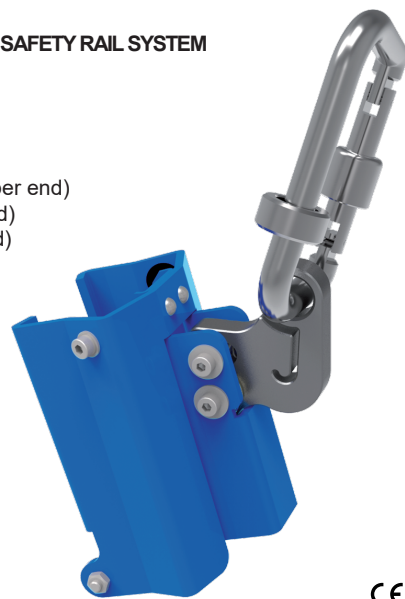


PISKO VERTICAL SAFETY RAIL SYSTEM WITH FALL ARRESTER – INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE



COMPONENTS OF THE VERTICAL SAFETY RAIL SYSTEM

Vertical safety rail 2,400 mm
End bow
Rung fastener
Vertical safety rail joint
Releasable carriage stopper (upper end)
Fixed carriage stopper (upper end)
Fixed carriage stopper (lower end)
Climbing carriage



CE 0598

- The Pisko Vertical Safety Rail and the Pisko Climbing Carriage meet the requirements of Regulation (EU) 2016/425. The EU Declaration of Conformity is available at the company's website at www.piristeel.fi.
- The Pisko vertical safety rail system is a rigid safety rail in accordance with standard EN 353-1:2014, equipped with a fall arresting climbing carriage. The vertical safety rail can be installed in fixed wall ladders which fulfil the requirements of the "Roof safety equipment - Roof posts, ladders, snow barriers and vertical roof safety rails" instruction compiled by the Finnish Ministry of the Environment.
- SGS Fimko, Takomotie 8, 00380 Helsinki, Finland, notified body No. 0598, has inspected this personal protective device in accordance with Regulation (EU) 2016/425 and participates in the product's annual quality assurance procedures.
- If the product is sold outside Finland, the retailer must provide the instructions for use, maintenance, periodic inspection and repair in the language of the relevant country.
- In Finland, buildings that are more than 9 meters high must be equipped with fastening structures for safety ropes (Finnish Ministry of the Environment Decree on the safe use of buildings, January 1, 2018). The Pisko ladders can be equipped with Pisko vertical safety rail.

PISKO VERTICAL SAFETY RAIL SYSTEM WITH FALL ARRESTER

INSTALLATION

Take the following general issues into consideration before any installation work:

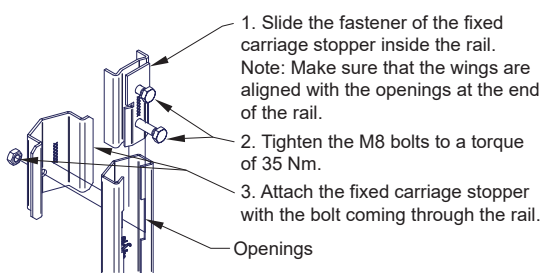
- Visually ensure that no components have been damaged during storage or transport.
- The standard rung fasteners have been designed for round 25 mm ladder rungs.
- The installation manual's section for preliminary preparations on page 3 has been compiled for a ladder which has a rung spacing of 300 mm. However, if the ladder's rung spacing differs from this, the maximum fastener intervals may not be exceeded. If required, add more rung fasteners.
- The vertical safety rail must be installed in the middle of the ladder and rising up in a perpendicular line (lateral inclination +/- 2 degrees).
- Installation can be performed in a ladder which is at a maximum forward angle of 15 degrees. The vertical safety rail cannot be installed in a ladder which is inclined backwards.
- Installing the vertical safety rail is always began at the top.
- The length of one vertical safety rail is 2.4 metres and the rails can be connected together using vertical safety rail joints.
- A shortened vertical safety rail can only be used as the lowest section in the system.
- One system must contain at least four rung fasteners.
- The spacing between the rung fasteners in an intact rail can be a maximum of 1.5 metres and 1.2 metres around a joint.
- Installation is always began with a straight rail. If the vertical safety rail system is to be equipped with an end bow, the first rail will be installed such, that the end bow rises approx. 800 mm above the exiting level.
- All components of the vertical safety rail system must be installed with care, as an incorrectly installed vertical safety rail system will not necessarily function correctly in a fall situation.
- The climbing carriage and the guide rail made from stainless steel must not be installed in an extremely corrosion-prone location (such as above a swimming pool) due to a risk of invisible cracks caused by corrosion, without conducting special monitoring measurements or ensuring compatibility.

NOTE! All preliminary preparations for rails are recommended to be performed on the ground before starting the actual installation.

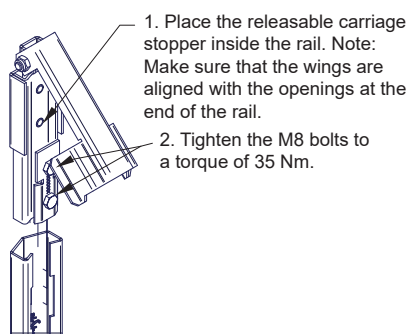
Installation of vertical safety rail system components

Note: Either a carriage stopper or alternatively a vertical safety rail joint is always installed in the topmost rail of the vertical safety rail system, if the system is to be equipped with an end bow. The end bow cannot be equipped with a fixed or releasable carriage stopper.

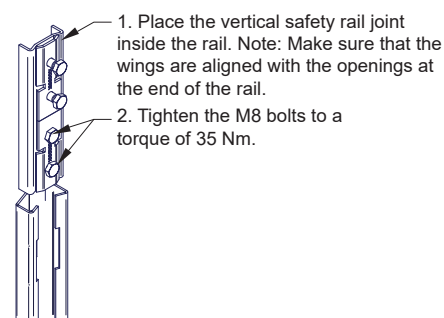
FIXED CARRIAGE STOPPER FOR THE UPPER END



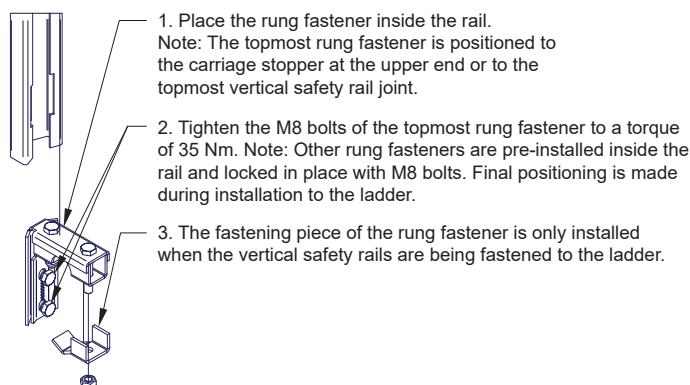
RELEASABLE CARRIAGE STOPPER FOR THE UPPER END



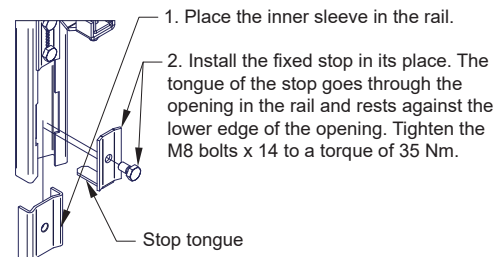
VERTICAL SAFETY RAIL JOINT



RUNG FASTENER



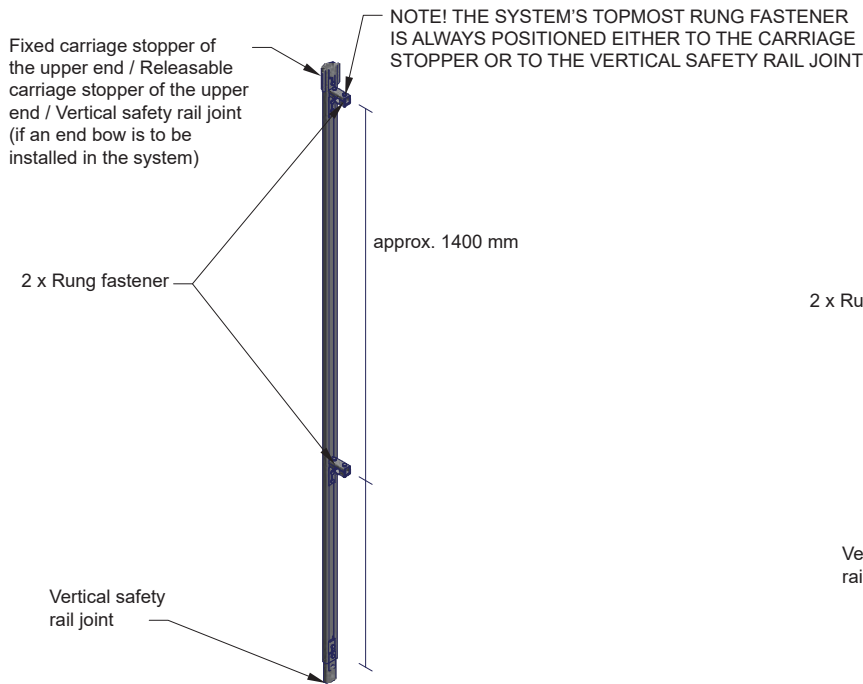
FIXED CARRIAGE STOPPER FOR THE LOWER END



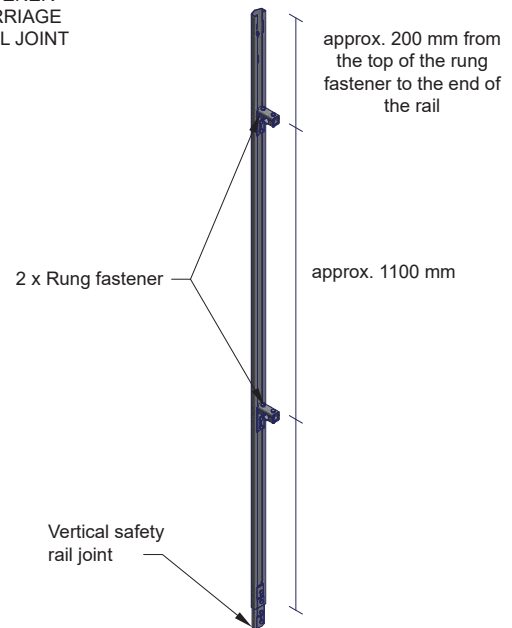
Preliminary preparation of the vertical safety rails before installation

- The dimensions below can be used for ladders which have a rung spacing of 300 mm (such as the Pisko wall ladder). If the ladder has a different rung spacing, the dimensions during the preliminary preparation must be determined in accordance with the rung spacing such, that the maximum values presented on the following page are not exceeded in the final installation. If required, add more rung fasteners.

TOPMOST RAIL



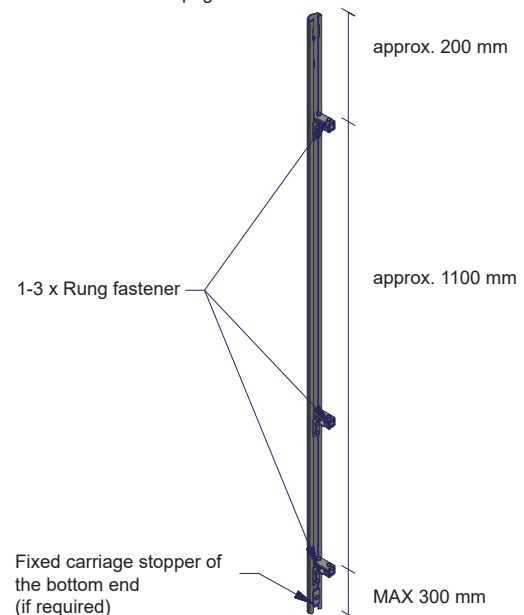
MIDDLE RAILS



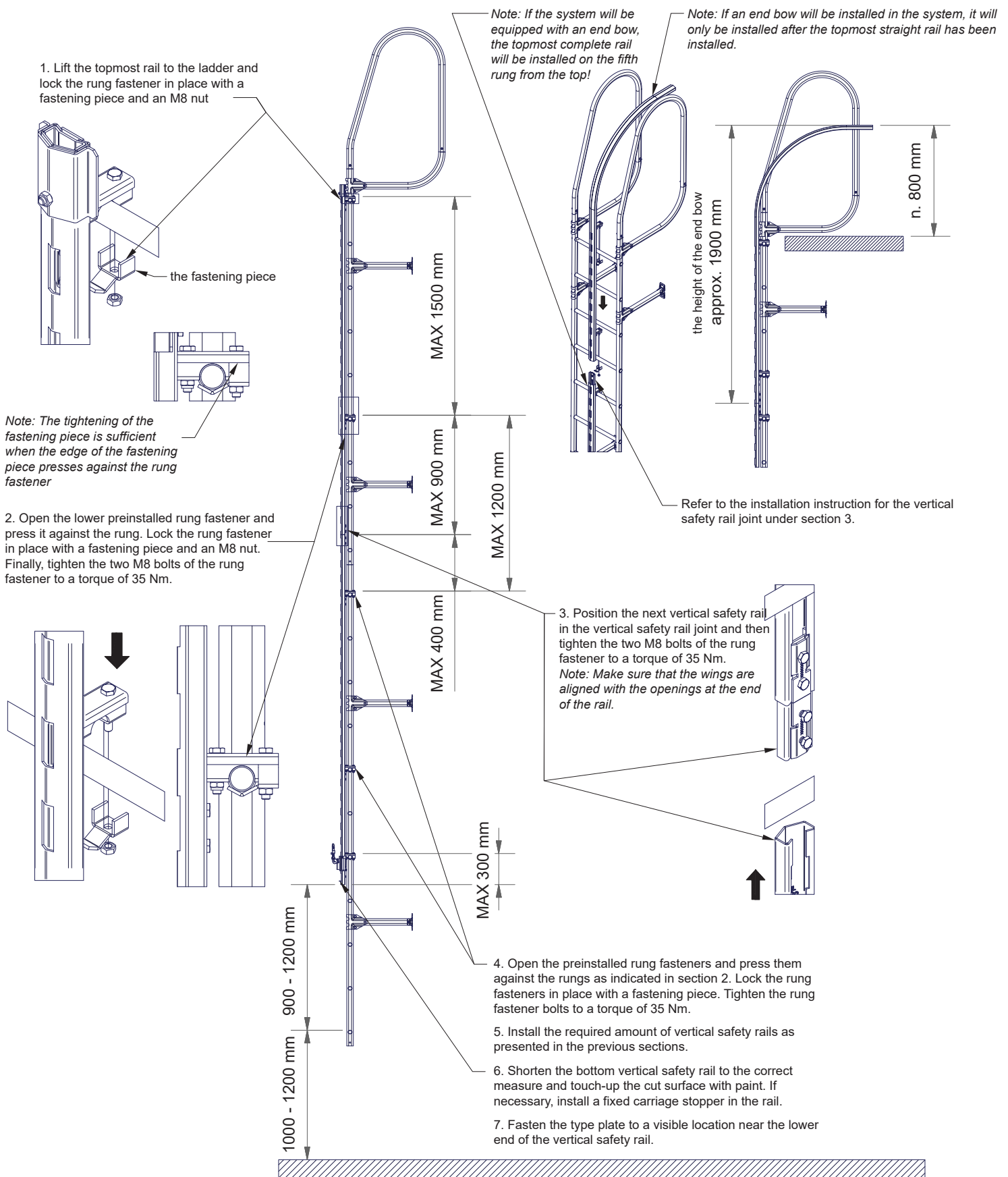
BOTTOM RAIL

- Will be prepared only when the rest of the system has been completely installed in the ladder
- Will be cut to measure
- A minimum of two rung fasteners are needed, so that the maximum values presented on the next page will not be exceeded

END BOW



Installation of the vertical safety rails to the ladder



INSTRUCTION FOR USE

General information

The Pisko vertical safety rail system is a fall arresting safety device which can be installed on fixed ladders. The ladder and its fastenings must be able to absorb the energy created by the vertical safety rail system in case of a fall. House ladders and the fastenings have verification certificate instructions compiled by the Ministry of the Environment in 2014 which specify the requirements for house ladders equipped with fall arresters. The reliability of ladders and fastenings without a verification certification must be ensured case-specifically by the construction designer or the ladder manufacturer. In case of a fall, the vertical safety rail system will cause a maximum 6 kN downward force which can be used as the initial value when assessing the reliability of a ladder system. The vertical safety rail system has been tested with a static force of 15 kN (6 kN x 2.5 = margin of safety).

The vertical safety rail system consists of a rail installed to the ladder in a fixed manner and a climbing carriage which moves along the rail. The user of the system attaches him- or herself to the climbing carriage with a standard EN 361 full body harness with a fastening point at the front. The lower and upper end of the vertical safety rail can be equipped with a fixed carriage stopper. Releasable carriage stopper can only be mounted the upper end of the vertical safety rail.

Note: No changes can be made to the vertical safety rail and the climbing carriage without a written permission from the manufacturer. Also any potential repairs must be implemented in accordance with the manufacturer's procedures.

The vertical safety rail system has been designed for use in operating temperatures up to -25 degrees Celsius. If the intention is to use the system in freezing temperatures, the climbing carriage must be stored away from the elements in a dry storage space.

Note: If the lower end of the safety rail is equipped with a fixed carriage stopper and the climbing carriage is stored attached to the rail, the climbing carriage needs to be protected from humidity or otherwise its use is prohibited in temperatures below the freezing point!

To prepare for emergencies, property's rescue plan must be available to the user.

Responsibilities of the user and the tasks to be carried out prior to each use

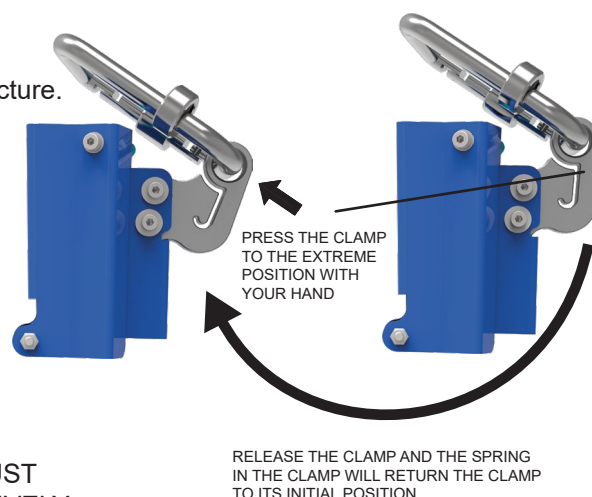
The user must read through the instructions for use thoroughly and make sure that he or she is competent in using the system safely in accordance with the instructions for use. The user must have enough knowledge on personal protective equipment, such as harnesses, carabiner hooks etc, and also on their use in fall arresting. In addition, the user must be accustomed to working in heights, and to be sure that working in heights does not cause the user any other health hazards.

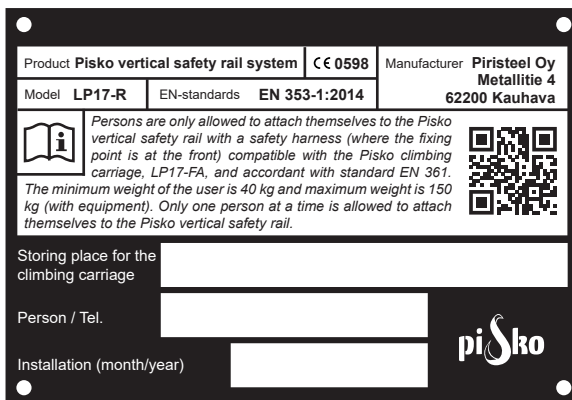
Other user restrictions of the system:

- 1 user/climbing carriage/vertical safety rail
- Maximum weight including equipment 150 kg
- Minimum weight including equipment 40 kg

Before each use, the user must perform the following inspections on the system. (If any deficiencies are detected for any of the items listed below, the system must be inspected in full by an inspector authorised by Pisko):

- Check whether the official commissioning inspection and the required periodic inspection every 12 months have been carried out.
- Check the functioning of the carriage's spring-loaded clamp in accordance with the adjacent picture. After releasing the clamp, it should automatically reset to the initial position as specified in the picture.
- Visually inspect that the rail has a sufficient amount of rung fasteners, approx. one every 1.2 metres.
- Visually inspect that the carriage, the rail or the ladder and its fastenings do not have any visible damage.
- Make sure that the type of the climbing carriage used is suitable with the type of the vertical safety rail. Type information can be found on the climbing carriage and on the type plate placed near the lower end of the vertical safety rail (picture on the following page).
- If the system has already been used to arrest a fall, the system cannot be used again before an authorised inspector has inspected the system. **NOTE! THIS ALSO APPLIES TO A RESCUE SITUATION WHERE ANOTHER SAFETY LANYARD FASTENING LOCATION MUST BE USED FOR SECURING THE SAFETY LANYARD OR ALTERNATIVELY A PERSONNEL HOIST MUST BE USED.**





Information on the climbing carriage:

- The carriage is the right way around when the arrows point upwards
- Weight of the user including equipment
- Read the instructions for use
- Product standard
- The number of the notified body participating in the quality assurance of the product
- Traceability number
- Type of the climbing carriage
- Type of the vertical safety rail
- Manufacturer

Note: If the user has reason to suspect that the system has not been installed in accordance with the installation instructions, or that changes have been made to the system contrary to the manufacturer's instructions, the system cannot be used before an authorised inspector has inspected the system!

Use

The arrow on the label on the climbing carriage should always point up when the carriage is connected to the rail, both when climbing up and descending down.

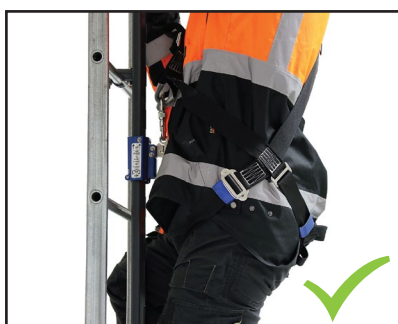
Note: The carriage's clamp mechanism prevents use of the carriage when it is upside down during climbing. If the carriage is detached from the rail at the top of the rail, the carriage can be placed on the rail upside down. THE USER MUST THEN USE SPECIAL CARE WHEN ATTACHING THE CARRIAGE CORRECTLY TO THE RAIL, BECAUSE OTHERWISE THE CARRIAGE WILL NOT ARREST A FALL!!



1. Attach the carriage to the harness using a carabiner and climb to the first rung of the ladder. Note: If the rail has a fixed carriage stopper at the lower end and the carriage is already on the rail, attach the fastening loops of the harness to the carabiner after you have climbed on the ladder. You cannot add or remove any connection loops from between the climbing carriage and the harness.
2. Place the carriage on the rail.



3. The carriage is designed to follow the user lightly without the user having to lean backward. When climbing, keep the fastening point of the harness as close as possible to the rail. This is emphasised when descending, and is best done by holding on to the ladder stiles (vertical posts) by hand.



4. If the upper end of the rail is equipped with a releasable carriage stopper, push the moving clamp on the carriage stopper away from the rail and slide the carriage off from the rail. *Note: Attach yourself with a second safety lanyard to a another safety lanyard fastening location before you detach the carriage from the rail. The same applies, if you transfer to a ladder equipped with a vertical safety rail from the upper end, you need to be attached with a second safety lanyard to another safety lanyard fastening location for as long as the carriage is below the releasable carriage stopper.*

Other things to consider during use:

- Make sure that the harness matches the requirements provided in standard EN 361, and that the harness has not been damaged. In addition, adjust the harness to the correct measurements before use of the system, and, if required, also adjust the harness during use.
- The total falling distance of the user before the device arrests is less than 1.0 m. Make sure that there is a minimum space of this distance under you.
- Check from the rescue plan how to act in a case of emergency, before you climb on the ladder.
- The carriage should not be handled manually after you have fastened your harness to it; the carriage is intended to move along freely with the user. When descending, if the carriage gets stuck, you can resolve this by climbing slightly up again, and the clamp will then be released from the rail. *Note: Descending requires precision and finding the correct descending position. It is recommended that you hold on to the stiles of the ladder with your hands.*
- The vertical safety rail system is a system intended only for arresting a fall, and it can be used for protecting against a fall when ascending or descending. It is not intended for use as safety equipment to prevent a fall.

SERVICE LIFE, TRANSPORT AND MAINTENANCE INSTRUCTIONS

Climbing carriage

The components, bolts and nuts of the climbing carriage which absorb the energy have been manufactured either from stainless steel or brass. The welded stainless steel frame has also been powder-coated. The material of the rolls supporting the gliding motion have been made from polyacetal which is an extremely durable plastic polymer. Slight wear of the plastic parts does not affect the safety of the product, or the product's sliding on the rail in a significant way. The service life of the carriage is a minimum of 10 years depending on frequency of use, and the condition of the climbing carriage is assessed during the periodic inspection.

The climbing carriage must be dried and cleaned after each use. The cleaning can be done using cleaning agents suitable to use on stainless steel and brass. Before using them, make sure that they do not damage the plastic parts. When placing the climbing carriage into storage, it must always be dry.

Vertical safety rail, rung fasteners and carriage stoppers

The basic material of the vertical safety rail and the fasteners is hot-galvanized 275 g/m² steel which has been powder-coated. Piristeel Oy grants the system a technical warranty of 30 years assuming that the surfacing defects potentially detected during the periodic inspections have been repaired in accordance with the manufacturer's instructions.

The vertical safety rail should endure the periodic inspection intervals without servicing. However, if you detect imperfections on the painted surface, they should be painted with suitable touch-up paint.

Transport instructions

The parts composing the Vertical Safety Rail System are packaged by the manufacturer onto pallets for transport, making it possible to load and unload the products with, for example, a forklift without damaging them. The Vertical Safety Rails are bundled together, and the smaller components are packaged separately.

Materials should be inspected carefully on site to verify their quantity and condition. For deficiencies and any damage during transport, notify the supplier within 7 days of receipt of delivery.

Commissioning and periodic inspections

After the vertical safety rail system has been installed, an inspector authorised by Pisko must perform a commissioning inspection of the product (a list of the authorised inspectors can be found on the manufacturer's website). The fitter can also act as the inspector, which means that the commissioning inspection is performed during installation. During the commissioning inspection, the information on the system is filled out in the appended inspection card. The information will include the type and installation date of the vertical safety rail and the climbing carriage.

The system also needs to be inspected by an authorised inspector every 12 months or after a potential fall arrest. Issues and tasks to go through in the inspection:

- Existence of instructions for installation, operation and maintenance
- Visual inspection of all system components and their intactness
- Repair and touch-up painting of possible paint damage and rust defects
- Installation method in accordance with the installation instruction and especially the following issues:
 - The topmost rung fastener below the carriage stopper or the vertical safety rail joint (Rung fastener is always positioned either to the carriage stopper or to the vertical safety rail joint)
 - The maximum interval between fasteners in an intact rail is 1.5 m and 1.2 m around a joint
 - Location of the vertical safety rail joints in relation to the rung fasteners
- Visual checking and spot testing of bolt tightness
- Condition of the climbing carriage spring
- Label of the climbing carriage
- Testing of the climbing carriage clamp on the rail. Drop the empty carriage without a user (the carriage should lock into the openings in the rail)
- Testing the carriage motion by climbing
- Existence and correctness of the type plate

All deficiencies and faults detected during an inspection must be corrected before recommissioning the system. Procedures performed during an inspection are marked in an inspection card.

COMMISSIONING AND INSPECTION REPORT

Commissioning inspection

Commissioning date

Information of the vertical safety rail system		
	Type	Installation date
Climbing carriage		
Vertical safety rail		
Observed faults and implemented repairs		
Pisko-authorized inspector	Signature	Name in block letters

Periodic inspection

Date	Observed faults and implemented repairs	In effect
Inspector		
Date	Observed faults and implemented repairs	In effect
Inspector		
Date	Observed faults and implemented repairs	In effect
Inspector		
Date	Observed faults and implemented repairs	In effect
Inspector		
Date	Observed faults and implemented repairs	In effect
Inspector		

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