General information – English

This general information explains how to use correctly the anchors.
The general information must be associated to the technical data sheet and the inspection sheet. Read both documents to have a complete information and ascertain to understand well all the information, before using the product. Only the techniques shown without symbol of death are authorized. Keep up with the updates and of all the additional information on the site www.lappasclimbing.com.
In case of doubt or difficulty to understand the information, don't risk, but contact:

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email: info@lappasclimbing.com
www.lappasclimbing.com

Anchor Device:
Model: SUL D10 / D12 & Rock Anchor II D10 / D12

Reference Standards:

1) **Rock anchor - EN 959:2018**
   "Mountaineering equipment – Rock Anchors – Safety requirements and test methods
2) **Anchor Device type A – EN 795:2012**
   "Personal fall protection equipment-Anchor devices"

Material: Stainless Steel 304

USE AND APPLICATION
The anchors SUL are intended for rock climbing, caving, canyoning and mountaineering.
The anchor device SUL has been tested:

- According to **EN 959:2018** if couple with its relative Rock Anchor II D10/D12. Devices are intended for rock climbing, caving, canyoning and mountaineering. Rock anchors are defined as anchor devices insert in a rock hole, held in place with expansion forces and with an attachment point for a connector.

- According to **EN 795:2012 Type A**. Type A is defined as anchor device to be removable from the structure with one stationary anchor point, while in use and with the need for a structural

anchor or fixing element to fix to the structure. Device is designed for use by one person for the attachment of components of a personal fall protection system in accordance with EN 363.
The anchor device should only be used for personal fall protection equipment and not for lifting equipment.

WARNING:
Don't stress the product beyond its limits or in other different situations than that for which it is intended. Check that the product is compatible with the other materials you want to use: contact LAPPAS S.A. if you are not sure of the compatibility.

Attention:
Activities involving the use of this device are all dangerous and high-risk and may also involve in fatal injuries. Make sure you fully understand the use of this product and work out in how to use it, to familiarize yourself with it and learn to know its performances and limits.

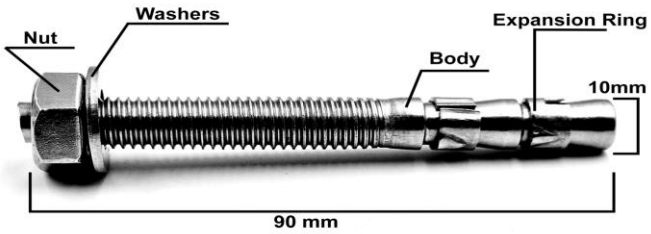
The Anchor device should only be used for personal fall protection equipment and not for lifting equipment.

NOMENCLATURE

No	Description	Dimensions		
		D10	D12	
1.	Nut	17	19	mm
2.	Body	90	90	mm
3.	Washer	20x2	24x2.5	mm
4.	Expansion ring	6.5	8	mm (each)
5.	Plate	60x50	60x50	Mm

Rock Anchor II

- **Rock Anchor D10**
  Dimensions: M10x90mm



Material : Stainless Steel 304

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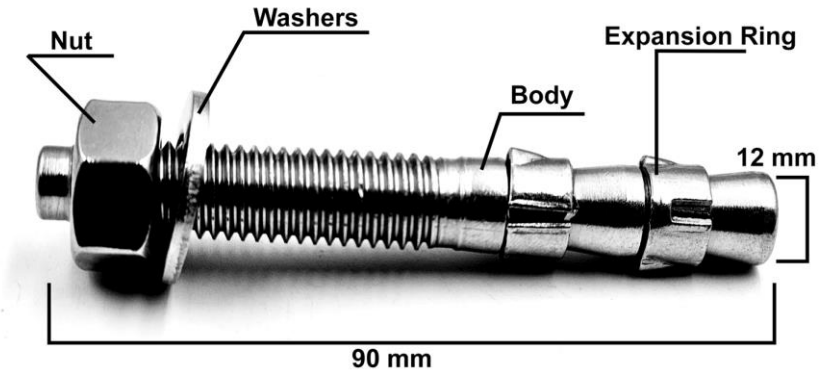
- **Rock Anchor D12**
  Dimensions: M12x90mm

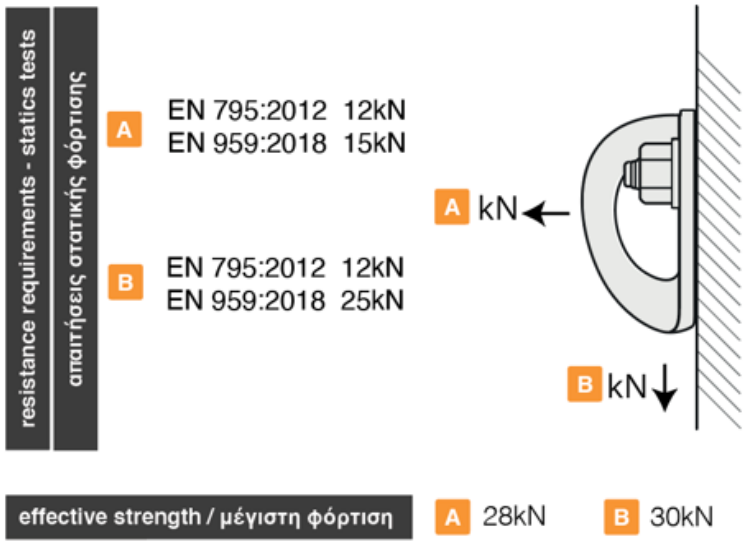


Material : Stainless Steel 304

DYNAMIC STRENGTH & STATIC STRENGTH TESTS

1) Direction parallel to longitudinal axis of the device
2) Direction perpendicular to longitudinal axis of the device

SUL D10 / D12 – ROCK ANCHOR II D10 / D12



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dynamic tests - effective strength

δυναμική φόρτιση

EN 795:2012

load direction	peak of force (kN)	Deflection of anchor device (mm)	Displacement of anchor point (mm)
A	9,4	0,0	0,0
B	8,9	0,0	0,0

MARKING
Manufacturer: Lappas S.A. – identified with logo **"LAPPAS"**

Pictogram indicating the need to read the instructions before use

Serial number (example 1020)
• 10= week of year
• 20=2020 year

Reference Standards: EN 795:2012 - EN 959:2018

Class of the anchor, surrounded by a circle: 3

Radial load bearing capacity and Axial load bearing capacity

- **SUL D10**

Radial load bearing capacity SUL : 30 kN
Axial load bearing capacity SUL : 25 Kn

- **SUL D12**

Radial load bearing capacity SUL : 30 kN
Axial load bearing capacity SUL : 27 Kn

Material: Stainless Steel 304

Markings should always be visible for the lifetime of the product and must not be removed.

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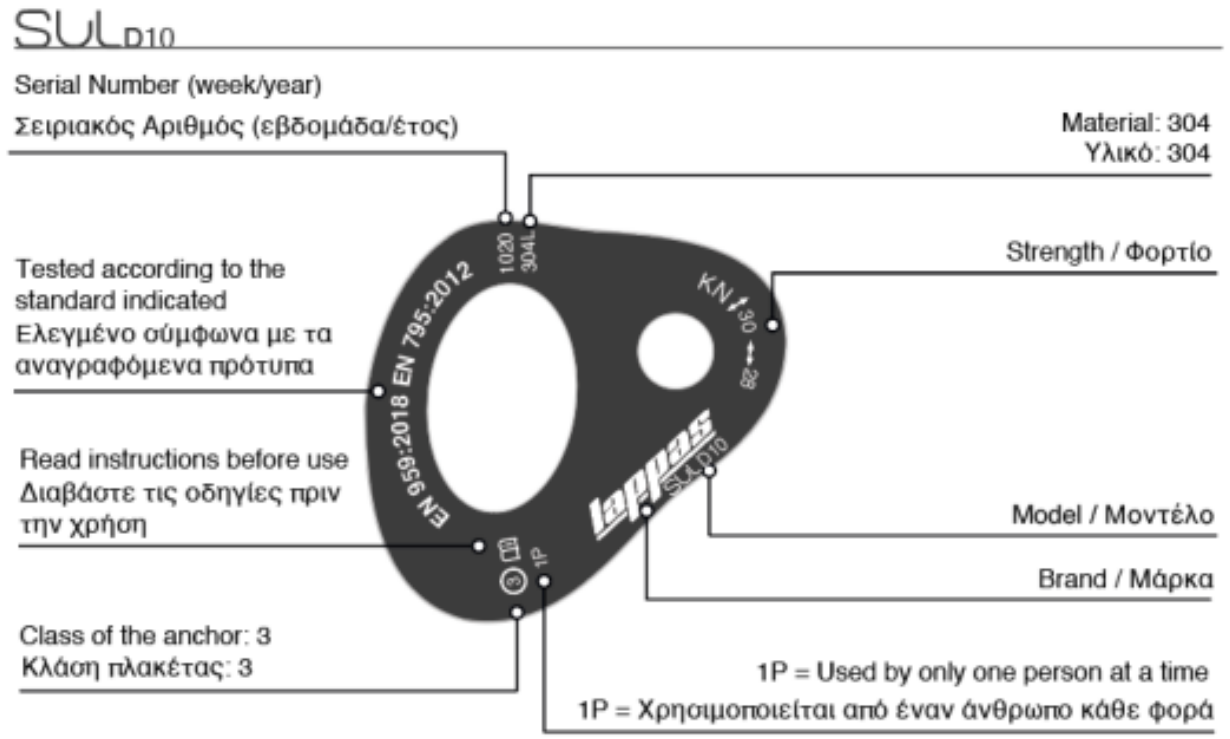
SECURITY REQUIREMENTS

Depending on environmental factors, the anchors are potentially responsible for suffering from:
• galvanic corrosion
• corrosion
• SCC: Stress Corrosion Cracking. Our anchors are made of Stainless Steel and classified of class 2, suitable for environments that are highly aggressive enough to cause SCC.



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SULD12

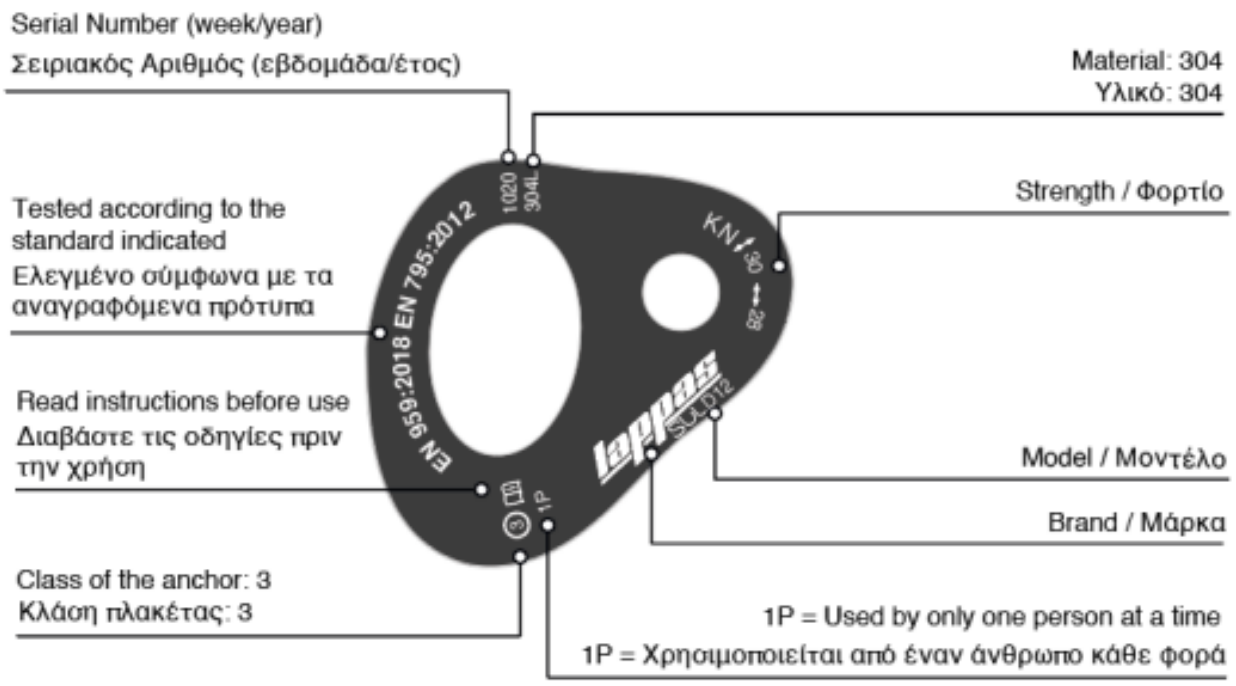

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Table 1 — Rock anchors class and characteristics

Anchor class	Suitable Environment	Characteristics of environment	Specified materials	Remarks
1	aggressive SCC environment	**SCC in evidence** high chloride concentration, temperature above 30 °C, humidity between (20 – 70)% sea salt and/or other salts (e.g. from karst: limestone/ dolomite) and/or acidic environment	Titanium grade 2 3.7035 & Stainless steel 1.4565 1.4529 1.4547 1.4539	Although SCC is commonly associated with seaside cliffs, it can also occur in inland locations and in other locations, e.g. indoor swimming pools.
2	outdoor environment, not aggressive enough to cause SCC	**No SCC in evidence and none suspected** some corrosion agents	1.4401 1.4404 1.4435	1.4301 and 1.4306 steel is not recommended for outdoor use.
3	indoor use, climbing gyms	**No SCC in evidence and none suspected**	low grade protection from corrosion, e.g. galvanization on steel, anodizing on aluminium alloy	Rock anchors in indoor gyms and in proximity to industrial areas, swimming pools, or the sea may require use of class 1 or class 2 anchor.

RISKS OF USE AND RESPONSIBILITY

This product should only be used by competent persons who have received the adequate training by an instructor. It's your responsibility to know this product, learn to use it, learn the proper techniques and the safety measures. Any possible damage, injury or death that may be caused to you or other people due to the incorrect use of any **LAPPAS S.A**. product, is solely your own risk and responsibility. Keep these instructions that describe the range of use and the methods of application of the product. You are responsible to consider all the notices and updates regarding these products.

No liability will be recognized by the company LAPPAS S.A. for damages, injuries or death caused by:

- **improper use (also due to support or unsuitable environment), stresses the product beyond its limits**
- **modification of the product**
- **repairs made by unauthorized persons.**

If you are not able to undertake this responsibility and take these risks, do not use these products. Your life depends on the continual efficiency of your equipment (we strongly recommend that the equipment is for personal use) and its history (use, storage, controls, etc.).
If the product is not for personal use (for example is of associations), we strongly recommend that the pre- and post-use controls carried out by a competent person. Check and make sure that all the anchors do not show signs of cracks or wear.
Before using the equipment consider as a possible rescue, in case of emergency, it can be performed safely and efficiently.

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WARNING

- Do not use the product if the user's physical condition is not appropriate for work prescribed. Do not use this product if you suffer from medical conditions such as vertigo, labyrinth or other conditions which may compromise the safety of the equipment in normal use or emergency.
- It is essential for safety that the equipment is withdrawn from use immediately if it have been used to arrest a fall and not used again until confirmed in writing by a competent person that it is acceptable to do so

CHECKS AND INSPECTIONS

Before each use, make sure that the product is:

- in very good condition and works properly
- suitable for the use you intend to do: they are authorized only the techniques not crossed out by the symbol: 

Any other use is forbidden: beware of death!

The examples shown in the attached form are just some of the wrong applications: there are many other more that is impossible to list.

- free of cracks, deformations and corrosion

Check carefully the state and the type of support in that you want to fix the product. If the rock is cracked, etc., avoid it. If you have the minimum doubt about the safety and the effectiveness of the product, replace it immediately.

During each use

- Check regularly the state of the product and make sure you have correctly connected all devices among themselves.
- Check visually the goodness of the anchor. The resistance of natural/not natural anchors, in the rock, can't be guaranteed in advance, so it's necessary a critical judgment by the user, to guarantee an appropriate protection.

Periodical inspections-EN 795

- It is not enough to check the material before and during each use, but periodical checks must be done by an authorized technician at least every 12 months.
- All the checks pre and post use must be done by a competent person (the frequency depends from the intensity and type of use.
- When carrying out the checks is necessary to report the results of an inspection sheet (equipment record). This should allow you to record a lot of data.
- It is recommended the anchor device is marked with the date of the next or last inspection.

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EQUIPMENT RECORD				
Product				
Model & type/identification		Trade name		Identification number
LAPPAS S.A.		5km Ioannina to Athens-Ioannina 45500, Greece		Tel: + 30 2651 40300 Fax: + 30 26510 41235 email : info@lappasclimbing.com www.lappasclimbing.com
Year of manufacture expiry dat		Purchase date		First date put into use:
Other relevant information (e.g. document number)				
PERIODIC EXAMINATION AND REPAIR HISTORY				
Date	Reason for entry (periodic examination or repair)	Defects noted, repairs carried out and other relevant information	Name and signature of competent	Periodic examination next due date

The product must be used only by one person, so that you know well the whole story of the product. Devices than don't pass the check control have to be removed from the rock surface.

WARNING:
You must make regular periodic inspections!

The safety of the users depends on the continued efficiency and durability of the equipment. We recommend to hold and fill the inspection sheet for each component, system and subsystem.

If the anchor device is equipped with a fall indicator, the indicator shall clearly indicate a fall has occurred after the dynamic strength and integrity test(s).

COMPATIBILITY
This product can be used in combination with personal protective equipment in compliant with applicable European Standard in accordance with the instructions of use.
An anchor must be compatible to the device to which it is connected. If the connection is incompatible, the safety functions of the system (release or breakage) may be compromised.

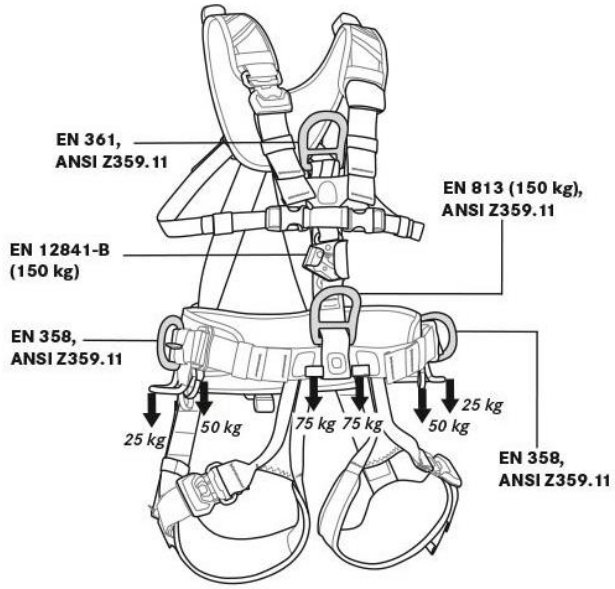
WARNING -COMPATIBILITY FOR EN 795

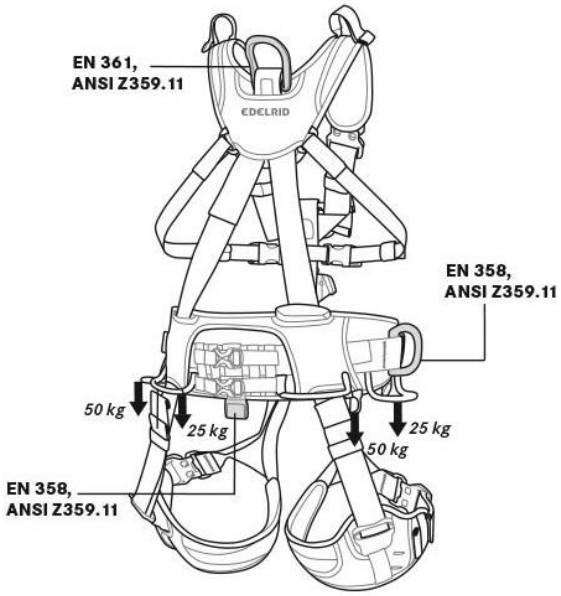
Compatible devices are, for example, manufactured and certified harnesses according to EN 12277, dynamic ropes certified according to EN 892, connectors in accordance with EN 12275, etc.

Fall arrest harnesses must be manufactured and certified in accordance with EN 361. The anchor device must be connected only at the points with the indication EN 361 (sketch 1) or with the indication point A and A/2 (sketch 2).

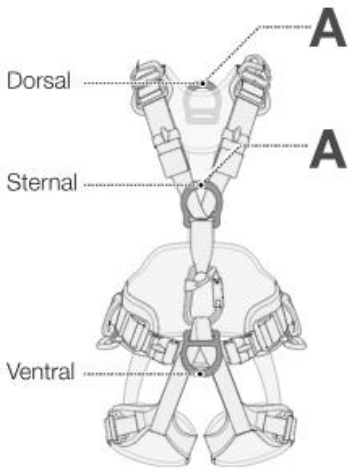
-The connection between the anchor device and the point A, A/2 must be done in combination with an energy absorber lanyard, connector and other components that complied to the required EN standard.

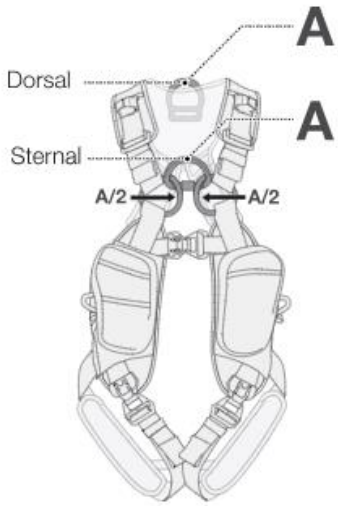
SKETCH 1

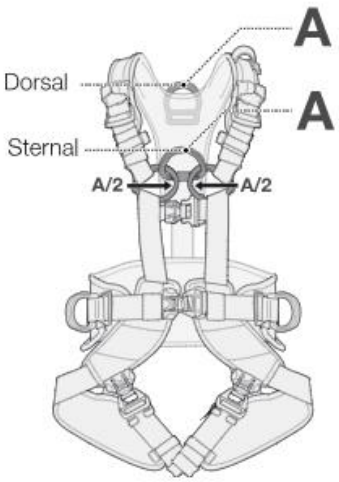




SKETCH 2







Instruction: A Full body harness is the only acceptable body holding device that can be used in a fall arrest system.

WARNING:
Please avoid the use of these anchors with others made of different materials. For example, do not use plates made of stainless steel and galvanized steel anchors, because also in a modest hostile environment there will be obtained effects of galvanic corrosion. Contact **LAPPAS S.A.** if you are not sure of the compatibility of your device.

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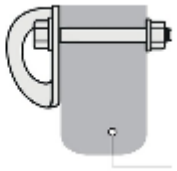
WARNING:
It is essential for safety to verify the free space required beneath the user at the workplace before each occasion of use, so that in the case of a fall there will be no collision with the ground or other obstacle in the fall path.

OPERATING MODE – EN 959

- See **User's Manual** Sheet about **Installation**.
- Make sure about the hardness, the nature and compactness of the rock on which you'll insert the anchor.
- Clean the rock and remove any friable part. Create a pitch to put the Rock Anchor and the plate. The area for fixing the anchor must be absolutely massive. In addition to all the other evaluations, a good method is to beat vigorously on the chosen area with a hammer. The surface of the rock must be dry and clear, and not as an isolated and "march" plaque.
- You perform the hole in the rock with an appropriate electropneumatic hammer-drill, taking care to make it perpendicular to the drilling plane. The depth of the hole should be at least 5mm longer than the total length of the Rock Anchor II. Attention to the diameter of the drill bit: must be exactly as the diameter of the anchor.
- Clean the hole from the powder, blowing inside it with the help of a little tube. At this point it is necessary to proceed to fix the plate Rock Anchor Device **(SUL).**
- After mounting the Rock Anchor II on the plate, you have to put the Rock Anchor II into the hole that you've made.
- Hit with the hammer on the head of the threaded fix and introduce it until the plaque is tight to the rock. Orient the Rock Anchor Device in the direction of the load that will be applied and then, with a hex wrench fix the nut, operating a suitable torque, observing the established torque.
- The rock anchor can have a lower-bearing capacity, when installed in a soft rock.
- If the rock is not solid and it is soft, we do **not recommend to use them.**
- **Installed Length**
  a) D10 = 82mm
  b) D12 = 80mm

In Case of Installation of the plate on a beam -EN 795:
When used only the plate SUL like an anchor device EN 795:2012 (for example the installation of the plate on a beam by means of a bolt), the installer must verify the resistance and characteristics of the structure where the device will be mounted that usually must be at least 12kN.

Installation of the plate on a beam



WARNING:

- These devices are resistant to corrosion according with standards of rock anchor class 2, in highly Aggressive SCC and/or corrosive environment.
- Do not connect the rope directly to the plate.
- The load-bearing of the anchor cannot be guaranteed if the rock in which it is installed is less strong or not very homogeneous, not consolidated or with micro-cracks. In these cases, we recommend using the SUL with a Rock Anchor as long as possible or prefer a different type of anchoring system, or choose a different area in which to install it.

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RESISTANCE

Our products are tested according to the requirements of EN 959: 2018 & EN 795:2012.
Please note that the company **LAPPAS S.A.** disclaims any responsibility in case of improper installation and/or use in inappropriate rocks or inappropriate environments or inappropriate dowels.

Precautions for use

WARNING:
After a fall or a major impact, check:

- rock around the anchor: there must be no cracks
- anchor: observe it visually and check that there are no cracks, deformation, and
- verify that the anchor is not rotated or moved. If you're in doubt replace it. Use only if the external temperature is between -40 ° and + 50 ° C. For safety purposes, it's essential to systems of arrest fall from a height, that the anchor point is always placed, if possible, above the user.

The position is essential for safely blocking a fall:

- Verify carefully what will be the height of the fall, length of rope and "pendulum" effect to avoid all possible obstacles (e.g. The ground, rubbing against the rocks, etc.).
- Get used to always use double systems, during your activities, for extra security.
- Always make sure that connectors inserted in their anchorage are free to move and position in the right direction of load application.

COMPLEMENTARY STANDARDS INFORMATION

- Provide for a rescue plan and define the means to act quickly in case of difficulties (It means to be trained to apply the appropriate rescue techniques)
- Use the product with respect to government regulations and the safety regulations in force.
- Respect all the instructions of use given in the general information of each device used or associated with this product.
- Attention: you need health fitness for the activities at height.
- To the user of these devices must be provided all the instructions of use. The retailers must deliver the device with these instructions, in the language of the country of use, when it's sold out of the first country of destination. It's a user responsibility to record and store with these instructions, the information provided in the inspection sheet.

GENERAL INFORMATION

Life time
The potential life time of the LAPPAS products is undefined (it is advisable to replace them anyway after 10 years). It is known that equipment may degrade progressively when it is used, so the actual life time of the products cannot be quantified precisely.
When anchors are made of stainless steel, they may suffer they may suffer from sea water, or sea spray, etc**.** The lifetime is also reduced considerably by the conditions and intensity of use: heavy use, contact with chemicals substances, use near sea water or splashing water, high temperatures, abrasions or cuts, damage to parts/components of the product, chemical environments, mud, sand, snow, ice, competence of the user, violent shocks, storage, are some of the factors that accelerating product wear.

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WARNING:
The duration may be limited to only one use in specific conditions (contact with acids, dangerous chemicals products, if the product suffers sharp falls or tensions, etc., this list is endless). In a marine environment or other potentially corrosive environments, it would be better to use materials with high corrosion resistance of class 1, like titanium. Despite this, we invite the installer to monitor and inspect the anchors at regular intervals to check their statue.

WARNING:
Anchors installed in marine areas, on rocks containing ferrous inclusions or other minerals of not certain nature, in some cases may suffer violent corrosive attacks that can compromise its use even in very short time!

DO NOT USE THE PRODUCT:

- After a violent fall, since no visible deformations could be considerably impaired resistance
- If the result of the check is not satisfactory
- When you do not know the entire history of its use and when it becomes obsolete and you have the slightest doubt about its reliability
- General wear of the plate and / or significant reduction of the section in correspondence with the carabiner
- If they're cracks, wear or defects
- When corrosion severely alters the surface condition. Destroy retired equipment to prevent further use.

Product obsolescence
The product may be judged obsolete and thus retired from service, when they occur, for example, incompatibility with other equipment, changes in applicable standards, etc.

Chemical products
All chemicals, solvents or corrosive substances can be very dangerous for these items. If there's a chance to come in contact with these substances contact directly **LAPPAS S.A.** indicating composition and exact name of the product, so we can respond properly after studying the case.

Changes and repairs
Modifications and/or repairs not authorized by the company **LAPPAS S.A**. are prohibited because they can reduce product performance. Repairs or modifications must be carried out inside the department production of **LAPPAS S.A.** and not outside.

Warranty
This product has a 3-year warranty, against every defect in manufacturing or material. The guarantee excludes oxidation, normal wear and tear, modifications or alterations, incorrect storage, damage due to accidents, incorrect storage, negligence and improper use.

Transport
It does not need any special precautions for transportation, however avoid contact with chemical reagents or other corrosive substances and adequately protect from any pointed or sharp objects.

Maintenance and storage
The user should not perform any special maintenance, but should be limited to the cleaning of the product as explained below.

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Cleaning
Rinse frequently the product only with lukewarm fresh water (max 40°C). Leave it to dry naturally away from direct heat. Do not put the product in contact with corrosive substances or solvents. Do not store at extreme temperatures.

WARNING:
1. The users shall follow the cleaning procedure and disinfect where applicable, without causing adverse effect on the materials used in the manufacture of the equipment, or to the user itself.
2. The cleaning procedure is to be strictly adhered to.

Storage
After cleaning and drying, store the equipment in a dry, cool, dark place (avoid UV rays), chemically neutral place (absolutely avoid saline environments), away from sharp edges, heat, humidity, corrosive substances or other potentially harmful conditions.

WARNING: Do not store when wet! Improper storage, as well as the aging of the product, may damage it and impair its performance and safety.

Testing and conformity
This product is tested in accordance with the standard by the notified body APAVE EXPLOITATION FRANCE SAS-6 rue du General Audran 92412 COURBEVOIE Cedex - France.

WARNING:
Laboratory tests, the instructions for use and standards are not always able to reproduce the practice, so the results obtained in real conditions of use in natural environments may sometimes differ to a considerable degree. The best instructions can be had from continuous use under the supervision of qualified and prepared instructors.

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