LeghornGroup ®

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SOTER SEAL RFID 3 STATE

CABLE SEAL RFID 3 ST

SeaJET

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SOTER SEAL RFID 3 STATE

3 STATES RFID SEALS

Protection - Control - Identification –Tracking – Rfid solutions

SECURITY SEALS
UHF RFID BOLT AND CABLELOCK SEAL "THREE STATES"

In the shipping and freight flow management field, security is a turning point.

LeghornGroup, manufacturer of high security seals for international trades, is the first security seals company to put RFID three states passive seal on the market. The seal provides its status information - unlocked, locked and tampered – once it is read. **These three information are ESSENTIAL to know if the container has been sealed in the correct way.**

UNLOCKED
LOCKED
TAMPERED

Digitalising operations in terminal, ports and dry ports and increasing security and sustainability along the entire supply chain are the new requirements that the three states seals of LeghornGroup satisfy. They provide operators with an innovative and high-tech tools with a currently top level of security.

The new UHF RFID three states seals are the following:

SOTER SEAL: *UHF RFID 3 states security seal (BOLT LOCK SEAL)*

MYRMIDON SEAL: *UHF RFID 3 states security seal (CABLE LOCK SEAL)*

Names meaning: SOTER SEAL and MYRMIDON SEAL

In the Greek mythology, **Soter** (Σωτήρ "Saviour, Deliverer") was the personification or daemon of safety, preservation and deliverance from harm.

The **Myrmidons** (or Myrmidones Μυρμιδόνες) were an ancient nation of Greek mythology. In Homer's Iliad, the Myrmidons are the soldiers commanded by Achilles and they were known for their courage and loyalty.

SOTER SEAL

UHF RFID BOLT-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

LEGHORNGROUP **SOTER SEAL** is a sturdy **UHF RFID bolt-lock seal** that combines high mechanical security with the electronic security offered by RFID, automatic radio frequency identification technology.

It's the first RFID bolt seal – compliant with ISO17712 technical standards – available on the market that is able to provide its status information, **UNLOCKED, LOCKED OR TAMPERED,** which is stored in the RFID chip

The outer **polypropylene plastic housing** of the seal – customizable with mark and numbering on request - **embeds an unique and latest generation of electronic chip**, that has its own univocal coding, which cannot be replicated. This allows for secure and reliable automatic identification of the seal applied to the container or vehicle.

SOTER SEAL

- Has univocal ID code and read/write user memory capabilities.
- It offers at the same time the immediate and accurate seal identification and the status of the seal i.e. unlocked/locked and evidence of tamper occurred, if any.
- It is an ideal solution for guaranteeing cargo security and tamper evidence along the shipping and supply chain.

Unsurpassed security level *built- in*:

Any event that occurs to the seal (unlocked, locked and tampered) is permanently stored in its chip's memory. Security is based on HW system– thanks to the technical specification of innovative chip RFID deployed - and it isn't transferred to external SW systems and algorithms, as for competing products.

SOTER SEAL

UHF RFID BOLT-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

Radio Frequency specification

- Frequency: 860 – 960 MHz
- Reference RF Standard: EPC Class 1 Gen2 / ISO/IEC 18000-6C
- Technology: Passive
- RFID IC: NXP G2iM+
- User read / write memory: up to 640 bit
- Memory size: from128 bit up to 448 bit of EPC memory
- TID (Tag IDentifier): 96 bit, including 48-bit of univocal progressive numbering f*actory locked*; 112 bit user TID memory
- Password protected: yes
- Tamper detection: yes – **THREE STATES DETECTION**
- Read/Write cycle: 10000
- Data retention: 20 years

Performance

- Reading distance by handheld reader: 2 m (6'6"47⁄64") (depending on reader)
- Reading distance at gate reader: 5 m (16' 4" 27/32") (depending on reader)
- Quality: 100% performance tested)

Mechanical specification

- IP Protection: IP65
- Operating temperature: – 20°C / + 55 °C
- Storage temperature: – 30°C / + 80 °C
- ISO 17712:2013 Clauses 4, 5 and 6: yes

- Material: carbonitrured steel + polypropylene in accordance with Restriction of Hazardous Substances (RoHS), European Directive 2002/EC.
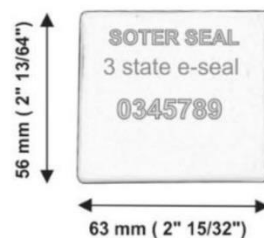
SOTER SEAL

UHF RFID BOLT-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

Size

- Electronic flag: mm 48x117x4 (1"x7/8"x4"19⁄32"x5⁄32")
- Metallic pin length: mm 67 (2"5/8")
- Metallic pin diameter: mm 8 (3⁄16")
- Bolt size: mm 56x63x26 (2"13/64x 2"31/64"x 1"1/32")
- Weight: 114 g

Available colours

MYRMIDON SEAL

UHF RFID CABLE-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

LEGHORNGROUP **MYRMIDON SEAL** is a sturdy **UHF RFID cable-lock seal** that combines high mechanical security with the electronic security offered by RFID, automatic radio frequency identification technology.

It's the first RFID cable seal – compliant with ISO17712 technical standards – available on the market that is able to provide its status information, **UNLOCKED, LOCKED OR TAMPERED,** which is stored in the RFID chip.

The outer **polypropylene plastic housing** of the seal – customizable with mark and numbering on request - **embeds an unique and latest generation of electronic chip**, that has its own univocal coding, which cannot be replicated. This allows for secure and reliable automatic identification of the seal applied to the container or vehicle.

High Security Seal compliant with
ISO17712:2013, Clauses 5 & 6

MYRMIDON SEAL

- Has univocal ID code and read/write user memory capabilities.
- It offers at the same time the immediate and accurate seal identification and the status of the seal i.e. unlocked/locked and evidence of tamper occurred, if any.
- It is an ideal solution for guaranteeing cargo security and tamper evidence along the shipping and supply chain.
- The cable lock system makes its use easy in a variety of different applications.

MYRMIDON SEAL

UHF RFID CABLE-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

Radio Frequency specification

- Frequency: 860 – 960 MHz
- Reference RF Standard: EPC Class 1 Gen2 / ISO/IEC 18000-6C
- Technology: Passive
- RFID IC: NXP G2iM+
- User read / write memory: up to 640 bit
- Memory size: from 128 bit up to 448 bit of EPC memory
- TID (Tag IDentifier):   96 bit, including 48-bit of univocal progressive numbering *factory locked*; 112 bit user TID memory
- Password protected: yes
- Tamper detection: yes – **THREE STATES DETECTION**
- Read/Write cycle: 10000
- Data retention: 20 years

Performance

- Reading distance by handheld reader: 2 m (6'6"47⁄64") (depending on reader)
- Reading distance at gate reader: 5 m (16' 4" 27/32") (depending on reader)
- Quality: 100% performance tested)

Mechanical specification

- IP Protection: IP65
- Operating temperature: – 20°C / + 55 °C
- Storage temperature: – 30°C / + 80 °C
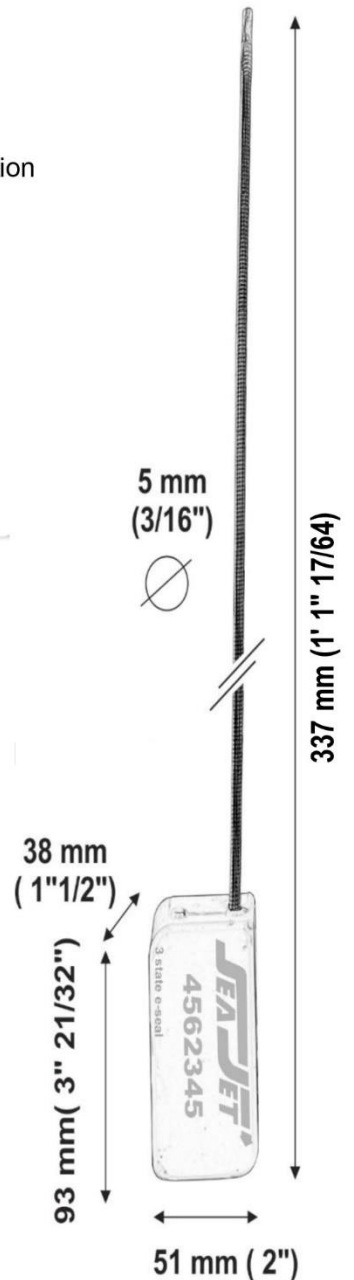- ISO 17712:2013 Clauses 5 and 6:   yes

MYRMIDON SEAL

UHF RFID CABLE-LOCK "THREE STATES" SEAL

UNLOCKED-LOCKED-TAMPER EVIDENCE

Size

- Size   mm 51x93x38 (2"x1"1⁄12"x3"⁄16")
- Cable standard length: mm 337 (1' 1" 17/64")
- Cable diameter: mm 5,0 (3⁄16")
- Weight: 160 g
- Material: carbonitrured steel + polypropylene in accordance with Restriction of Hazardous Substances (RoHS), European Directive 2002/EC.

Available colours

5 mm (3/16")

337 mm (1' 1" 17/64")

38 mm (1"1/2")

93 mm(3" 21/32")

51 mm (2")

SECURITY SEAS
UHF RFID BOLT-LOCK SEAL and CABLE-LOCK SEAL "THREE STATES"

Ultimate cargo security solution

**UNLOCKED
LOCKED
TAMPERED**

- High Security Seals *compliant with* ISO17712 to seal the doors of containers, trucks and trailers.

- RFID provides automatic identification of the vehicle and/or container.

- They can be read quickly and accurately by static gateway reading systems or by handheld devices operated by check point personnel.

- The RFID chip can also be used to store further information. The chip can be easily written by using RFID reader/writer device. Further information added and the chip itself can be password protected.

Unsurpassed security level *built- in* :

Any event that occurs to the seal (unlocked, locked and tampered) is permanently stored in its chip's memory. Security is based on HW system– thanks to the technical specification of innovative chip RFID deployed - and it isn't transferred to external SW systems and algorithms, as for competing products.

Any event - unlocked, locked or tampered - is permanently stored in the chip's memory

WHO WE ARE

To achieve this goal LeghornGroup delivers:

Protection. LeghornGroup can protect your goods and assets with security seals and various products for tamper protection. The company can create bespoke, technical solutions to meet client's requirements.

Control. LeghornGroup ensures goods and people can be monitored using security products and integrated complete hardware and software solutions that allow the operator to monitor and intervene in real time, even remotely.

Identification. LeghornGroup's understanding of authentication along with their innovative technical products and solutions allow users to uniquely and securely identify, goods, vehicles, containers, animals and people.

Tracking. LeghornGroup's real time GPS tracking devices allow users to monitor location, status and movements of vehicles and people.
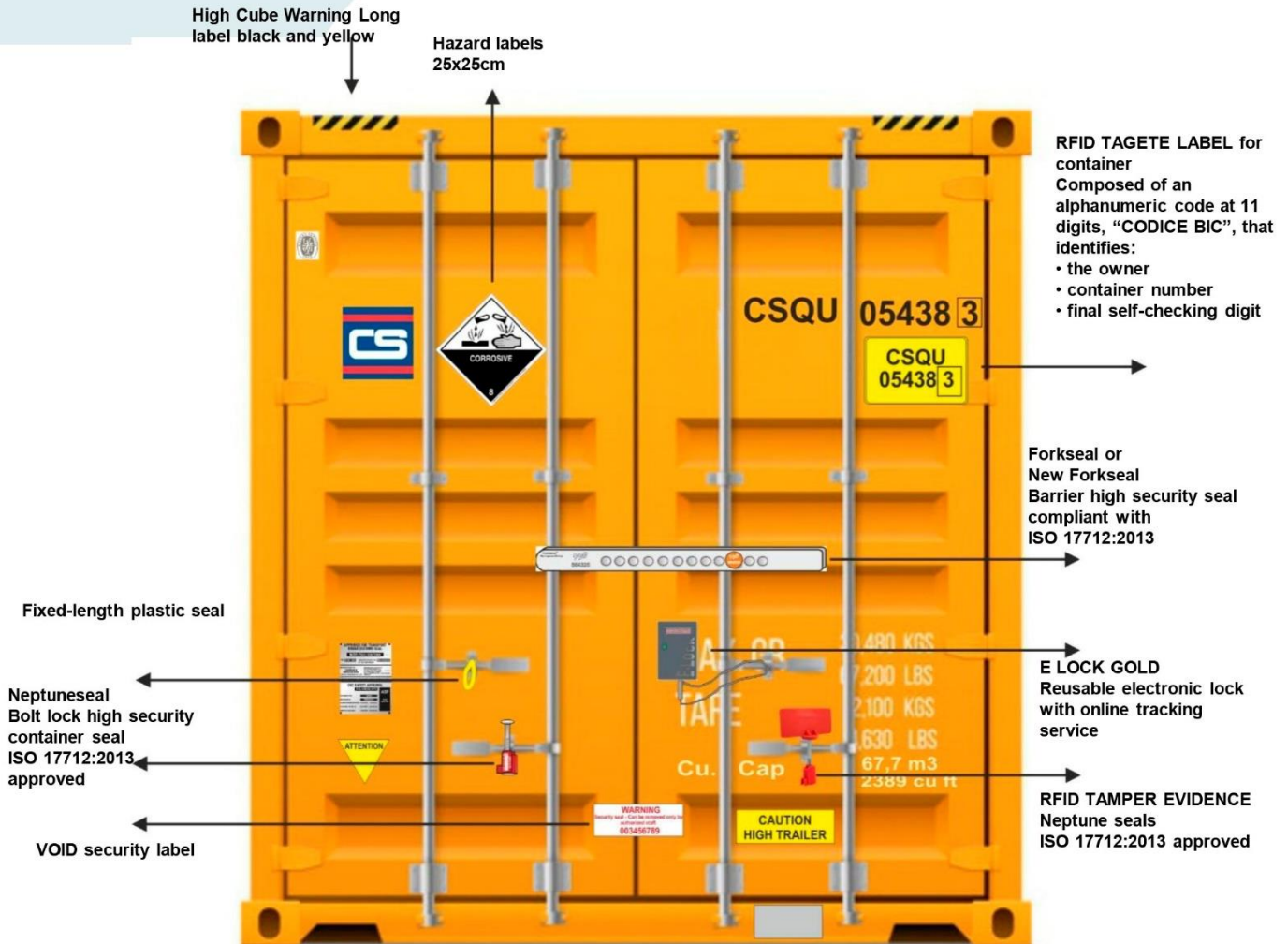
CONCLUSION

Being equal to the questions raised is our ambition.
Explaining to customers that their problems IMMEDIATLY become ours, is part of our natural way of being.
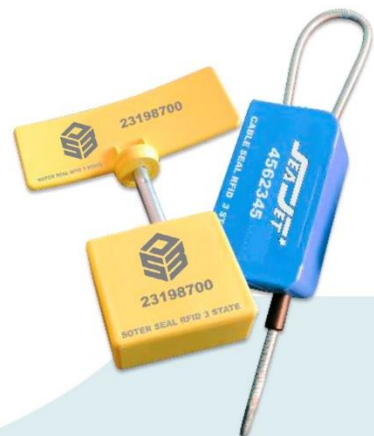
This is the key of our success

Luciano Grapsa
LeghornGroup President

Container security seals and identification products

High Cube Warning Long label black and yellow

Hazard labels 25x25cm

RFID TAGETE LABEL for container
Composed of an alphanumeric code at 11 digits, "CODICE BIC", that identifies:
• the owner
• container number
• final self-checking digit

CSQU 05438 3

CSQU 05438 3

Forkseal or New Forkseal
Barrier high security seal compliant with ISO 17712:2013

Fixed-length plastic seal

Neptuneseal
Bolt lock high security container seal
ISO 17712:2013 approved

E LOCK GOLD
Reusable electronic lock with online tracking service

RFID TAMPER EVIDENCE
Neptune seals
ISO 17712:2013 approved

VOID security label

Cu. Cap   67,7 m3
2389 cu ft

WARNING
Security seal - Can be removed only by authorized staff
003456789

CAUTION
HIGH TRAILER

By LeghornGroup

… And from 17th September 2020 we will bring to the world market also the UHF RFID 3 States seals:
Soter Seal and Myrmidon Seal

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