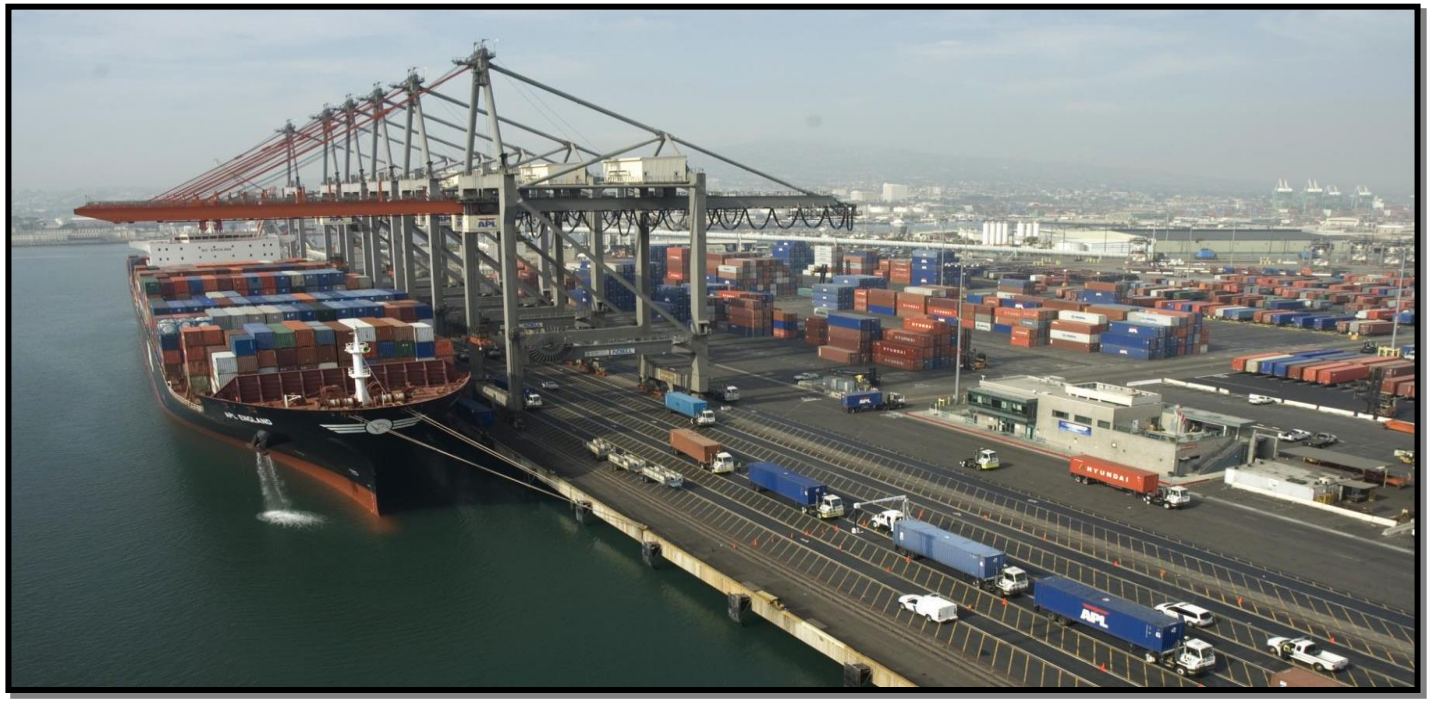
Customs-Trade Partnership Against Terrorism

Seal Integrity



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Seal Integrity…

The Seal Integrity training will cover:

- **Policies and Procedures for Seal Integrity**
- **What are the ISO 17712 standards for seals**
- **High Security Seals – How Do We Know**
- **Seal Inspection Process (VVTT)**

Policies and Procedures…

A good seal integrity program must have:

- seals purchased from a reputable seal manufacturer/ distributor
- documentation from the manufacturer proving what type of seal was purchased and the security features it has.
- inventory of all seals purchased and stored
- accountability for each seal that is affixed, destroyed or removed
- only authorized company employees issue and affix seals
- procedures for reporting tampered seals that are discovered throughout the supply chain
- procedures in place for disposing of used seals that have been cut-off
- specific training for employees that issue, affix and dispose seals

Policies and Procedures…

All containers and trailers arriving at your facility should have:

- Documentation verified/ Seal number matches documents
- Actual seal/ number verified and inspected for tampering

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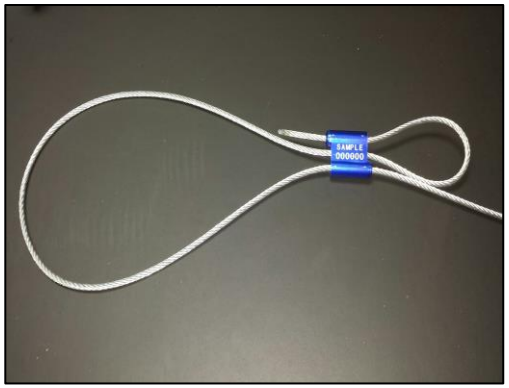
C-TPAT Criteria…

Container Security (Importer):

- Container integrity must be maintained to protect against the introduction of unauthorized material and/or persons.
- At point of stuffing, procedures must be in place to properly seal and maintain the integrity of the shipping containers.
- A high security seal must be affixed to all loaded containers bound for the United States.
- All seals must meet or exceed the current ISO/ PAS 17712 standards for **“high security”** seals.



WHAT IS ISO 17712…

- ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees.

- Published in 2003, the original ISO/ PAS 17712 was developed by a working group of users and manufacturers.

- The strength of a seal is measured with tests based on impact, shear (cut), bend and tensile (pull) strength.

- It focuses on the physical parameters of three levels of seal strengths: indicative, security and high security.

- Seals must show a mark to indicate their grade – "**H**" for high security, "**S**" for security and "**I**" for (tamper) indicative.

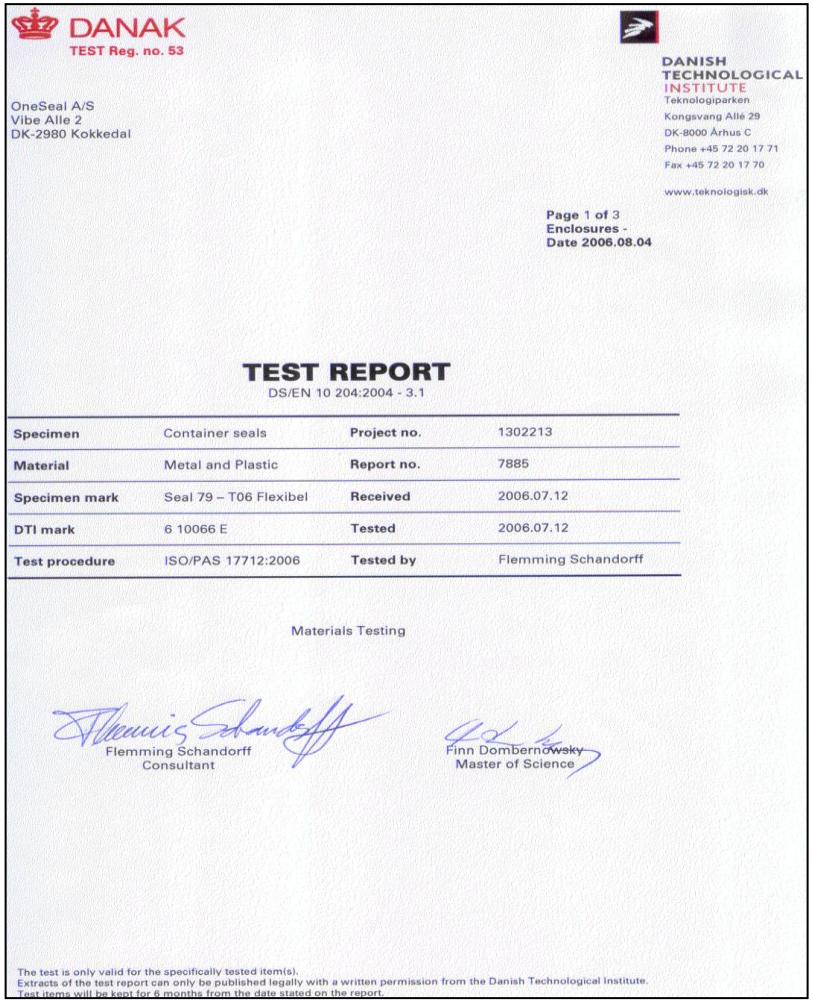
- There have been multiple updates to the ISO standard. The most recent is ISO 17712:2013 that will go into effect on **May 15, 2014.**

So How Do We Know…

- How can we tell the difference between those who comply with the ISO 17712:2013 standard for “high security” seals & those who don’t?

- There are three positive ways of knowing if the supplier and their products conform to the ISO 17712:2013 requirements:
    - Ask for proof - request sight of conformance certificate/ test lab report relating to the product tested.
    - The certificates for the product testing should originate from an ISO/IEC 17025 independent test house. The test house would be accredited by a third party. Only two in the United States:
        - **ACT Laboratories , Inc. (Hillsdale, MI)**
        - **Dayton T. Brown, Inc. (Bohemia, NY**)
    - For a seal to be affixed the “**H**” mark, it shall be designed and constructed with “tamper evidence features” that generate tell-tale evidence of tampering, as documented in a compliance certification letter and the audit report by an accredited process review organization (Clause 6 - ISO17712:2013)

So How Do We Know…



DANAK
TEST Reg. no. 53

DANISH TECHNOLOGICAL INSTITUTE
Teknologiparken
Kongsvang Allé 29
DK-8000 Århus C
Phone +45 72 20 17 71
Fax +45 72 20 17 70
www.teknologisk.dk

OneSeal A/S
Vibe Alle 2
DK-2980 Kokkedal

Page 1 of 3
Enclosures -
Date 2006.08.04

TEST REPORT
DS/EN 10 204:2004 - 3.1

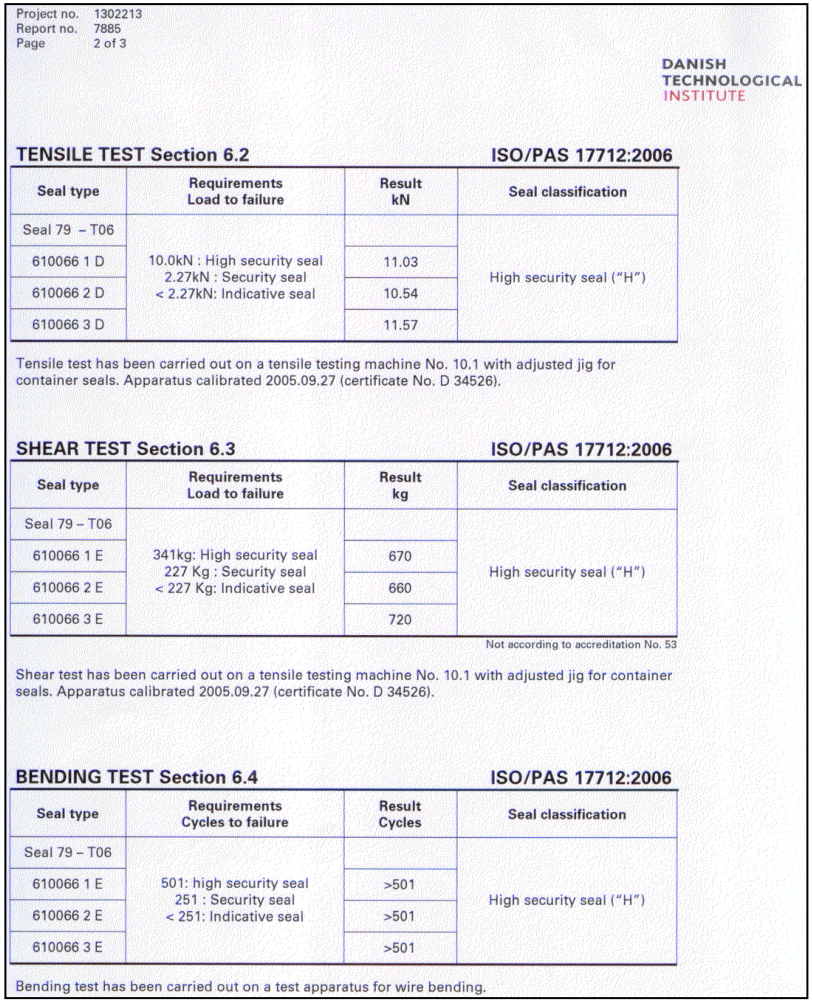
Specimen	Container seals	**Project no.**	1302213
Material	Metal and Plastic	**Report no.**	7885
Specimen mark	Seal 79 – T06 Flexibel	**Received**	2006.07.12
DTI mark	6 10066 E	**Tested**	2006.07.12
Test procedure	ISO/PAS 17712:2006	**Tested by**	Flemming Schandorff

Materials Testing

Flemming Schandorff
Consultant

Finn Dombernowsky
Master of Science

The test is only valid for the specifically tested item(s).
Extracts of the test report can only be published legally with a written permission from the Danish Technological Institute.
Test items will be kept for 6 months from the date stated on the report.



Project no. 1302213
Report no. 7885
Page 2 of 3

DANISH TECHNOLOGICAL INSTITUTE

TENSILE TEST Section 6.2 — **ISO/PAS 17712:2006**

Seal type	Requirements Load to failure	Result kN	Seal classification
Seal 79 – T06	10.0kN : High security seal 2.27kN : Security seal < 2.27kN: Indicative seal		High security seal ("H")
610066 1 D		11.03	
610066 2 D		10.54	
610066 3 D		11.57	

Tensile test has been carried out on a tensile testing machine No. 10.1 with adjusted jig for container seals. Apparatus calibrated 2005.09.27 (certificate No. D 34526).

SHEAR TEST Section 6.3 — **ISO/PAS 17712:2006**

Seal type	Requirements Load to failure	Result kg	Seal classification
Seal 79 – T06	341kg: High security seal 227 Kg : Security seal < 227 Kg: Indicative seal		High security seal ("H")
610066 1 E		670	
610066 2 E		660	
610066 3 E		720	

Not according to accreditation No. 53

Shear test has been carried out on a tensile testing machine No. 10.1 with adjusted jig for container seals. Apparatus calibrated 2005.09.27 (certificate No. D 34526).

BENDING TEST Section 6.4 — **ISO/PAS 17712:2006**

Seal type	Requirements Cycles to failure	Result Cycles	Seal classification
Seal 79 – T06	501: high security seal 251 : Security seal < 251: Indicative seal		High security seal ("H")
610066 1 E		>501	
610066 2 E		>501	
610066 3 E		>501	

Bending test has been carried out on a test apparatus for wire bending.

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So How Do We Know…

THE AMERICAN
ASSOCIATION
FOR LABORATORY
ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

ACT LABORATORIES, INC.
Hillsdale, MI

for technical competence in the field of

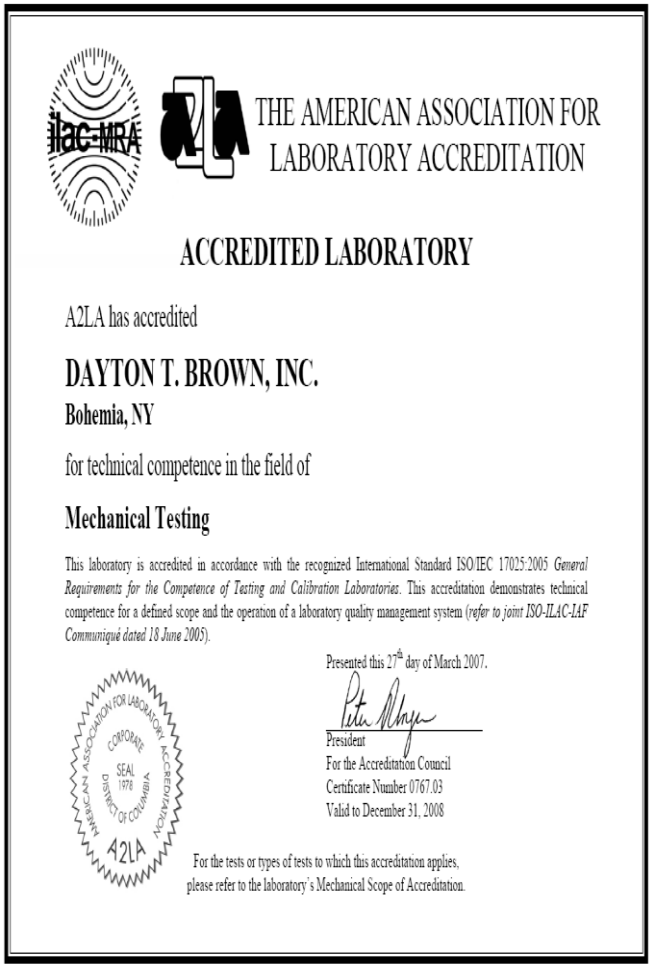
Mechanical Testing

The accreditation covers the specific tests and types of tests listed on the agreed scope of accreditation. This laboratory meets the requirements of ISO/IEC 17025 - 1999 "General Requirements for the Competence of Testing and Calibration Laboratories" and any additional program requirements in the identified field of testing.

Presented this 2nd day of August 2004.

President
For the Accreditation Council
Certificate Number 143-01
Valid to March 31, 2006

For tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.



THE AMERICAN ASSOCIATION FOR
LABORATORY ACCREDITATION

ACCREDITED LABORATORY

A2LA has accredited

DAYTON T. BROWN, INC.
Bohemia, NY

for technical competence in the field of

Mechanical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General Requirements for the Competence of Testing and Calibration Laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 18 June 2005*).

Presented this 27th day of March 2007.

President
For the Accreditation Council
Certificate Number 0767.03
Valid to December 31, 2008

For the tests or types of tests to which this accreditation applies, please refer to the laboratory's Mechanical Scope of Accreditation.

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So How Do We Know…

LEAD Testing and Certification (UK) Ltd.

Certificate of Compliance

LTC Verification No.	:	
Product Name	:	
Model No.	:	
Applicant	:	
Address of Application	:	
Final Audit Report No.	:	
Location of Audit	:	
Seal(s) Classfication	:	
Date of Issue	:	
Applicable Standards	:	ISO 17712:2013 & ISO 17712 (2013-05-15)
Conclusion	:	Based on review of the Test Reports and the Technical Design Drawings and the audit of the factory's Quality Management Systems, this facility is deemed to meet the requirements of the above standards and complies with Clause 6. as contained in ISO 17712 2013 & ISO 17712 (2013-05-15) which require that seals be designed and constructed with tamper evidence features that generate tell-tale evidence of tampering available to visual or other inspection of a seal.
Note	:	The verification is only valid with the final audit report No. R201310/021 Copyright of this certificate is owned by LTC(UK) and may not be reproduced other than in full and with the prior permission of LTC(UK)

Authorized Signature : *For and behalf of*
LEAD Testing & Certification (UK) Ltd.

Kinglan
General Manager

LEAD Testing & Certification (UK) Ltd.
Address: RM2A, 2/F., CHINA SUPERMARKET, 32-34 TUDOR STREET, CARDIFF, RIVER SIDE, WALES, UK
Postcode:CF11 6AH E-mail:info@leadtc.co.uk WEB: www.leadtc.co.uk

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So How Do We Know…

Look for the "H" stamped on the seal:

Bottom of the locking body

Top of the steel bolt or rod

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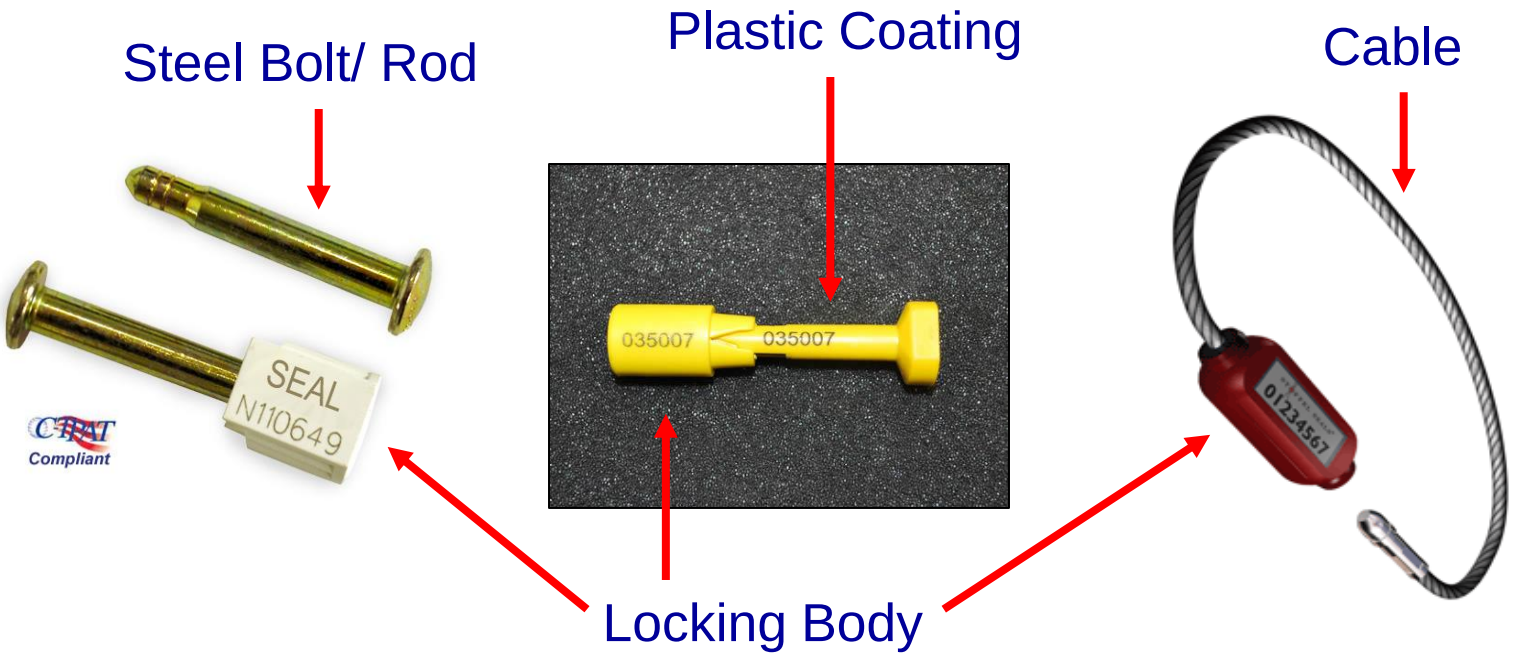
Seal Terminology…

- High security seals are considered “Barrier Seals”
- Barrier seals require tools to remove; usually wire cutters or bolt croppers
- One time use; cable seals and bolt seals fall into this category



Seal Affixing Procedures…

Seal Affixing Process:

- Only designated, authorized employees must distribute and affix container seals for integrity purposes. The fewer people who have access to seal(s), the better!
- Unauthorized employees/ individuals must **never** handle container seals!!!
- Specific security training should be given to employees that affix seals. Container door handles and locking mechanisms should be inspected

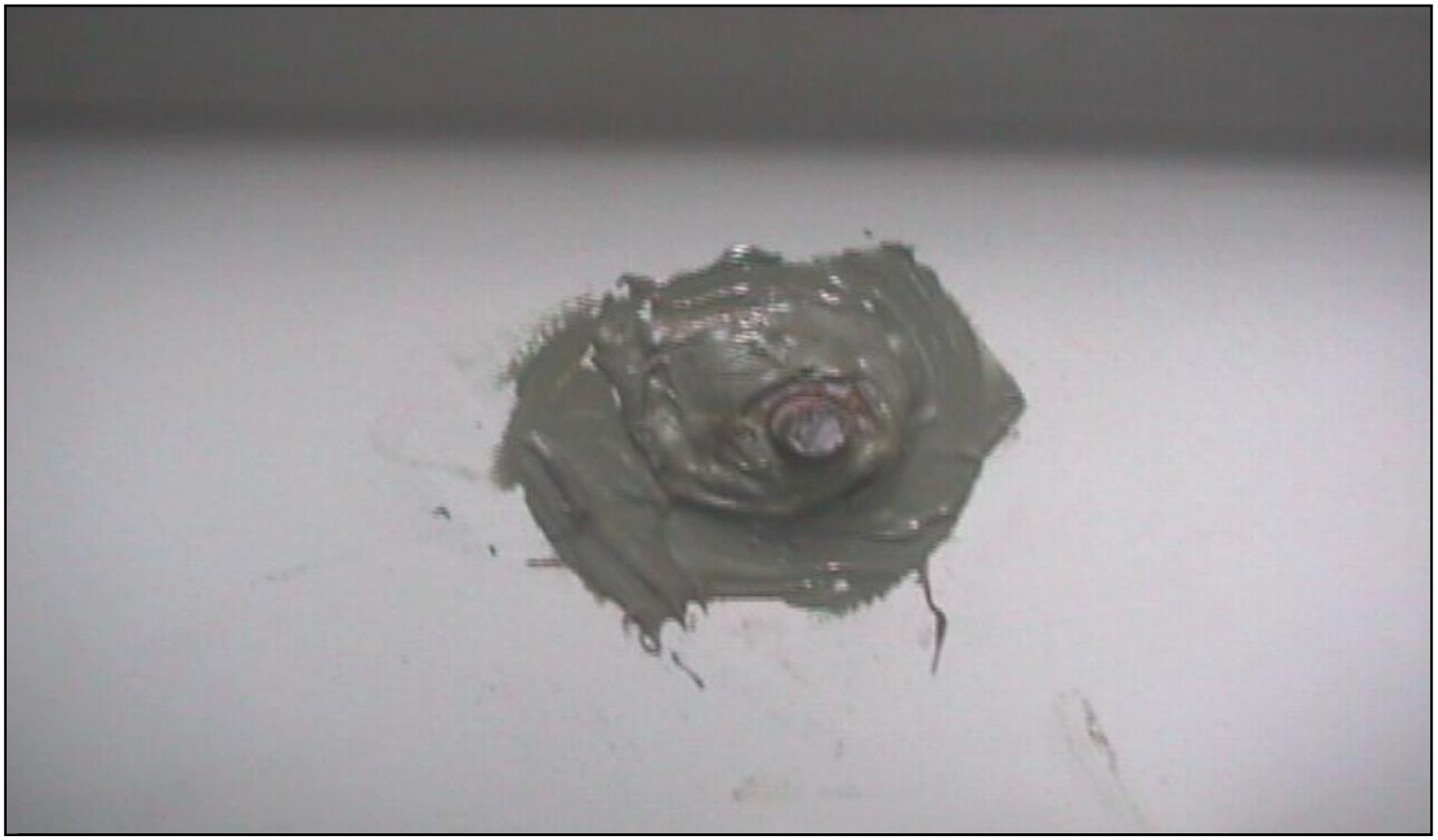
Seal Affixing Procedures…

Outside Doors:

Detachable or loose bolts can allow access inside container

Seal Affixing Procedures…

Inside Doors:



Non-manufacturer putty keeps bolts in place

Seal Affixing Procedures…

Outside Doors

Detachable or loose bolts can allow access inside container

Seal Affixing Procedures…

Seal Affixing Procedures…

- Not placing a seal on the left door of the container can leave your shipment vulnerable to attack.
- The left door can be opened on some containers without tampering the seal on the right door!!!

Seal Affixing Procedures…

Homemade tool

Bend plate back/ Left door opens

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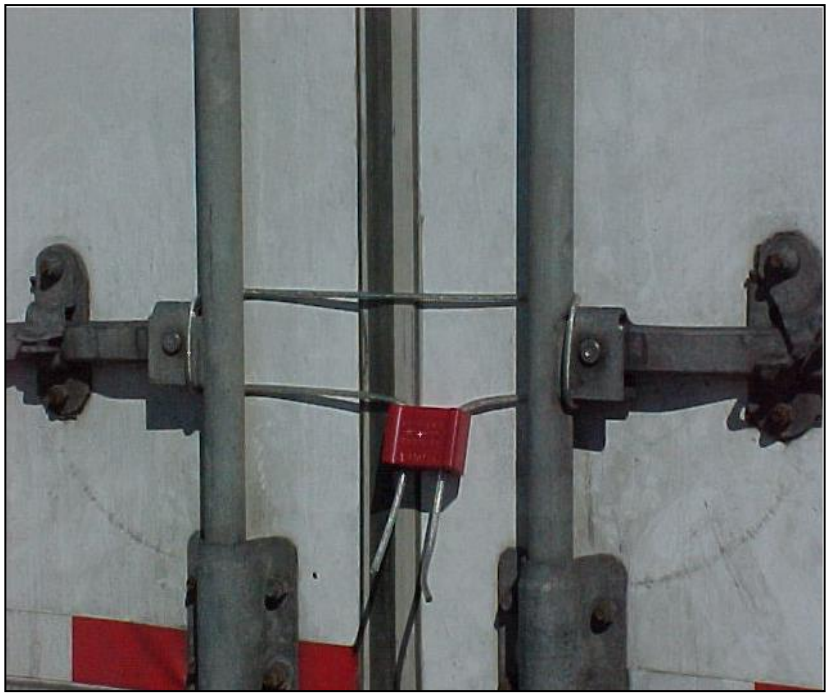
Seal Affixing Procedures…

Seal Affixing Procedures…

- Based on risk, a high security barrier bolt seal or cable seal should be applied to the door handle/ vertical bars on the container for an additional level of security.



Seal Affixing Procedures…

Make sure seal is affixed properly; pull down on seal

Seal Inspection…

Seal Verification and Inspection Process:

- A seal inspection process should be implemented throughout the supply chain. The **V.V.T.T.** Seal Inspection Process is a good example of one:

V – View seal & container locking mechanisms

V – Verify seal number for accuracy

T – Tug on seal to make sure it is affixed properly

T – Twist & Turn seal to make sure it does not unscrew

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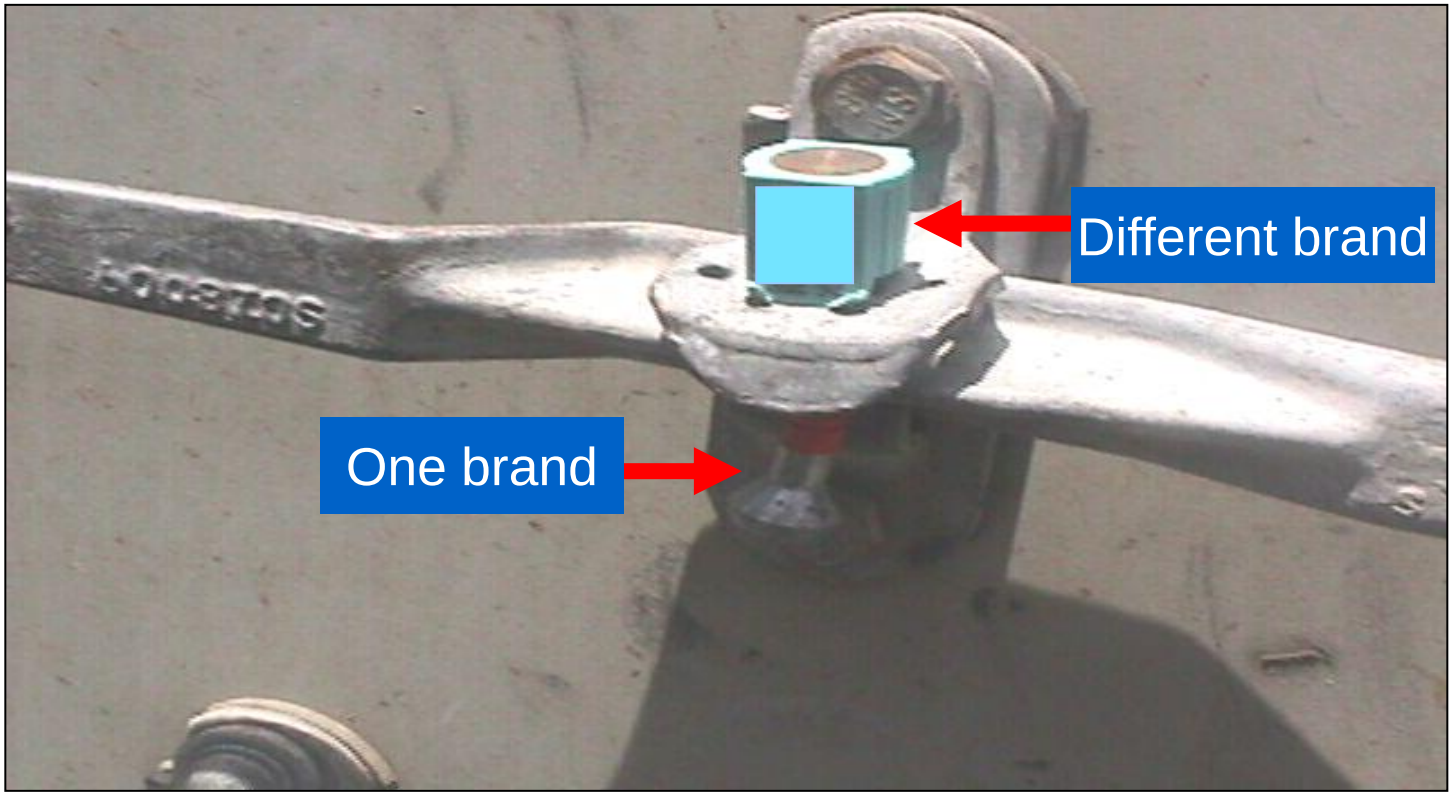
Seal Inspection…

View seal & container locking mechanisms. Excessive damage to the seal or locking mechanisms must be reported to a Supervisor before opening the container.

Seal Inspection…

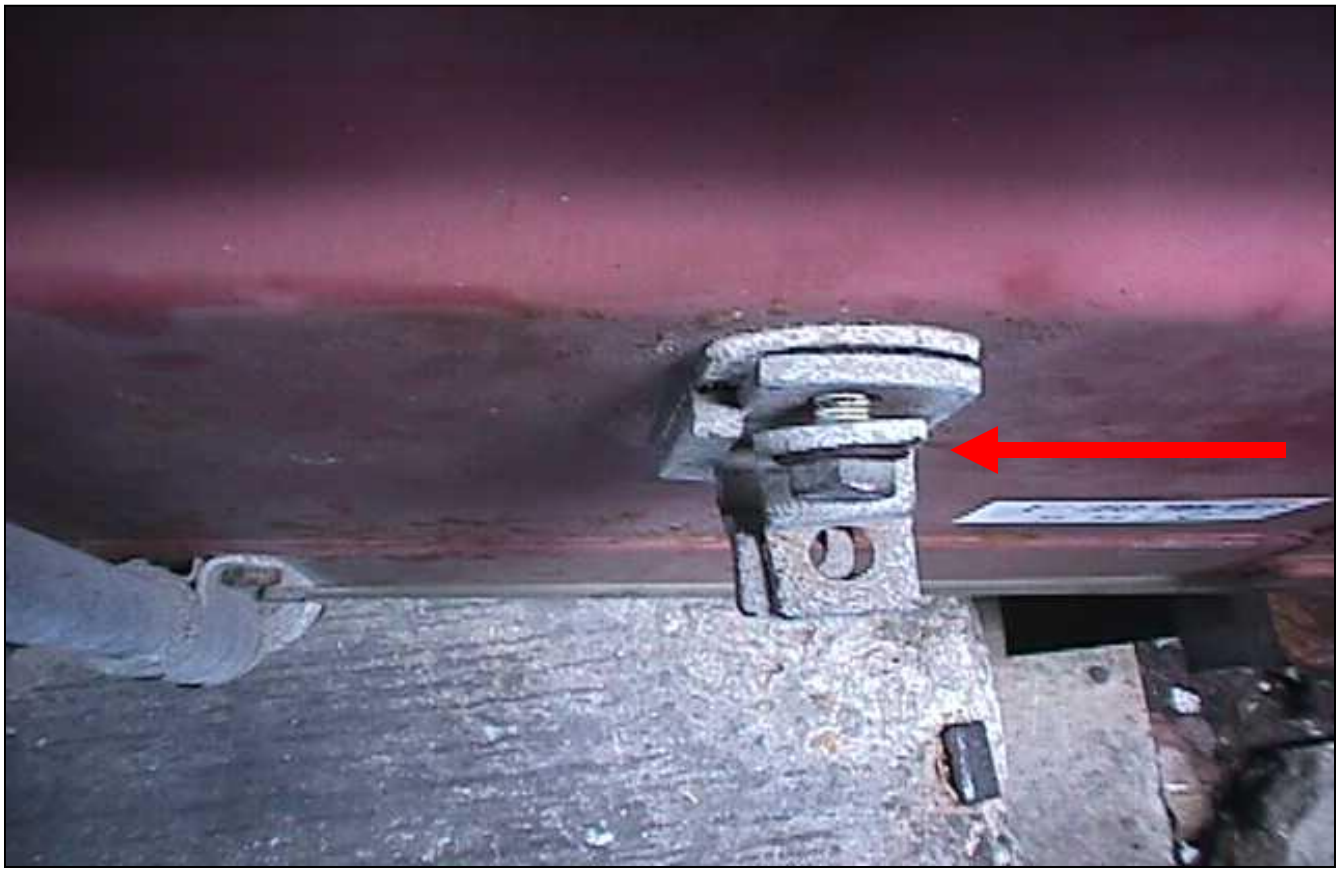
View seal & container locking mechanisms:



Different brands of seals attached together

Seal Inspection…

View seal & container locking mechanisms:



Look for loose bolt/ hasp

Seal Inspection…

Verify seal number for accuracy. Compare with shipping documents, and look for alterations to the seal number.

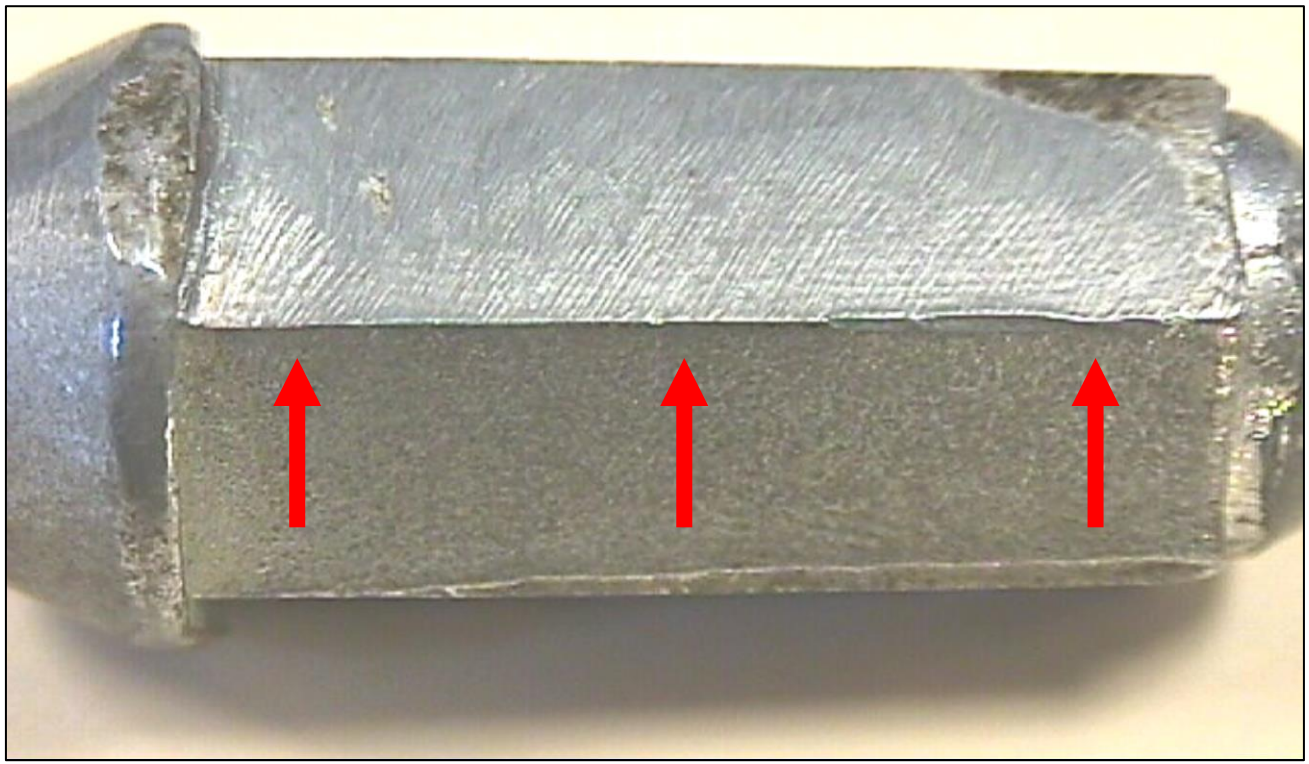
Seal Inspection…

Verify seal number for accuracy.

Seal numbers are produced in a straight line by a machine

Seal Inspection…

Verify seal number for accuracy.



Original number sanded off

Seal Inspection…

Tug on seal to make sure it is affixed properly. Seals that come apart must be reported to a Supervisor before opening the container. Human error might cause this to happen, or the container might have contraband inside!

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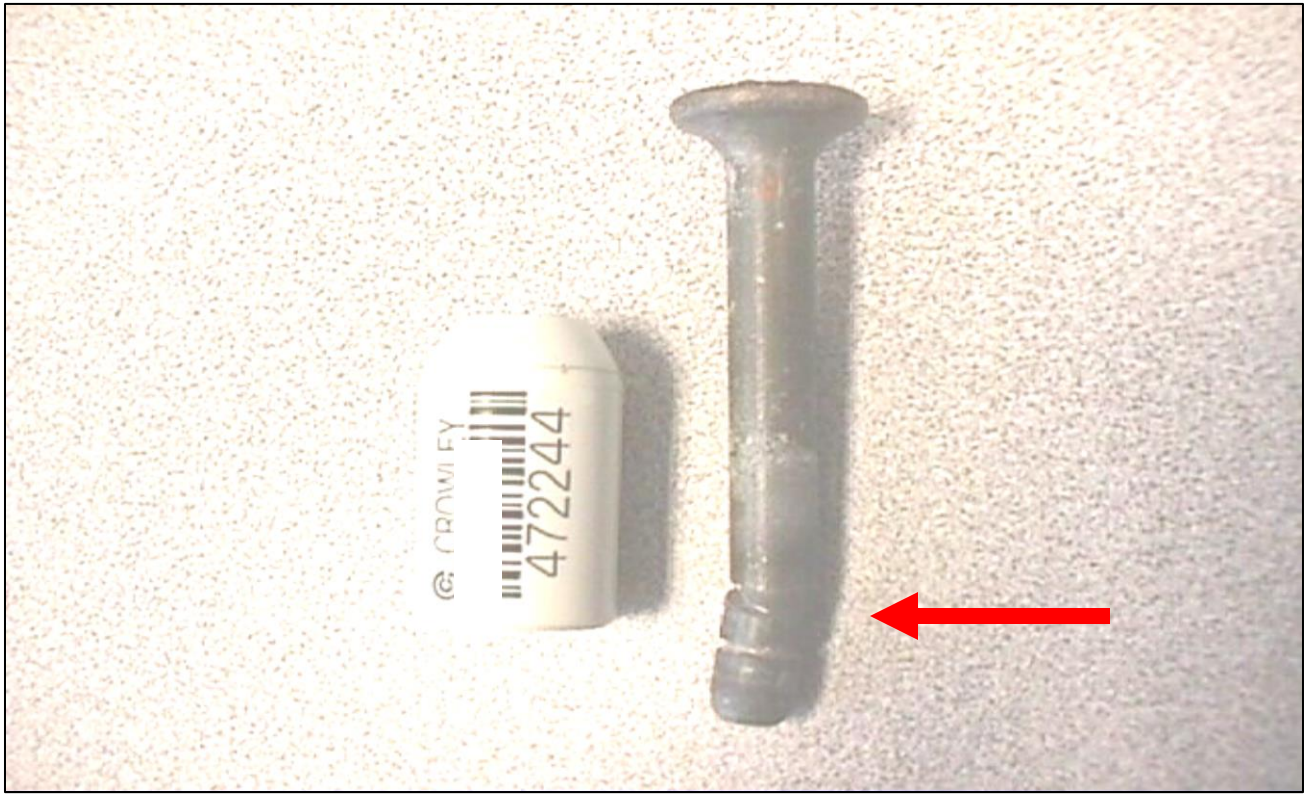
Seal Inspection…

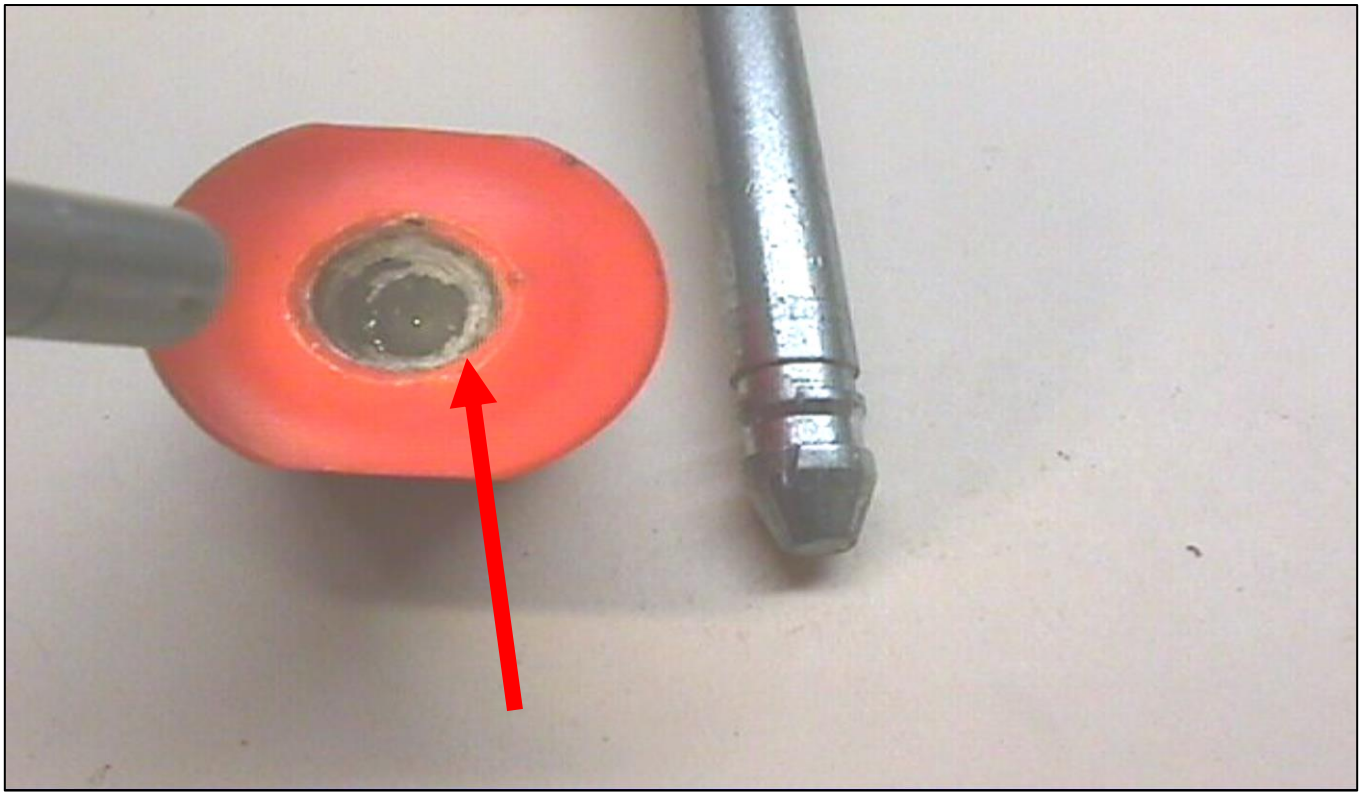
Tug on seal to make sure it is affixed properly.



Seal stem is bent; seal does not lock properly

Seal Inspection…

Tug on seal to make sure it is affixed properly.



Seal Inspection…

Twist & Turn seal to make sure it does not come off. Seals are threaded, so they can be unscrewed. These altered seals are reusable throughout the supply chain for multiple attacks!

Seal Inspection…

Twist & Turn seal to make sure it does not unscrew.

Twist counter-clockwise to unscrew

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Seal Inspection…

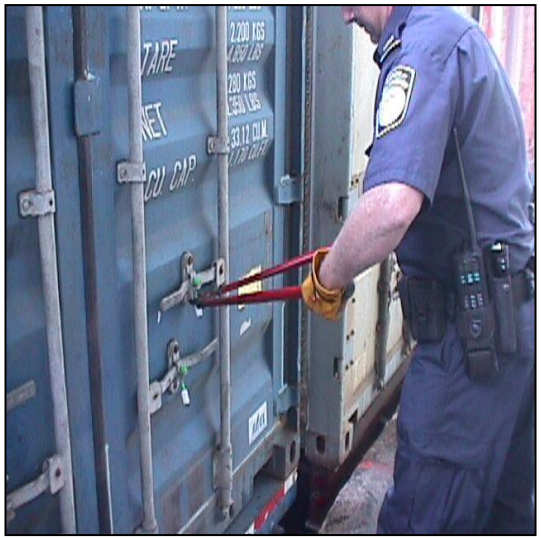
Twist & Turn seal to make sure it does not unscrew.

Multiple tampered seals

Seal Inspection…

- **After seal(s) and container/ trailer pass all inspections, the doors can be opened.**

- **Seals should be kept for investigative purposes or disposed of appropriately.**



Seal Inspection…

Seal Inspection processes should be implemented at all foreign and domestic locations:

- **Manufacturers**
- **Suppliers**
- **Vendors**
- **Sea Carriers**
- **Logistical Service Providers**
- **Distribution Centers**
- **Container Storage Depots**
- **Warehouses**
- **…**

*** The more locations these processes are implemented, the higher level of security your shipment will have.**

Questions?