

INSTALLATION GUIDE

CLIMB HIGHER, SAFER
AND MORE EFFICIENTLY
Turvatikas Safety Ladder®

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Eltel will retain the right to modify this document during its valid time and afterwards.



**SF Safety System -
Finnish fall arrest system for masts
and other high structures**

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1 INSTALLATION OF SAFETY PROFILE B TO EXISTING LADDERS

1. The ladder rungs should be at least 350 mm wide to allow sufficient space for feet between the safety profile (climbing profile B) and flange.

2. Spacing between fasteners:

- Spacing should be a maximum of 2,5 m
- 2 fasteners must be installed at the top with a spacing of maximum of 1 m
- **See Section 3 – INSTALLATION OF END BOWS**, if an entry bow is employed
- Existing ladders must be checked for reliable fitting.

3. Start the installation from the top downwards, using, for example, a pulley block and rope fitted to the top to lift the safety profiles into position. If the user needs to disengage from the ladder at the top (roof case), an entry bow must be installed on the upper part of the ladder (see Section 3). If an entry bow is not installed, the uppermost profile should be a minimum of 3 m long.

N.B.

The safety profile can alternatively be installed laterally, e.g. on the tower prior to lifting. In this case, care must be taken to ensure that the free end of the profile is not too long so that it does not get damaged during lifting.

4. Fasten extension sleeve no. 71 loosely onto the end of the safety profile. The safety profile cannot be installed the wrong way round as it is symmetrical.

5. Lift the first profile against the ladder and fasten it under the entry bow so that it is suspended from the extension sleeve (when installing in the lateral position, the profile must not be left suspended from the extension sleeve). Check that the profile settles in the centre of the ladder.

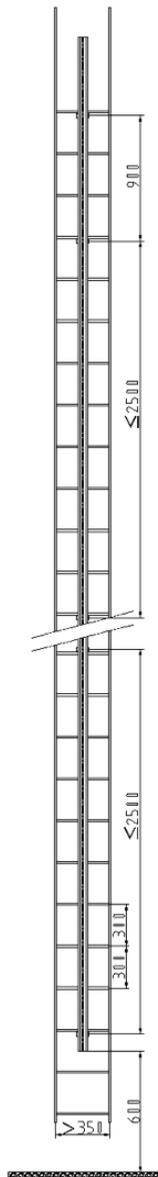
6. Fasten the profile to the ladder using fasteners no. 10 or 20. **See Section 4 – INSTALLATION OF CLAMPS**

7. Lift the next profiles under the previous ones and fasten them as described above.

8. When tightening extension sleeve no. 71, make sure that the gap in the profile does not become smaller than 15 mm. The size of the gap must not alter in the extension. The gap can be adjusted using the fastening bolt on the sleeve. The end of the profile can also be modified, for example, using a heavy rubber mallet.

9. The carriage must be prevented from slipping out of the end of the profile by employing carriage stoppers no. 85 or 89 when an entry bow is not being used. If the distance between the profile and ground level exceeds 60 cm, a carriage stopper should also be installed on the lower end of the profile (**see Section 5 – CARRIAGE STOPPERS**)

10. Climb the full length of the ladder and check that the carriage moves flawlessly particularly in the extension parts (**see Section 10.1 – COMMISSIONING INSPECTION**).



2 INSTALLATION OF SAFETY LADDERS TBA, PTBR OR PTBK

1. Spacing:

- The spacing must be a multiple of 300 mm, i.e., 1500mm/ 1800mm/ 2100mm, so that the fastener does not hit the rung.
- 2 fasteners must be fastened to the top at maximum 1 m interval.
- The booms of the PTBR ladder are supported and the attachment is sufficient if both ends are fastened, if the ladder is also fastened by its booms with e.g. U-bolts.
- At least 150 mm should be left between the end of the profile and the ground to provide possibility to slip the carriage into the profile
- While using an entry bow refer to **Section 3 – INSTALLATION OF END BOWS.**

2. Begin the installation from the top downwards. In lattice towers or similar, the installation can often be performed from the lattice using a pulley and rope positioned at the top, which are used to hoist the ladder parts up.

Installation on columns, walls etc. generally requires the use of scaffolding, a lifting platform car etc.

N.B.

The safety ladder can also be fitted laterally, e.g., on the tower prior to lifting. Care must then be taken to ensure that the free end of the ladder is not too long so that it does not get damaged during lifting.

The safety ladder can also be fitted for example, to a chimney whilst the bricks are being laid. In that case, the top ladder should always be fastened temporarily with two clamps 1m apart, as described above.

3. Fasten the safety ladder with clamps no. 15, 20, 21, 22, 23, 26, 30, 31, 32, 35, 37, 38, 40, 44, 50, 51, 52, 461, 462 or 463. (see **Section 4 – INSTALLATION OF CLAMPS.**)

4. Perform the rest of the installation in accordance with Instructions 4. and 6.–10. in Section 1

3 INSTALLATION OF ENTRY BOWS B50 AND PTBK 59

The entry bow bends towards the top platform to ensure transfer to the platform prior to disengagement from the rail.

Entry bow no. B 50 for profile B

1. Bow B 50 should be fastened approximately 80 cm above the platform and fastened to the uppermost rung and to the next rung approximately 1 m away.

Top of boom ladder including entry bow PTBK 59

2. Boom ladder PTBK 59 should be fastened so that the uppermost rung is aligned with the top platform. The uppermost clamp should be fitted as high up as possible and the next one approximately one meter lower down. The removable handrails should be fastened to the platform first and then to the flanges using press clamps.



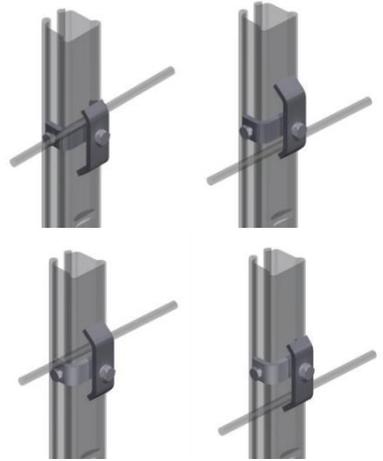
4 INSTALLATION OF FASTENERS

4.1 RUNG FASTENER No. 10

For installing safety profile B

To be used when fastening a safety profile to ladders with a rung diameter of $\varnothing = 16\text{--}25$ mm. (Fastener no. 20 should be used with other rungs).

1. Base part (clamp) no. 15 should be fastened either underneath or over the ladder rung.
2. The length of the clamp's bolt (M12) must be adjusted to the thickness of the rung:
 - the bolt must pass through the base part.
 - the bolt must not put too much pressure on the base of the profile, but it can slightly push it.
3. The length of the clamp's bolt should be adjusted using washers or by selecting a suitable basic length.
4. Make sure that the clamp is straight and in the middle of the profile.
5. Locking bolt M10 and base bolt M12 should be firmly tightened with a spanner, see Section 4.2 – BASIC CLAMP No. 15.



4.2 BASIC CLAMP No.15

To be used for mounting a ladder or profile on various steel structures of, thickness 5–10 mm. A longer base bolt (M12x20) will allow fastening to thicker structures.

1. Mount the clamp in the steel structure using the base bolt (M12). Check that the bolt passes through the clamp and that all of the thread is used. The length of the bolt can be adjusted to some extent using washers.
2. After mounting the ladder/profile, tighten the base bolt (M12) and the locking bolt (M10) firmly. When tightening the locking bolt (M10), care must be taken to ensure that the slot in the profile does not shrink to less than 15 mm.



4.3 UNIVERSAL FASTENER No. 20, 21 and 22

For general installations of safety profile and safety ladders

To be used for mounting:

- A safety profile to thick or angular ladder rungs.
- A safety ladder to a tower lattice framework, diagonal bars or other steel structures.

The size of the clamp should be selected to correspond to the cross-Section of the steel structures:

- Fastener no 20: L = 22–59 mm, H = 68 mm
- Fastener no 21: L = 22–67 mm, H = 93 mm
- Fastener no 22: L = 22–125 mm, H = 164 mm (On request, it is possible to get a bigger version of the no. 22)

1. The shorter thread of the dowel bolts should be screwed in to the basic clamp so that the tip of the bolt emerges a couple of mm out of the basic clamps.
2. The basic clamp should be "twisted" over the profile on both sides of the tower lattice framework, diagonal bar, ladder rung etc. of the mounting position. The upper basic clamp must rest on the steel structure and the lower clamp should be at a distance from the upper part equal to length of the back support of the clamp (Dimension H)
3. The locking bolts (M10) of the safety profile should be tightened firmly with a spanner. **See also Section 4.2 – BASIC CLAMP No. 15.**
4. The locknut should be screwed into the lower dowel to roughly the thickness of the steel structure.
5. Mount the back support of the clamp, and tighten the nuts (M12) firmly with a spanner.



4.4 PYLON FASTENER No. 31 (Named also Level Fastener) for mounting safety ladders TBK/PTBK onto narrow pylons

To be used for mounting a safety ladder onto round pylons (\varnothing max. = 800 mm). Use support no. 35 when mounting on thicker pylons to secure adequate room for the feet.

1. Install bearing supports vertically.

N.B.:

The space between the supports should be a multiple of 300 mm (1500mm/ 1800mm/ 2100 mm) to avoid the support being positioned near a ladder rung.

2. The bearing supports are to be fastened:
 - with cotter bolts (G3) 16mm x 115 mm or similar anchoring to concrete surface
 - with bolts M16 to metal surfaces
3. A supporting bar (60 mm x 8 mm) can also be welded to metal pylons, by drilling a $\varnothing = 13$ mm hole in the face for the base clamp's bolt.
4. The base clamp should be placed on top of the profile in the correct rung gap.
5. Tighten the joint bolt (M12) of the supporting bar and base clamp, and the side bolt (M10) of the base clamp firmly with a spanner (**See also installation of BASE CLAMP no. 15 in Section 4.2**)



4.5 LEVEL FASTENER No. 35 Installing safety ladders (TBA/PTBK) onto walls, buildings etc.

To be used for mounting a safety ladder onto wall surfaces, thick pylons etc. The wall-to-rung space for the toes is 200 mm.

1. It is recommended to install the bearing supports alternately horizontally and vertically.

N.B.:

The space between the supports should be a multiple of 300 mm (1500mm/ 1800mm/ 2100 mm) to avoid the support being positioned near a ladder rung.

2. The bearing supports are installed:
 - On brick and concrete surfaces using cotter bolts (G3) 16 mmx155mm, or similar anchoring
 - On metal surfaces with M16 bolts.
3. A supporting bar (60mm x 8mm) can also be welded to metal pylons, by drilling a $\varnothing = 13$ mm hole in the face for the base clamp's bolt.
4. The base clamp should be placed on top of the profile in the correct rung gap.
5. Tighten the joint bolt (M12) of the supporting bar and base clamp, and the side bolt (M10) of the base clamp firmly with a spanner.



4.6 POLE FASTENER No. 45

To be used for mounting a ladder or profile on various pipe structures. The fasteners are made to the given dimensions of D and L.

1. Mount the clamp on the pipe by tightening both mounting bolts (M12) firmly.
2. Basic clamp no. 15 is then mounted loosely at the end of the other clamp. After installing the profile or ladder, tighten the bottom screw (M12) of the basic clamp and the lock screw (M10) on the side, see separate installation instructions in **Section 4.2 – BASIC CLAMP No. 15**.



4.7 WALL MOUNT No. 114 ... 119

To be used for ladder protrusions of 40 - 90 cm from the wall. The mount length can be selected in 10 cm steps. for example, ladders on buildings should be a minimum of 20 cm from the outermost part of the building (usually a gutter).

1. The mounts must be fastened firmly to the wall structures. Fasten them to brick and concrete surfaces using wedged bolts and to wooden structures using through bolting. Use at minimum 10 mm bolts.
2. Install the mounts on the ladder beams using clamps.
3. The mounts should be installed with a spacing of a maximum of 3 m, however each ladder Section should have at least one pair of mounts and the lowest ladder Section should have two pairs of mounts.



5 CARRIAGE STOPPERS

5.1 RELEASABLE CARRIAGE STOPPER No. 85A

NOTE! To be used simultaneously with Carriage Guide no. 84
To be installed on the upper end of ladders or a profile to prevent the carriage from slipping out accidentally.

1. Slide the carriage stopper into the extension holes so that the handle is on the left side.
2. Install the washer and cotter pin.
3. Check that the carriage stopper does not rub the sides of the profile in any position and that it operates with adequate "clearance". Bend the U-bow slightly if necessary.
4. Test the functioning of the stopper with carriage.



5.2 CARRIAGE GUIDE No. 84

To be installed on the upper and lower end of ladder or a profile to prevent the carriage being inserted incorrectly.

1. Slide the Carriage Guide into the rail before mounting Carriage Stopper No. 85 so that the locking bolt is on the left side of the rail.
2. Tighten the locking bolt (M10).
3. Test that the climbing carriage cannot be inserted the wrong way.



5.3 RELEASABLE CARRIAGE STOPPER No. 851

To be installed on the lower end of ladders or a profile to prevent the carriage from slipping out accidentally if the profiles end is higher than 60 cm from the ground. The vertical carriage stopper is installed at the lower end of Vertical Profile B, at a height of roughly 60–130 cm from the level from which the user steps onto the ladder.

1. Slide the carriage stopper to the lower end of a ladder or a profile in such a way that fastening bolt (M12) hits the base notch of the profile.
2. First tighten locking bolt (M10) tight and then tighten fastening bolt (M12).
3. Test the functioning of the carriage.



5.4 FIXED CARRIAGE STOPPER No. 89

To be installed as a permanent carriage stopper.

1. Mount the fixed carriage stopper on top of the profile and tighten side bolt (M10) firmly with a spanner.
2. The profile must have a minimum of 50 mm of free end for the stopper.

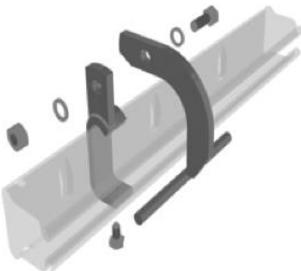


5.5 RELEASABLE LATERAL CARRIAGE STOPPER No. 86

Lateral carriage stopper no. 86 is fitted to lateral profile VB to stop the lateral carriage from slipping out accidentally.

The carriage stopper works in profiles with the slot sideways. If the slot is downwards, carriage stopper no. 81 must be used.

1. Install the clamp part of carriage stopper no. 86 above the profile.
2. Tighten the locking bolt and check the operation of the stopper



6 SEAT REST No. 105

The seat rest is installed between the profile rungs immediately below a rung. The seat rest does not hinder climbing and sitting is possible without releasing the carriage.

1. The seat rest is placed to the front of the ladder and locked in position by tightening both mounting bolts.
2. In high towers, a distance between rests of approximately 10–15 m is recommended.



7 LATERAL USE, BENDING AND INTERCONNECTIONS

1. The lateral safety profile (VB) can be installed either with the slot on the side or facing downwards. The profile is mounted at intervals of a maximum of 3 m using the clamps described earlier. Extensions should be located as close to fasteners as possible. The slot in the lateral profile should be mounted in the direction in which the tensile stress plays in the event of a fall.
2. Clamps are installed approximately at intervals of 3 m on straight paths. The profile must not be left suspended on extensions but attach a clamp on both sides of the extension. In practice on a 3-m profile there should be 2 clamps, one on each end, and on a 6-m profile 3 clamps, one on each end and one in the middle.
3. The safety rope should be in conformity with the EN 359 standard with length adjustment. The length must be adjusted so that the free fall is as short as possible in all situations.

Lateral mounting can be done using:

- Safety carriage no. 950/951 for horizontal use
- Safety carriage no. 951 is fastened to the belt using a safety rope, and it follows the user freely as he moves about the profile and does not jam.

N.B. Safety carriage no. 950/951 must under no circumstance be used for climbing.

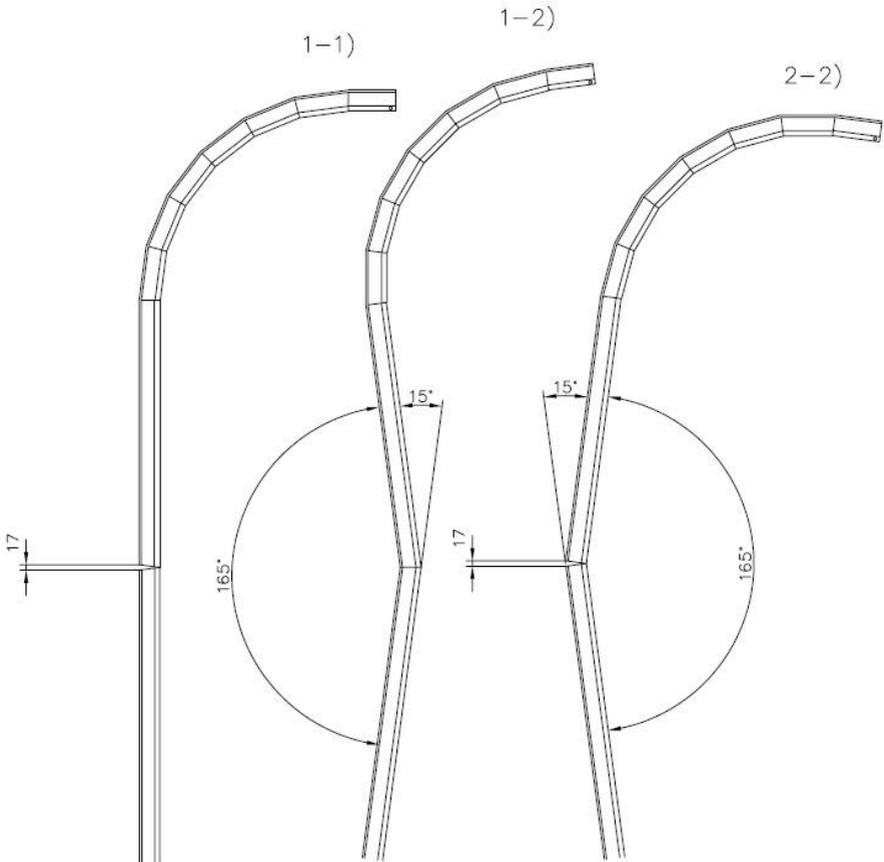
4. Bending and interconnections are possible. Please get in touch with the manufacturer where necessary.
5. On every profile there must be an end stopper

8 BENDING REQUIREMENTS

Vertical Profile B and the safety ladder may not be bent at an angle of more than 15 degrees, which allows all permitted climbing and safety carriages to go past the bends. The distance between bent sections must be at least 150 mm.

Vertical Profile B can be bent forwards, backwards and to the side. A safety ladder may only be bent forwards or backwards. The bending of the safety ladder forwards and backwards can be carried out at the worksite by sawing cuts into the safety rail's sides. Sawing the base of Vertical Profile B is forbidden. It is recommended that the sawed section of the ladder be painted with zinc paint to prevent corrosion. Any bending to the side is always carried out by the manufacturer. The manufacturer can also carry out bending forwards and backwards by request.

The recommended gap between joined vertical profiles is less than 5 mm. If all the fasteners and connections are secured appropriately, however, even a gap of 8 mm in one place does not yet pose a risk of the safety carriage slipping out.



9 COMMISSIONING AND TESTS

9.1 COMMISSIONING INSPECTION

A commissioning inspection must be performed on the system and its parts prior to use. The inspection is designed to determine whether the installation has been carried out in accordance with the instructions, and whether the mountings have been executed properly and the bolts tightened with care. The functioning of the equipment is also tested, and a protocol of the inspection is compiled. A trial climb should be performed.

Parts of the system are not to be changed with similar parts from other manufacturers.

9.2 VISUAL INSPECTION BY USER

Prior to use the user should always perform a visual inspection of the carriage as well as of other parts of the system. Attention must then be paid to the following aspects:

- The safety belt / full- body- harness is in the condition stipulated in the relevant regulation.
- The climbing carriage is in a proper condition. If an inspection the carriage reveals exceptional wear and tear, a broken spring (the latch of the carriage is not automatically outside of the carriage body) or an opening in the spring absorber of over 10 mm, the carriage must be immediately sent to the manufacturer or retailer for inspection and repair.
- The safety ladder structures as well as the structures onto which safety ladder system is fastened are intact and in good order.
- The bolts of all the clamps and extensions are tightened reliably.

A written notification of any defects observed must be sent immediately to the labour protection organization of the company or institution. Each defect must be rectified prior to use.

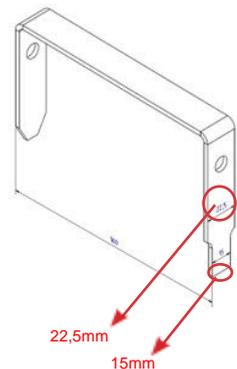
9.3 INSPECTION OF SYSTEM AND ITS PARTS

The safety ladder system must be inspected during commissioning. The system does not require annual inspection but the climber should visually inspect the system before use. If loose bolts or other defective parts are observed, the system needs to be put out of use until an authorised inspector has inspected the system.

Should a fall occur on the system, an inspection must always be performed by an inspector authorised by the supplier before further use.

The inspection should pay particular attention to the following aspects:

- Profile's slot is the correct size. Test the slot size with the calliper (picture on the right) which you can order from Eltel free of charge. The head of the calliper (15mm) needs to fit the profile hole but the rest of the calliper (22.5mm) may not.
- The safety ladder structures and also the structures which the safety ladder system is fastened to are intact, the weld joints are in good condition and there is no appreciable corrosion.
- The product markings on the structures and parts are readable



Climbing profile B:

- TURVATIKAS SAFETY LADDER = product mark
- CE0598 = notified body (before year 2020 mark is CE0403)
- SFS EN 353-1:2014+A1:2017 = standard applied
- No 930 CE or No 931 CE or No 932 CE and No 940 CE = only Climbing Carriages no 930/931/932/940 CE are allowed to be used in the profile.
- The bolts on the clamps and joints are correctly adjusted (no sills in the joints) and tight.
- The carriage stoppers, possible seat rests and other accessories are in position and intact.

- A trial climb should be performed.

If defects are detected during the inspection, the system should be banned from use until the defects have been rectified. A protocol of the inspection should be compiled. All inspections should be marked on the product register enclosed with the installation instructions.

N.B. carriage guides are installed into places, where carriages can be installed or removed from the profile.

9.4 INSPECTION OF PERSONAL ACCESSORIES

A basic inspection of personal accessories (climbing carriages) is to be performed in connection with the annual inspection of the other personal accessories (safety belts/harnesses and ropes).

Ensure the product markings are readable.

If an inspection of the climbing carriage reveals exceptional wear and tear, a broken spring (the latch is not automatically outside the carriage body) or an opening in the spring absorber of over 10 mm, the carriage must be taken out of service immediately and sent to the manufacturer Eltel Networks Corporation for inspection and repair. A protocol of the inspection should be compiled.

Under no circumstances should the user try to repair the carriage – instead it should be always sent to Eltel Networks Corporation for repair.

The carriage should be taken out of service after any fall by the user.

Check the product markings from the operation instructions for the climbing carriage.

9.5 TYPE EXAMINATION AND QUALITY ASSURANCE

The climbing carriage/ safety rail combination has been tested according to the EN 353-1:2014+A1:2017 standard and method CNB/P/11.073 and meets the requirements of the European Union directive on personal protective equipment 2016/245.

The type examination certificate has been granted by the SGS Fimko, Takomotie 8, 00380 Helsinki, notified body 0598. SGS Fimko also monitors the uniform quality of production.

The horizontal carriage/ profile combination has been tested in accordance with Standard Proposal EN 795:2012.

10 MAINTENANCE

The structures of the climbing carriages are made of stainless steel, nylon or bronze, and so they are not prone to corrosion and weather damage. The carriages have no joints or precise fits. They do not need to be oiled or greased. The carriages withstand even rough handling and there are no special requirements for their storage or maintenance.

The fixed steel structures in the system do not require special maintenance or storage either.

11 INSTRUCTIONS AND FUNCTIONS

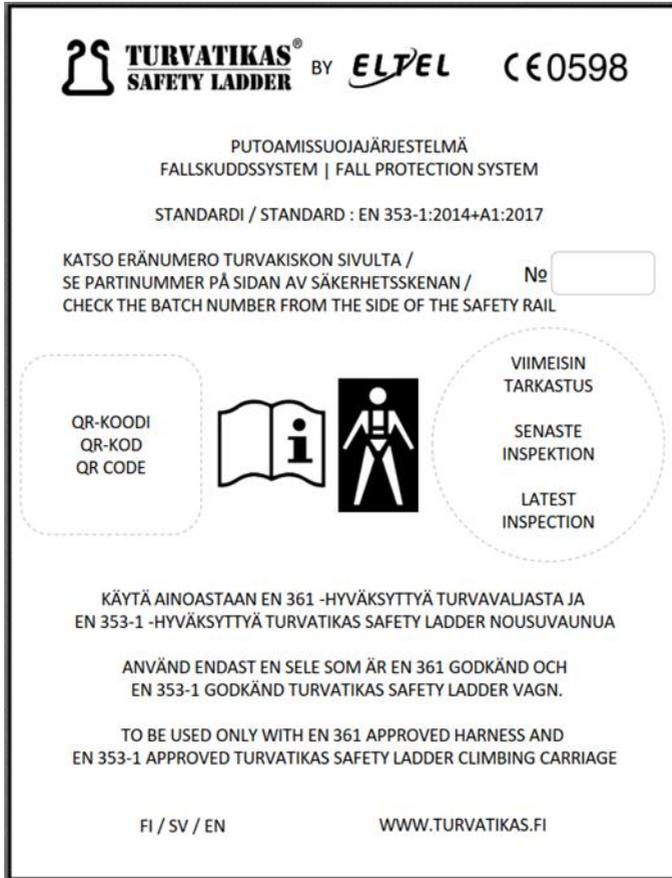
1. The safety harness should be a CE approved full-body-harness conforming to the EN 361 standard. There must be D-ring or other approved attachment point (A or $2 * \frac{1}{2}A$) for the attachment on the frontside of the full-body-harness. Connect the climbing carriage to the attachment point using a snap hook, which comes with the carriage the carriage. When working on masts the safety harness should have two fixed ropes one of which has an adjustable length (sliding regulator). Follow the instructions for use supplied with the full-body harness and safety rope carefully. Always check that the climbing carriage is compatible with the safety rail. (see Section 10.3 - Inspection of system and its parts.)
2. In vertical use, the distance between the safety harness and the carriage should be adjusted so that the leaning angle is as small as possible (small changes in the tightness of the belt make a significant difference). The strain on the belt is then minimal. However the climber's knees should not come into contact with the ladder rungs.
3. Lean gently on the safety harness when climbing. The carriage springs will then yield and the carriage will move without obstruction. The hands are needed mainly for steering the climb. The leg muscles perform the work and climbing is easy.
4. If the dragging force acting on the carriage ceases – e.g. during a fall – the safety carriage turns and locks onto the next recess claw of the profile at a maximum distance of 15 cm.
5. Horizontal carriages for lateral use must under no circumstances be used for vertical climbing. The carriages have broad tolerances for use and their structures are made of stainless steel or other non-corrosive material. The structure of the carriages has been developed for aggressive use, which means that prolonged heavy use in poor conditions will not prevent their reliable functioning.
6. Several users at a time may work on safety profile but please ensure that distance between users is at least 3 m.

RESCUE PROCEDURE

A rescue plan must be prepared prior to each operation and feasible methods of rescue must be ready to put into action in case any problem with the climbing carriage arises during operation.

12 SIGN PLATES

1. The safety ladder should be fitted with a clearly visible sign plate advising climbers to use a climbing carriage and full-body-harness whenever they mount the ladder. There should be an additional plate indicating where the safety equipment is kept. The signs must be in the local language.
2. The walking paths of the safety rails on the roof should be fitted with a clearly visible instructions plate advising users to use a lateral carriage and full-body-harness whenever they are on the roof. There should be an additional plate indicating where the safety equipment is kept.



The picture shows sign plate in Finnish, Swedish and English.

13 INSPECTION

Inspectors that have completed a training that is accepted by manufacturer and thus earned a certificate are allowed to accept errors using 5% margin of error and common sense.

MODEL / TYPE Safety profile B		SERIAL NUMBER
MANUFACTURER Eitel Networks Corporation Fax:+358 20 4114653	ADDRESS Laturinkuja 8, 02650 ESPOO FINLAND	E-MAIL / WEB SITE safetyladder@eltelnetworks.com www.safetyladder.fi
YEAR OF MANUFACTURE	DATE OF PURCHASE	COMMISSIONING DATE

14 INSPECTOR'S CHECK-LIST

The safety ladder system must be checked during commissioning and before each use (at least visually) and every time after a fall has occurred. The inspection must be done by an authorised inspector immediately whenever the user states some lack or defect in the system. Checking must be done by following the check-list.

THE INSPECTING TARGET	THE DEFINITION	OK	NOT
Fasteners and bolts	<ul style="list-style-type: none"> - Screws and bolts proved to be in right condition and attached in a proper way. - Tightened firmly 		
Seat belt/harness	<ul style="list-style-type: none"> - In accordance with the instructions of the equipment inspection 		
The safety carriage	<ul style="list-style-type: none"> - No visually worn offs, the nylon/aluminium cones aren't worn out. - The string is working, stopper tooth automatically outside and moves freely. - Spring absorber opens less than 10 mm - Carriage tires rivets are not loosen. - More specific climbing carriage inspection instructions can be found at website https://www.turvatikas.fi/installations. 		
Other structures	<ul style="list-style-type: none"> - Intact and in good shape - Welding lines okay and no significant corrosion damage 		
Safety ladder structures	<ul style="list-style-type: none"> - Carriage barriers, landing, etc. accessories are in place and intact 		
Profile	<ul style="list-style-type: none"> - The profile's slot is right size. Test the slot size with the inspection calliper = maximum width 22,5mm, minimum 15mm. (check Section 10.3.) 		
Labeling of the product	<ul style="list-style-type: none"> - Visible structures, Safety ladder mark and logo. - Three digit year and batch number. - Standard and compatible climbing carriages. 		
Test climbing	<ul style="list-style-type: none"> - The carriage moves well - The brake works 		

If defects are detected during the inspection, the system should be banned from use until the defects have been rectified. A protocol of the inspection should be compiled. All inspections should be marked on product register enclosed to the installation instructions.

15 TECHNICAL DATA SHEET

PRODUCT INFORMATION	Product type	Guided type fall arrester including a rigid anchor line
	Brand name	Turvaticas Safety Ladder
	Provider	Eitel Networks Oy
	CE number	0598
	Material	Hot-dip galvanized steel, Acid proof steel - AISI 316
	Zink class	Mean layer thickness 55µm
	Zink corrosivity category	C4 (EN 12944-2 and EN ISO 14713-1)
	Applications	High structures, horizontal levels and pre-existing ladders
	Compatible	All Turvaticas Safety Ladder components
	Stopper tooth distance	15 centimetres
	Steel material	S355MC/JJA EN 10149-2:2013
	Delivery lengths	3m (All products), 5m (Profile-B), 5.7m (PTBR, Profile-B), 6m (Profile-B)
	Warranty period	36 months
	Country of origin	Finland
PRODUCT CERTIFICATES	EU	EN353-1:2014+A1:2017
	Germany	DIN 18799-2:2009-05 (TBA-2, PTBJ)
PRODUCTION CERTIFICATES	Quality	ISO9001
	Responsibility	ISO14001

Quality

EN1090-1:2009+A1:2011

Galvanization standard

EN ISO 1461

SF Safety Systems - Finnish fall
arrest system for masts and other
high structures

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