SETS OF  LDVH04-LDVH06 LDVH08 LDVH10
LDVH12

Instructions for use
& installation
Instructions for use, maintenance, storage and checking

These instructions must be translated into the language of the country where the anchoring device is to be used. The instructions for use, checking, maintenance and storage must be strictly observed. DELTA PLUS GROUP will not be liable for any event directly or indirectly resulting from usage other than that set out in these instructions: do not use this equipment beyond the limits of its design!

Benchmark standards applicable to the following equipment or devices:

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Standards</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anchoring devices</td>
<td>EN795</td>
</tr>
<tr>
<td>Connectors</td>
<td>EN362</td>
</tr>
<tr>
<td>Harness</td>
<td>EN361</td>
</tr>
<tr>
<td>Fall arrest system</td>
<td>EN363</td>
</tr>
<tr>
<td>Work support system and harnesses</td>
<td>EN358</td>
</tr>
<tr>
<td>Rescue system for work at height</td>
<td>EN1496</td>
</tr>
<tr>
<td>Labelling; periodic testing</td>
<td>EN365</td>
</tr>
</tbody>
</table>

PRESENTATION

The SPIDERLINE II +SETS LDVH04-LDVH06 LDVH08 LDVH10 LDVH12 lifeline is an anchoring device complying with the requirements of the European standard EN795-1996 and EN-795/A1-2000 Class C.

This anchoring device is designed for use by 1 to 3 persons (max) according to the configuration of the lifeline, which must without fail be fitted with a fall prevention system complying with standard EN 363. The distances between fixing points vary between 4 and 12 m maximum. It allows users to move horizontally in total safety without detaching from the device. It can be fitted in all industrial construction and architectural sites, for maintenance, repair, cleaning, or short-duration rebuilding works.

LABELLING

On various parts the following can be found:
- Name of the lifeline
- Reference of the product: LV5XX
- Maximum number of users
- Minimum clearance
- Date of next inspection
- Date of manufacture following by the lot number, e.g.: 14 XXXXXX
- Reference to the standard
- Maximum loading
- The DELTAPLUS® logo
- Diagram

Read the instruction leaflet before use
**USAGE AND PRECAUTIONS**

- The user must without fail make themselves familiar with and ensure that the instructions relevant to each part connected with the (harness, karabiners...) are observed.
- This equipment may be used only by trained personnel who are fit and in good health, or under supervision of a trained and competent person: warning! Some physical conditions can affect the safety of the user; in case of doubt, contact your doctor.
- This product must be used in an ambient temperature between -40°C and +90°C.
- We recommend that a qualified engineer checks by calculation that the main structure carrying the structural anchoring points at the ends and at intermediate points will withstand the working forces to be applied.
- Attachment and disconnection from the system must be effected within a safe point. If not, the operative must be provided with a secondary fall check device connected to a separate anchoring point in order to access the system. The operative must not disconnect from the secondary anchoring point until properly attached to the lifeline. The connection must be effected only with the slides purpose designed for the system. Every other method of connection is declared to be incompatible with the system.
- The number of permitted users, the need to employ the correct personal protective equipment and its type, the requirements for minimum clearance will be shown on the information label placed next to each access point to the lifeline. All usage of the system with personal protective equipment different from the design specification is declared to be impermissible and potentially dangerous.
- Before and during use, we recommend taking the precautions necessary for an effective safe rescue operation.
- During use by several persons, care must be taken to avoid any crossing of the secondary system (tethers, fall check device).
- The user, provided with his fall arrest system, must connect to the slide on the lifeline using the correct connector. When connecting the karabiner, ensure that the locking system is properly in place.
- It is very dangerous to create an individual fall check system in which any operative part can interfere with another, without first reading and understanding the instructions for use of each part, and the fitting of each part with the others. In case of doubt, contact the manufacturer or some other qualified and competent person.
- Do not make any modification to or intentionally misuse this equipment, as your safety depends on it. Before using this equipment in combination with other equipment not described in these instructions, consult the manufacturer. Some sub-systems or combinations of parts may interfere with the proper operation of this equipment. Take the greatest care when using the equipment near moving machines, or where there are electrical or chemical risks, or risk of sudden stoppage. All replacement or repair of the lifeline must be effected by the manufacturer or a competent qualified person, in accordance with the manufacturer’s instructions.
- A fall check harness is the only body attachment which may be used in a fall check system. An energy absorber or a fitting provided with an energy absorber must without fail be used with a harness in accordance with EN 363.
- This anchoring device must be used only in conjunction with personal protective equipment preventing falls from heights. Any other usage may endanger the safety of the user. Do not hang loads or persons on the lifeline.
- The lifeline must be correctly positioned in such a way that the risk and distance of fall is reduced; whenever possible, the lifeline should be placed immediately above the position of the operative.
During use, every precaution must be taken to protect the system and its parts against dangers linked to interference with them (burning, cutting, sudden stops, abrasion, chemical attack, tangling or twisting of cable, webbing or ropes, live electrical conductors, weather conditions, swinging after a fall, etc. ...).

For safety reasons, before each use, ensure that nothing obstructs the normal operation of the fall check system, linked to the lifeline. Ensure that the overall arrangement limits swinging movement in case of a fall and that the work is performed so as to limit the risk of falls and the height of any possible fall.

It is vital, for safety reasons, to check the free space under the operative in the work position before each usage, so that in case of a fall, there should be no contact with the ground, or any obstacle in the way of the fall.

During works near the lifeline, the greatest care is required so as not to damage it.

It is vital to ensure that no more than one person should be on the center passages and the corners at the same time.

The maximum working loads on the end and intermediate structural anchoring points, and the running of the cable and the clearance resulting from a fall should be calculated by the installer using software or a calculator.

Corrosion: use near a sea shore or other corrosive environment will certainly require more frequent inspections and maintenance to ensure that corrosion does not affect the proper functioning of the product.

Chemical risk: solutions containing acids, alkalis, or other caustic chemicals, particularly at high temperatures, may damage this equipment. In case of use in this type of environment, the equipment must be frequently inspected.

In case of doubt concerning the use of this equipment in risky environments, consult the manufacturer.

Electrical risks: Take great care in case of use near high tension cables, by reason of potential electrical charge in this equipment or connecting parts (karabiners, drums...)

Refer to the technical specification document on the anchoring device and each part for further information.

CLEARANCE AND DESIGN CONSTRAINTS.

The available distance under the feet of the operative in case of a fall will determine the type of personal protective equipment (limiting the length of the fall), the position for the lifeline (distance of the edge or height by reference to the ground), tension of the lifeline, the maximum distances (total length of the lifeline, maximum distance between fixings), the run of the cable in case of a fall, and finally the maximum number of persons who may use the lifeline.

The optimal configuration will be designed using the software or calculators provided. Finally, to obviate any risk of injury due to swinging, it is desirable to position the fall check system vertically above the working area.
CHECKING

- Check before each use the state of the lifeline (no trace of rust, corrosion or deformation), the fixing (locking connectors) and the legibility of the labelling. In the event of doubt concerning the durability of the lifeline, or its fixings, or after a fall, it must without fail be checked by the manufacturer or a competent qualified person. Use of the lifeline is prohibited until this examination has been performed.
  After checking, and depending on the result, the lifeline will be returned to service or replaced.
- After a fall, or deterioration in the anchoring device, the inspection must be done using another anchoring device. Likewise, harness and personal fall protection system(s) must, after use in a fall, be discarded. If the fall check system is subject to automatic recall, it must be returned to the manufacturer for inspection and repair.
- Periodic inspections of the lifeline are compulsory and must be done by the manufacturer or a qualified competent person not less than every 12 months, in accordance with their instructions. The inspections must be recorded in a safety register.
- Ensure that it is completed and carefully stored. Such inspections, both periodic and other, are necessary to ensure the safety of the user. During inspections, it is useful to check that all labelling on the anchoring device is clearly legible.
- If any competent person approved by the chief executive with responsibility for the site has doubts whether the anchoring device should be put back in service or not (system too complex, mechanism not visible, damaged part ...) should contact the manufacturer who will refer him to qualified persons.
- Before every use, it is recommended that the state of the anchoring device is checked. See the section on “PERIOD INSPECTION”
LIFE SPAN

The estimated life span of the SPIDERLINE II (+SETS LDVH04-LDVH06 LDVH08 LDVH10 LDVH12) lifeline is 10 years, in a clean environment under normal usage. This life span may have to be revised depending on the intensity and frequency of use, the environment and/or the results of periodic and other inspections.

WARRANTY AND LIMIT OF WARRANTY

All the components of the SPIDERLINE II lifeline are guaranteed for 2 years against manufacturing defects by DELTA PLUS GROUP, under normal conditions of use. Some conditions of use which are excessive, or not appropriate, for example in especially corrosive atmospheres, may cause reduction in this period.

The warranty does not apply:

- To access platforms, connectors and fixings supporting the lifeline.
- To parts damaged by a quality test or a periodic inspection.
- In case of failure to observe the conditions of use or use of the lifeline beyond the limits allowed by the manufacturer or its agent.
- In case of failure to make compulsory periodic inspections and checks.
- In case of failure to observe requirements of maintenance and storage.
- In case of failure to observe instructions for installation and its consequence.

MAINTENANCE AND STORAGE

Maintenance and storage of your anchoring device and its parts are fundamental to the integrity of the system and so for the safety of users. The following instructions must be strictly observed:

- Clean plastic and metal parts with a dry cloth. Clean textile components with water and a light soap. Do not use acidic solvents or alkalis (caustic soda ...).
- Let the anchoring device and its component(s) dry in a ventilated space and away from direct flame or any other source of heat. This applies also to components which have become wet during use.
- Store the anchoring device and its component(s) in conditions which will preserve the soundness of the equipment: away from humidity and UV rays, in a non-corrosive atmosphere, neither overheated nor refrigerated, and protected from cuts and vibration.
- Transport the anchoring device and its component(s) in packing designed for its protection from any cuts, humidity and UV rays. Avoid any corrosive, over heated or chilled atmosphere.
### PERIODIC CHECKS

In accordance with the regulations in force, the lifeline must be inspected at least once every 12 months by a competent person trained in inspection.

<table>
<thead>
<tr>
<th>PARTS TO BE INSPECTED</th>
<th>CRITERIA OF INSPECTION</th>
<th>OK</th>
<th>HS</th>
<th>COMMENTS</th>
</tr>
</thead>
</table>
| The whole of the lifeline | Tension of the line  
Presence of weights  
General state of the line | | | |
| End pieces | Tightness of the screws  
No modification to the equipment  
No corrosion  
No deformation | | | |
| Buffer | Absence of release  
Pre-tensioning  
No deformation  
No missing split pins | | | |
| Various : Signaling panel | Present  
Correctly completed  
Record the date of the next inspection | | | |
| Various : Insertion | No corrosion  
No deformation | | | |
| Slider | Present  
Record the date of the next inspection | | | |
| Cabling | Absence of corrosion over entire length  
No deformation over entire length  
Absence of broken, bent or pinched sprigs | | | |
Descriptive sheet

LIFELINE:

SET UP:

LENGTH:

SERIAL NUMBER:

DATE OF PURCHASE:

DATE OF FIRST INSTALLATION:

COMMENTS:

INSPECTION: date and signature
Installation instructions

How to use a Lifeline?

The user, fitted with a harness and a suitable fall check system, is connected to the line by its slider and a suitable connector. The user may safely move along the length of the line. The design of the slider and the intermediate parts allow passage along the whole of the system without the user having to disconnect himself.

Main features

- Distance from 4 to 12 m maximum between 2 anchoring points (end)
  - LDVH04 Distance of 4 m maximum between 2 anchoring points
  - LDVH06 Distance of 6 m maximum between 2 anchoring points
  - LDVH08 Distance of 8 m maximum between 2 anchoring points
  - LDVH10 Distance of 10 m maximum between 2 anchoring points
  - LDVH12 Distance of 12 m maximum between 2 anchoring points
- One multifunction buffer.
- Multifunction buffer with visual indicator of tension (or over tension) and fall indicator
- Ability to replace worn components after a fall without complete dismantling of the lifeline.
- Limited number of components
- Will take up to 3 users (according to configuration of the life line)
- Light ergonomic slider.
- Stainless cable Ø 8mm.
- Compatible with any type of installation.
- Components in stainless steel
- Compatible with most personal protective equipment on the market
- Fabrication under ISO quality control
- Identification of components by individual serial number
- Reduced maintenance costs
- Access available from both sides of the line.
- Incline of the lifeline at 15° maximum from the horizontal (at ground level)
## COMPONENTS OF THE LIFELINE

### INTERMEDIATE PIECES

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV504</td>
<td>END ANCHORAGE - 3 FIXING HOLES</td>
<td>End anchorage with 3 fixing holes (distance between centers 111.5 mm x 3). Anchoring point can be rotated 360° (Fixing screw M12). Rr &gt; 3700 daN. Dimensions: 140 x 125 x 60 mm.</td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 994 g</td>
<td>Weight: 994 g</td>
</tr>
</tbody>
</table>

### ABSORBER

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV510</td>
<td>SHOCK ABSORBER WITH FALL AND TENSIONER INDICATOR</td>
<td>Energy absorber with tensioner and fall indicator. End part of the line provides buffer for energy generated by a fall. Rr &gt; 3700 daN. Dimensions: 422 x 152 x 77 mm.</td>
<td>Stainless steel and aluminium. Case: high resistance thermoplastic material Weight: 2.2 kg</td>
</tr>
</tbody>
</table>

### MISCELLANEOUS

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV057</td>
<td>INFORMATION PANEL</td>
<td>Sign post to be positioned at each access of the lifeline. The maximum number of users, the minimum vertical clearance, date of creation and date of next inspection should be indicated on this. Writing using indelible pen. For ø 8 mm cable. Dimensions: 21 x 29.7 cm.</td>
<td>Plastic</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV515</td>
<td>JAW SWAGE STUD FOR CABLE - 8 MM</td>
<td>Fork end to swage for wire rope Ø 8 mm LV040. Attached to one end of the lifeline or to an energy absorber. Rr &gt; 3700 daN. Length: 165 mm.</td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 400 g</td>
<td>Weight: 400 g</td>
</tr>
<tr>
<td>LV516</td>
<td>TENSIONER TO SWAGE</td>
<td>Tensioner to swage for Ø 8 mm wire rope. Attached to one end of the lifeline or to an energy absorber. Allows adjustment of tension of the lifeline. Rr &gt; 3700 daN. L = 245 mm min and 345 mm max.</td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 1,043 kg</td>
<td>Weight: 1,043 kg</td>
</tr>
<tr>
<td>LV527</td>
<td>LEAD TO SEAL THE LINE</td>
<td>Lead for sealing the SPIDERLINE II lifeline at the tensioner.</td>
<td>Weight: 1,75gr</td>
</tr>
</tbody>
</table>

### CABLE

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV040</td>
<td>WIRE ROPE</td>
<td>Wire rope. 7 strands of 19 wires. Diameter: 8 mm. Sold by the meter.</td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 250 g/ml</td>
<td>Weight: 250 g/ml</td>
</tr>
</tbody>
</table>

### REMOVABLE SLIDER

<table>
<thead>
<tr>
<th>MODEL</th>
<th>DESIGNATION</th>
<th>DESCRIPTION</th>
<th>MATERIALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>LV500</td>
<td>REMOVABLE SLIDER</td>
<td>Removable slider for ø 8 mm cable. Slider is fixed by a suitable connector of type AM001. Slider may be inserted or withdrawn from the lifeline at any time. However, connection or disconnection must be done in a safe point. To prevent removal of the slider from the lifeline, insert the flexible pin D.3x15 in the hole Diam. 3, provided to immobilize the lock of the slider. Rr &gt; 1200 daN. Dimensions: 93 x 46 x 15 mm.</td>
<td>Stainless steel</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Weight: 274 g</td>
<td>Weight: 274 g</td>
</tr>
</tbody>
</table>
### System dimensioning

Calculators provided allow determination of the forces transmitted through the cable and to the components of the lifeline, and so those transmitted to the underlying structure.

The 3 main constraints for dimensioning of a lifeline, in the case of a fall are:

- **The forces** transmitted to it,
- **The direction** (deflection of the cable)
- **The minimum clearance** necessary to avoid obstacles.

The software or calculators provided enable determination of different constraints depending on the configuration of the lifeline.

It is necessary to take into account the choice of personal protective equipment in fixing the minimum clearance.

The resistance of the host structure should also be taken into account which must be at least 3700 daN.

### Installation instructions

**Conditions for access, fitting and inspection of the lifeline:**

A safe access platform must be provided for access to works or roofs. (Example: stairs, fixed ladder with surround...).
The lifeline must be accessible from an access point on the roof without exposing the user to risk of falling (Example: screen, pod, temporary anchoring point, etc.).

Ensure that the access structures holding the end anchoring points, the intermediate passing points, corner passing points or other contact points supporting these components are suitable to withstand the forces transmitted by the lifeline, including a safety margin.

The software or calculators provided will show these forces and the maximum flexing depending on the configuration of the lifeline, for which the entry data are the following:

- Total length
- Maximum distance between 2 anchoring points
- Number of user(s)
- Presence of corner(s)
- Number of buffer(s)

→ **A safety margin of 2 minimum is compulsory**

**List of basic structures most used:**

- Concrete wall
- Parapet walls,
- Metal sheathing
- ...

---

**UPDATE: 22.05.2014 - PAGE 11 / 20**
For fixings such as bolts, split stems + screws + washers, bolts, rivets or any other intended type of fixing, it is strongly recommended that the manufacturer’s specification for each type of fixing used is consulted, or that the advice of the manufacturer or supplier of the fixings is sought.

**Every installation must without exception be subject to checking by a mechanical or structural engineer or a certified organisation.**

**Recommended screws and bolts:** M12 A4-70 and M16 A4-70 (see components)
Length from 4m to 12m (LDVH04-LDVH06 LDVH08 LDVH10 LDVH12): to be determined according to the base structure and the manner of fixing. Use large stainless steel washers A4-70.

**Locking joint:**
For M12 screws: A4-70 → 60 N.m mini
For M16 screws: A4-70 → 150 N.m mini

**Fitting of buffer on post (or end anchoring point)**
Insertion with LV528 machine
Fitting of tensioner on post (or end anchoring point)

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td><img src="image2.png" alt="Image" /></td>
<td><img src="image3.png" alt="Image" /></td>
</tr>
<tr>
<td><img src="image4.png" alt="Image" /></td>
<td><img src="image5.png" alt="Image" /></td>
<td></td>
</tr>
<tr>
<td><img src="image6.png" alt="Image" /></td>
<td><img src="image7.png" alt="Image" /></td>
<td><img src="image8.png" alt="Image" /></td>
</tr>
</tbody>
</table>
### Fitting of cable in a passing point

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
<td></td>
</tr>
</tbody>
</table>

### Fitting of slider on the lifeline

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image3.png" alt="Diagram" /></td>
<td><img src="image4.png" alt="Diagram" /></td>
<td><img src="image5.png" alt="Diagram" /></td>
</tr>
<tr>
<td><img src="image6.png" alt="Diagram" /></td>
<td><img src="image7.png" alt="Diagram" /></td>
<td><img src="image8.png" alt="Diagram" /></td>
</tr>
<tr>
<td><img src="image9.png" alt="Diagram" /></td>
<td><img src="image10.png" alt="Diagram" /></td>
<td><img src="image11.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>
**Tension of the lifeline**

**Buffer tension identification label**  
(placed between the carrier and the fixing):

GREEN: Normal operating tension  
ORANGE: Upper operating tension  
ROUGE: Critical operating tension

When the indicators show ORANGE or RED, the lifeline must be slackened as soon as possible, to return the indicator to GREEN.

Once the tension of the line is properly adjusted, lock and seal the tensioner as shown below.

**Elements to be sealed**

- Between buffer (LV510) and its end anchoring point (LV504),
- Between buffer (LV510) and the covering or the tensioner/fork to swage (LV515, LV516),
- Between the covering or the tensioner to swage (LV516) and the end anchoring point (LV504).
Circulation test on the lifeline:

Before testing the lifeline, obtain a harness and a fall check system designed for the installation in question, linked to a moving slider, (LV500) with a suitable connector, having previously positioned the moving slider on the cable of the lifeline.

During acceptance of the anchoring device by a qualified organization, tests in accordance with EN795 may be necessary. For information: each anchoring point or fixing point of the anchoring device will be subjected to a force of 500 daN for 15 seconds.

IMPORTANT:

The Spiderline II lifeline and its KITS LDVH04 LDVH06 LDVH08 LDVH10 LDVH12, as a Class C anchor device, are compliant with the applicable standards. Any unsuitable test for standards or regulatory purposes may damage the system or even destroy the lifeline. In fact, SPIDERLINE II is a lifeline which is breakable in case of a fall for maximum absorption of the forces transmitted to the base structure and to the other users.

DELTA PLUS GROUP therefore recommends an appropriate drag test on the structural fixing points, but can take not responsibility for replacement of damaged components due to regulatory or standards testing carried out on a line.
Other possibilities for configuration
Notified Body making the inspection for conformity with standards in force.

APAVE SUD EUROPE SAS N°0082
CS60193
13322 MARSEILLE CEDEX 16
FRANCE

All other uses than those described in this document are not to be effected.

DELTA PLUS GROUP
B.P. 140 - ZAC de La Peyrolière
84405 APT Cedex – France
www.deltaplus.eu