



## 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](http://www.lappasclimbing.com).

In case of doubt or difficulty to understand the information, don't risk, but contact:

LAPPAS S.A.

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### Anchor Device:

**Model : Rhea Titan D12 & Rock Anchor Titan D12**

### Reference Standards:

**1) Rock anchor - EN 959:2018**

“Mountaineering equipment – Rock Anchors – Safety requirements and test methods

**2) UIAA 123\_3 (for Rock Anchor Devices)**

“Mountaineering and Climbing Equipment-Rock Anchors”

**Material: Titanium Gr2**

### USE AND APPLICATION

The anchors Rhea Titan (D12) are intended for rock climbing, caving, canyoning and mountaineering. The anchor device Rhea Titan has been tested :

- According to **EN 959:2018** and **UIAA123\_3** if couple with its relative Rock Anchor Titan (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.

**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.

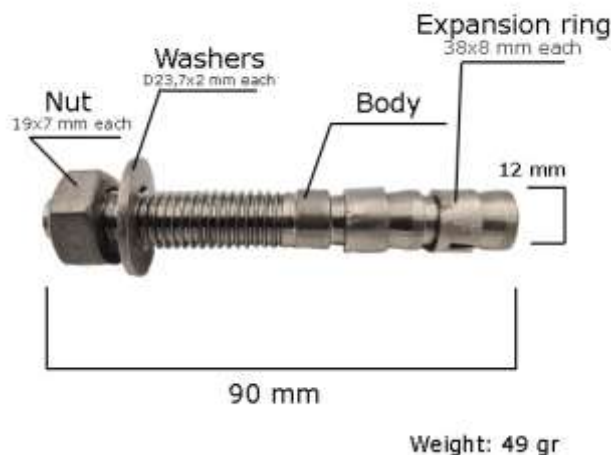
**NOMENCLATURE**

1.	Titanium Gr2 Nut	Dimensions:	19x7	mm
2.	Titanium Gr2 Body	Dimensions:	12x90	mm
3.	Titanium Gr2 Washer	Dimensions:	23.7x2	mm
4.	Titanium Gr2 Expansion ring	Dimensions:	38x8	mm (each)
5.	Titanium Gr2 Plate	Dimensions:	64x38x34.5	mm



**Rock Anchor Titan D12**

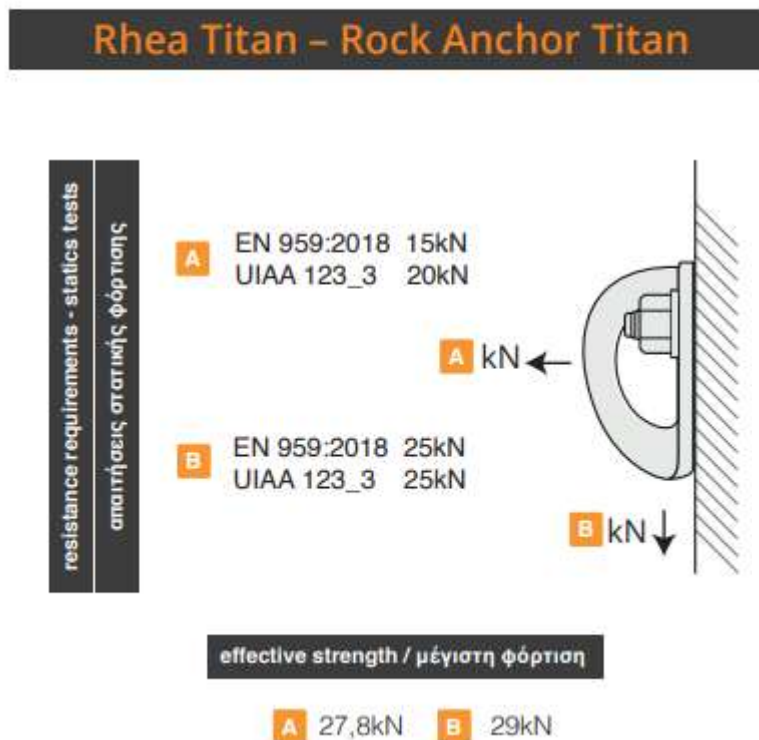
- **Rock Anchor Titan D12**  
**Dimensions:** M12x90mm | 49gr



Material : Titanium Gr2

## **DYNAMIC STRENGTH & STATIC STRENGTH TESTS**

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



## **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 959:2018 & UIAA 123\_3

Class of the anchor, surrounded by a circle: 1

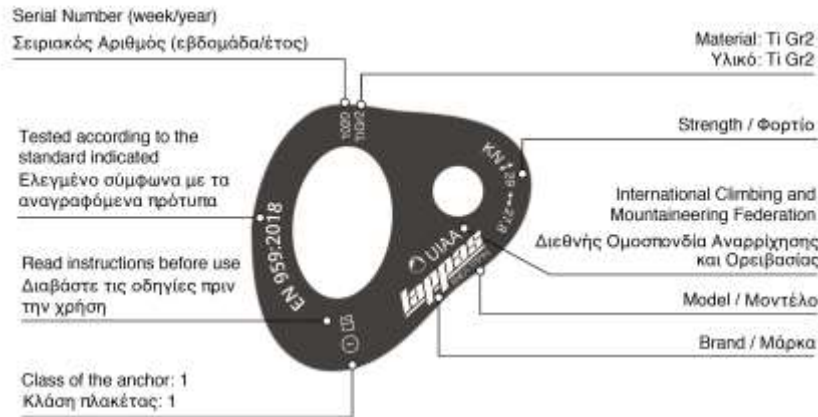
## **Radial load bearing capacity and Axial load bearing capacity**

- **Rhea Titan**

Radial load bearing capacity Rhea Titan : 29 kN

Axial load bearing capacity Rhea Titan : 27,8 kN

**Material:** Titanium Gr2



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

### **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 Titanium Gr2 and classified of class 1, suitable for environments that are highly aggressive enough to cause SCC.

#### Rock Anchors class & characteristics

ANCHOR CLASS	LOCATION	CHARACTERISTICS	POTENTIAL MATERIALS	REMARKS
1	highly aggressive SCC and/or corrosive environment	<b>SCC in evidence:</b> high chloride concentration, sea salt + other salts (from karst: limestone/dolomite) & acidic environment	Titanium grade 2 & some high-end High Corrosion Resistant (HCR) steels	Although SCC is a commonly associated with seaside cliffs, it can also occur in inland locations. The wind can blow salt over 100 km inland, and beyond the reach of sea breezes the rock itself can contain the ions that promote SCC.
2	outdoor environment not aggressive enough to cause SCC	<b>No SCC in evidence and none suspected:</b> some corrosion agents	AISI 316(L) and better	304 steel is not recommended any more for outdoor use!
3	indoor use, climbing gyms	<b>No SCC in evidence and none suspected</b>	no limitation with respect to corrosion	Bolts in indoor gyms in proximity to industrial areas, swimming pools, or the sea may require additional corrosion resistance.

## **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.


## **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, labyrinthitis or other conditions which may compromise the safety of the equipment in normal use or emergency.

## **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 corrosions

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.

## **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 systF5Tem (release or breakage) may be compromised.

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. .

## **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.

## **OPERATING MODE**

- 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 Titan 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 Titan. 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 (**Rhea Titan**).
- After mounting the Rock Anchor Titan on the plate, you have to put the Rock Anchor Titan 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.

## **WARNING:**

- These devices are resistant to corrosion according with standards of rock anchor class 1, 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 microcracks. In these cases, we recommend using the Rhea Titan with a Rock Anchor Titan as long as possible or prefer a different type of anchoring system, or choose a different area in which to install it.

## **RESISTANCE**

Our products are tested according to the requirements of EN 959: 2018.

They are also tested according to the requirements of UIAA 123\_3.

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  $-40^{\circ}$  and  $+50^{\circ}$  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 INFORMATIONS

- 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.

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.

### 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 there'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.

## **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.



## **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 SUDEUROPE SAS –PPE TESTS AND CERTIFICATION CENTER | 8 rue Jean-Jacques Vernazza – ZAC. Saumaty-Seon – BP 193 13322 Marseille Cedex 16- France. This product is also tested and compliant with UIAA 123\_3: Quality Label of the International Union of Mountaineering Associations.

## **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.