DAYTON T. BROWN INC.
Founded 1950

ENGINEERING AND TEST DIVISION
1175 CHURCH STREET, BOHEMIA, LONG ISLAND, NEW YORK 11716 (631) 589-6300

**TEST REPORT NO.:** 416294-02-04-R18-0711

**DAYTON T. BROWN, INC. JOB NO.:** 416294-02-000

**CUSTOMER:** SEALOCK SECURITY SYSTEMS, INC.
11350 NW 36 TERRACE
MIAMI, FL 33178
USA

**SUBJECT:** FREIGHT CONTAINER MECHANICAL SEAL CLASSIFICATION TESTING PER ISO 17712:2013 (E) CLAUSE 5,
CONDUCTED ON 25 CABLE SEALS, PART NO. SLC-5MM,
SERIAL NOS. 593121 THROUGH 593145

**PURCHASE ORDER NO.:** SLC 3/16 2018

**ATTENTION:** RAY FERNANDEZ

**SEAL CLASSIFICATION: HIGH SECURITY**

| | |
|---|---|
| **PREPARED BY** | J. BENINCASA |
| **TEST ENGINEER** | R. CORTES For T. ZIMOULIS |
| **DATE** | 9 JULY 2018 |



**THE DATA CONTAINED IN THIS REPORT WAS OBTAINED BY TESTING IN COMPLIANCE WITH THE APPLICABLE TEST SPECIFICATION AS NOTED**

James Benincasa

Digitally signed by James Benincasa
DN: c=US, st=New York, l=Bohemia, o=Dayton T. Brown, Inc., cn=James Benincasa, email=jbenincasa@dtb.com
Date: 2018.07.09 13:16:36 -04'00'

ACCREDITED
Testing Lab
Cert # 0767.01, 0767.02, 0767.03

REVISION HISTORY

| Revision | Date | Section Affected | Change |
|---|---|---|---|
| -- | 07/09/2018 | -- | -- |
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## 1.0 ABSTRACT

This test report details the results of freight container mechanical seal classification testing conducted on Cable Seals, under reference (a) to the requirements of reference (c).

Results of the tests are detailed in the following text.

Test data pertinent to this program will remain on file at Dayton T. Brown, Inc. for 90 days.

The testing and results contained in this report are in accordance with the testing requirements called out in ISO 17712:2013 and are only applicable to the specific units identified in the test report and do not address any individual manufacturer's compliance or non-compliance with all the requirements of ISO 17712:2013 which are the sole responsibility of each manufacturer and not part of the testing performed and recorded in this test report.

Dayton T. Brown, Inc. is not involved in any production quality inspections. All tests are based on the samples that are selected by the manufacturer and provided to Dayton T. Brown, Inc. without any Dayton T. Brown, Inc. involvement in said selection.

Dayton T. Brown, Inc. performs testing to ISO 17712:2013 under laboratory conditions. These tests do not measure and are not intended to measure all possible applications or installations of the seal assembly or components. In that event, the report will describe the particular application tested in detail. Dayton T. Brown, Inc. is not responsible for actual performance of any seal assembly as installed in any application.

This report shall not be reproduced, except in full, without the written approval of Dayton T. Brown, Inc.

## 2.0 REFERENCES

(a) Customer Purchase Order No.: SLC 3/16 2018

(b) Dayton T. Brown, Inc. Job No.: 416294-02-000

(c) Test Specification: ISO 17712:2013 (E) Clause 5

## 3.0 SEAL CLASSIFICATION

ISO 17712:2013 (E): (H)-High Security for Clause 5

## 4.0 ADMINISTRATIVE INFORMATION

| | |
|---|---|
| **Customer** | Sealock Security Systems, Inc.<br>11350 NW 36 Terrace<br>Miami, FL 33178<br>USA |
| Sample Type | Cable Seal |
| Sample Name | Sealock Cable Seal (as provided by customer) |
| Model No. | Model SLC 5mm Previously Known Keeper Sealock Cable Seal (KSL3/16) (as provided by customer) |
| Part No. | SLC-5mm (as provided by customer) |
| Serial Nos. | 593121 through 593145 |
| Quantity Received | 30 |
| Quantity Tested | 25 |
| Date Received | 1 June 2018 |
| Dates Tested | 5 and 6 June 2018 |

## 5.0 TEST PROGRAM OUTLINE

| Test | Test Item Description | Results |
|---|---|---|
| Tensile | Part No. SLC-5mm Cable Seals,<br>Serial Nos. 593121 through 593125 | See Page 6. |
| Shear | Part No. SLC-5mm Cable Seals,<br>Serial Nos. 593126 through 593130 | See Page 8. |
| Bending | Part No. SLC-5mm Cable Seals,<br>Serial Nos. 593131 through 593135 | See Page 10. |
| Impact | Part No. SLC-5mm Cable Seals,<br>Serial Nos. 593136 through 593145 | See Pages 12 and 13. |
| Test Equipment List and Test Item Photo | Part No. SLC-5mm Cable Seal | See Pages 15 and 16. |

## 6.0 TEST RESULTS

### Tensile Test and Results

TEST REQUIREMENT

The tensile test shall be conducted in accordance with reference (c).

TEST RESULTS

A pretest visual inspection of the test items revealed no anomalies.
All testing was performed in accordance with the referenced specification.
Test room ambient conditions: 19.2ºC and 43.0%RH

TEST DATA Date: 6 June 2018

Tensile Test at Room Temperature

| Specimen No. | Load (kN) | Class Rating | Remarks |
|---|---|---|---|
| 593121 | 27.77 | H | * |
| 593122 | 23.15 | H | * |
| 593123 | 28.64 | H | * |
| 593124 | 24.25 | H | * |
| 593125 | 24.87 | H | * |

Tech: TB

* A post-test visual inspection of the test item revealed that the cable broke near the lock mechanism due to testing.

Classification Key

| Rating | Load to Failure |
|---|---|
| High Security (H): | 10.0 kN |
| Security (S): | 2.27 kN |
| Indicative (I): | <2.27 kN |


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TYPICAL PHOTO OF THE TENSILE TEST SETUP

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## Shear Test and Results

TEST REQUIREMENT

The shear test shall be conducted in accordance with reference (c).

TEST RESULTS

A pretest visual inspection of the test items revealed no anomalies.
All testing was performed in accordance with the referenced specification.
Test room ambient conditions: 19.3ºC and 43.1%RH

TEST DATA Date: 6 June 2018

Shear Test at Room Temperature

| Specimen No. | Load (kN) | Class Rating | Remarks |
|---|---|---|---|
| 593126 | 8.896 | H | * |
| 593127 | 8.896 | H | * |
| 593128 | 8.896 | H | * |
| 593129 | 8.896 | H | * |
| 593130 | 8.896 | H | * |

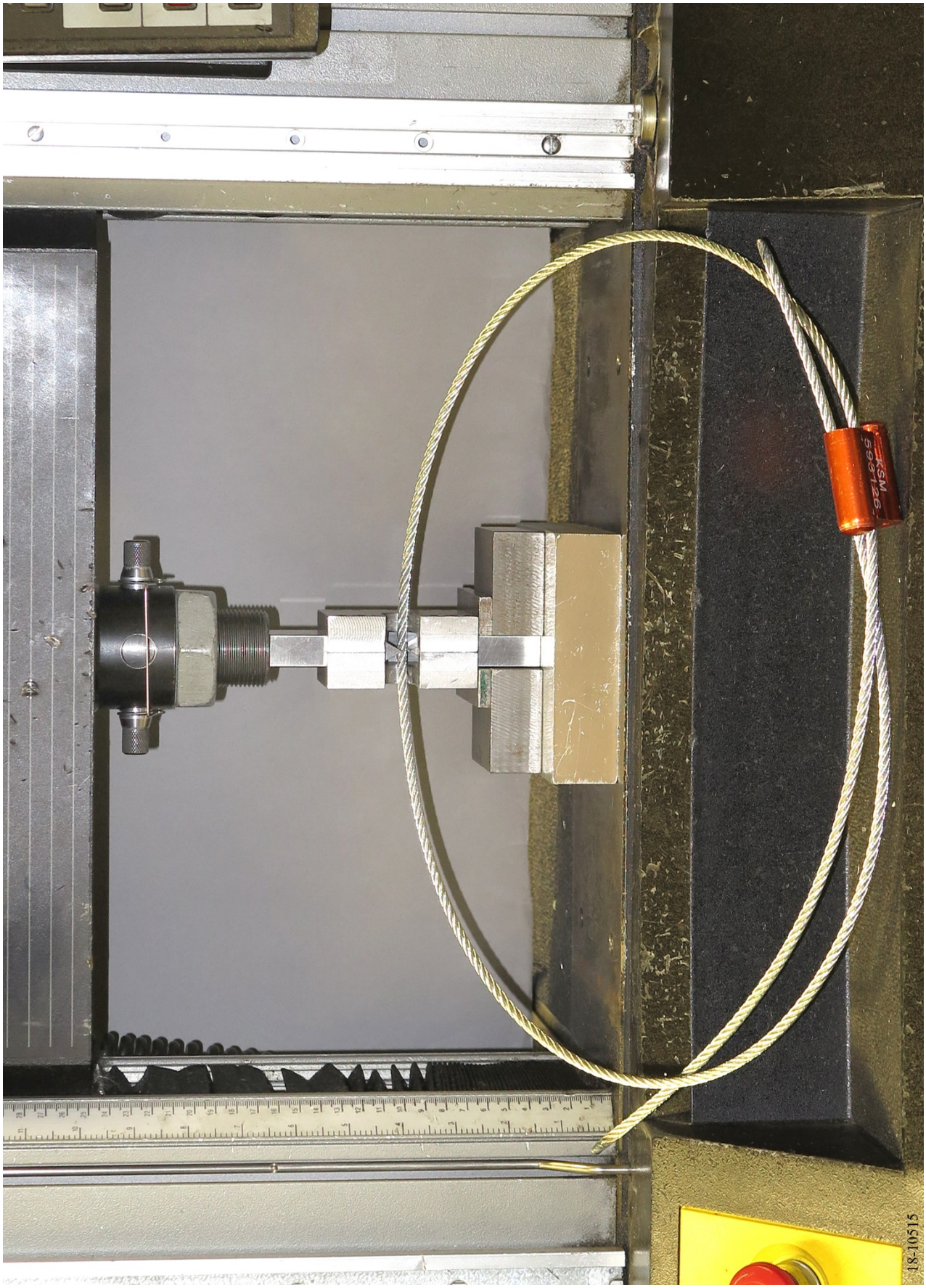
Tech: JB

* A post-test visual inspection of the test item revealed a slight indent on the cable while cutting a few cable strands due to testing.

Classification Key

| Rating | Load to Failure |
|---|---|
| High Security: (H): | 3.336 kN |
| Security (S): | 2.224 kN |
| Indicative (I): | <2.224 kN |

SAFETY PRECAUTIONS – Do not exceed a shear force greater than 8900 N (2001 lbf). If the specimen has not failed at that force, halt the test and unload the test equipment. Record a shear force of 8896 N (2000 lbf). Sudden and violent rupture of the test specimen can endanger personnel, equipment and property.

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TYPICAL PHOTO OF THE SHEAR TEST SETUP

6 JUNE 2018

FILE NO. 18-10515

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## Bending Test and Results

TEST REQUIREMENT

The bending test shall be conducted in accordance with reference (c).

TEST RESULTS

A pretest visual inspection of the test items revealed no anomalies.
All testing was performed in accordance with the referenced specification.
The test was performed using a bending time of 3 seconds/cycle.
Test room ambient conditions: 18.7ºC and 42.7%RH

TEST DATA Date: 6 June 2018

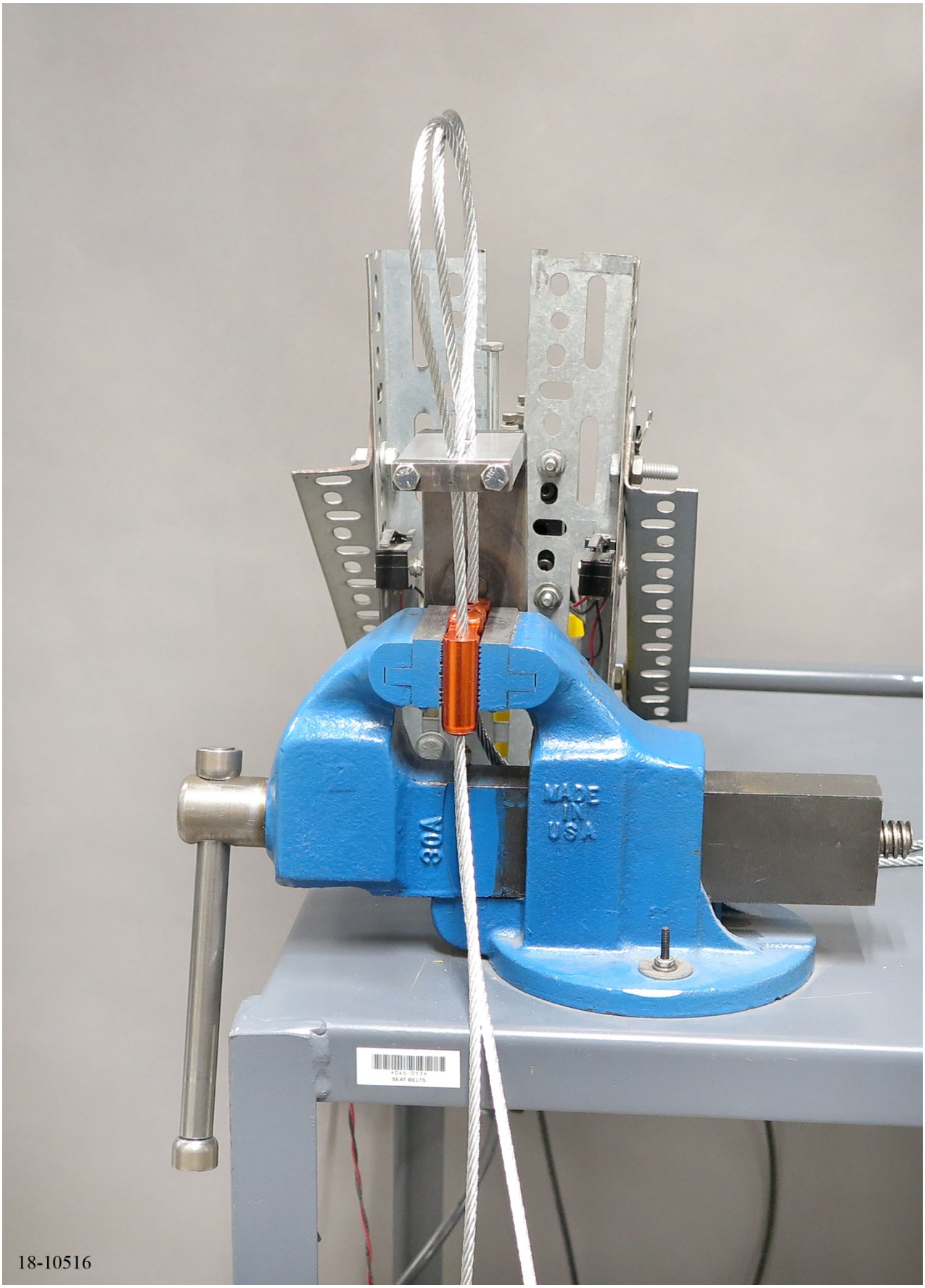
| Bending Test at Room Temperature | | | |
|---|---|---|---|
| Specimen No. | Flex Cycles | Class Rating | Remarks |
| 593131 | >501 | H | * |
| 593132 | >501 | H | * |
| 593133 | >501 | H | * |
| 593134 | >501 | H | * |
| 593135 | >501 | H | * |

Tech: JB

* A post-test visual inspection of the test item revealed no anomalies due to testing.

Classification Key

| Rating | Flexible Seals Cycles to Failure |
|---|---|
| High Security (H): | 501 |
| Security (S): | 251 |
| Indicative (I): | <251 |

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TYPICAL PHOTO OF THE BENDING TEST SETUP

6 JUNE 2018

FILE NO. 18-10516

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## Impact Test and Results

TEST REQUIREMENT

The impact test shall be conducted in accordance with reference (c).

TEST RESULTS

A pretest visual inspection of the test items revealed no anomalies.
All testing was performed in accordance with the referenced specification.
Test chamber conditions: 18.1ºC and 77.3%RH

TEST DATA Date: 5 June 2018

| Impact Test at Room Temperature (required 18 ± 3°C) | | | | | |
|---|---|---|---|---|---|
| Specimen No. | Number of Successful Impacts Per Load (J) | | | Class Rating | Remarks |
| | 13.56 | 27.12 | 40.68 | | |
| 593136 | 5 | 5 | 5 | H | * |
| 593137 | 5 | 5 | 5 | H | * |
| 593138 | 5 | 5 | 5 | H | * |
| 593139 | 5 | 5 | 5 | H | * |
| 593140 | 5 | 5 | 5 | H | * |

Tech: MF

* A post-test visual inspection of the test item revealed that portions of the seal broke or deformed due to testing. The cable and lock of the seal remained intact.

Classification Key

| Rating | Load to Failure (5 impacts at each load) |
|---|---|
| High Security (H): | 40.68 J |
| Security (S): | 27.12 J |
| Indicative (I): | <27.12 J |

## Impact Test and Results

Test chamber conditions: -29.1ºC and 91.6%RH

TEST DATA – (Continued) Date: 5 June 2018

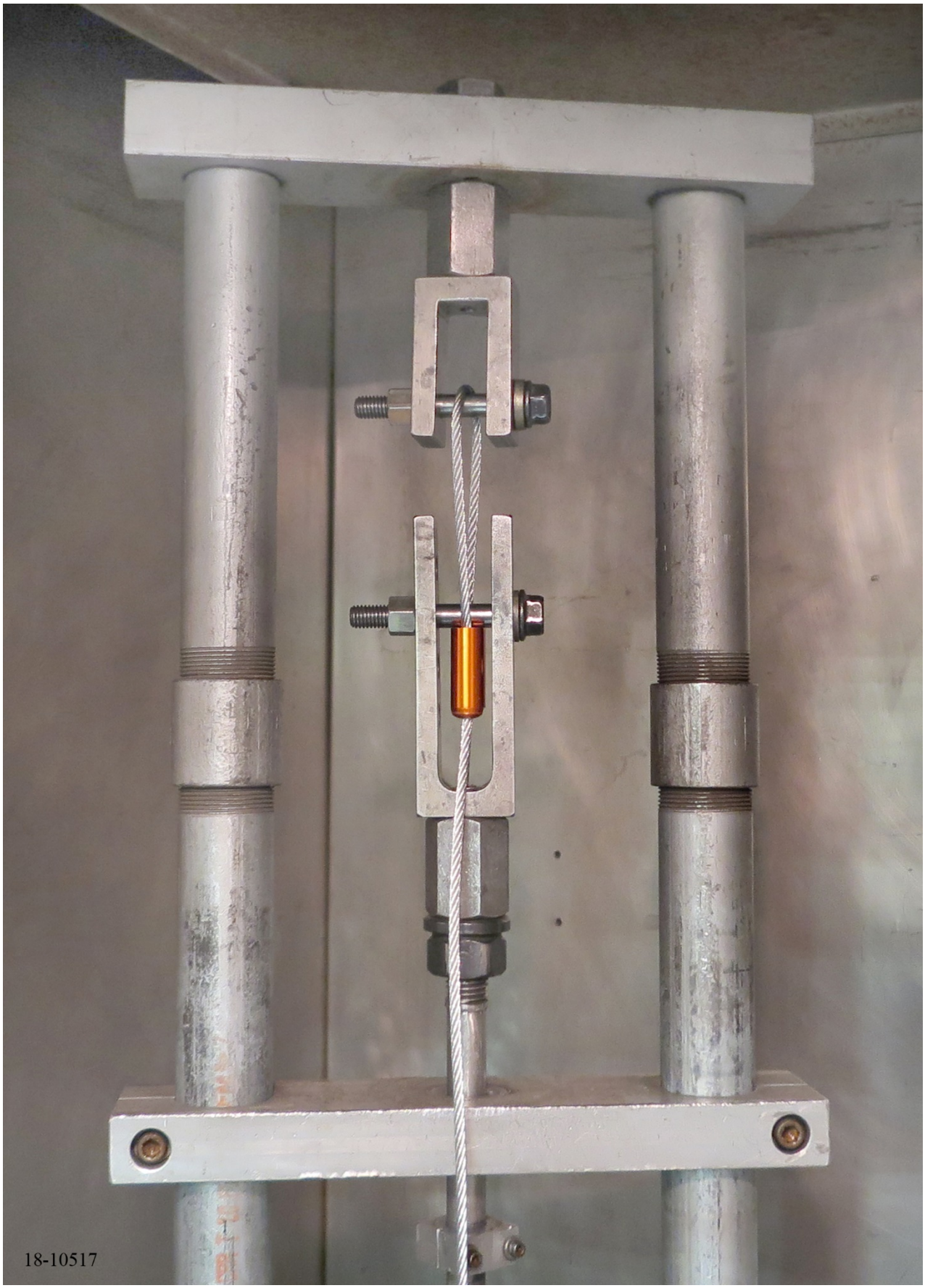
| Impact Test at Reduced Temperature (required -27 ± 3°C) | | | | | |
|---|---|---|---|---|---|
| Specimen No. | Number of Successful Impacts Per Load (J) | | | Class Rating | Remarks |
| | 13.56 | 27.12 | 40.68 | | |
| 593141 | 5 | 5 | 5 | H | * |
| 593142 | 5 | 5 | 5 | H | * |
| 593143 | 5 | 5 | 5 | H | * |
| 593144 | 5 | 5 | 5 | H | * |
| 593145 | 5 | 5 | 5 | H | * |

Tech: MF

* A post-test visual inspection of the test item revealed that portions of the seal broke or deformed due to testing. The cable and lock of the seal remained intact.

Classification Key

| Rating | Load to Failure (5 impacts at each load) |
|---|---|
| High Security (H): | 40.68 J |
| Security (S): | 27.12 J |
| Indicative (I): | <27.12 J |

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TYPICAL PHOTO OF THE IMPACT TEST SETUP

5 JUNE 2018

FILE NO. 18-10517

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**Test equipment utilized for the program reported herein was within its assigned interval of calibration.**
**Details are on file at Dayton T. Brown, Inc. and will be made available upon request.**

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## TEST: FREIGHT CONTAINER MECHANICAL SEAL CLASSIFICATION TESTING

| ITEM | MANUFACTURER | MODEL | DTB NO. | ACCURACY | CAL DUE DATE | LAST CAL DATE |
|---|---|---|---|---|---|---|
| THERMOTRON, 275 | THERMOTRON | FX-82-CHV-25-25 | 04E-006 | - | N.C.R. | - |
| CONDITIONING ROOM | DAYTON T. BROWN | N/A | 04S-001 | - | N.C.R. | - |
| TEST FIXTURE, CABLE SEAL BEND WITH COUNTER | DAYTON T. BROWN | JB-2 | 04S-013 | - | N.C.R. | - |
| RECORDER, CHART TRULINE | HONEYWELL | DR4500 | 12-12 | TYPE T ± 0.7°F | 10/07/2018 | 10/11/2017 |
| LOGGER, RH AND TEMPERATURE | HART SCIENTIFIC | 1620A | 12-39 | 59 to 95°F ± 0.75°F; 10 to 70% RH ± 2% RH | 11/25/2018 | 11/27/2017 |
| CONTROLLER, ENVIRONMENTAL SYSTEM | JC SYSTEMS | 620 | 25-55 | RTD ± 1.08°F; RH ± 1% RH | 03/03/2019 | 03/06/2018 |
| TESTER, UNIVERSAL TENSILE W/STATIC LOAD CELLS (2) | INSTRON | 5569 | 29-2 | ± 1% of reading | 07/22/2018 | 07/24/2017 |
| TRANSMITTER, HUMIDITY AND TEMPERATURE | VAISALA | HMP235 | 31-33 | ± 2% 10 to 95% RH | 07/29/2018 | 05/03/2018 |
| WEIGHT, DEAD BLOW | DAYTON T. BROWN | JB-1 | 38-55 | ± 0.01 kgrams | 05/31/2020 | 06/04/2018 |
| TIMER, DIGITAL | FISHER SCIENTIFIC | 14-649-17 | 47-55 | ± 8.64 Sec/24 hr | 11/11/2018 | 11/15/2017 |
| IMPACT TESTER, FREIGHT CONTAINER MECHANICAL | DAYTON T. BROWN | ISO 17712:2013 | 61-10 | - | N.C.R. | - |
| PROTRACTOR, DIGITAL | PRO PRODUCTS | PRO 3600 | 68-279 | ± 0.05° (0° to 10°) ± 0.1° (80° to 90°) ± 0.2° (10° to 80°) | 12/09/2018 | 12/13/2017 |
| CALIPER, DIGITAL 4" | MITUTOYO | 500-195-20 | 68-466 | ± 0.001" | 03/24/2019 | 03/26/2018 |
| TAPE MEASURE, 16'/5m X 3/4" | LUFKIN | HV1035CME | 68-486 | ± 1 mm | 12/22/2019 | 12/28/2017 |
| FIXTURE, SHACKLE CUTTING AND 2 BLADES | DAYTON T. BROWN | ISO 17712:2013 | 68-492 | MFR | 04/14/2019 | 02/27/2018 |


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MODEL NO. SLC-5MM CABLE SEAL

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FILE NO. 18-10518

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