



CHURCH STREET • BOHEMIA, LONG ISLAND, NEW YORK 11716  
AREA CODE 631 568-8300



21 July 2010  
410310-18-04-C10-2027

### Certificate of Conformance for Freight Container Mechanical Seal Testing

#### Seal Classification: High Security

**Customer:** Stoffel Seals Corporation  
2180 Michelin Street  
Laval, Québec H7L 5C3  
Canada

**Attention:** Patrice Courcelles

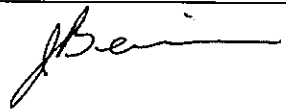
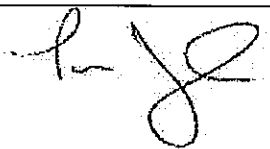
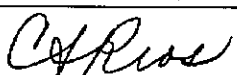
**Purchase Order No.:** 2010-1450  
**Sample Type:** Cable Seal  
**Seal Name:** F500M Fleigrip (as provided by customer)  
**Model No.:** F500 (as provided by customer)  
**Part No.:** F500 (as provided by customer)  
**Serial Nos.:** DTB 1 through DTB 25  
**Specification No.:** ISO/PAS 17712:2006(E)  
**Test Date:** 19 July 2010

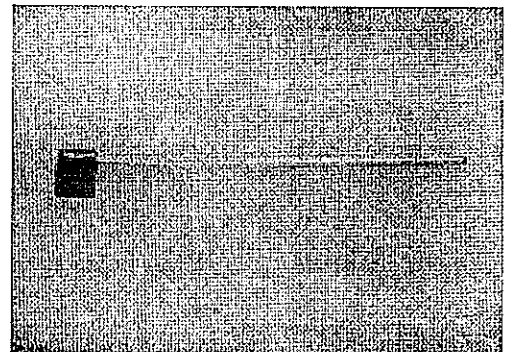
Dayton T. Brown, Inc. certifies that 25 samples, 5 for each test, of the Seals referenced above, were subjected to the following tests.

Test Name	Paragraph No.	Classification Rating
Tensile Test	6.2	High Security
Shear Test	6.3	High Security
Bending Test	6.4	High Security
Impact Test at Room Temp	6.5	High Security
Impact Test at Reduced Temp	6.5	High Security

**Results:** The above listed tests were completed with no discrepancies noted. Refer to Test Report No. 410310-18-04-R10-2010 for complete details.

The test results contained herein pertain only to the specimens listed in this report. This report shall not be reproduced, except in full, without the written approval of Dayton T. Brown, Inc.

<b>Prepared by:</b>		J. Benincasa
<b>Engineer:</b>		T. Zimoulis
<b>Quality Department:</b>		





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

TEST REPORT NO.: 410310-18-04-R10-2010

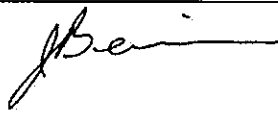
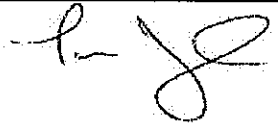
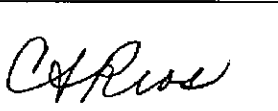
DAYTON T. BROWN, INC. JOB NO.: 410310-18-000

**CUSTOMER:** STOFFEL SEALS CORPORATION  
2180 MICHELIN STREET  
LAVAL, QUÉBEC H7L 5C3  
CANADA

**SUBJECT:** FREIGHT CONTAINER MECHANICAL SEAL CLASSIFICATION TESTING  
CONDUCTED ON 25 CABLE SEALS, MODEL NO. F500M,  
SERIAL NOS. DTB 1 THROUGH DTB 25

**PURCHASE ORDER NO.:** 2010-1450

**ATTENTION:** PATRICE COURCELLES

<b>PREPARED BY</b>	 J. BENINCASA
<b>TEST ENGINEER</b>	 T. Zimoullis
<b>QUALITY DEPARTMENT</b>	
<b>DATE</b>	26 JULY 2010

INFORMATION CONTAINED HEREIN MAY BE SUBJECT TO EXPORT CONTROL LAWS. REFER TO INTERNATIONAL TRAFFIC IN ARMS REGULATION (ITAR) OR THE EXPORT ADMINISTRATION REGULATION (EAR) OF 1979

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





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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: None

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/PAS 17712 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/PAS 17712 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/PAS 17712 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.: 2010-1450
- (b) Dayton T. Brown, Inc. Job No.: 410310-18-000
- (c) Test Specifications: ISO/PAS 17712:2006(E)

## 3.0 SEAL CLASSIFICATION

ISO/PAS 17712:2006(E): (H)-High Security



#### 4.0 ADMINISTRATIVE INFORMATION

<b>Customer</b>	Stoffel Seals Corporation 2180 Michelin Street Laval, Québec H7L 5C3 Canada
Sample Type	Cable Seal
Sample Name	F500M Flexigrip (as provided by customer)
Model No.	F500M (as provided by customer)
Part No.	F500M (as provided by customer)
Serial Nos.	DTB 1 through DTB 25
Quantity Received	30
Quantity Tested	25
Date Received	1 July 2010
Date Tested	19 July 2010

#### 5.0 TEST PROGRAM OUTLINE

Test	Test Item Description	Results
Tensile	F500M Cable Seals, Serial Nos. DTB 1 through DTB 5.	See Page 4.
Shear	F500M Cable Seals, Serial Nos. DTB 6 through DTB 10.	See Page 6.
Bending	F500M Cable Seals, Serial Nos. DTB 11 through DTB 15.	See Page 8.
Impact	F500M Cable Seals, Serial Nos. DTB 16 through DTB 25.	See Page 10.
Test Equipment List and Test Item Photo	F500M 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.

Test room ambient conditions: 23.8°C and 46.2%RH

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

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

TEST DATA

Date: 19 July 2010

Tensile Test at Room Temperature			
Specimen No.	Load kN	Classification Rating	Remarks
DTB 1	15.27	H	*
DTB 2	15.22	H	*
DTB 3	16.09	H	*
DTB 4	16.62	H	**
DTB 5	16.09	H	*

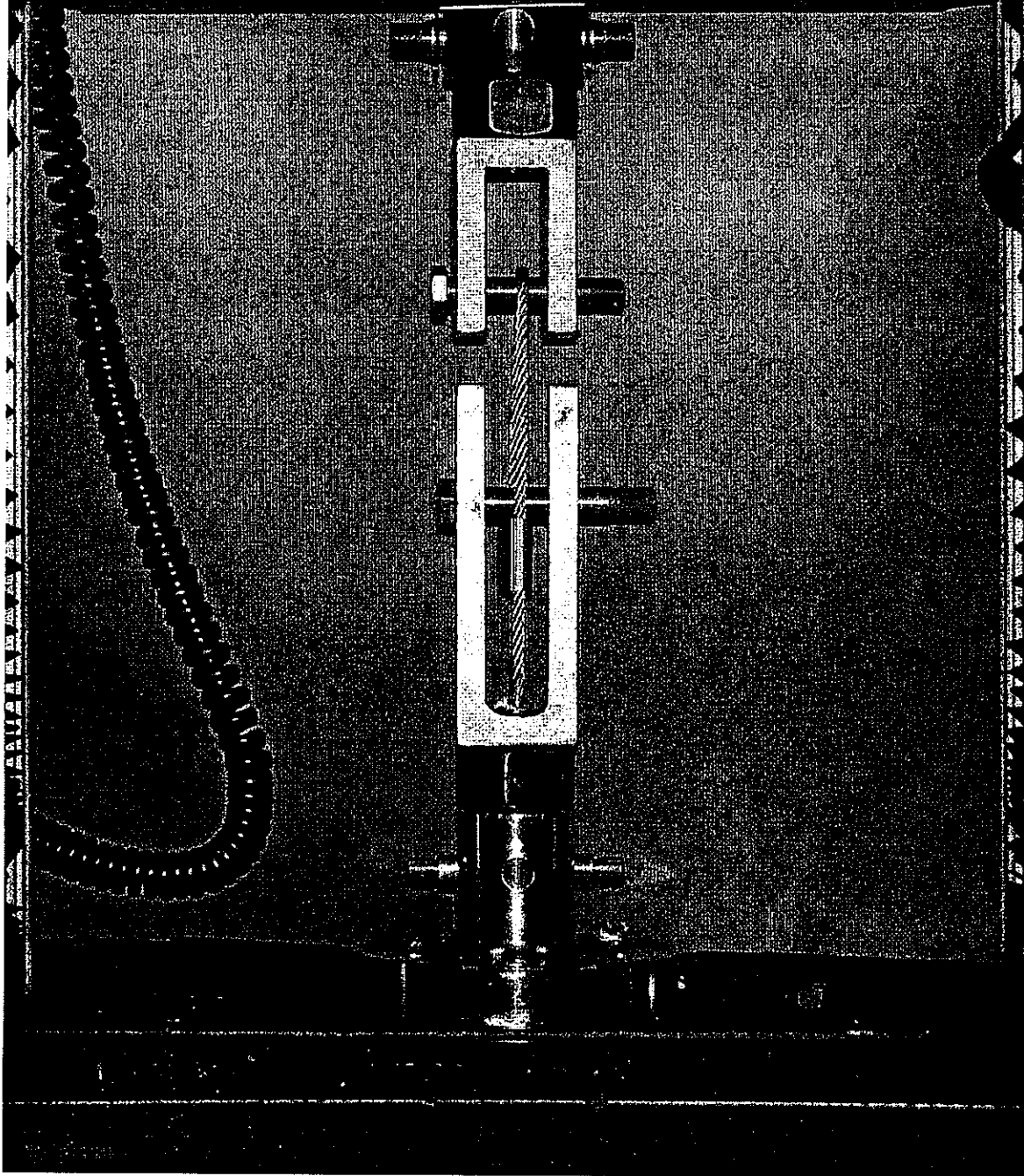
Tech: SD

Classification Key

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

INSTRON

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TYPICAL PHOTO OF THE TENSILE TEST SET UP

19 JULY 2010

410310-18-04-R10-2010

FILE NO. 10-15380





## 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: 23.9°C and 51.2%RH

\* A post-test visual inspection of the test items revealed a slight indent on the cable due to testing.

### TEST DATA

Date: 19 July 2010

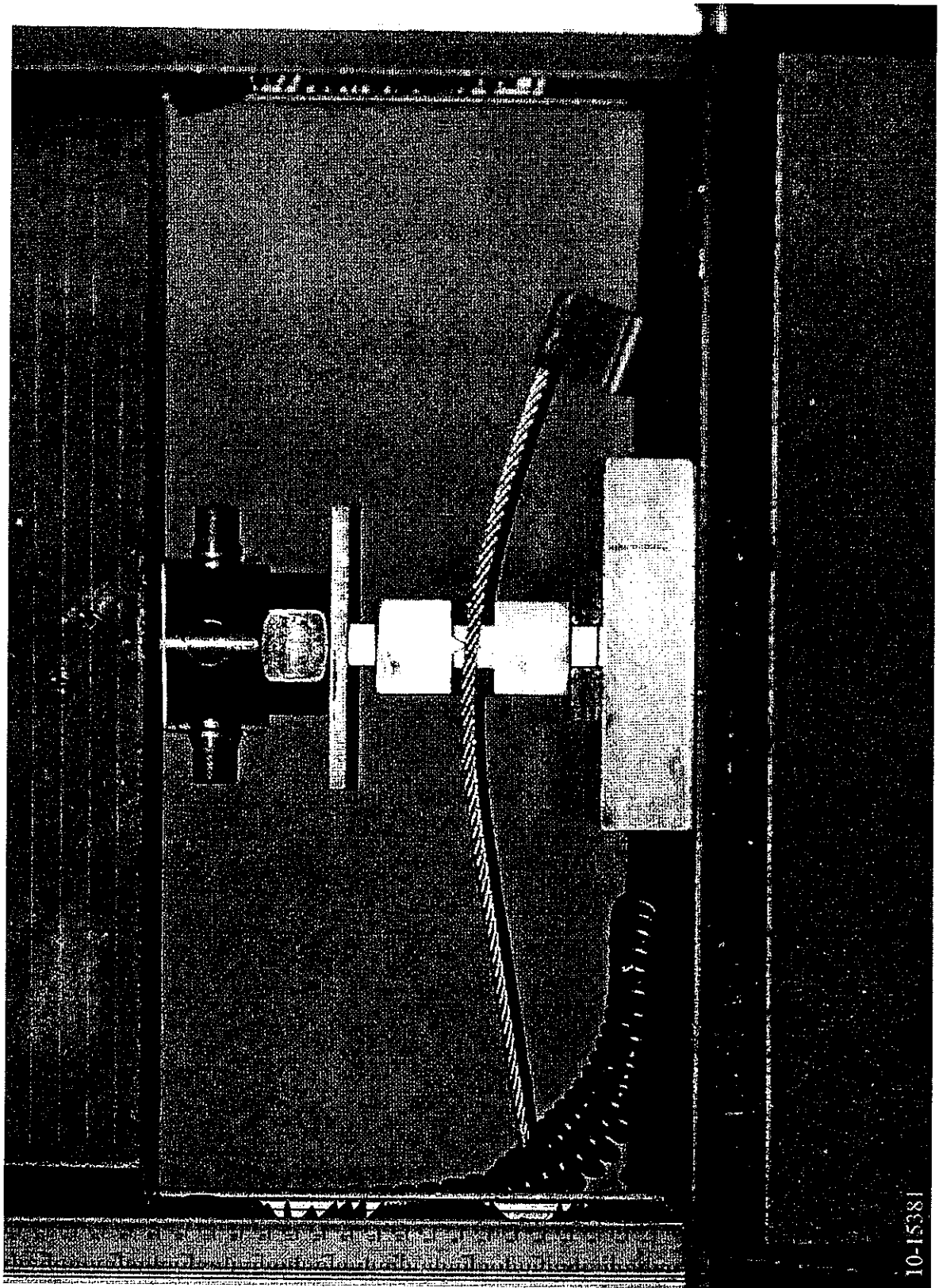
Shear Test at Room Temperature			
Specimen No.	Load (kg-f)	Classification Rating	Remarks
DTB 6	907.2	H	*
DTB 7	907.2	H	*
DTB 8	907.2	H	*
DTB 9	907.2	H	*
DTB 10	907.2	H	*

Tech: SD

### Classification Key

Rating	Load to Failure
High Security: (H):	341 kg-f
Security (S):	227 kg-f
Indicative (I):	<227 kg-f

As per ASTM 1157:2004, page 4, Figure 7 per shear test warning. Do not exceed a shear force greater than 907.2Kg-f (2000lbs). If a specimen does not sever during the application of 907.6Kg-f (2001lbs), halt the test and unload the test equipment. Record shear force of 907.2Kg-f (2000lbs). Do not test specimen to failure. Sudden and violent rupture of the test specimen can endanger personnel, equipment and property.



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TYPICAL PHOTO OF THE SHEAR TEST SET UP

19 JULY 2010  
FILE NO. 10-15381





## 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.  
 Test room ambient conditions: 24.0°C and 50.4%RH

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

### TEST DATA

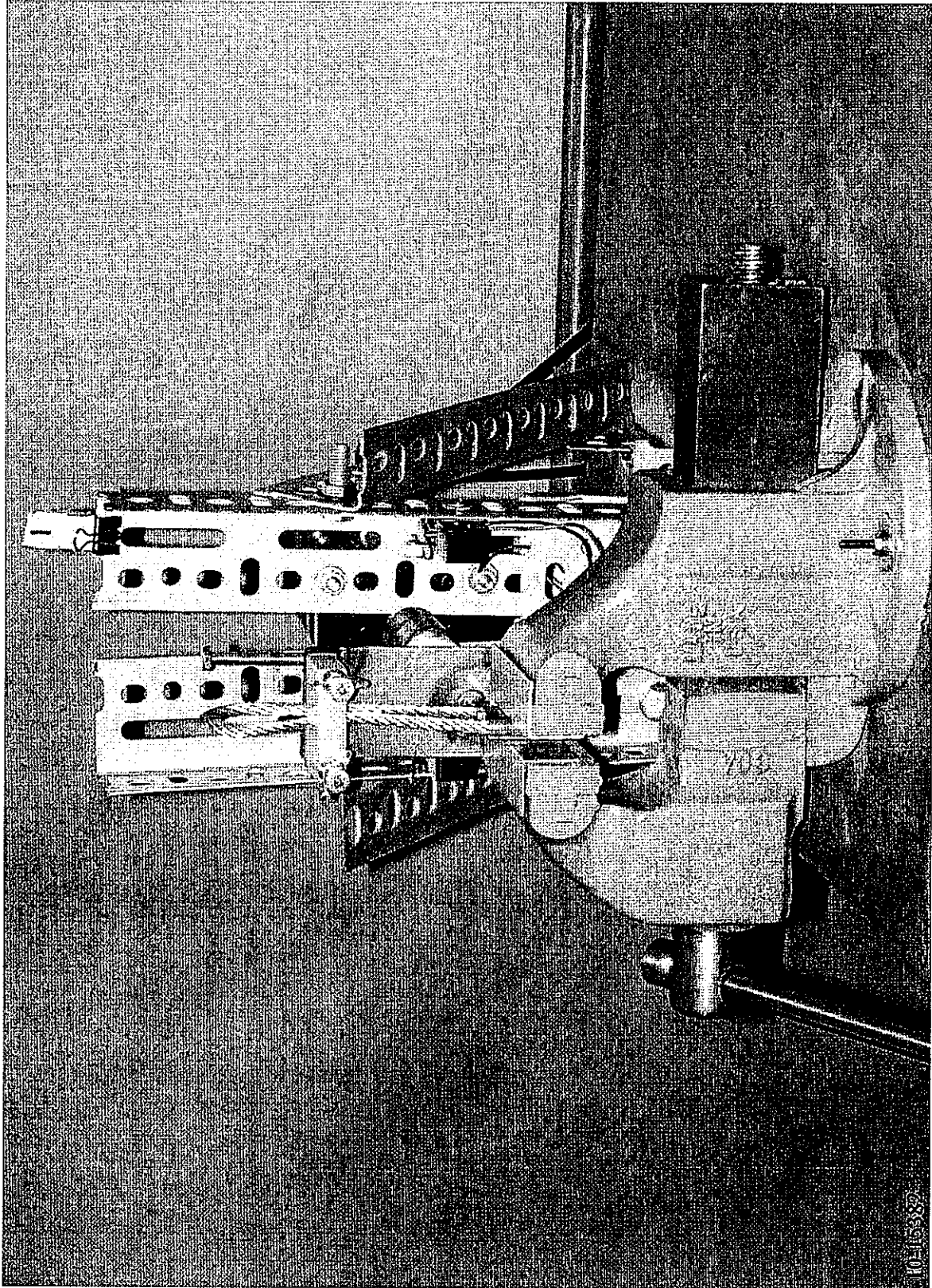
Date: 19 July 2010

Bending Test at Room Temperature			
Specimen No.	Flex Cycles	Classification Rating	Remarks
DTB 11	>501	H	*
DTB 12	>501	H	*
DTB 13	>501	H	*
DTB 14	>501	H	*
DTB 15	>501	H	*

Tech: SD

### 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 SET UP

19 JULY 2010  
FILE NO. 10-15382





## 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.

\* A post-test visual inspection of the test items revealed that portions of the seals bent or deformed due to testing. The cable and lock of the seals remained intact.

### TEST DATA

Date: 19 July 2010

Impact Test at 18°C					
Specimen No.	Number of Successful Impacts Per Load (J)			Classification Rating	Remarks
	13.56	27.12	40.68		
DTB 16	5	5	5	H	*
DTB 17	5	5	5	H	*
DTB 18	5	5	5	H	*
DTB 19	5	5	5	H	*
DTB 20	5	5	5	H	*

Tech: SD

### 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)

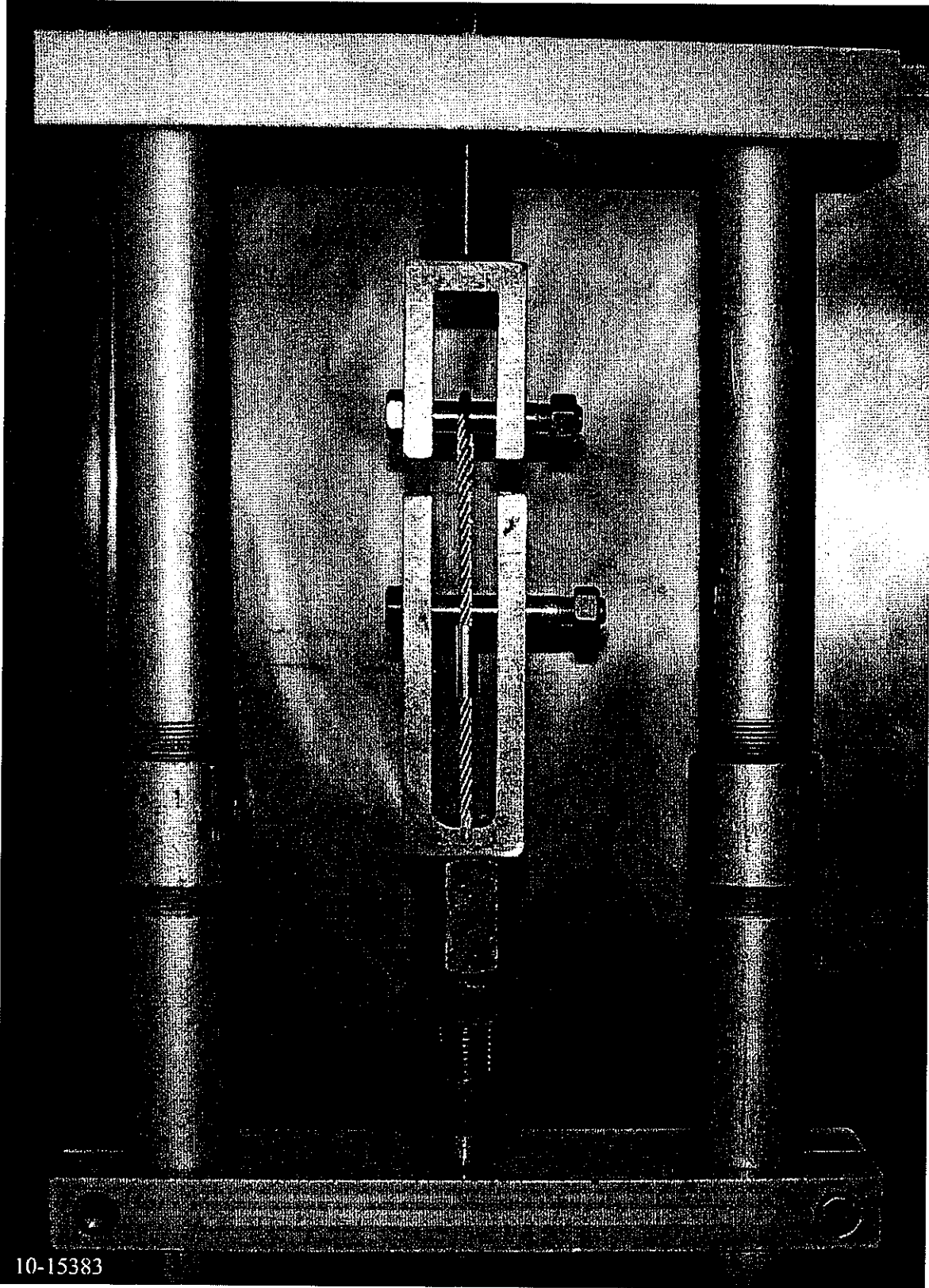
Date: 19 July 2010

Impact Test at -27°C					
Specimen No.	Number of Successful Impacts Per Load (J)			Classification	Remarks
	13.56	27.12	40.68	Rating	
DTB 21	5	5	5	H	*
DTB 22	5	5	5	H	*
DTB 23	5	5	5	H	*
DTB 24	5	5	5	H	*
DTB 25	5	5	5	H	*

Tech: SD

### Classification Key

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



10-15383

JOB NO. 410310-18-000  
410310-18-04-R10-2010

TYPICAL PHOTO OF THE IMPACT TEST SET UP

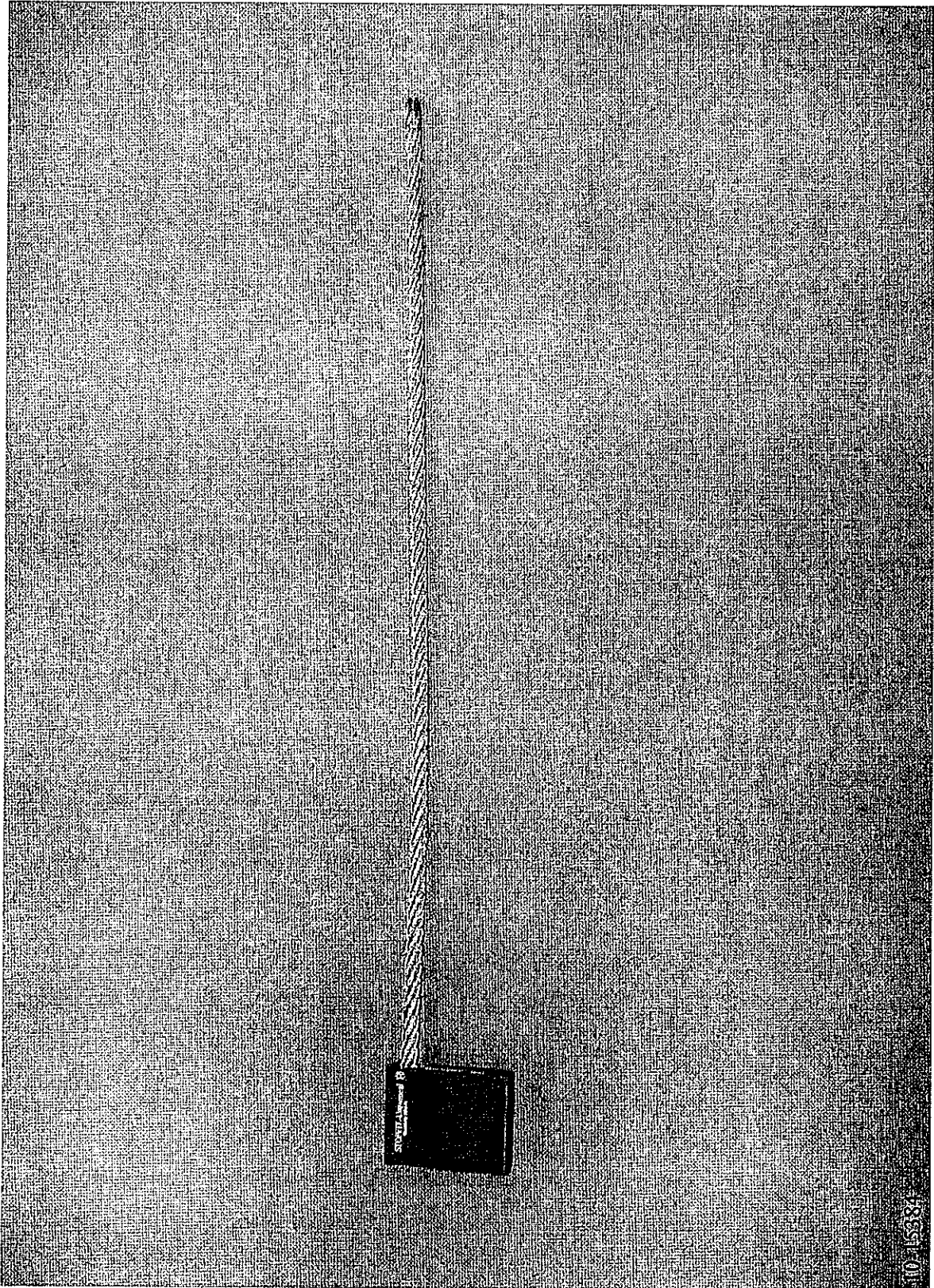
19 JULY 2010  
FILE NO. 10-15383



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.



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	06/10/1997	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 $\pm 0.7^{\circ}\text{F}$	09/21/2009	09/19/2010
LOGGER, RH AND TEMPERATURE	HART SCIENTIFIC	1620A	12-39	59 TO 95 $^{\circ}\text{F}$ $\pm 0.75^{\circ}\text{F}$ ; 10 TO 70% RH $\pm 2\%$ RH	11/23/2009	11/21/2010
CONTROLLER, ENVIRONMENTAL SYSTEM	JC SYSTEMS	620	25-55	RTD $\pm 1.08^{\circ}\text{F}$ , RH $\pm 1\%$ RH	03/23/2010	09/19/2010
TESTER, UNIVERSAL TENSILE	INSTRON	5569	29-2	$\pm 1\%$ OF READING	10/19/2009	10/17/2010
WEIGHT, DEAD BLOW	DAYTON T. BROWN	JB-1	38-55	0.01 KGRAMS	05/03/2010	04/29/2012
IMPACT TESTER, FREIGHT CONTAINER MECHANICAL SEAL	DAYTON T. BROWN	ISO/PAS 17712	61-10	N/A	-	N.C.R.
CALIPER, DIGIMATIC 4"	MITUTOYO	CD-4" CS	68-273	$\pm .0005"$	06/02/2010	05/29/2011
PROTRACTOR, DIGITAL	PRO PRODUCTS	PRO 3600	68-279	$\pm 0.2^{\circ}$ OF RANGE	04/13/2010	04/10/2011
FIXTURE, SHACKLE CUTTING AND BLADES	DAYTON T. BROWN	ISO TC 104	68-318	MFR	06/30/2010	06/26/2011



JOB NO. 410310-18-000  
410310-18-04-R10-2010

MODEL NO. F500M CABLE SEAL

21 JULY 2010  
FILE NO. 10-15384

