1. USER AND INSPECTION INSTRUCTIONS

2. TURVATIKAS SAFETY LADDER

CLIMB HIGHER, SAFER
AND MORE EFFICIENTLY

CE

These user and inspection instructions must
always be followed when using and inspecting
Turvatikas Safety Ladder products.

The latest version of these instructions can be found at www.turvatikas.fi

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

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2019

v. 3.1 / KN

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1. PURPOSE OF USE

The **Turvatikas Safety Ladder** system (hereinafter referred to as “the safety ladder system”) is the combination of Vertical Profile B (also referred to as safety rail, vertical rail, safety profile or vertical profile) and Climbing Carriage No 932 (also referred to as safety carriage or climbing carriage), which is designed for use by persons to protect them from hazards posed to their health and safety while climbing.

The safety ladder system is intended for use either as part of an existing ladder, in which case Vertical Profile B is attached to the ladder with fasteners suitable for the installation site, or as a completely separate safety ladder system, in which case the ladder, with its steps and any handrails, is also part of the safety ladder system.

A person using the safety ladder system must wear a safety harness suitable for this purpose in accordance with the instructions provided on safety harnesses and attach the harness to the safety ladder system’s Climbing Carriage No 932, which in turn must be installed on the safety ladder system’s Vertical Profile B in accordance with the instructions provided on the use of the safety carriage.

The safety ladder system is intended for use when climbing and descending; it is not intended for use as a safety device when working. The person must always use separate lanyards to fasten themselves to the fixed structures of the construction where the work is taking place.

The safety ladder system is tested in accordance with standard EN353-1:2014+A1:2017, and it meets the requirements of Regulation (EU) 2016/425 on personal protective equipment.

The type-approval certificate is granted by SGS Fimko, Topeliuksenkatu 41b, 00250 Helsinki, notified body 0598. SGS Fimko also monitors the homogeneity of production.

2. WARNINGS AND CONSIDERATIONS

The safety ladder system may only be used by a person with sufficient training and experience to use the system safely.

The person using the safety ladder system must not be under the influence of alcohol or other narcotics.

There must always be a rescue plan in place for any emergencies when using the safety ladder system. The rescue plan must at least include a climber self-rescue plan, the address or coordinates of the workplace, and driving directions for rescue personnel.

No changes or additions may be made to the safety ladder system without written permission from Eltel Networks Corporation. Any repairs and servicing of the system must be carried out in accordance with Eltel Networks Corporation's instructions. No part of the system may be replaced with a part not designed and manufactured for the Turvatikas Safety Ladder system by Eltel Networks Corporation.

The safety ladder system may not be used for any purpose other than its actual purpose of use. All use contrary to the restrictions imposed on the system is absolutely forbidden.

The safety ladder system comprises several different parts, which must be installed and connected to each other carefully in accordance with the instructions provided. Any incorrectly installed or connected parts may pose a serious risk to safety and health.

The safety ladder system must always be inspected after installation, before being put into use, as well as regularly at least once (1) a year, or use of the system must be prohibited and the system must be inspected before next use.

The system must also always be inspected before next use if it has prevented a fall.

Inspections of the safety ladder system may only be conducted by an inspector authorised by Eltel Networks Corporation who holds a valid Turvatikas inspector certificate granted by Eltel Networks Corporation.

After installation, the safety ladder system may not be put into use until an inspector authorised by Eltel Networks Corporation has confirmed in writing that the system meets the requirements set for it and is safe to use.

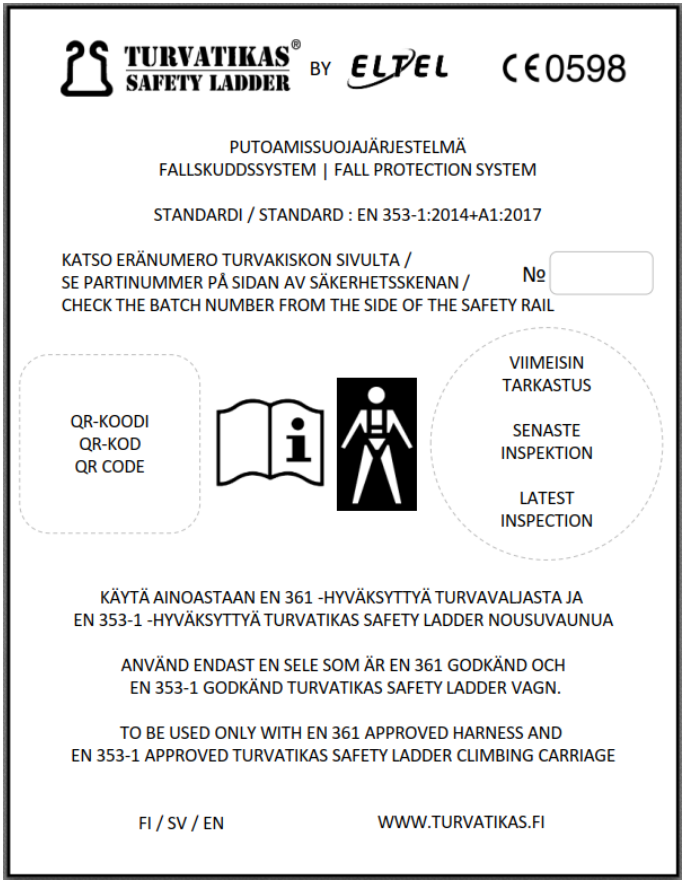
Use of the safety ladder system must be prohibited if a regular annual inspection has not been conducted, if there is reason to suspect that the system is unsafe to use for some other reason or if the system has arrested a fall.

If use of the system is prohibited, the system may not be put back into use until an inspector authorised by Eltel Networks Corporation has confirmed in writing that the system meets the requirements set for it and is safe to use.

3. SIGNAGE

The standard requires attention and instruction signage for the safety ladder system to be installed in all places where the safety ladder system can be used.

The safety ladder system must be equipped with an instruction sign, attached to a clearly visible place, that advises users to always use a Turvatikas Safety Ladder climbing carriage approved according to EN 353-1 and a full body harness approved according to EN 361 when climbing the ladder.



Pictured above, an attention sign in Finnish, Swedish and English.

4. MAINTENANCE INSTRUCTIONS

The safety ladder system's Vertical Profile B, ladder parts, fasteners and other accessories are maintenance-free, and no parts require oiling or cleaning.

All structures of Climbing Carriage No 932 are made of acid-proof steel, excluding the sleeves, which are made of aluminium, meaning that none of the structures are susceptible to corrosion or the weather. The wheels of Climbing Carriage No 932 are 36 mm in diameter and 9 mm in width. The material used in the wheels is EN 1.4460 (AISI 329 – SS2324) acid-proof steel.

Climbing Carriage No 932 does not have joints or precise fits. They do not need to be oiled or greased, and they even endure rough handling, and there are no special requirements for their storage or maintenance. The structure of Climbing Carriage No 932 is designed for heavy-duty use, meaning that even long-term heavy-duty use under poor conditions does not prevent its reliable operation.

There are no requirements for the storage of Climbing Carriage No 932, but it is recommended that it be stored in a tidy place separate from greasy and oily products, which makes it more comfortable to use and prevents the harness from getting oil or grease stains when Climbing Carriage No 932 is used, for example.

PLEASE NOTE! If any exceptional wear and tear is noticed on Climbing Carriage No 932, or the shock absorber opens by more than 10 mm, or the spring force affecting the carriage's locking tongue disappears (the locking tongue is not automatically outside the carriage body) or the aluminium sleeves are considerably worn, the carriage must be retired from use immediately and delivered to the manufacturer, Eltel Networks Corporation, for inspection and repair. Climbing Carriage No 932 must absolutely be inspected if it has arrested a fall.

5. USER INSTRUCTIONS

The user must have sufficient training and experience for putting the safety system into use, or they must work under competent supervision.

Before putting the safety system into use, the user must complete a visual inspection of the system's parts. During this inspection, attention must be paid to the following details:

- the full body harness is in good condition as required in the regulations concerning it
- Climbing Carriage No 932 is in good condition
- Vertical Profile B, the safety ladder structures and the structures to which the safety ladder system is secured are intact and in good condition.

The user must read through the installation instructions for Vertical Profile B to ensure that the structure of the safety ladder/rail is correctly installed. If necessary, the installation instructions are available on the manufacturer's website at www.turvatikas.fi.

The combination of Climbing Carriage 932 and Vertical Profile B is tested in accordance with standard EN353-1:2014+A1:2017, and it meets the requirements of Regulation (EU) 2016/425 on personal protective equipment. The type-approval certificate is granted by SGS Fimko, Topeliuksenkatu 41b, 00250 Helsinki, notified body 0598.

The pin on Climbing Carriage No 932 must be on the left side, and the arrow must be pointing up when climbing.

When climbing, the person must lean backwards heavily. The distance between the front edge of Vertical Profile B and the full body harness attachment point must be as short as possible. No absorbers, etc. may be added between Climbing Carriage No 932 and the rail.

The user must take particular care when climbing the final two metres and exiting the system.

Due to the worst case scenario, there should be at least two metres of free space below the user's feet.

No changes, additions or repairs may be made to Climbing Carriage No 932 without written permission from the manufacturer.

Climbing Carriage No 932 may not be used for any purpose other than climbing.

Never use the device under the influence of alcohol or drugs.

A rescue plan must be prepared before each use, and rescue methods that can be implemented quickly must be available should problems occur while the safety carriage is being used.

5.1 Safety harnesses and lanyards

The safety harness must be a CE-approved full body harness that meets the requirements of at least standard EN 361. The front of the harness must have a D-ring for attaching Climbing Carriage No 932 or other approved attachment point (A or 1/2A) at chest height. Climbing Carriage No 932 is attached to the aforementioned attachment point with a carabiner delivered with the carriage.

A harness used for climbing a mast must be equipped with two fixed lanyards, and the length of one of them must be adjustable (sliding buckle).

The separate user instructions for harnesses and lanyards must be followed closely.

The distance between the harness and Climbing Carriage No 932 can be adjusted by adjusting the tightness of the harness belts so that the lean angle is as small as possible,

minimising the strain on the belt. However, the user's knees should not come into contact with the ladder steps. When working or resting, the user must always ensure that they are secured with an auxiliary lanyard.

When climbing, the user must lean backwards, supported by the safety harness, which allows Climbing Carriage No 932 to move unobstructed. Hands are mainly needed for controlling the climb, while the leg muscles do the work and climbing is easy.

If the outward force applied to Climbing Carriage No 932 ceases – for example due to a fall – the carriage locks onto the next projection on the base of Vertical Profile B, which are found every 15 cm.

Climbing Carriage No 932 has broad tolerances, and its structure is made of stainless steel or other corrosion-resistant material. The structure of Climbing Carriage No 932 is designed for heavy-duty use, meaning that even long-term heavy-duty use in poor conditions does not prevent the carriage's reliable operation.

Vertical Profile B can be used by more than one person at a time, but this requires ensuring that there are no more than two persons climbing the same section between fasteners.

A rescue plan must be prepared before each use, and rescue methods that can be implemented quickly must be available should problems occur while the system is being used.

6. INSPECTION INSTUCTIONS FOR VERTICAL PROFILE B

Inspections of safety ladder systems may only be carried out by an inspector authorised by Eltel Networks Corporation.

Vertical Profile B may not be used and its use must be prohibited if the most recent inspection was conducted more than 12 months ago, if the system has prevented a fall or if the user notices or suspects that the safety ladder system is not structurally safe to use. If use of the system is prohibited, the system may not be put back into use until an inspector authorised by Eltel Networks Corporation has confirmed in writing that the system meets the requirements set for it and is safe to use. The authorisation of a safety ladder inspector can be obtained by taking the safety ladder inspector test online. To receive the instructions for taking the test, send a contact request via www.turvatikas.fi or e-mail turvatikas@eltelnetworks.com.

6.1 Markings on Vertical Profile B

The following markings are stamped on the side of Vertical Profile B:

- TURVATIKAS SAFETY LADDER = brand name
- CE0598 = number of the body participating in the product's control phase
- SFS EN 353-1:2014+A1:2017 = the standard whose requirements Vertical Profile B meets
- No 930 CE and/or No 931 CE and/or No 932 CE = the type number of the safety carriage compatible with Vertical Profile B
- Three-digit batch ID (positioned in a different direction to the other markings).

PLEASE NOTE! Previously manufactured Vertical Profiles B are marked CE0403, which is the number of the body that previously participated in the product's monitoring (Finnish Institute of Occupational Health).

PLEASE NOTE! Only Climbing Carriage No 932 meets the requirements of the current standard.

6.2 Inspection instructions for Vertical Profile B and safety ladders

When inspecting Vertical Profile B and safety ladders, particular attention must be paid to the following details:

- The previous inspection report is available.
- The markings on the safety ladder system are readable.
- An inspection sticker can be found on the safety ladder system or in its immediate vicinity.
- The width of the groove of Vertical Profile B is within the permitted range.
    - The width of the groove of Vertical Profile B is tested with a feeler gauge, which is provided for inspectors by Eltel Networks Corporation free of charge upon request.
    - The 15-mm-wide tip of the feeler gauge must fit into the profile's groove, but the gauge's 22.5-mm-wide part must not fit into the groove.
- The safety ladder system as well as the structures to which the system is fastened are intact; the screws and bolts are tightened to the required tension; the welded seams are unbroken; and there is no significant corrosion damage.
- All the fasteners, extensions, carriage guides, carriage stoppers, landings and other parts are installed, intact and in place, and their bolts are tightened to the required tension.

- There is no projection, torsion or gap of over 8 mm between Vertical Profiles B at joints.
- A test climb must always be carried out across the entire length of Vertical Profile B to ensure the safety carriage's unobstructed passage across Vertical Profile B.

Any deficiencies noted must be reported in writing to the owner of the safety ladder system or the occupational health and safety organisation of the body or company in question, and use of the safety ladder system must be prohibited. The faults and deficiencies noted must be rectified, after which a new inspection must be carried out on the safety ladder system.

A report is prepared on the inspection, and it is kept by the owner of the system. An inspection sticker indicating the date of inspection is glued onto the safety ladder system or in its immediate vicinity.

6.3 Inspection checklist for Vertical Profile B and safety ladders

Safety ladder systems must be inspected in conjunction with commissioning, at least once a year, before each use (at least visually) and after every fall. An inspection must also always be carried out immediately after a user has reported a deficiency or fault. Inspections are carried out by a person authorised by Eltel Networks Corporation in accordance with the inspection checklist below:

SUBJECT OF INSPECTION	ELEMENTS INSPECTED
Vertical Profile B	The width of the groove of Vertical Profile B is within the specified range. The sleeve joints are in place and correctly tightened. The distance between profiles at joints does not exceed the maximum distance specified.
Product labelling	Visible and readable.
Signage	Visible and readable.
Fasteners	Intact and in good condition.
Other structures	Intact and in good condition. The welded seams are in good condition and there is no significant corrosion damage visible.
Bolts and nuts	Tightened to the specified torque.
Accessories to Vertical Profile B (carriage stoppers, carriage guides, etc.)	Correctly installed in place, intact and functioning correctly and reliably.
Test climb	Vertical Profile B is secure, and it does not wobble or clatter. Climbing Carriage No 932 moves across the entire length of Vertical Profile B, including through joints, openings, releasable carriage stoppers, carriage guides and bends. When Climbing Carriage No 932 is moved downwards without a force pulling in the outward direction, the carriage's locking tongue grabs onto the projection on the base of the profile and stops.

If deficiencies are noted during the inspection, use of the Vertical Profile B in question is prohibited until the deficiencies are rectified. A report must be prepared on the inspection, and inspections must be recorded in the product register.

6.4 Inspection report on Vertical Profile B and safety ladders

INFORMATION ON THE SAFETY LADDER PRODUCT INSPECTED

MODEL	TYPE	PRODUCT BATCH NUMBER
YEAR OF MANUFACTURE	**DATE OF PURCHASE**	**COMMISSIONING DATE**
MANUFACTURER	**ADDRESS**	**E-MAIL/WEBSITE**
Eltel Networks Corporation Fax: +35820411211	Laturinkuja 8 02650 Espoo FINLAND	turvatikas@eltelnetworks.com safetyladder@eltelnetworks.com www.turvatikas.fi

INSPECTION COMMENTS

DATE	COMMENTS	NAME AND SIGNATURE OF INSPECTOR	DATE OF NEXT INSPECTION

7. INSPECTION INSTRUCTIONS FOR CLIMBING CARRIAGE NO 932

Inspections of Climbing Carriage No 932 may only be carried out by an inspector authorised by Eltel Networks Corporation.

Climbing Carriage No 932 must be manufactured by Eltel Networks Corporation, and its compatibility with Vertical Profile B must be ensured before use.

7.1 Markings on Climbing Carriage No 932

Climbing Carriage No 932 must have the following markings:

- load 40–160 kg = permitted weight of the user with tools
- EN 353-1:2014+A1:2017 = the standard whose requirements Vertical Profile B meets
- No 932 = product number of Climbing Carriage No 932
- CE0598 = number of the body participating in the product's control phase
- Date of manufacture ddmmyy (e.g. 210519) = the date on which Climbing Carriage No 932 was manufactured
- Serial number (e.g 097662) = a number that identifies the product
- ↑ UP = the safety carriage's position in Vertical Profile B during use
- = recommendation to read the user instructions
- = brand name Turvatikas

PLEASE NOTE! Previously manufactured Vertical Profiles B are marked CE0403, which is the number of the body that previously participated in the product's monitoring (Finnish Institute of Occupational Health).

7.2 Inspection instructions for Climbing Carriage No 932

Climbing Carriage No 932 must be inspected in accordance with the instructions below, and its use must be prohibited if it fails to pass the inspection. Climbing Carriage No 932 may be sent in for servicing to Eltel Networks Corporation, in which case Climbing Carriage No 932 can be either serviced or decommissioned, depending on its condition.

PLEASE NOTE! You may not under any circumstance service Climbing Carriage No 932 by yourself; you must absolutely send it to Eltel Networks Corporation for servicing.

7.3 Inspection checklist for Climbing Carriage No 932

Climbing Carriage No 932 must be inspected at least once a year and before each use (at least visually). An inspection must also always be carried out immediately after a user has reported a deficiency or fault. Inspections are carried out by a person authorised by Eltel Networks Corporation in accordance with the inspection checklist below: If any deficiencies are noted during an inspection of Climbing Carriage No 932, its use is prohibited. A report must be prepared on the inspection. Inspections must be recorded in the product register.

SUBJECT OF INSPECTION	ELEMENTS INSPECTED
Structure of Climbing Carriage No 932	The structure has not been altered.
Shock absorber of Climbing Carriage No 932	Has not opened or become twisted or warped.
Locking tongue of Climbing Carriage No 932	Moves freely and is returned to its outermost position by the force of the spring.
Wheels of Climbing Carriage No 932	Do not rotate freely or have come loose.
Rollers of Climbing Carriage No 932	Not considerably worn.
Roller pins of Climbing Carriage No 932	Not warped.
Carabiner of Climbing Carriage No 932	Works and has a locking sleeve.

7.4 Inspection report on Climbing Carriage No 932

INFORMATION ON CLIMBING CARRIAGE NO 932 INSPECTED

MODEL / TYPE	PRODUCT BATCH NUMBER	SERIAL NUMBER
Climbing Carriage No 932		
YEAR OF MANUFACTURE	**DATE OF PURCHASE**	**COMMISSIONING DATE**
MANUFACTURER	**ADDRESS**	**E-MAIL/WEBSITE**
Eltel Networks Corporation Fax: +35820411211	Laturinkuja 8 02650 Espoo FINLAND	turvatikas@eltelnetworks.com safetyladder@eltelnetworks.com www.turvatikas.fi

INSPECTION COMMENTS

DATE	COMMENTS	NAME AND SIGNATURE OF INSPECTOR	DATE OF NEXT INSPECTION

8. TECHNICAL DATA SHEET

PRODUCT INFORMATION	Product type	Guided type fall arrester including a rigid anchor line
	Brand name	Turvatikas Safety Ladder
	Provider	Eltel Networks Oy
	CE number	0403
	Material	Hot-dip galvanized steel, Acid proof steel - AISI 316
	Zink class	Minimum average thickness 55 µm
	Zink corrosivity category	C4 (EN 12944-2 and EN ISO 14713-1)
	Applications	High structures, horizontal levels and pre-existing ladders
	Compatible	With all Turvatikas Safety Ladder components
	Stopper tooth distance	150 mm
	Steel material	S355MC/JJA EN 10149-2:2013
	Delivery lenghts	3m (All products), 5m (Profile-B), 5.7m (PTBR, Profile-B) and 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

TURVATIKAS SAFETY LADDER

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

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