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

TEST REPORT NO.: 413448-01-04-R13-0662

DAYTON T. BROWN, INC. JOB NO.: 413448-01-000

CUSTOMER: TAMPERSEALS PACKING (HK) CO., LIMITED
77 BLDG, LAI WUSHAN IND. ZONE
LONGHUA TOWN, BAO'AN DIST.
SHENZHEN
518109
P.R. CHINA

SUBJECT: FREIGHT CONTAINER MECHANICAL SEAL CLASSIFICATION TESTING PER ISO 17712:2013 (E) CLAUSE 5,
CONDUCTED ON 25 CABLE SEALS, MODEL NO. CSS-007,
SERIAL NOS. 0000001 THROUGH 0000025

PURCHASE ORDER NO.: DTB130530001

ATTENTION: BRUCE LEE

SEAL CLASSIFICATION: INDICATIVE

PREPARED BY	J. BENINCASA
TEST ENGINEER	K. CUMMINGS
DATE	25 JUNE 2013

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=NY, l=Bohemia, email=jbenincasa@dtbtest.com, o=Dayton T. Brown, Inc., cn=James Benincasa
Date: 2013.06.25 13:11:08 -04'00'

A2LA ACCREDITED
Testing Lab
Cert # 0767.01, 0767.02, 0767.03

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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.

Exceptions/deviations during tests are as follows: The room ambient temperature deviated from the specified tolerance during the tensile, bend and shear tests. The maximum deviation was 1.0°C over tolerance.

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.:	DTB130530001
(b)	Dayton T. Brown, Inc. Job No.:	413448-01-000
(c)	Test Specifications:	ISO 17712:2013 (E) Clause 5

3.0 SEAL CLASSIFICATION

ISO 17712:2013 (E):	(I)-Indicative for Clause 5

4.0 ADMINISTRATIVE INFORMATION

Customer	TamperSeals Packing (HK) Co., Limited 77 Bldg, Lai Wushan Ind. Zone Longhua Town, Bao'an Dist. Shenzhen 518109 P.R. China
Sample Type	Cable Seal
Sample Name	Pull Tight Cable Seals (as provided by customer)
Model No.	CSS-007 (as provided by customer)
Serial Nos.	0000001 through 0000025
Quantity Received	30
Quantity Tested	25
Date Received	11 June 2013
Dates Tested	19 and 20 June 2013

5.0 TEST PROGRAM OUTLINE

Test	Test Item Description	Results
Tensile	Model No. CSS-007 Cable Seals, Serial Nos. 0000001 through 0000005.	See Page 4.
Shear	Model No. CSS-007 Cable Seals, Serial Nos. 0000006 through 0000010.	See Page 6.
Bending	Model No. CSS-007 Cable Seals, Serial Nos. 0000011 through 0000015.	See Page 8.
Impact	Model No. CSS-007 Cable Seals, Serial Nos. 0000016 through 0000025.	See Page 10.
Test Equipment List and Test Item Photo	Model No. CSS-007 Cable Seal	See Page 13.

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, with the following exception: The temperature went up to 0.7ºC over tolerance.
Test room ambient conditions: 21.7ºC and 52.3%RH

TEST DATA Date: 20 June 2013

Tensile Test at Room Temperature

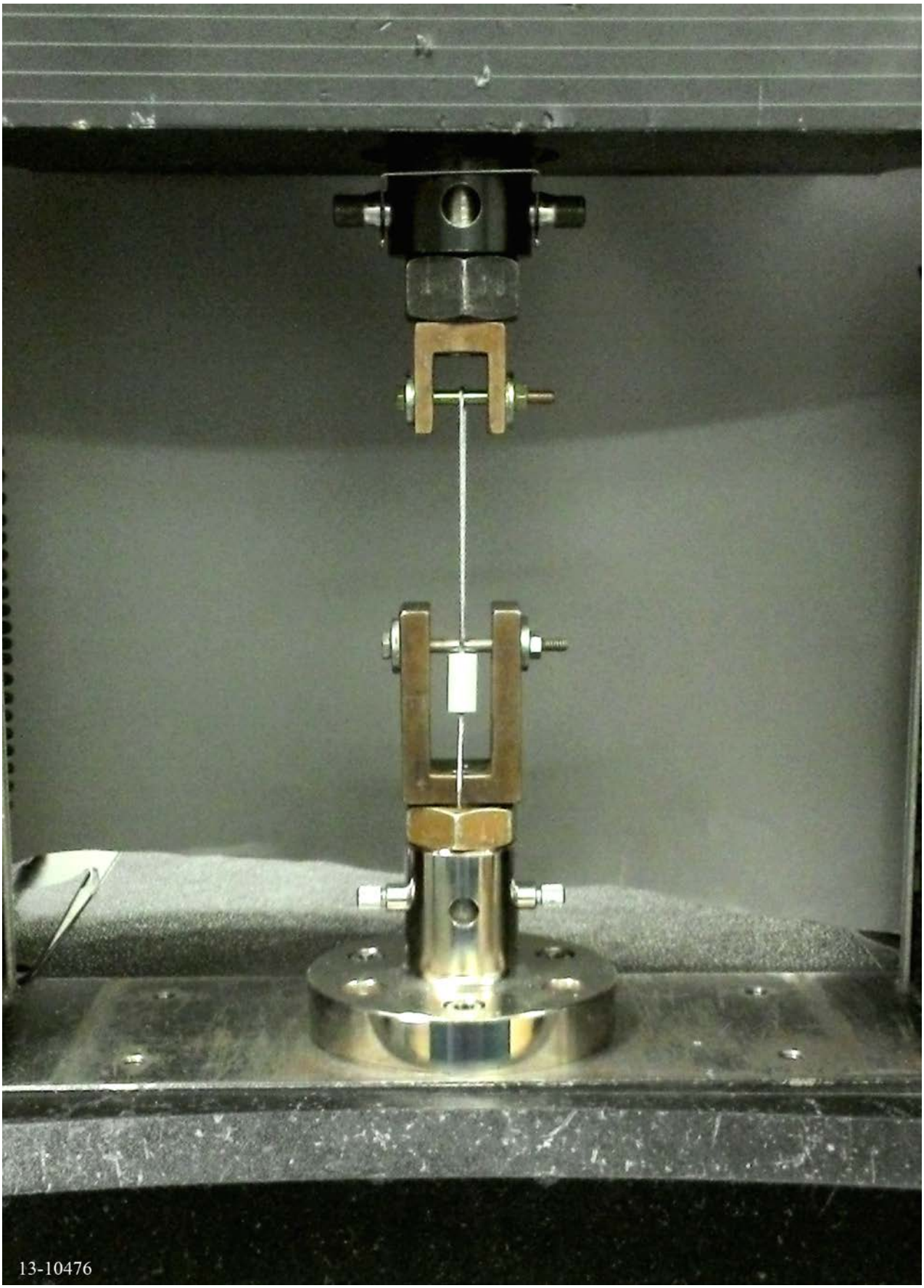
Specimen No.	Load (kN)	Class Rating	Remarks
0000001	3.02	S	*
0000002	2.82	S	*
0000003	3.11	S	*
0000004	2.82	S	*
0000005	3.09	S	*

Tech: SD

* A post-test visual inspection of the test items 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

20 JUNE 2013

FILE NO. 13-10476

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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, with the following exception: The temperature went up to 0.7ºC over tolerance.
Test room ambient conditions: 21.7ºC and 50.1%RH

TEST DATA Date: 20 June 2013

Shear Test at Room Temperature

Specimen No.	Load (kN)	Class Rating	Remarks
0000006	1.804	I	*
0000007	1.643	I	*
0000008	1.872	I	*
0000009	1.746	I	*
0000010	2.113	I	*

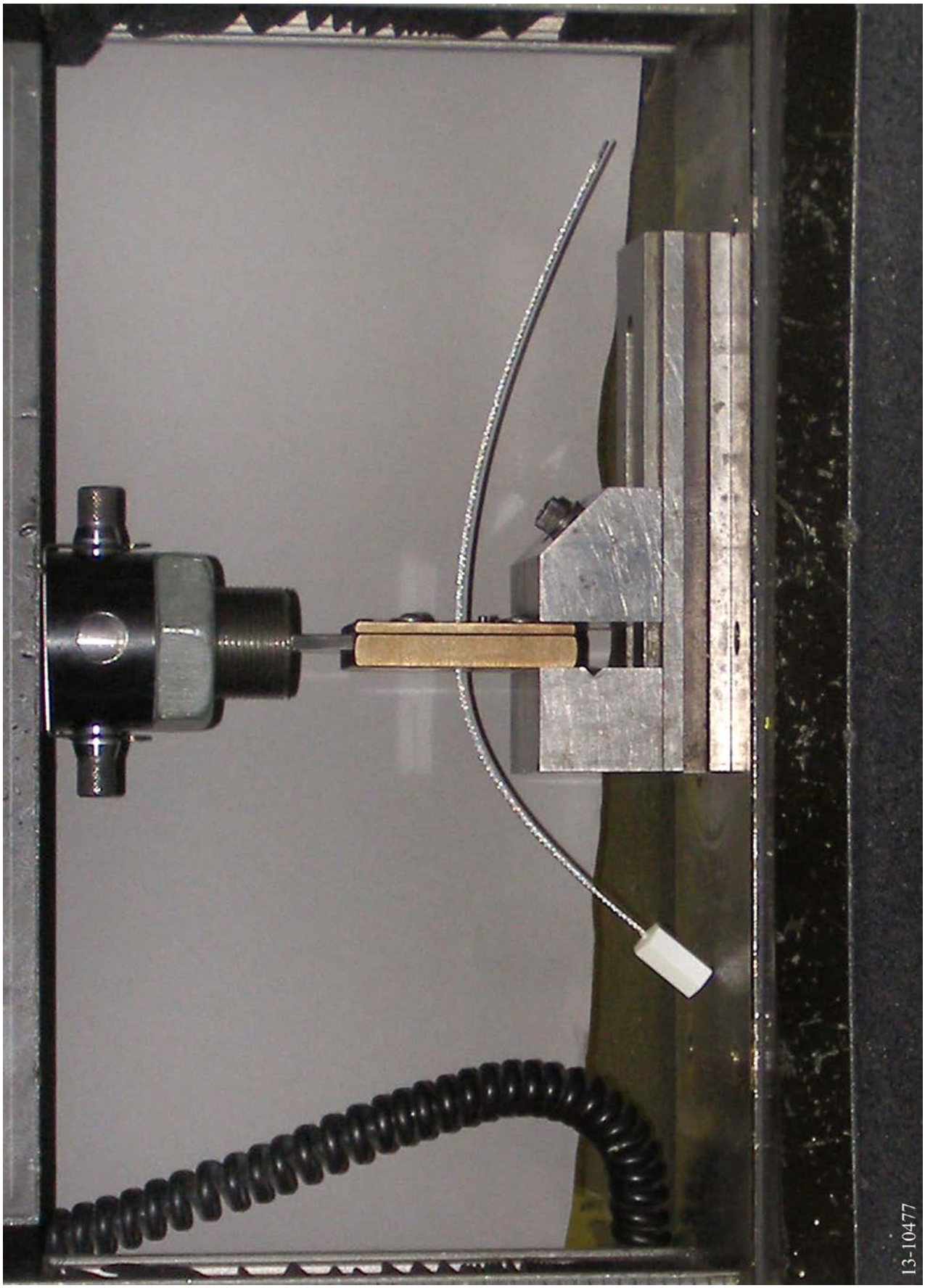
Tech: SD

* A post-test visual inspection of the test items revealed that the cutting blades severed the seals.

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

20 JUNE 2013

FILE NO. 13-10477

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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, with the following exception: The temperature went up to 1.0ºC over tolerance.
Test room ambient conditions: 22.0ºC and 49.5%RH

TEST DATA Date: 19 June 2013

Bending Test at Room Temperature

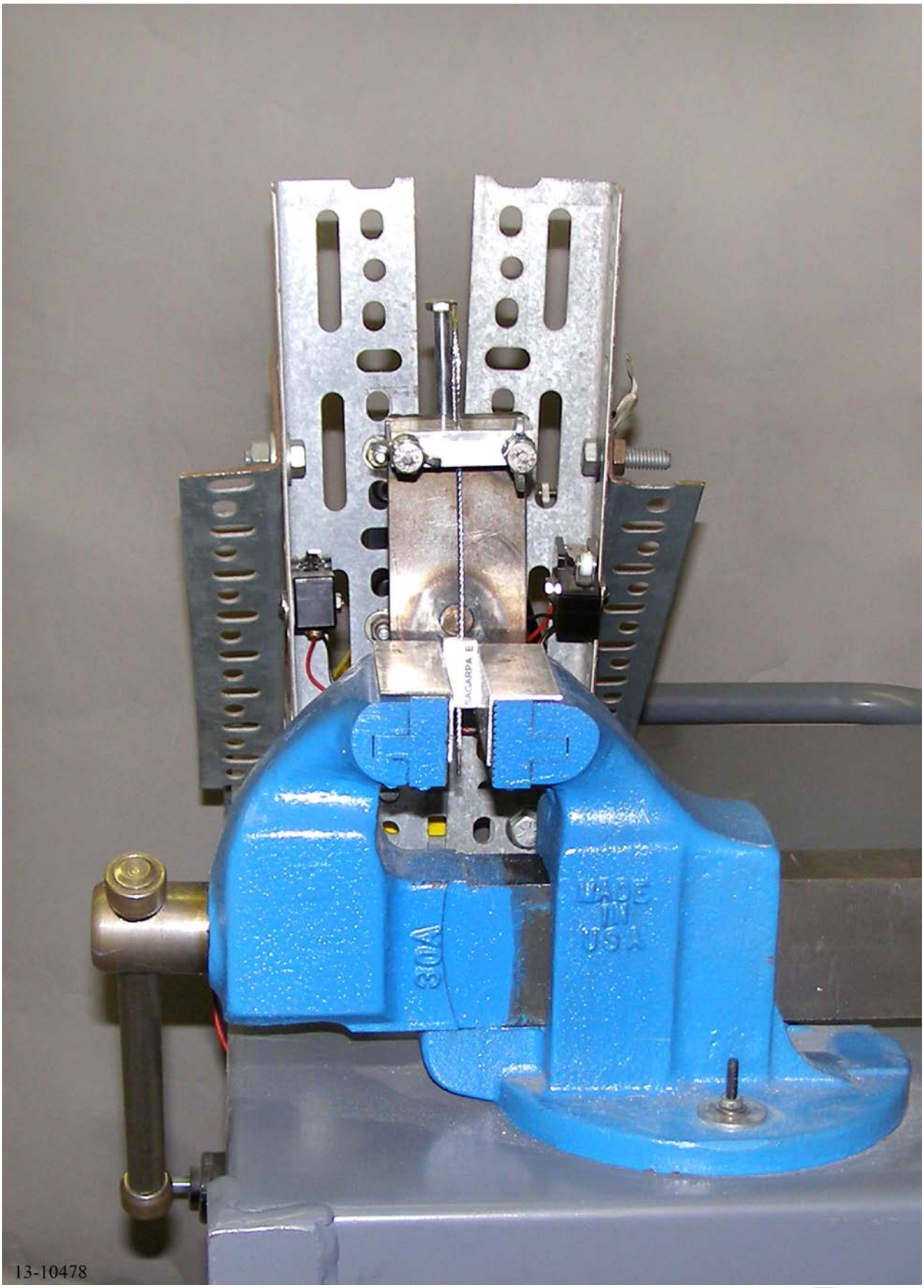
Specimen No.	Flex Cycles	Class Rating	Remarks
0000011	>501	H	*
0000012	>501	H	*
0000013	>501	H	*
0000014	>501	H	*
0000015	>501	H	*

Tech: SD

* A post-test visual inspection of the test items 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

19 JUNE 2013

FILE NO. 13-10478

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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 DATA Date: 19 June 2013

Impact Test at 18 ±3º C					
Specimen No.	Number of Successful Impacts Per Load (J)			Class Rating	Remarks
	13.56	27.12	40.68		
0000016	5	1	N/A	I	*
0000017	5	3	N/A	I	*
0000018	5	3	N/A	I	*
0000019	5	4	N/A	I	*
0000020	5	3	N/A	I	*

Tech: SD

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

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 DATA – (Continued) Date: 19 June 2013

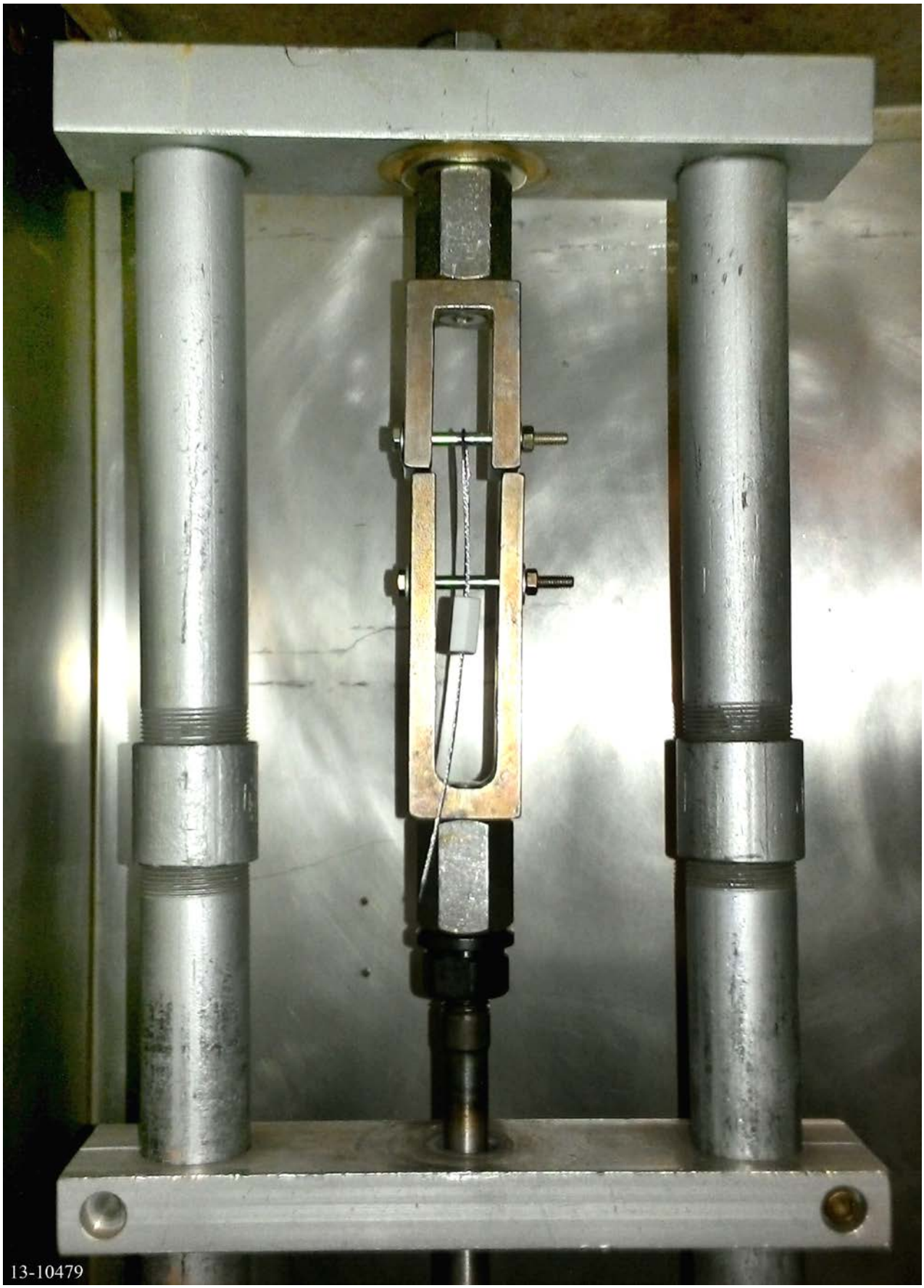
Impact Test at -27 ±3º C					
Specimen No.	Number of Successful Impacts Per Load (J)			Class Rating	Remarks
	13.56	27.12	40.68		
0000021	5	0	N/A	I	*
0000022	5	0	N/A	I	*
0000023	5	0	N/A	I	*
0000024	5	0	N/A	I	**
0000025	5	1	N/A	I	*

Tech: SD

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

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

19 JUNE 2013

FILE NO. 13-10479

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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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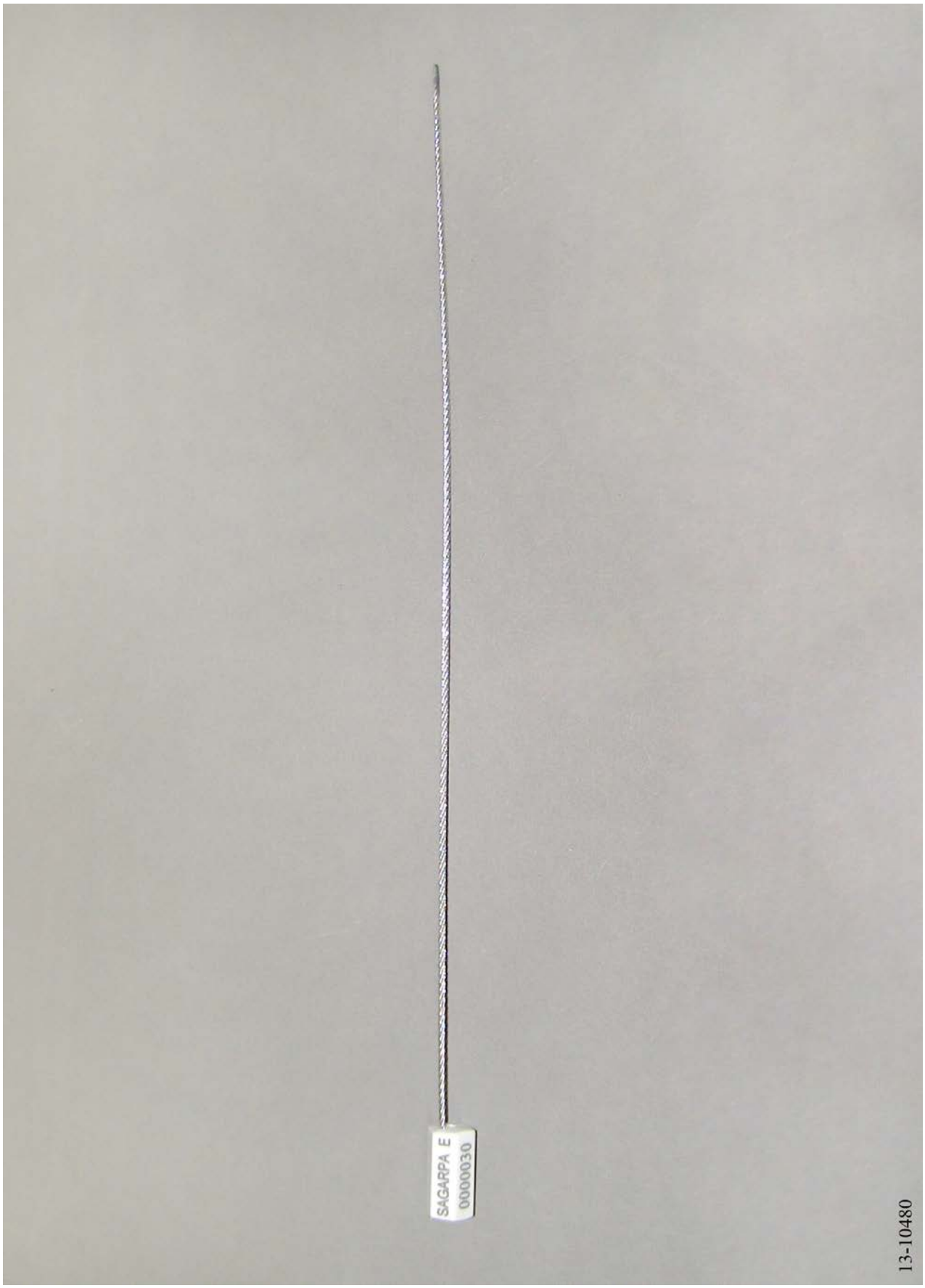
TEST: **FREIGHT CONTAINER MECHANICAL SEAL CLASSIFICATION TESTING**

Item	Manufacturer	Model	DTB No.	Accuracy	Last Cal Date	Cal Due Date
THERMOTRON, 275	THERMOTRON	FX-82-CHV-25-25	04E-006	N/A	-	N.C.R.
CONDITIONING ROOM	DAYTON T. BROWN	N/A	04S-001	N/A	-	N.C.R.
RECORDER, CHART TRULINE	HONEYWELL	DR4500	12-12	TYPE T ± 0.7°F	09/26/2012	09/22/2013
LOGGER, RH AND TEMPERATURE	HART SCIENTIFIC	1620A	12-39	59 TO 95°F ± 0.75°F; 10 TO 70% RH ± 2% RH	11/19/2012	11/17/2013
CONTROLLER, ENVIRONMENTAL SYSTEM	JC SYSTEMS	620	25-55	RTD ± 1.08°F, RH ± 1% RH	03/26/2013	03/23/2014
TESTER, UNIVERSAL TENSILE W/STATIC LOAD CELLS (2)	INSTRON	5569	29-2	± 1% OF READING	08/30/2012	08/25/2013
WEIGHT, DEAD BLOW	DAYTON T. BROWN	JB-1	38-55	± 0.01 KGRAMS	04/30/2012	04/27/2014
IMPACT TESTER, FREIGHT CONTAINER MECHANICAL SEAL	DAYTON T. BROWN	ISO 17712:2013	61-10	N/A	-	N.C.R.
PROTRACTOR, DIGITAL	PRO PRODUCTS	PRO 3600	68-279	± 0.2° OF RANGE	04/17/2013	04/13/2014
TAPE MEASURE, 16' X 3/4"	LUFKIN	HV1035CME	68-349	MFR	10/12/2011	N.P.C.R.
CALIPER, DIGITAL 4"	MITUTOYO	500-195-20	68-466	± 0.001"	01/04/2013	12/29/2013
FIXTURE, BYPASS CUTTING	DAYTON T. BROWN	ISO 17712:2013E	68-494	± 0.1mm	11/13/2012	11/10/2013



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MODEL NO. CSS-007 CABLE SEAL

20 JUNE 2013

FILE NO. 13-10480

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