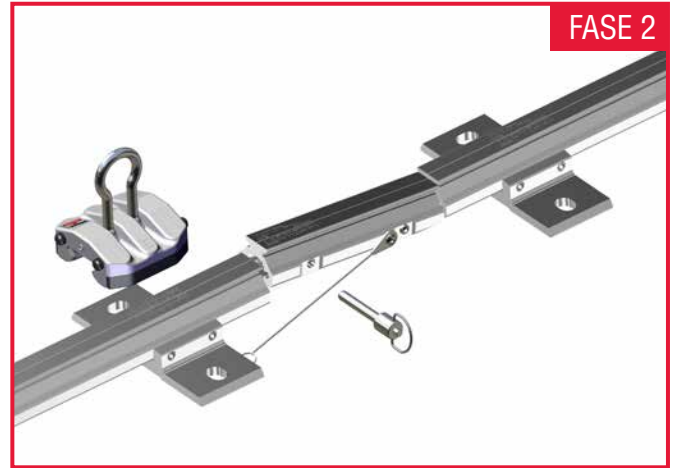
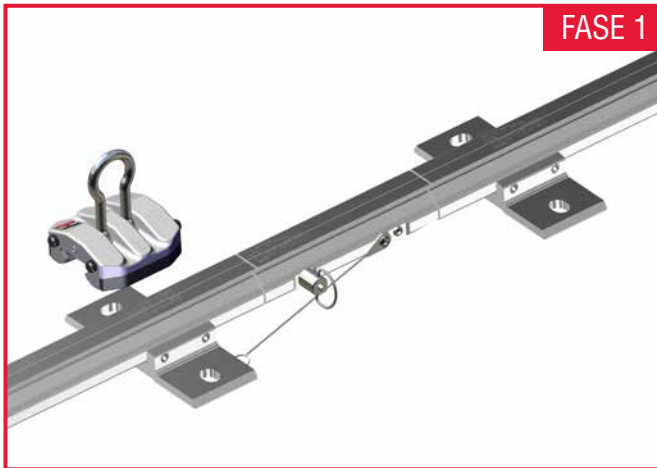


To connect the turntables to the rail, refer to the indication supplied in the "**Installation layout – connection without connector**" sheet.

To install the turntables on the structure, refer to the "**Installation layout – Turntables**" sheet.

Connectors INMID-ENTRY

The connectors INMID-ENTRY1.LS and INMID-ENTRY3.LS allow the insertion of the trolley along the line. To carry out this operation, it is necessary to unlock the opening by removing the safety pin by pressing its button, the rail will rise pushed by a spring, insert the trolley and pressing it with the rail, reinsert the safety pin in its housing. Now the trolley is free to slide on the rail. The procedure is the same for both the connectors INMID-ENTRY1.LS and INMID-ENTRY3.LS.

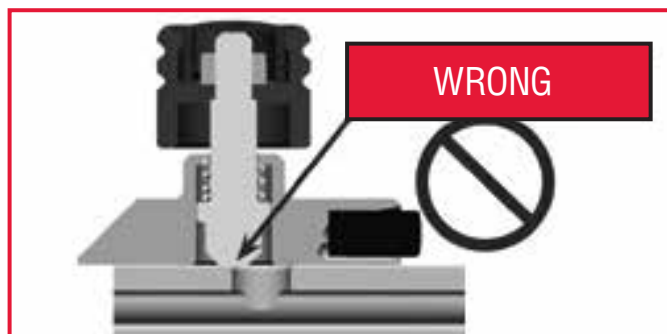
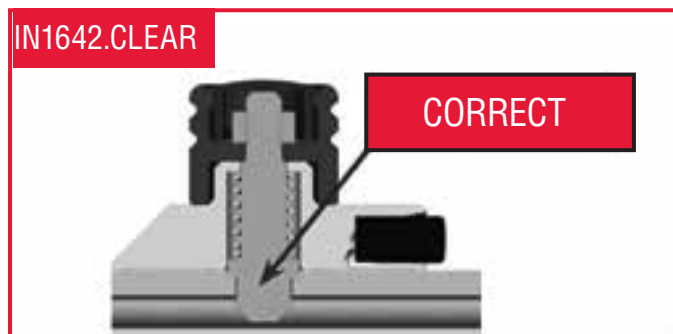


WARNING!

Make sure that the locking pin is correctly inserted. Failure to position the locking pin can cause a fall, which can cause serious injury or death.

Terminali IN1642.CLEAR, INSTOP-OPEN.LS

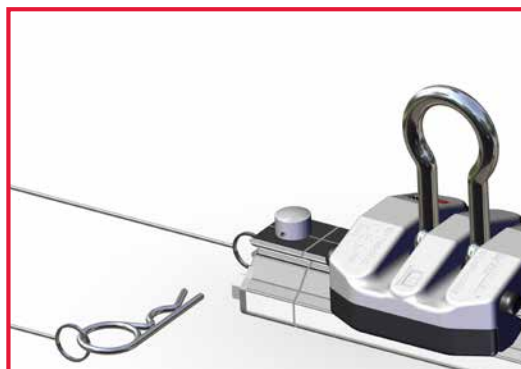
The removable end fitting IN1642.CLEAR, INSTOP-OPEN.LS allow the insertion of the trolley on the rail. To insert a trolley on a rail with the IN1642.CLEAR end fitting, lift the locking pin and remove the end fitting from the rail; gently insert the trolley into the rail and reposition the end fitting at the end of the rail taking care to correctly position the locking pin in its housing.



WARNING!

Always make sure that the pinstop is securely inserted into a rail hole. Failure to position correctly can cause a fall, which can result in serious injury or death.

To insert a trolley on a rail with the removable end fitting INSTOP-OPEN.LS, remove the fixing clip from its housing; gently insert the trolley into the rail by pressing the locking pin and sliding the trolley along the rail; the locking pin will return to the position pushed by a spring, then reposition the fixing clip on the pin.



WARNING!

Always make sure that the fixing clip is positioned correctly. Failure to properly position the retaining clip can cause a fall, which can result in serious injury or death.

Thermal expansion

Since the rail is made of an aluminium alloy Series 6000 (thermal expansion coefficient: $23 \times 10^{-6} \text{m}/^\circ\text{C}$), during the design phase, it is necessary to evaluate the rail thermal expansion - based on the length of the rail - which may occur when the temperature varies. If the installation place is subject to thermal variations, it is necessary to provide a clearance between one rail and the next of maximum 3 mm, in order to allow the trolley to slide correctly.

The R27 LS rail operating temperature range is -50°C to $+80^\circ\text{C}$. For out-of-range applications, contact Harken or Harken Italy.

ISTRUZIONI DI INSTALLAZIONE

The R27 LS rail must be installed by HARKEN or Harken dealer's authorized installers or by qualified professionals, trained to design, install, certify and service the fall arrest system. For a list of HARKEN's authorized installers, see the website www.harkenindustrial.com.

In order to evaluate the base material, the structural anchorages or the anchor/fixing correctly, take into account the loads registered on the anchoring device during the dynamic and integrity tests indicated in the design-related chapter.

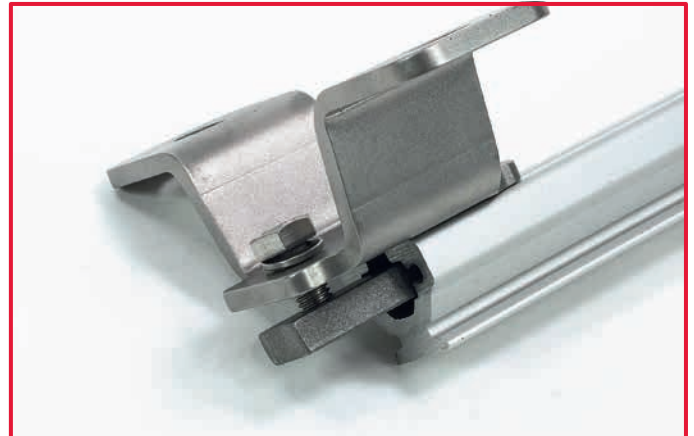
The installer carries the full responsibility for a proper and safe installation that is tested to meet all relevant standards. Normally this would be verified by an independent safety engineer/surveyor.

The correct installation must be suitably verified by a supervisor or by a safety officer through calculations or tests. After completing the installation, the installer must issue the related documents required by reference regulations and must fix and display near the system access point the sign indicating:

- name and contact info of the manufacturer.
- name and contact info of the installing company.
- system serial number.
- type of fixing devices.
- installation date.
- maximum number of operators that can connect at the same time.
- **obligation to use the PPE.**
- notice to refer to the contents of the anchoring system booklet.
- date of the following inspection or the date of the last inspection along with the inspection schedule.
- notice to avoid using the anchoring system if the inspection has not been carried out.

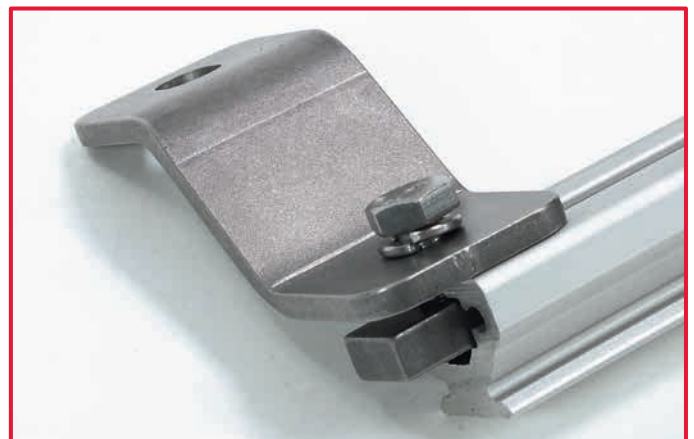
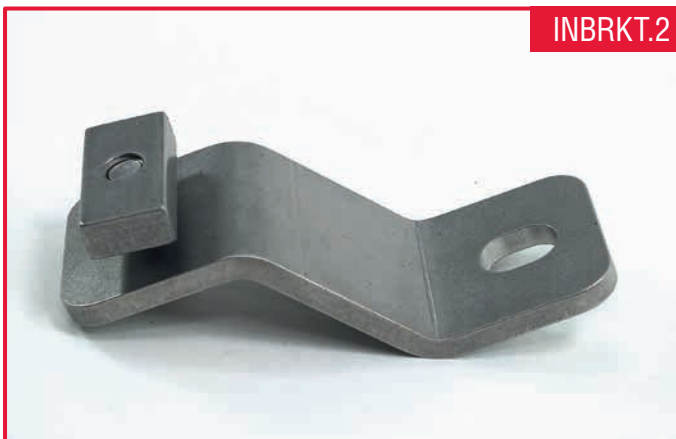
After the installation, a copy of the installation documents must be submitted to the client. These documents must be kept in the building for following inspections of the anchoring device.

Bracket assembly instructions



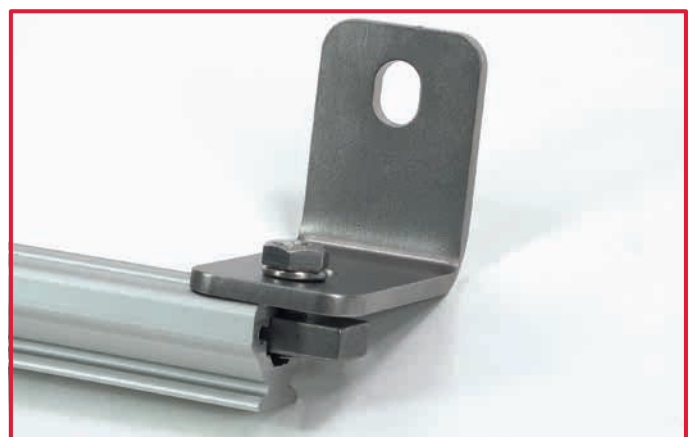
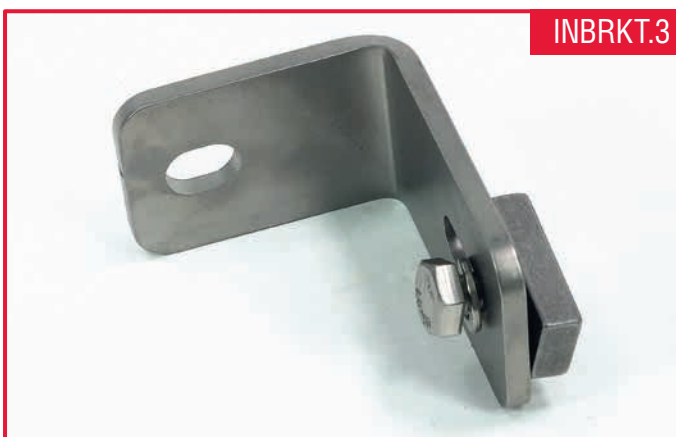
WARNING!

Apply anti-seize product on the screws. Tighten M10 (A4 class 80) screws to 80 Nm.



WARNING!

Apply anti-seize product on the screws. Tighten M10 (A4 class 80) screw to 80 Nm.



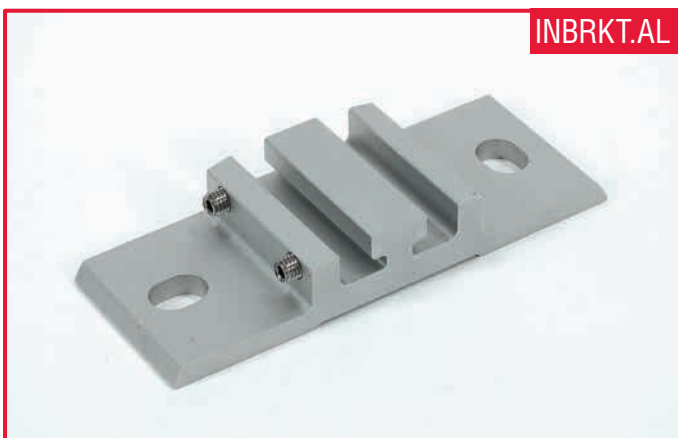
WARNING!

Apply anti-seize product on the screws. Tighten M10 (A4 class 80) screw to 80 Nm.



WARNING!

Apply anti-seize product on the screws. Tighten M10 (A4 class 80) screw to 80 Nm.



WARNING!

Apply anti-seize product on the grub screws. Tighten M8 grub screw to 18 Nm.

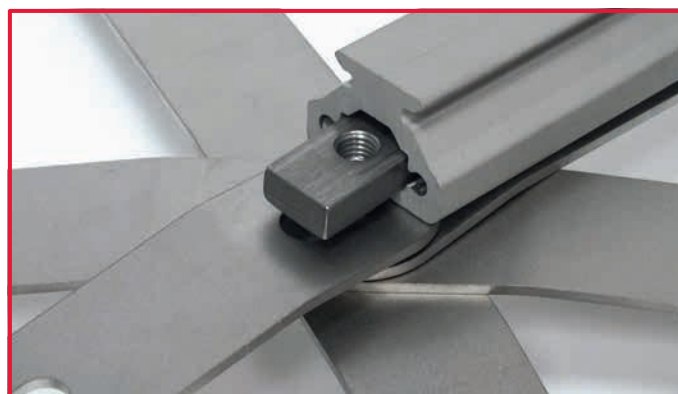
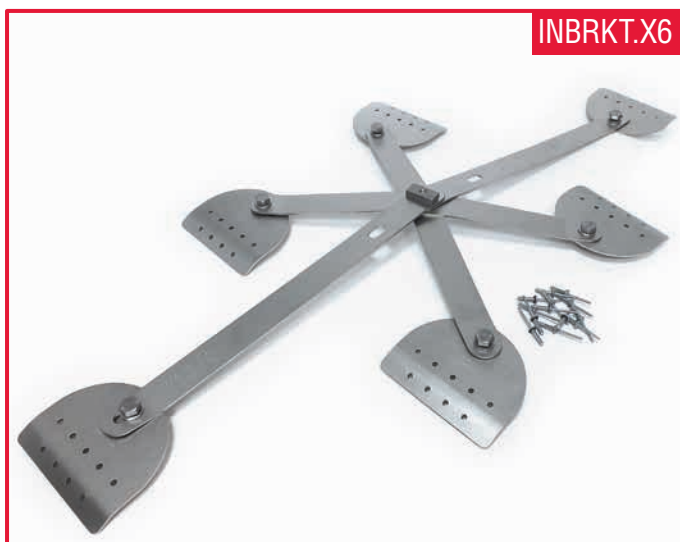
BRACKETS FOR METAL ROOF assembly instructions

For more information, refer to the specific manual.



WARNING!

Apply anti-seize product on the screws.
Tighten M10 (A4 class 80) screw to 80 Nm.



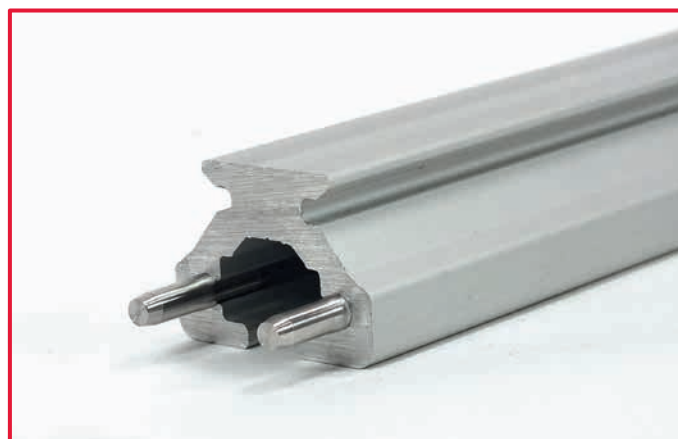
WARNING!

Apply anti-seize product on the screws.
Tighten M10 (A4 class 80) screw to 80 Nm.

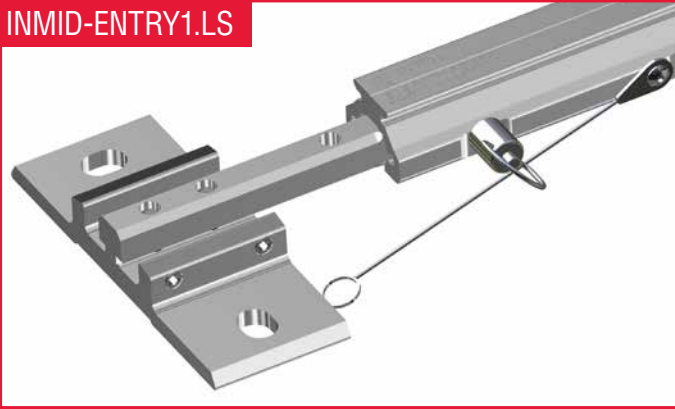
CONNECTORS assembly instructions

To connect the rail, insert two alignment pins into the rail seats.

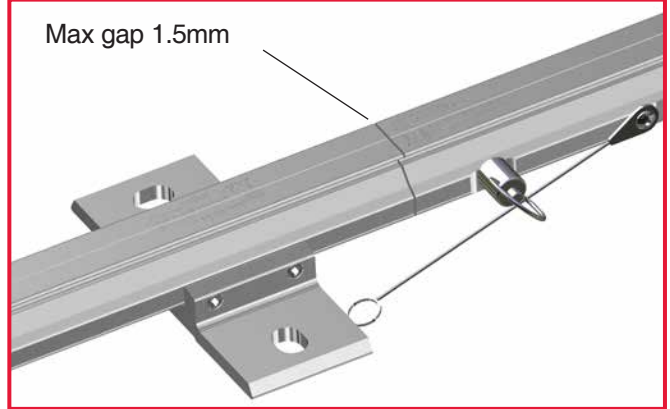
Single alignment pin. Two pins are required for each rail.



INMID-ENTRY1.LS



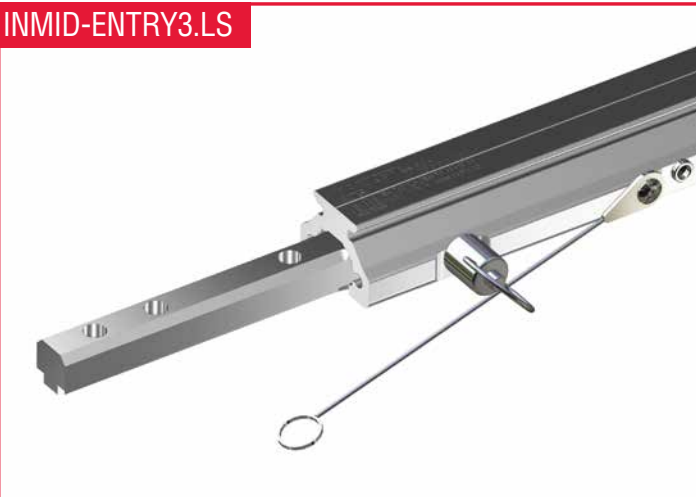
Max gap 1.5mm



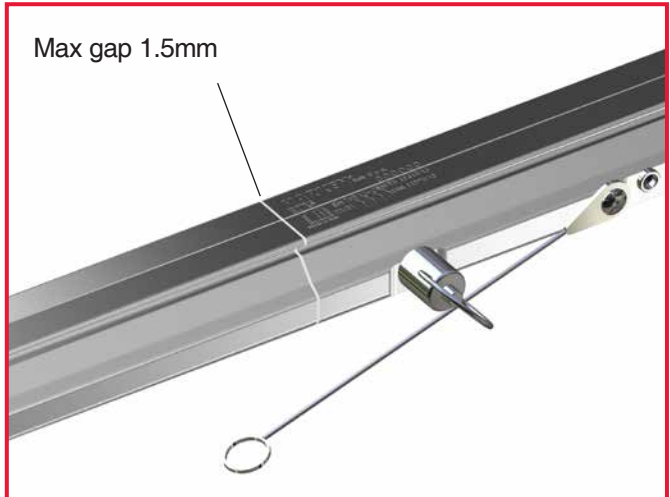
WARNING!

Apply anti-seize product on the grub screws. Tighten M8 grub screw to 18 Nm.

INMID-ENTRY3.LS

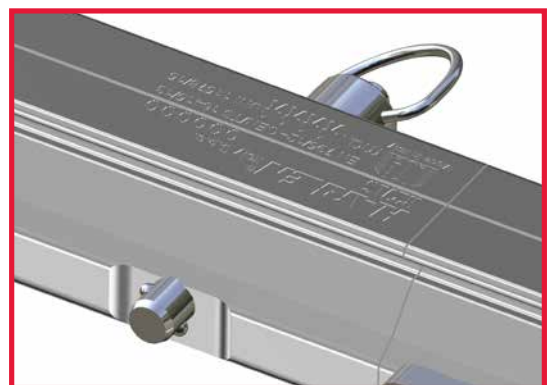


Max gap 1.5mm



Use of the connectors:

In the case of using connectors INMID- ENTRY1.LS and INMID- ENTRY3.LS to allow insertion and removal of the trolley along the rail, always make sure that the locking pin is correctly inserted.



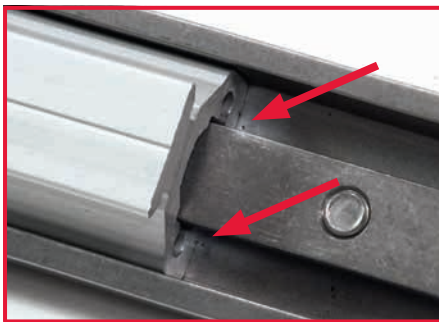
WARNING!

Make sure that the locking pin is correctly inserted. Failure to position the locking pin can cause a fall, which can cause serious injury or death.



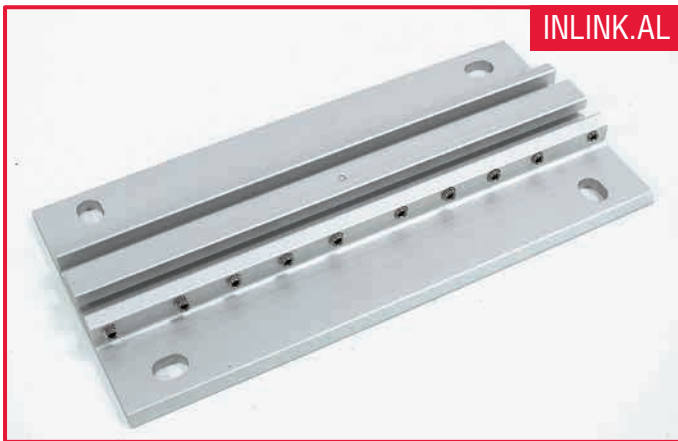
WARNING!

Apply anti-seize product on the screws. Tighten M10 (A4 class 80) screws to 80 Nm. Connected rails must have 3 M10 (A4 class 80) screws each.



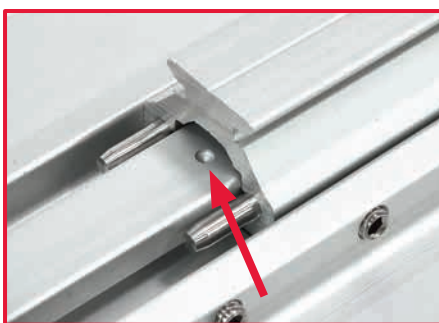
WARNING!

In order to position the rail correctly, take into account the two connector central reference points.



WARNING!

Apply anti-seize product on the grub screws. Tighten M8 grub screws to 18 Nm. Connected rails must have 5 M8 screws each.

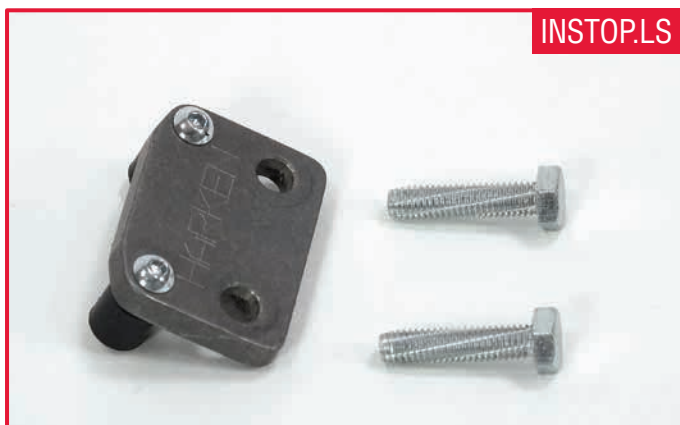


WARNING!

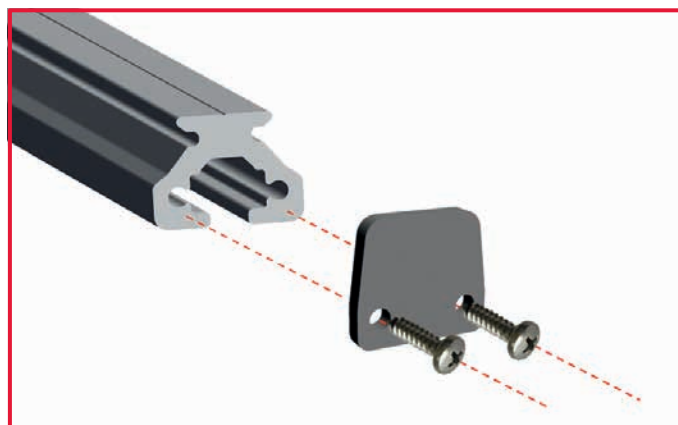
In order to position the rail correctly, take into account the connector central reference point.

END STOP assembly instructions

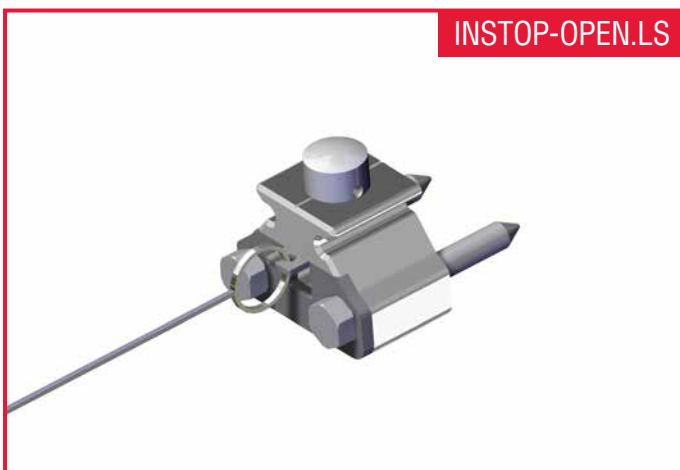
Recommended end fitting:



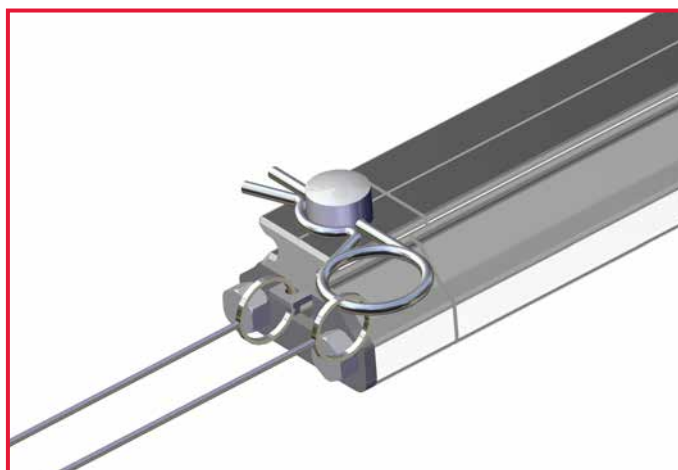
Stainless steel fixed end fitting



The end fitting must be fastened using the 2 M6 self-tapping screws supplied into the related holes (12 Nm tightening torque).



Opening aluminium endstop.



The endstop must be fixed with the 2 self-tapping M6 screws supplied, in the appropriate holes (tightening torque 12 Nm). Place the fixing clip inside the hole on the stop pin.



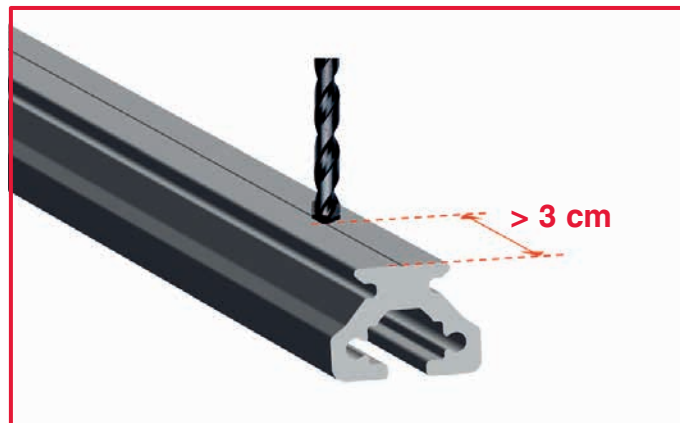
WARNING!

Always make sure that the fixing clip is positioned correctly. Failure to use the retaining clip can cause a fall, which can result in serious injury or death.

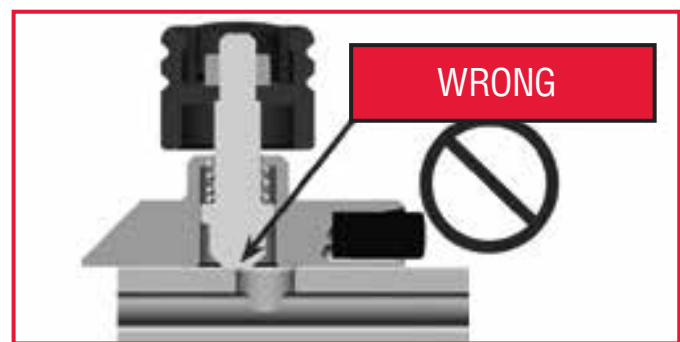
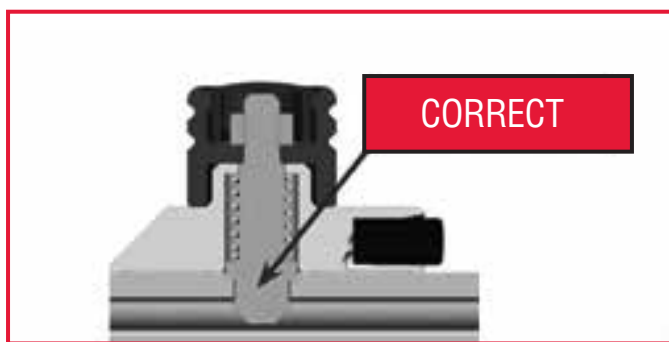
Terminali opzionali



Removable aluminium end fitting.



The end fitting can be easily removed and inserted, thanks to its spring pin. Drill a **Ø 10mm hole** in the rail centerline, **distant at least at 3 cm** from the end of the rail.



WARNING!

Always be sure the pinstop is securely fastened to a pinstop hole in the rail. The bottom of the knob must be nearly flush with the body of the endstop. Failure to seat in a pinstop hole can result in a fall which could result in severe injury or death.

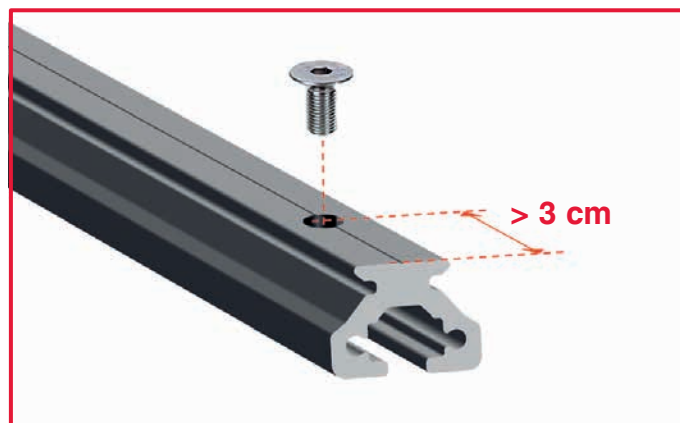


WARNING!

Removable terminals must be tethered to the system or a suitable anchor point to prevent objects from falling.



Pair of fixed aluminium end fittings



The end fitting must be fastened using a M8 counter-sunk head screw. Drill a **M8 threaded hole** in the rail centerline, **distant at least at 3 cm** from the end of the rail.

PRELIMINARY AND PERIODICAL CHECKS

Before using the R27 LS rail, check its condition and visually check each component:

- Check rail for dirt buildup before each use. If the rail has visible dirt or feels gritty, clean the rail ahead of your trolley as part of your maintenance.
- Make sure that: the system components are not deformed, the screws are not loose, there are no signs of wear, corrosion and build up of dirt. In case of identified faults or damaged parts, do not use the system.
- In particular, check the most critical components: connectors, brackets, bracket anchor/fixing (bracket/rail and bracket/structure anchor/fixing) and (mobile/fixed) end fittings.



WARNING!

If all screws are not fastened securely, rail can separate from mounting surface resulting in a fall, severe injury, or death.



WARNING!

Check that the opening endstop must be correctly positioned. Refer to the endstop installation procedure.

- Visually check that the supporting structure (where the fall arrest system is installed) does not show signs of deterioration
- In case of faults or damaged parts, contact the safety officer, who will call Harken or Harken dealers's authorized personnel or qualified personnel to inspect the system.
- In case of a fall, request an inspection of the fall arrest system to Harken or Harken dealers's authorized personnel or to qualified personnel.



WARNING!

Any rail which has been subjected to the forces of arresting a fall or there is any doubt arise about its condition for safe use, must be immediately withdrawn from use and not used again until confirmed in writing by an Harken dealers's authorized personnel or qualified personnel to inspect the system that it is acceptable to do so.

- In case of lightning, fires or intense weather events, do not use the fall arrest system and call Harken or Harken dealers's authorized personnel or qualified personnel to inspect it.
- Check the legibility of the rail markings.

Annual Check

The rail must be inspected thoroughly at least once every 12 months for Fall Arrest specification, or 6 months for Human Suspension, if regularly used, or before using it after a long period of inactivity. Based on the frequency of use and on the place of installation of the rail, the maintenance schedule may vary.



WARNING!

The regular periodic examinations are needed procedures for the safety of users because the safety of users depends upon the continued efficiency and durability of the equipment.

MAINTENANCE - CERTIFICATIONS - WARRANTY

Do not use the fall arrest system without performing the compulsory servicing. The inspection - performed by Harken or Harken dealers's authorized personnel or by qualified personnel - must be recorded in the Maintenance Record of this Manual.

Moreover the system must be branded with the date of the next inspection or the date of the inspection done.



WARNING!

DO NOT USE the R27 LS rail if:

- you detect damage or wear on the rail and on the related components (brackets, connectors, end fittings, anchor/fixing...)
- faults are detected during the compulsory periodical inspection
- a fall with consequent stress for the rail has occurred

PACKAGING, STORAGE, TRANSPORTATION

Every rail is supplied by Harken in its original packaging in order to prevent the development of dust and dirt and potential damages.

Check the packaging integrity and if it is damaged, before installing the rail proceed with an accurate inspection. During the storage and the transportation use the original packaging.

Store the rail in a dry, ventilated, low humidity and not salt place in order to avoid corrosion and protect the product against impacts, chemical reagents or possible damages, which may affect the performance of the rail.

MAINTENANCE

In order to keep the rail in proper working conditions, remove any dirt, grease, snow, ice or anything that can prevent the trolley from sliding correctly from the rail. In particular, clean the rail section in contact with the trolley's ballbearings correctly. Only use non-abrasive cleaning tools and mild liquid soaps.

Do not let the rail come into contact with concrete, bitumen, paints, acids and solvents. For the trolley maintenance, refer to the proper manual.

CERTIFICATIONS

The R27 LS (INR27.LS) rail, the brackets (INBRKT.1, INBRKT.2, INBRKT.3, INBRKT.4, INBRKT.AL), the connectors (INLINK.LS, INLINK.AL, INPIN.LS, INMID-ENTRY1.LS, INMID-ENTRY3.LS), turntables (INTURN1.LS, INTURN2.LS) and the terminals are compliant to the test setout by Standards EN795:2012 class D and CEN/TS16415:2013. Furthermore the R27 LS (INR27.LS) rail, the brackets (INBRKT.1, INBRKT.2, INBRKT.3, INBRKT.4, INBRKT.AL), the connectors (INLINK.LS, INLINK.AL, INPIN.LS, INMID-ENTRY1.LS, INMID-ENTRY3.LS), turntables (INTURN1.LS, INTURN2.LS) and the terminals are certified according to the Standard UNI11578:2015.

LABELING

Shown below the labeling on the rail:



WARRANTY

For the warranty, refer to Harken Global Limited Warranty on the websites <http://www.access-rail.com> or <http://www.harkenindustrial.com>.

DOLOMITICERT

**Italian Institute for the Certification of Personal Protective Equipment
S.C.A.R.L.**

**Address: Villanova Zona Industriale, 7/A
32013 LONGARONE (BL) - ITALY
Tel.: +39 0437 573407 Fax: +39 0437 573131
Web site: www.dolomiticert.it E-mail: info@dolomiticert.it**



ATTESTATION OF CONFORMITY number 200925

Verifications for anchor devices according to the Standards EN 795:2012 “Personal fall protection equipment – Anchor devices”, CEN/TS 16415:2013 “Personal fall protection equipment – Anchor devices – Recommendations for anchor devices for use by more than one person simultaneously” and UNI 11578:2015 “Anchor devices intended for permanent installation”

**Anchor device
Model:
Binario R27 LongSpan**

Date: **14th of July 2020**

**Responsible for the evaluation
Luca Tamburlin**



Applicant: **HARKEN ITALY SPA
Via Marco Biagi, 14 - 22070 LIMIDO COMASCO CO – Italy**

Note 1: The Attestation of Conformity loses its validity if any modifications are made as compared with the original and tested product.

Note 2: Dolomiticert only allows partial disclosure of the present Attestation of Conformity upon written authorization.

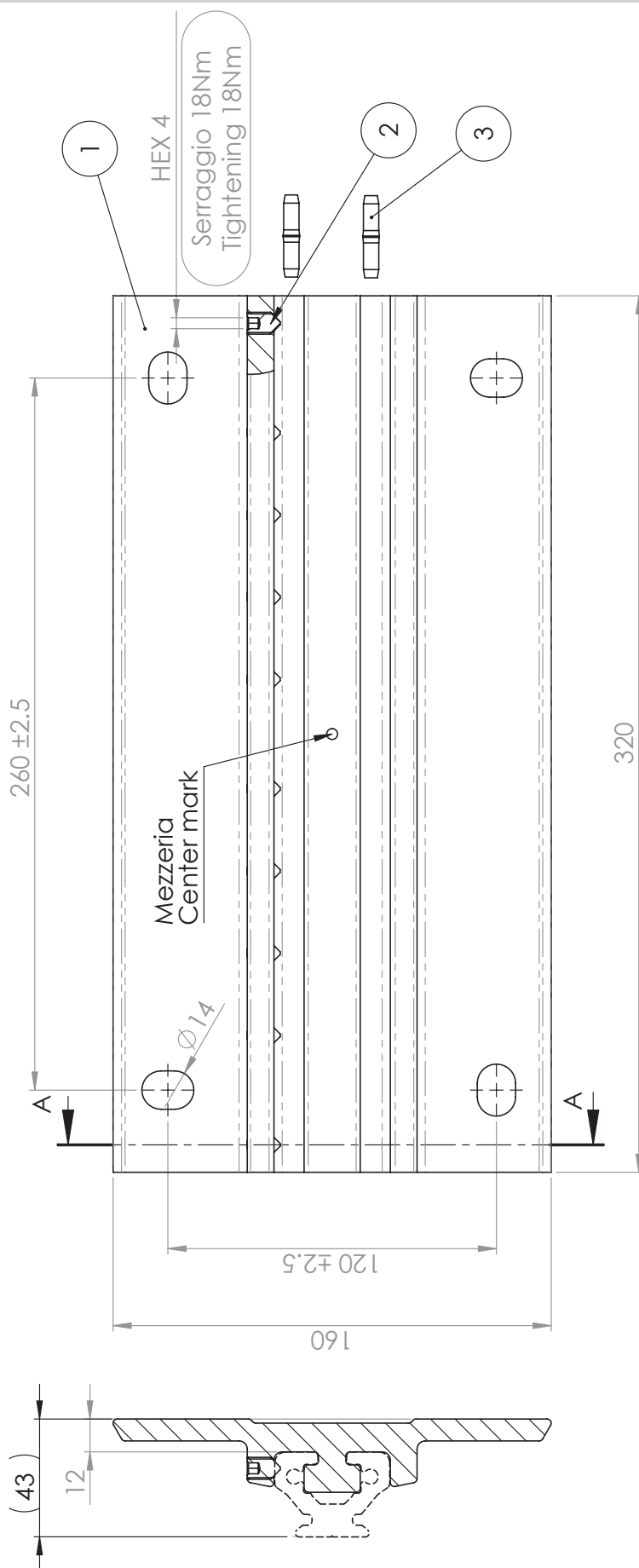
Note 3: This Attestation of Conformity issued by Dolomiticert under a voluntary basis.

Note 4: Standard requirements applicable to the Product but not evaluated by Dolomiticert are outside the scopes of the present Attestation of Conformity.

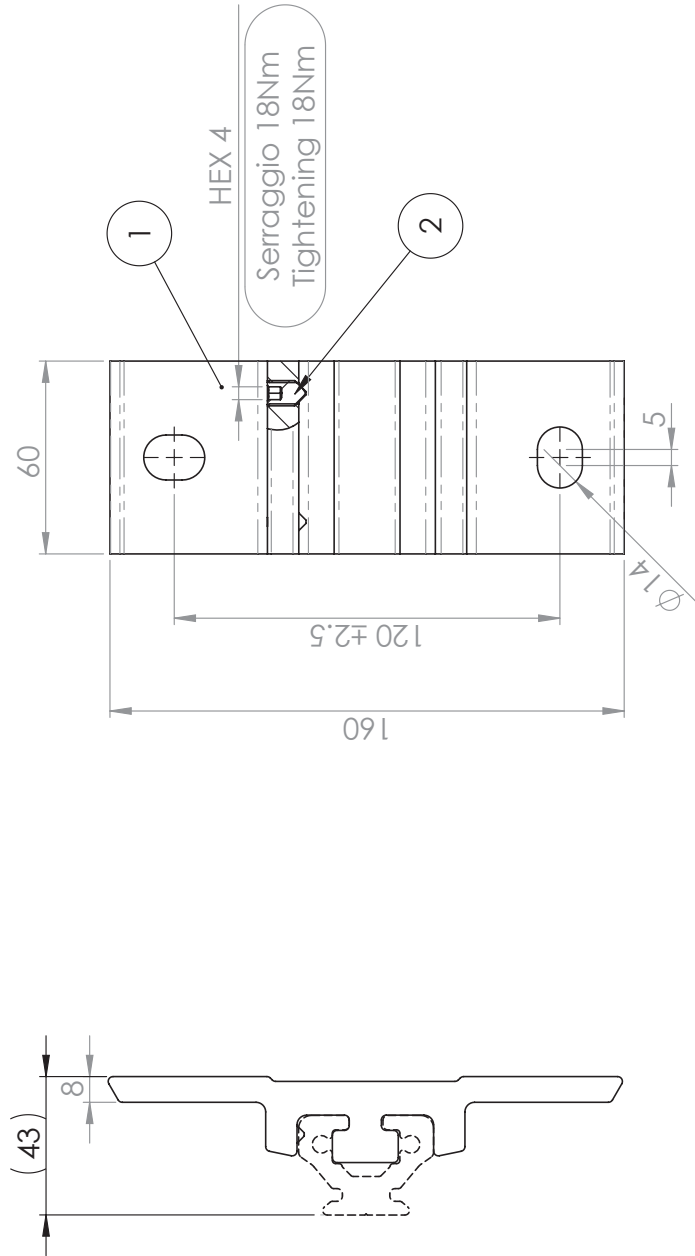
Note 5: The present Attestation of Conformity deletes and substitutes the Attestations of Conformity number 170664 and 170722 issued in date 05/02/2019.

All dimensions of the following drawings are in mm.

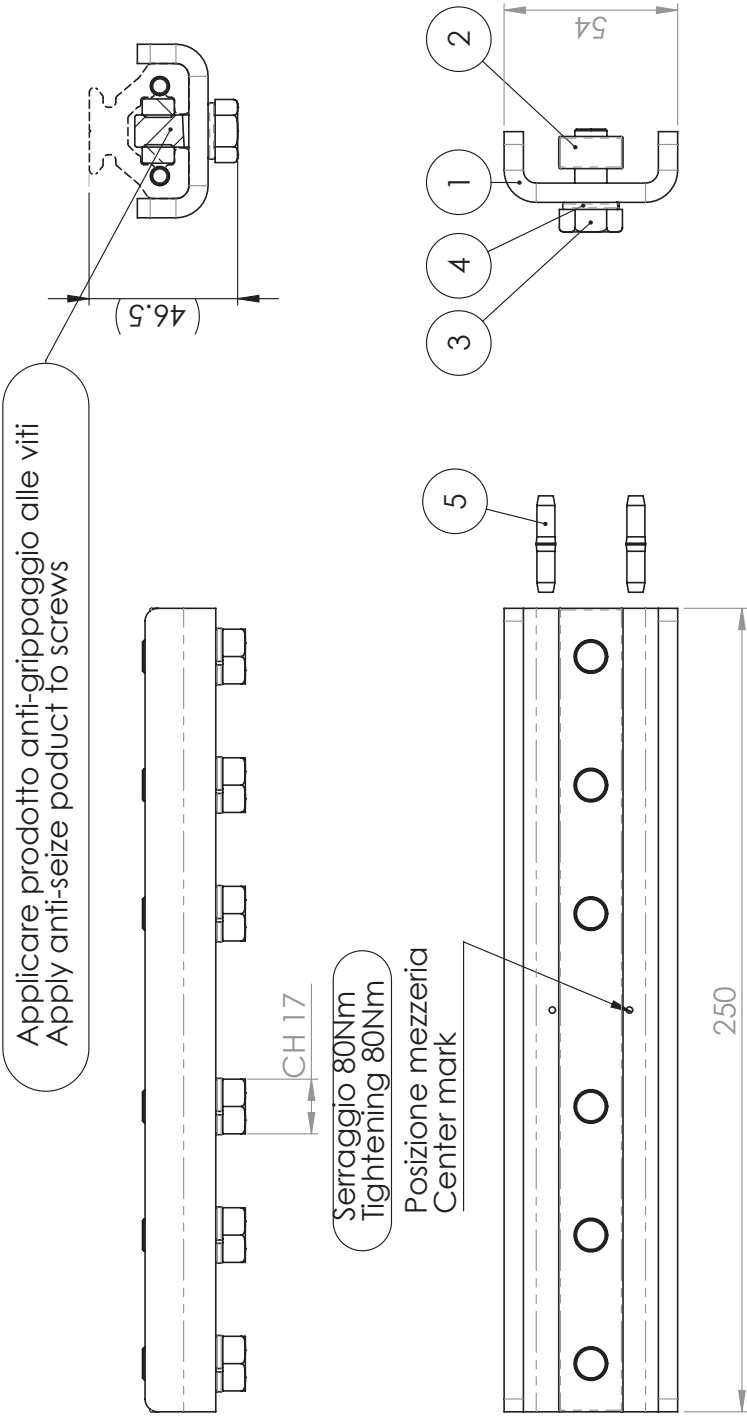
INLINK.AL



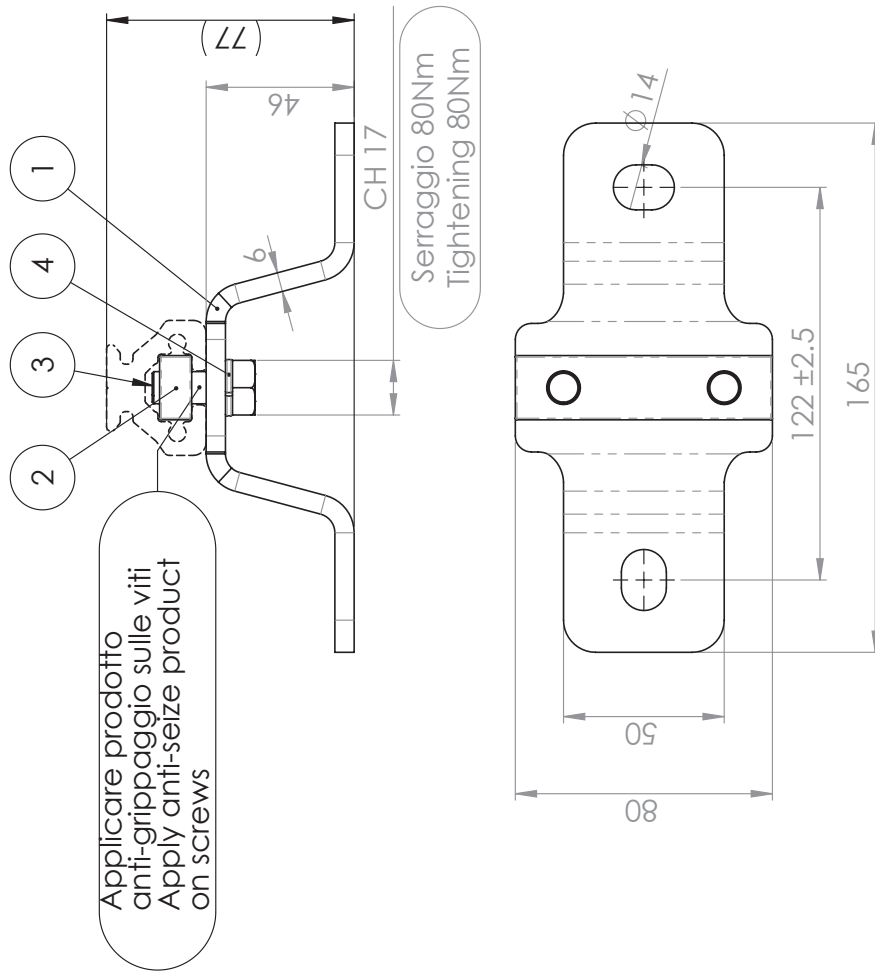
Pos.	Q.ty	Code	Description
1	1	S695150052	Connettore estruso in alluminio R27LS - Aluminum connector R27LS
2	10	M6062003	Grano M8x12 A4 UNI 5927 - Stud screw M8x12 A4 UNI 5927
3	2	S700430002	Spina allineamento R27LS - Alignment pin for R27LS



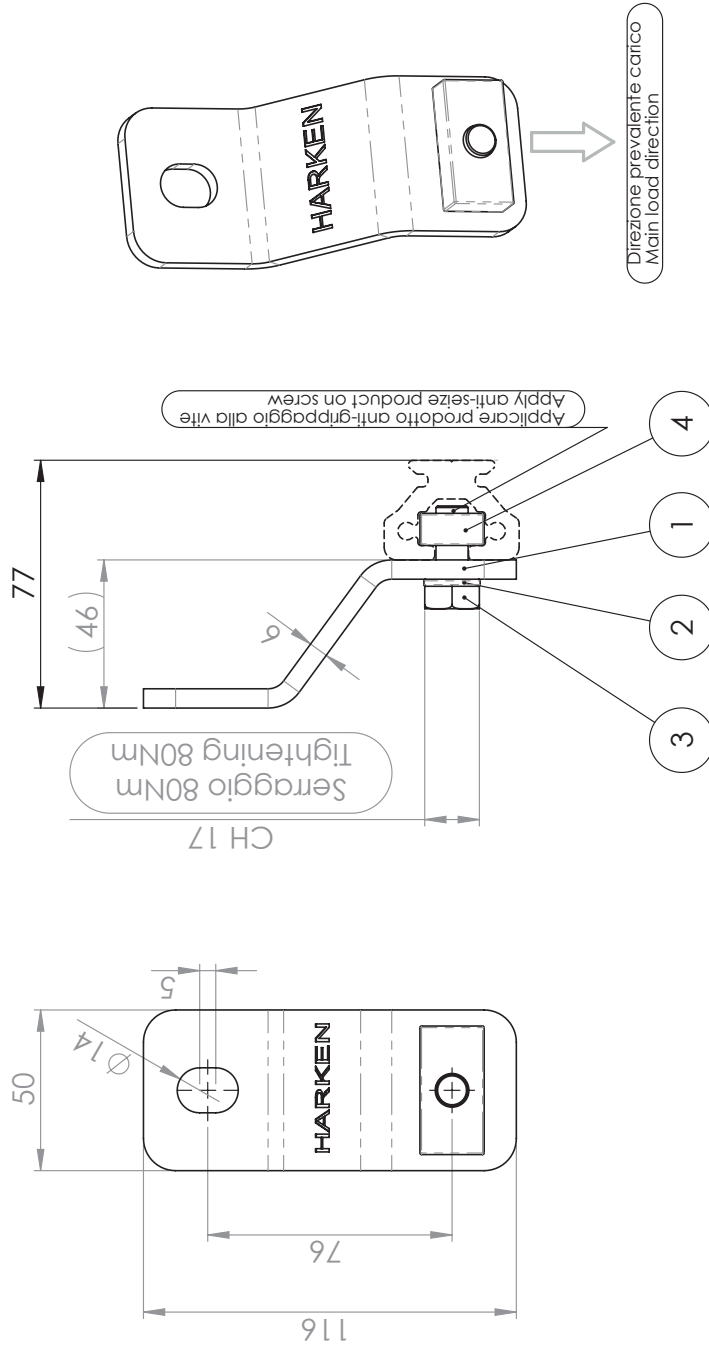
Pos.	Q.ty	Code	Description
1	1	S695550052	Staffa estrusa in alluminio - Extruded aluminum bracket
2	2	M6062003	Grano M8x12 A4 UNI 5927 - Stud screw M8x12 A4 UNI 5927



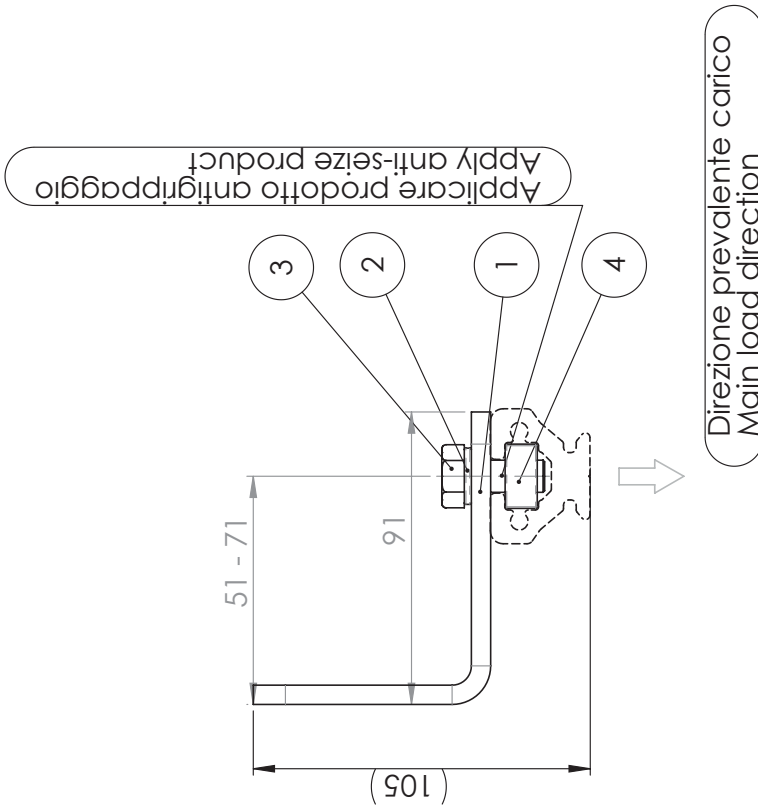
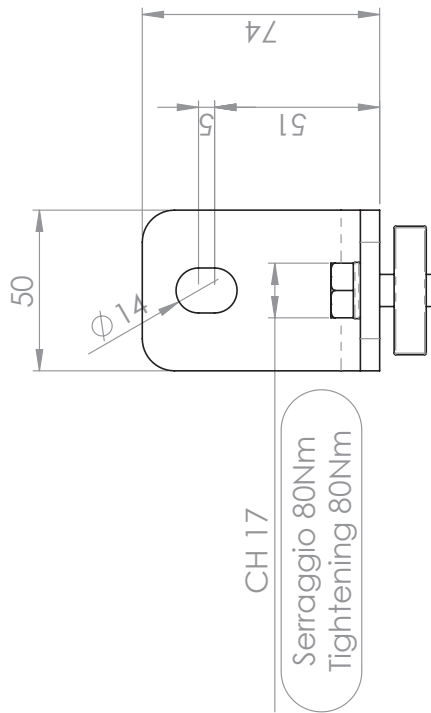
Pos. Q.ty	Code	Description
1	S695000002	Connettore aereo in acciaio inox - Connection plate R27LS
2	S694990002	Inserto giunzione rotaia - Rail junction insert
3	M6062903	Vite UNI EN ISO 4017:2002 - Screw UNI EN ISO 4017:2002 - M10x25 - A4 80
4	M 06117 03	Rondella 10.5 U1751 DIN127 - Washer 10.5 U1751 DIN127
5	S700430002	Spina allineamento R27LS - Alignment pin for R27LS



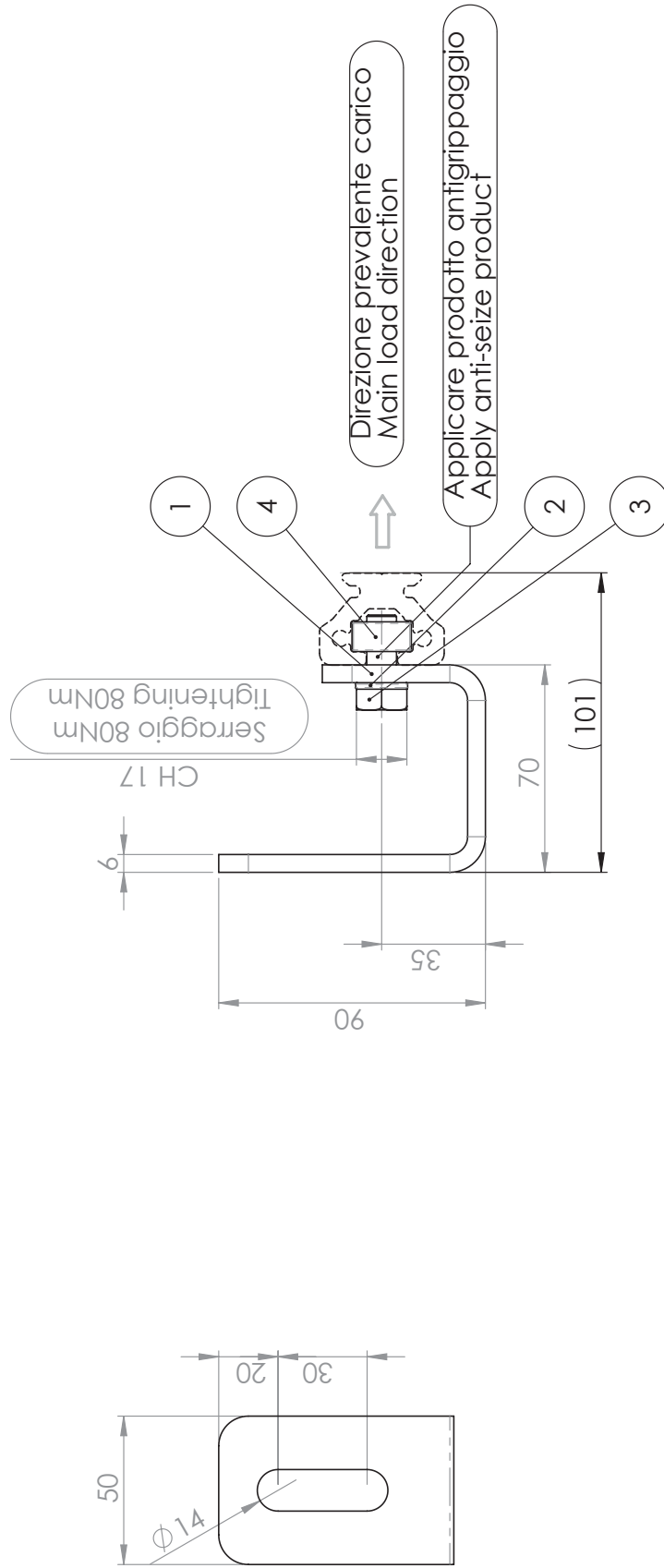
Pos.	Q.ty	Code	Description
1	1	S695010002	Staffa a "Ω" in acciaio inox - "Ω" Stainless steel bracket R27LS
2	1	S700920002	Inserto filettato per R27LS - Threaded insert for R27LS
3	2	M6062903	Vite UNI EN ISO 4017:2002 - Screw UNI EN ISO 4017:2002 - M10x25 - A4 80
4	2	M 06117 03	Rondella 10.5 U1751 DIN127 - Washer 10.5 U1751 DIN127



Pos.	Q.ty	Code	Description
1	1	S695020002	Staffa a "S" in acciaio inox - "S" Stainless steel bracket R27LS
2	1	M 06117 03	Rondella 10.5 U1751 DIN127 - Washer 10.5 U1751 DIN127
3	1	M6062903	Vite UNI EN ISO 4017:2002 - Screw UNI EN ISO 4017:2002 - M10x25 - A4 80
4	1	S694970002	Inserto fissaggio rotaia - Fastening nut for rail



Pos.	Q.ty	Code	Description
1	1	S695030002	Staffa a "L" in acciaio inox - "L" stainless steel bracket R27LS
2	1	M 06117 03	Rondella 10.5 U1751 DIN127 - Washer 10.5 U1751 DIN127
3	1	M6062903	Vite UNI EN ISO 4017:2002 - Screw UNI EN ISO 4017:2002 - M10x25 - A4 80
4	1	S694970002	Inserto fissaggio rotaia - Fastening nut for rail



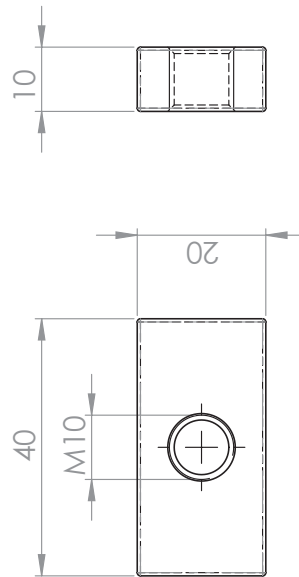
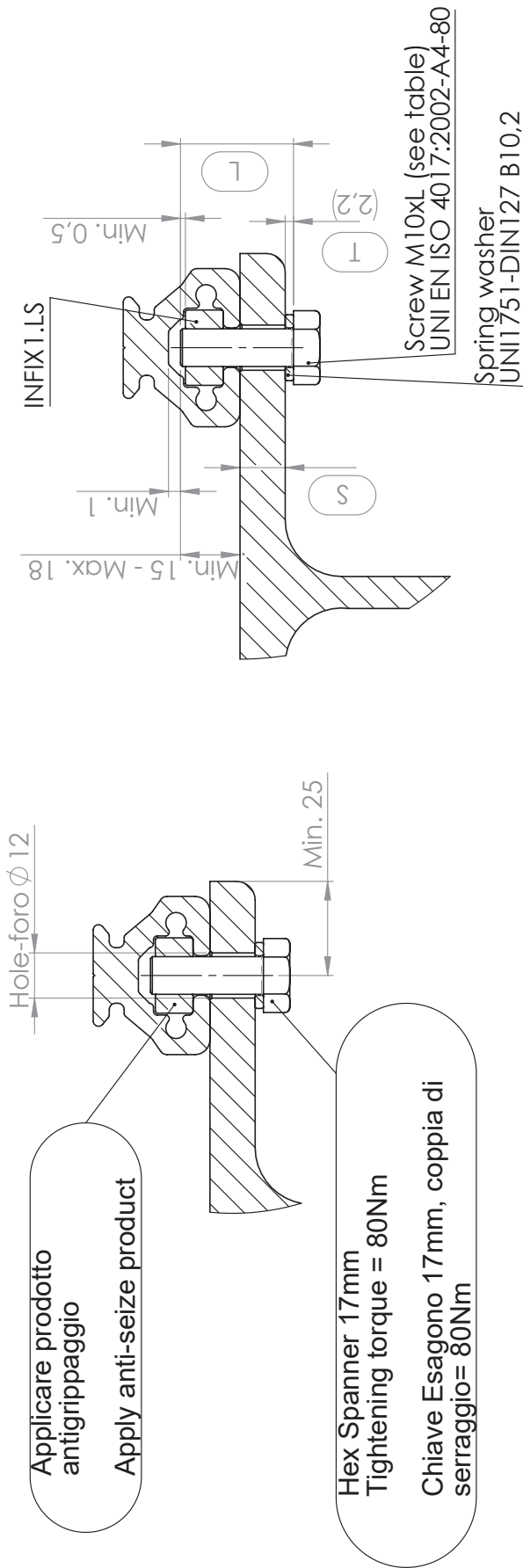
Pos. Q.ty	Code	Description
1	S695040002	Staffa a "C" in acciaio inox - "C" stainless steel bracket R27LS
2	M 06117 03	Rondella 10.5 U1751 DIN127 - Washer 10.5 U1751 DIN127
3	M6062903	Vite UNI EN ISO 4017:2002 - Screw UNI EN ISO 4017:2002 - M10x25 - A4 80
4	S694970002	Inserto fissaggio rotaia - Fastening nut for rail

INBRKT.X5

For more information, refer to the specific manual.

INBRKT.X6

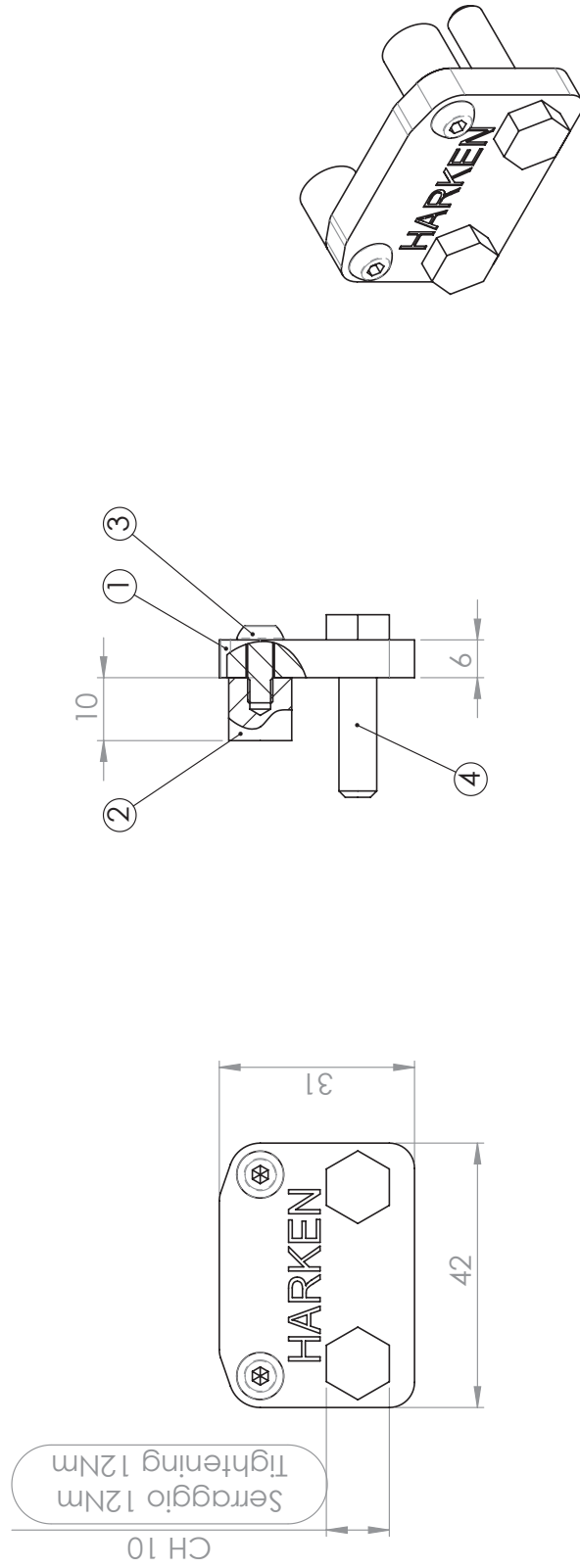
For more information, refer to the specific manual.



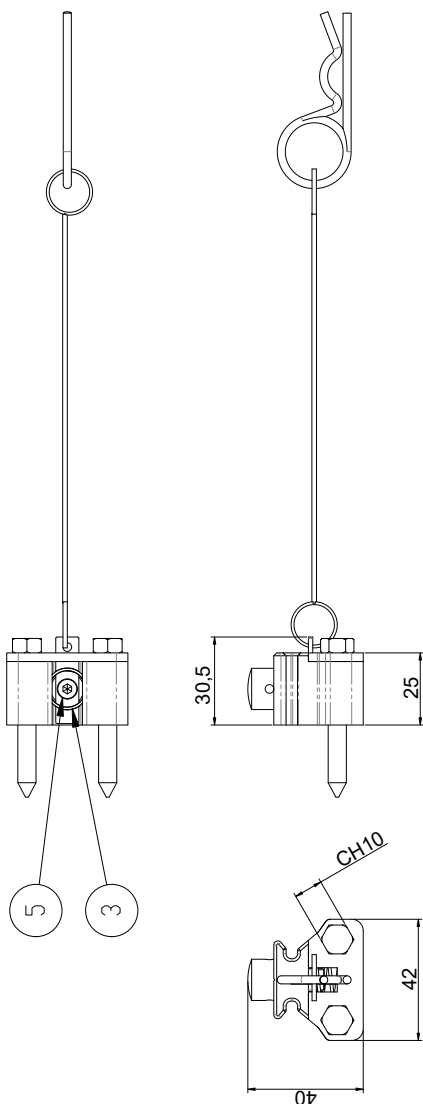
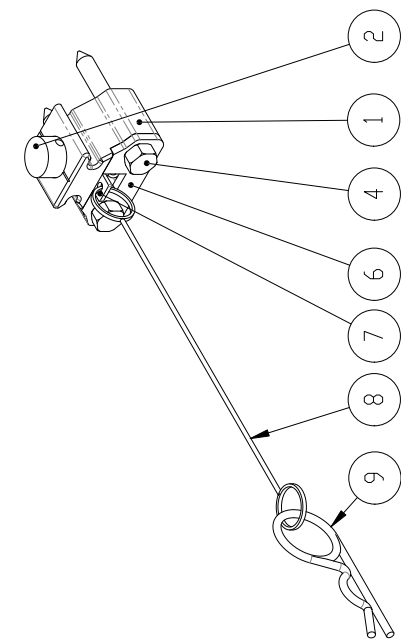
		Standard screw length - L - [mm]					
		25	30	35	40	45	50
S Min. [mm]		5	10	15	20	25	30
S Max. [mm]		8	13	18	23	28	33

LA LUNGHEZZA DELLA VITE DEVE ESSERE SCELTA A SECONDA DELLA DIMENSIONE "S" DELLA STRUTTURA SU CUI VERRA' INSTALLATA LA ROTAIA, E DELLO SPESSORE DELLA ROSETTA ANTIRIOTAZIONE, RISPETTANDO LE QUOTE MIN. E MAX. DI CORRETTA INSTALLAZIONE. I VALORI DI RIFERIMENTO IN TABELLA SONO CALCOLATI CONSIDERANDO LE LUNGHEZZE STANDARD DI VITI, E UNA ROSETTA ELASTICA B10,2 UNI1751-DIN127 (T=2,2mm)

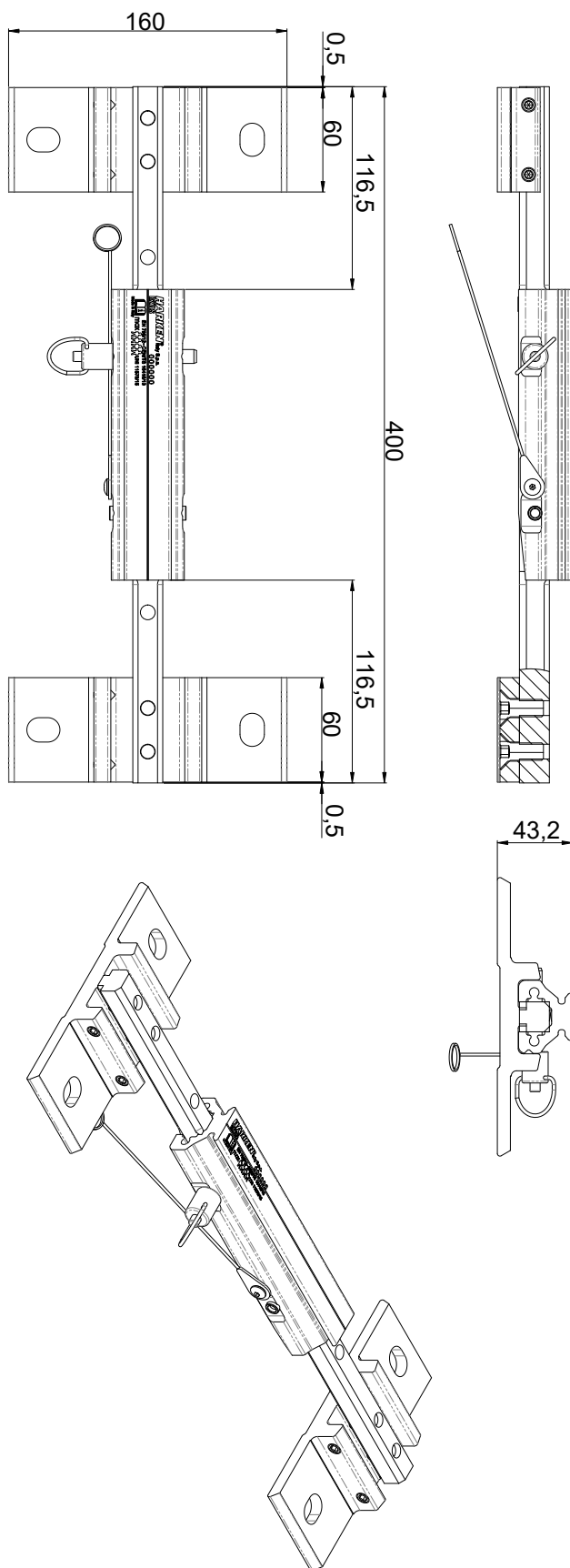
SCREW LENGTH MUST BE CHOSEN ACCORDING TO "S" DIMENSION OF THE SUPPORT ON WHICH THE TRACK WILL BE FIXED, AND THE THICKNESS "T" OF THE LOCKING WASHER, OBSERVING THE MIN. AND MAX. DIMENSIONS FOR A CORRECT INSTALLATION. REFERENCE VALUES IN THE TABLE ARE CALCULATED ASSUMING STANDARD SCREWS LENGTHS, AND A STANDARD B10,2 SPRING WASHER UNI1751-DIN127 (T=2,2mm)



Pos.	Q.ty	Code	Description
1	1	S695050002	Terminale R27LS - Endstop R27LS
2	2	M6062597	Antivibrante per terminale R27LS - Damper for endstop R27LS
3	2	M6062303	Vite M4x10 TBCE ISO7380 A4 - Screw M4x10 TBCE ISO7380 A4
4	2	M6057208	Vite automaschiante M6x25 DIN7513 - Self threading screw M6x25 DIN7513

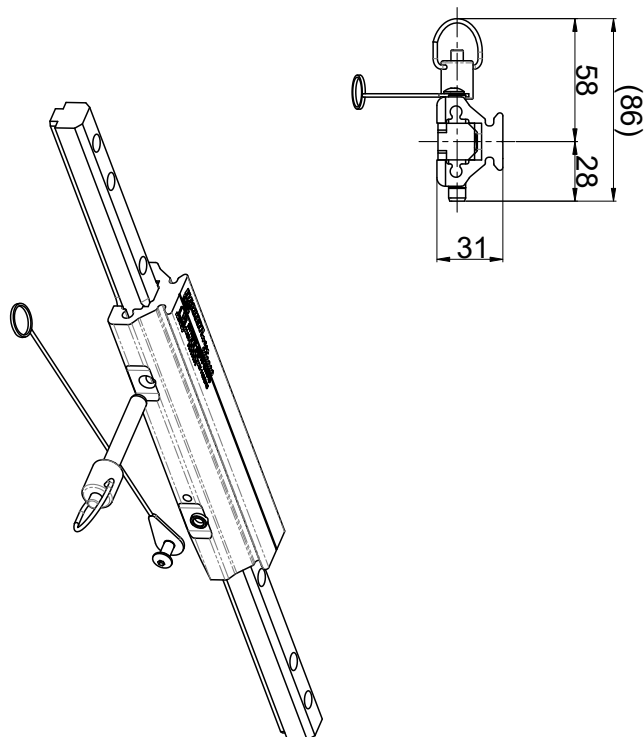
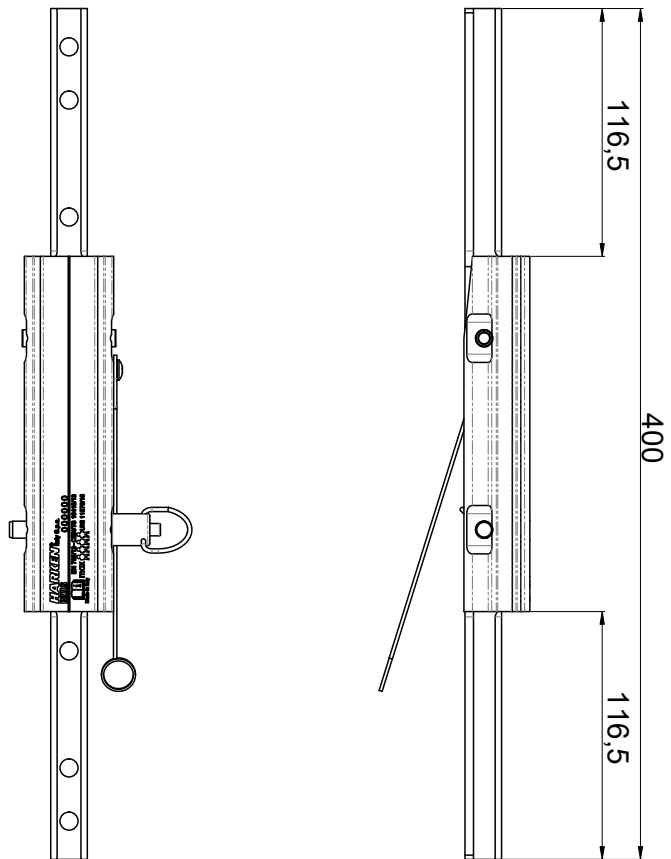


For spare parts, please contact Harken Service.



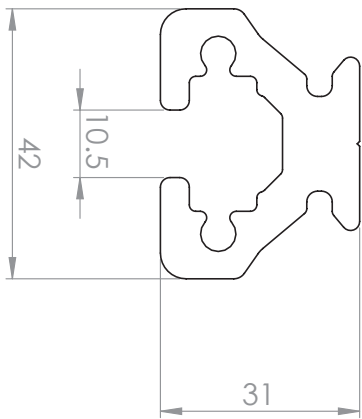
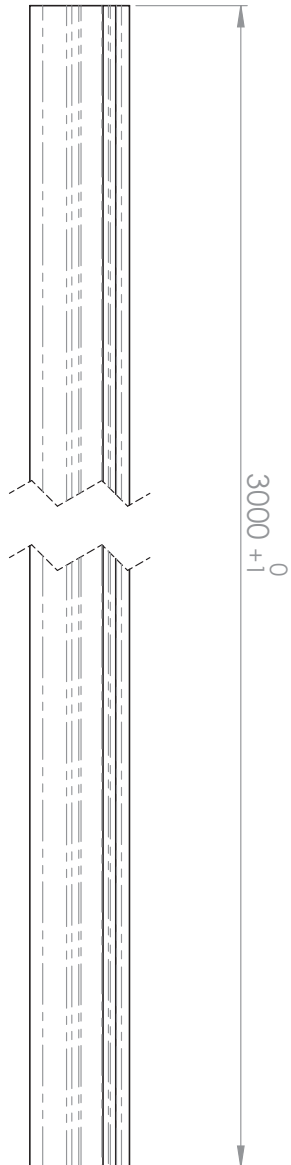
For spare parts, please contact Harken Service.

INMID-ENTRY3.LS

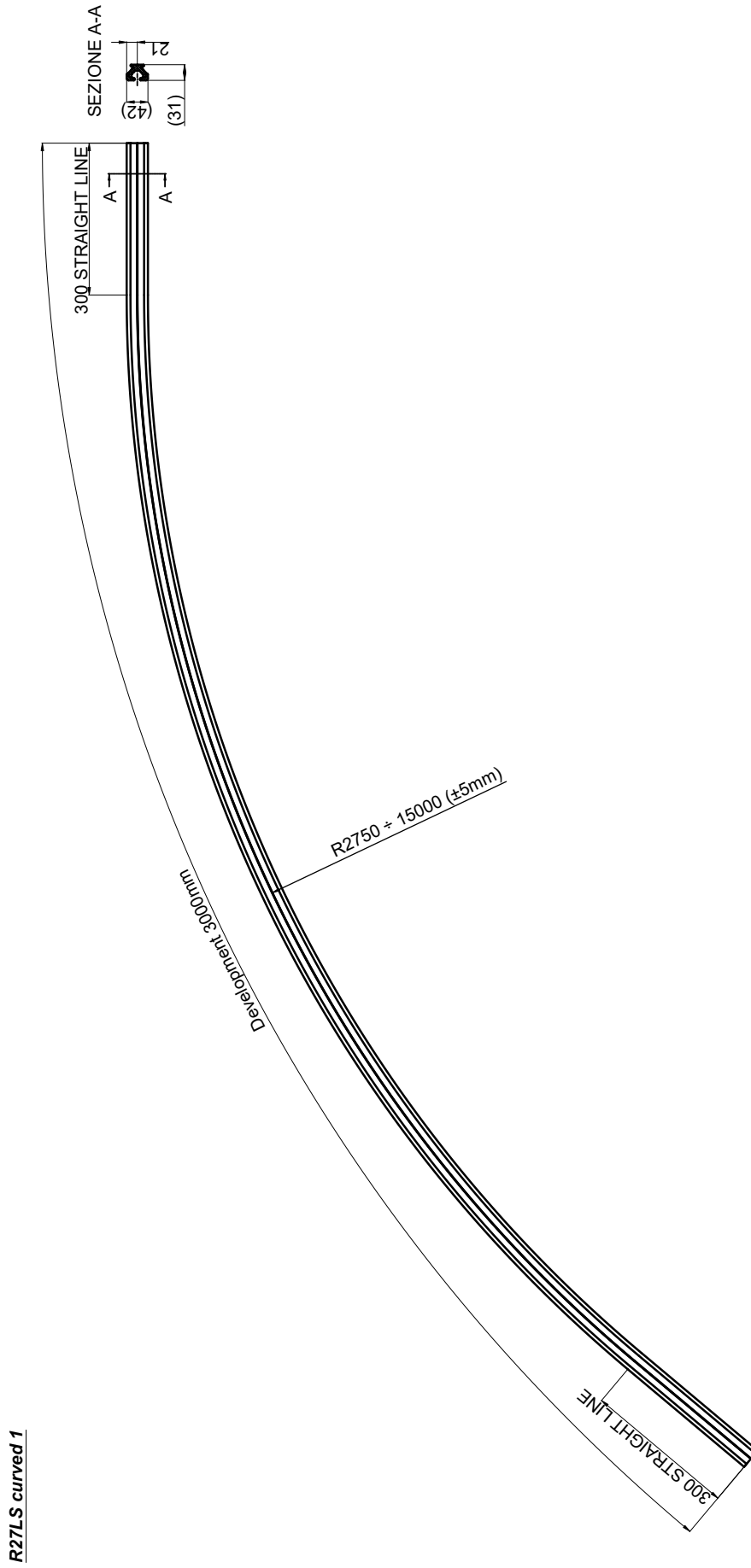


For spare parts, please contact Harken Service.

PESO AL METRO LINEARE: 1755.30gr/m
MASS PER METER: 1755.30 gr/m

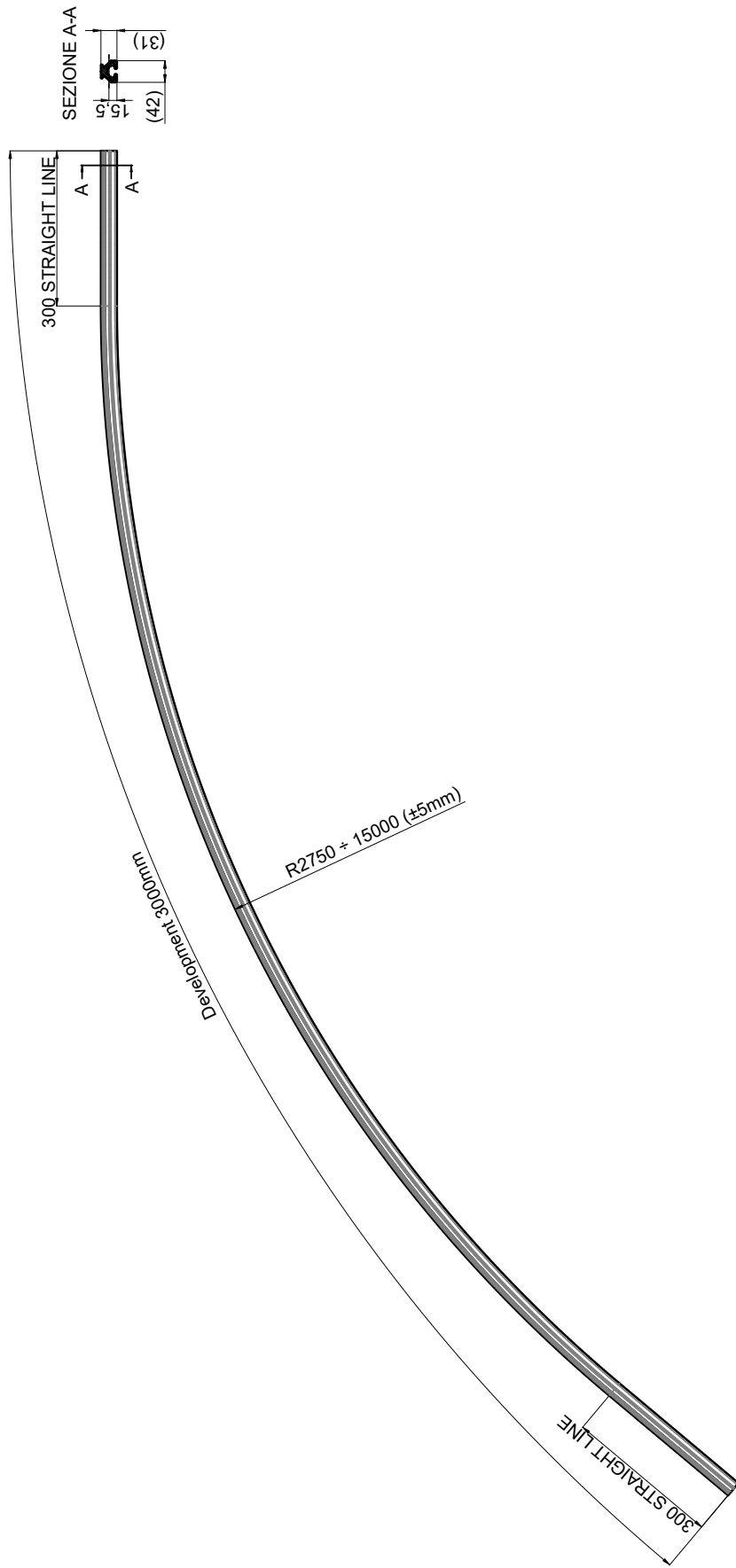


R27LS CURVED 1



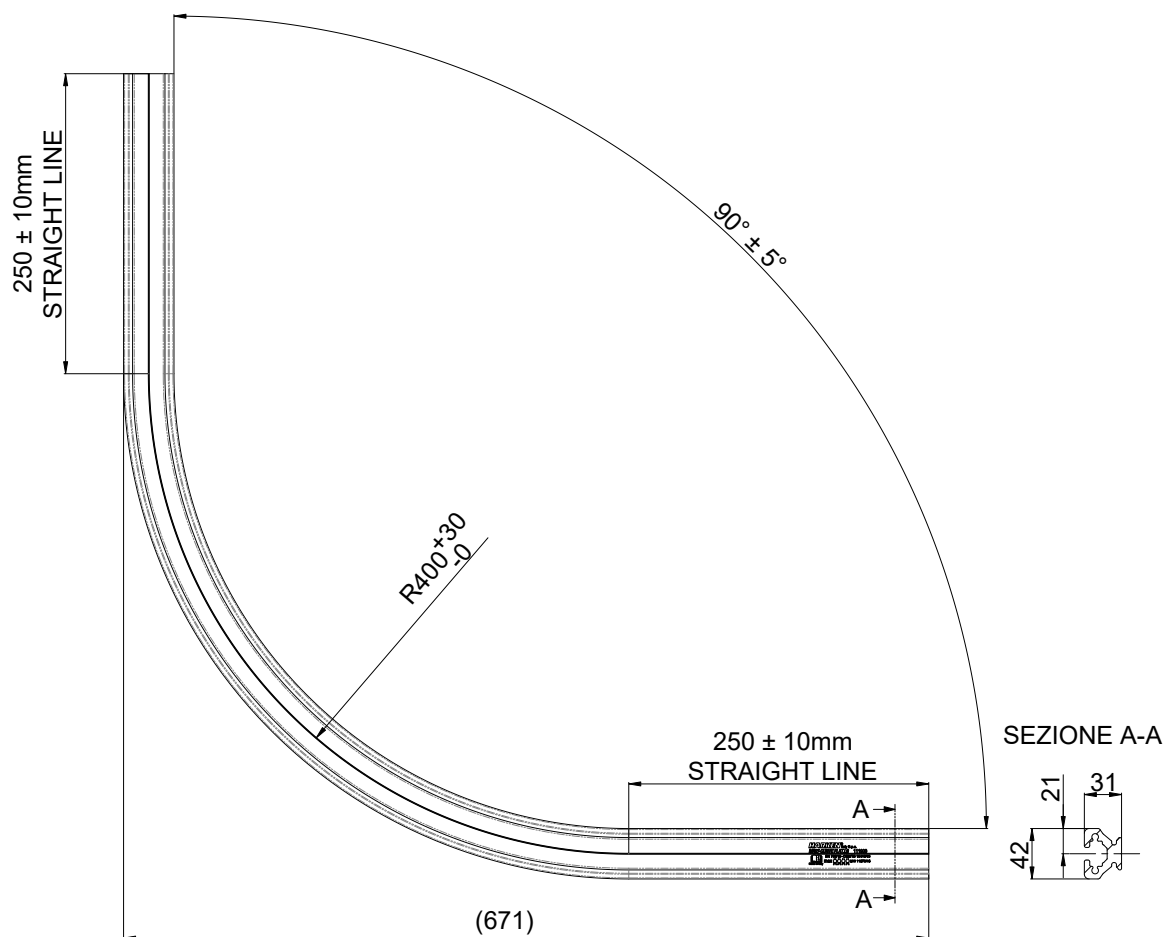
R27LS curved 1

R27LS curved 2





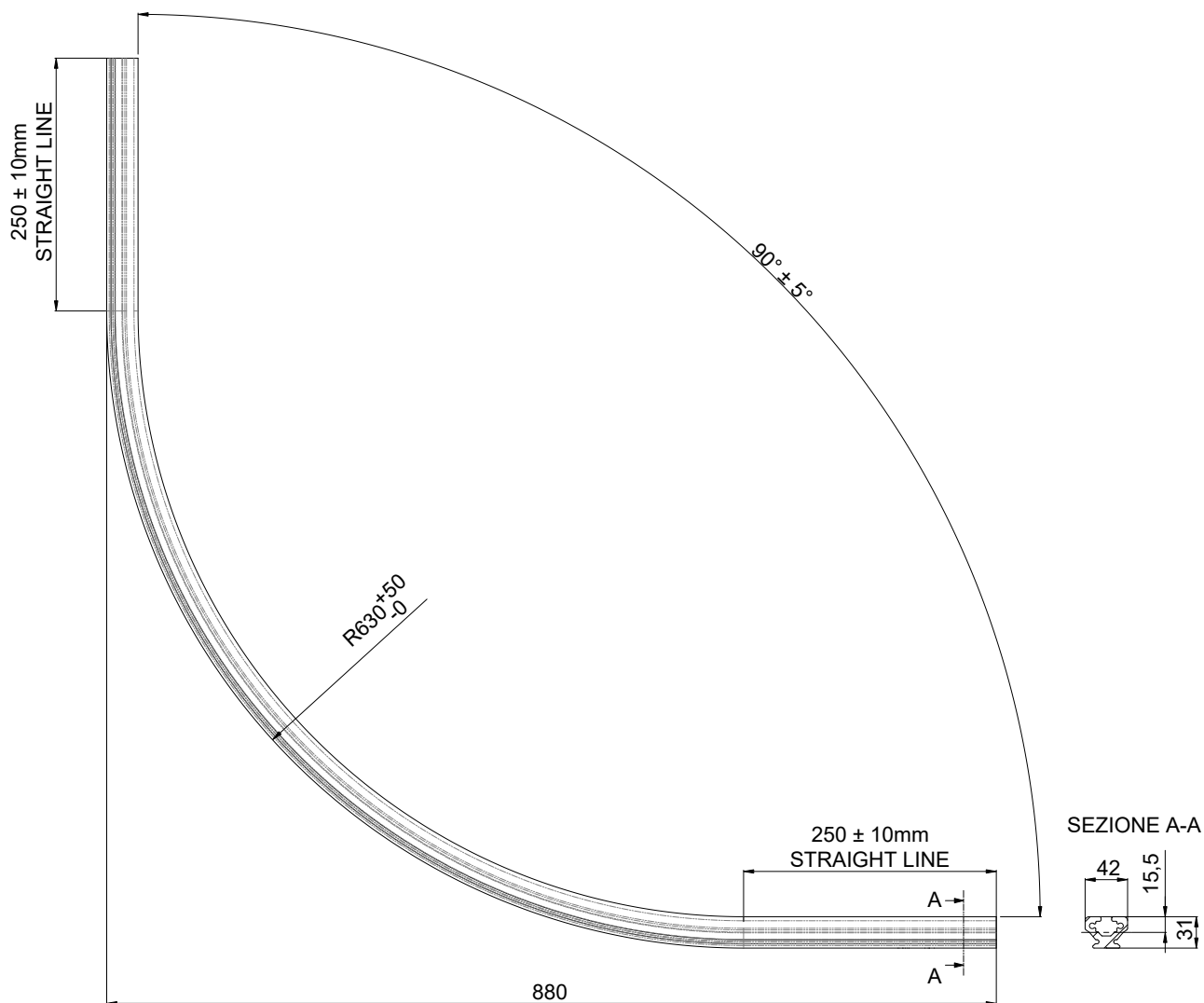
INR27-CURVE FLAT.LS



WARNING!

Can only be used with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).

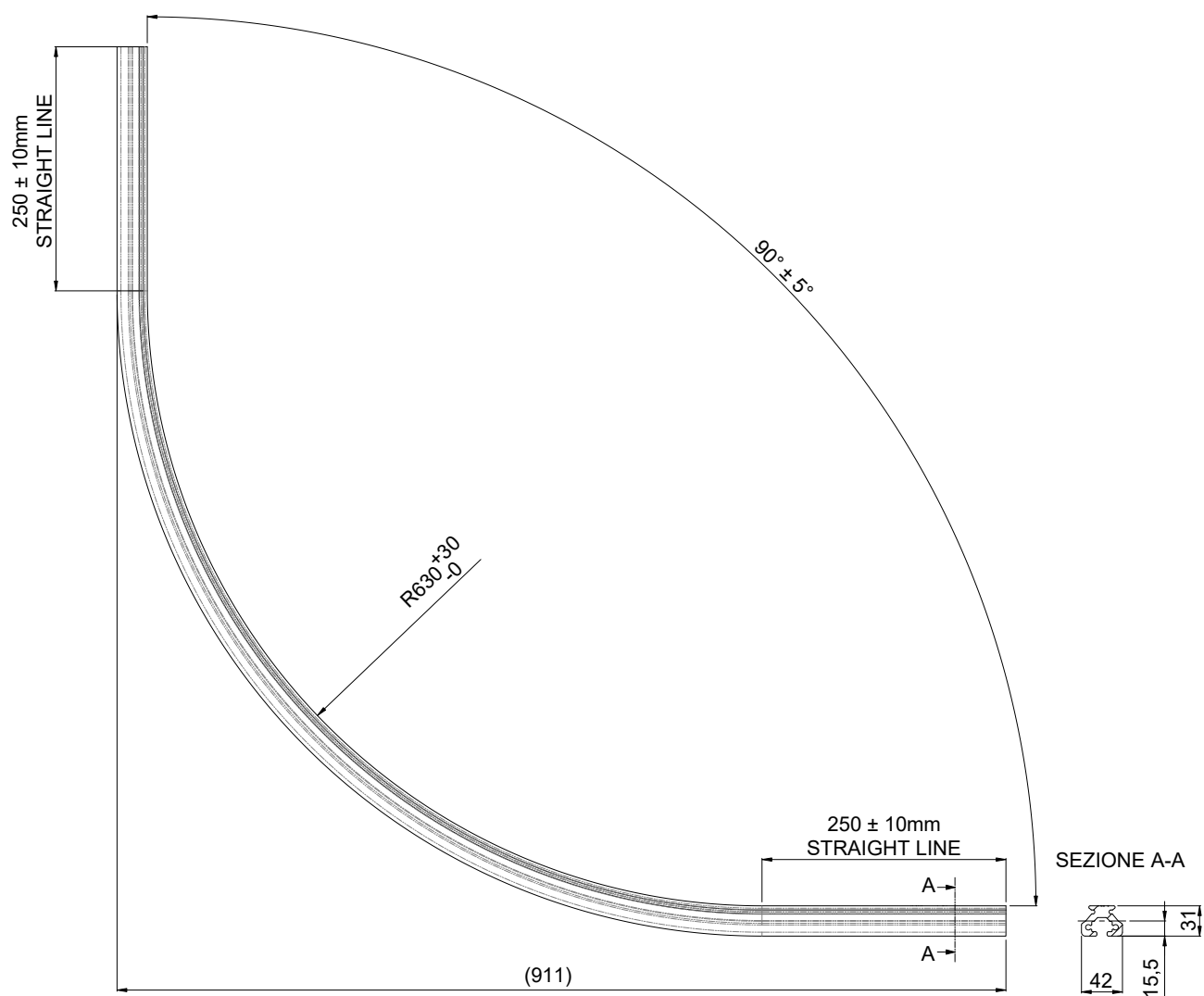
INR27-CURVE CONVEX.LS



WARNING!

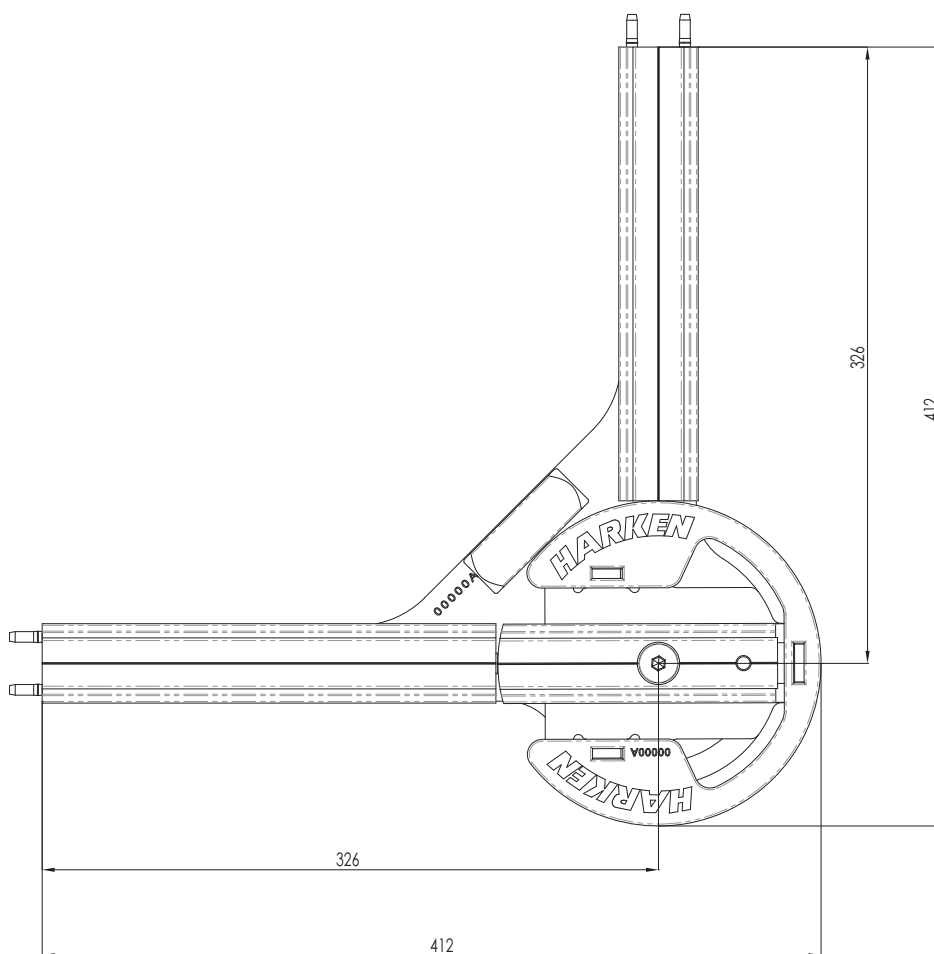
Can only be used with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).

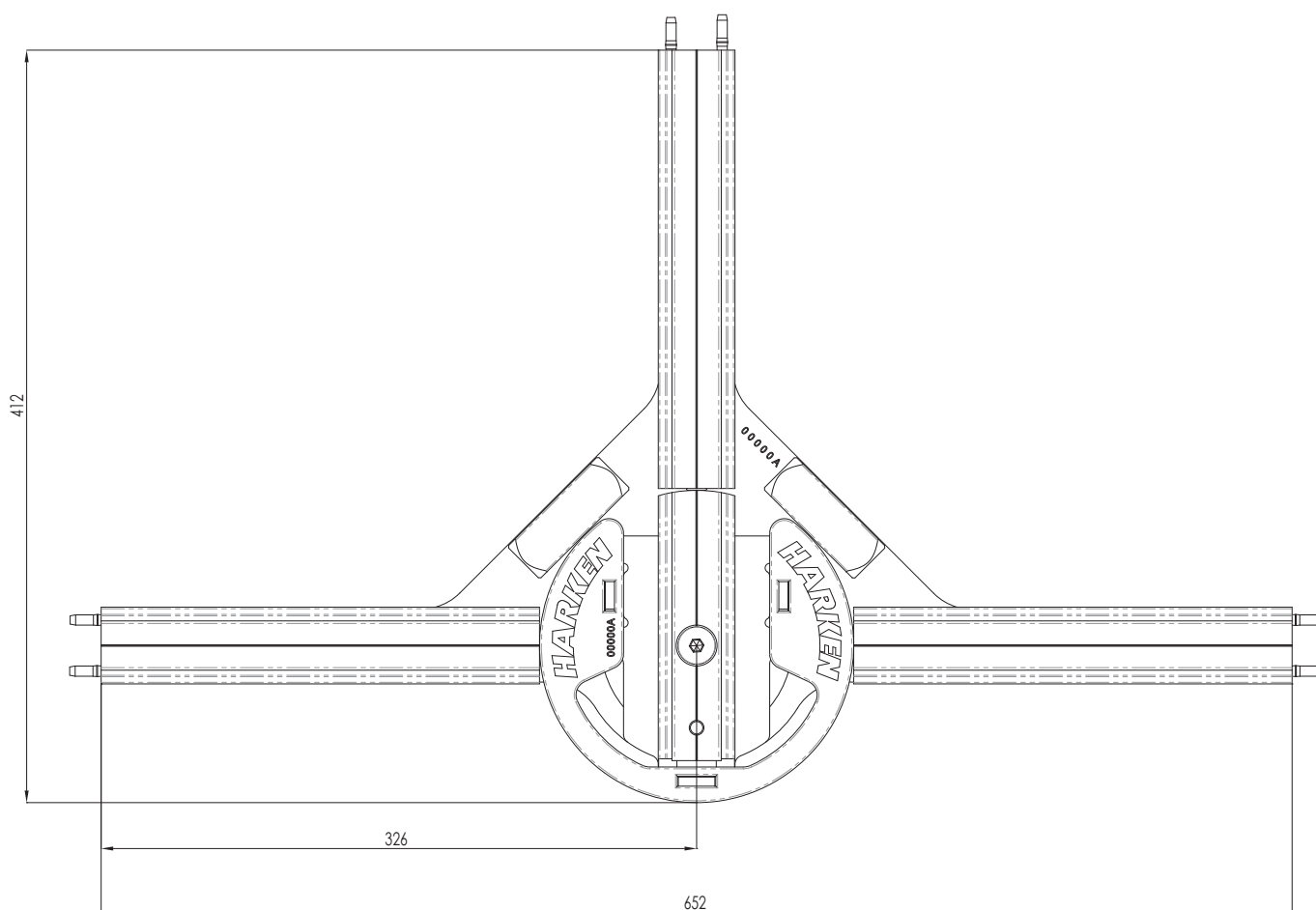
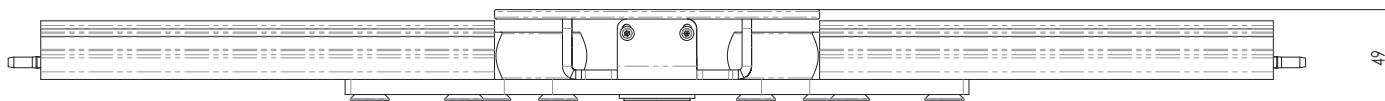
INR27-CURVE CONCAVE.LS



WARNING!

Can only be used with trolleys INCAR1-CURVE, INCAR1-CURVE (BLACK), INCAR2-CURVE, INCAR2-CURVE (BLACK).





CORRECT INSTALLATION FORM

With reference to the installation of the fall arrest system installed on

System serial number: _____ Project: _____

Description of the building: _____

Address: _____

City: _____ Country: _____ Post code: _____

The INSTALLER

First name: _____ Last name: _____

Legal representative of the company: _____

With headquarters at: _____ City: _____

VAT number: _____

DECLARES
that the following systems and fastening devices used

Manufacturer	Product	Model	Type	Tensile forces allowed

HAVE BEEN INSTALLED CORRECTLY

- in compliance with the manufacturer's installation instructions, they have been installed in compliance with the project drafted by the Arch./Eng./Surv.: _____
- they have been fastened to the specified structure, in compliance with the instructions supplied in the calculation report drafted by the Arch./Eng./Surv.: _____
- They have been fixed as specified (e.g. numbers of bolts, correct materials, correct position/location).
- They have been commissioned in accordance with the manufacturer's information.
- It has been supplied with photographic information/documentation, especially where fixing (e.g. bolts) and the under lying substrate are no longer visible after completing the installation.

The fastening/anchoring element structural characteristics, their use instructions, the manuals of the different products used, the installation layout and the documents/pictures taken and drafted during the installation have been submitted to Mr./Mrs.

First name: _____ Last name: _____

Role: _____

The compulsory SIGN
has been affixed near every access and/or onto the fall arrest system

System installation date

The installer
(Stamp and Signature)

ACCEPTANCE REPORT

The undersigned:

As client of the fall arrest system to which this manual is referred, installed on:

System serial number:

Project:

Description of the building:

Address:

City:

Province:

Zip code:

DECLARES

To have received from the installing company:

- the installation documents, including the relevant annexes
- the use and maintenance manual for the system components
- the fastening/anchoring device documents
- the installation layout related to the system
- the documents/pictures taken and drafted during the installation

and to make them available to the user.

Place and date

The Client
(Stamp and Signature)



Type:

Binario rigido

Model:



- > Read carefully the Instruction Manual
- > Personal Protection Equipment **REQUIRED**

Compliant:

UNI EN795:2012 Tipo D + CEN/TS 16415:2013

Certified:

UNI 11578:2015

Installation Date

Max no. of users:

4



MANUFACTURER



Harken Italy S.p.A.
 Via Marco Biagi, 14
 22070 Limido Comasco (CO) - Italia
 T: (39) 031-3523511 F: (39) 031-3520031
 E: industrial@harken.it www.harkenindustrial.com

DISTRIBUTOR



Harken Italy S.p.A.
 Via Marco Biagi, 14
 22070 Limido Comasco (CO) - Italia
 T: (39) 031-3523511 F: (39) 031-3520031
 E: industrial@harken.it www.harkenindustrial.com

INSTALLER

Periodic Inspection (fill in the forms in the Instruction Manual)

Next inspection date	Next inspection date	Next inspection date	Next inspection date

Notes:

- 1) The installation of Anchoring System must be run by personnel trained and authorized by Harken or by Harken Partners.
- 2) Before accessing and using the Anchoring Systems it is necessary to read carefully the Instruction Manual and all the Anchoring System related documents.
- 3) Before using the Anchoring System, it is essential for safety to verify the fall clearance required beneath the user at the work place and to choose the appropriate PPE.
- 4) Before using the Anchoring System verify its integrity and carry out a visual inspection of each component. If you find damaged parts or you have any doubt, DO NOT use the system and contact the component and authorized personnel in charge to carry out the rail inspection.
- 5) Use the Anchoring System with Personal Protective Equipment 3rd category according to regulations in the field of security and all PPE as required by the legislation n°81/2008.
- 6) Harken Italy S.p.A. is not responsible for any injury or damage caused by improper use of the Anchoring System.
- 7) Mandatory testing of the Anchoring System by Harken Italy S.p.a. or Harken Italy S.p.a Partner is required after a fall.
- 8) The periodic inspections must be carried out as prescribed by the regulation EN11158:2005 and at least once every 12 months from the date of installation indicate above, if used regularly, otherwise before using after a long period of inactivity. The system must not be used if the inspection has not taken place.
- 9) Periodic inspections should be performed by experienced people, who are aware of the recommendations and instructions issued by the manufacturer applied to the components of the system, and which are licensed by Harken Italy S.p.A. or Harken Italy S.p.A. Partner.

MAINTENANCE-INSPECTION REGISTER

RECORD

PRODUCT	PURCHASE DATE	DATE FIRST PUT INTO USE
MODEL AND TYPE	TRADE NAME	IDENTIFICATION NUMBER

MANUFACTURER: _____

ADDRESS: _____

TEL: _____ FAX: _____ E-MAIL: _____

WEBSITE: _____

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION	OUTCOME
Date	Signature		
		<input type="checkbox"/> Periodic inspection	<input type="checkbox"/> Positive
		<input type="checkbox"/> Repair	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection: _____

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION	OUTCOME
Date	Signature		
		<input type="checkbox"/> Periodic inspection	<input type="checkbox"/> Positive
		<input type="checkbox"/> Repair	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection: _____

NOTES

MAINTENANCE-INSPECTION REGISTER

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

MAINTENANCE-INSPECTION REGISTER

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

MAINTENANCE-INSPECTION REGISTER

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Periodic inspection	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES

COMPANY CARRYING OUT THE MAINTENANCE OPERATIONS

PERSON IN CHARGE (First name and Last name)		DESCRIPTION OF THE INTERVENTION <input type="checkbox"/> Periodic inspection <input type="checkbox"/> Repair	OUTCOME	
Date	Signature		<input type="checkbox"/> Positive	<input type="checkbox"/> Negative

Scheduled date for the next periodic inspection:

NOTES



HARKEN®

Manufacturer

Harken Italy S.p.A.
Via Marco Biagi 14, 22070 Limido Comasco (CO), Italy
Tel 031.3523511; Fax 031.3520031
Web: www.harken.it
Email: info@harken.it