



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)



Date : 2023/12/18
Accreditation No. : 112TD1218-066-C01

Certificate of Conformance for Freight Container Mechanical Seal Testing
Seal Classification: High Security Seal

Customer :
MEGAFORTRIS SDN. BHD.
NO.29 JALAN ANGERIK MOKARA 31/47, KOTA KEMUNING, SEKSYEN 31, 40460 SHAH ALAM, SELANGOR, MALAYSIA.

Name of Article: Fort Container Seal Megalock Premium
Type: FCS MLP
Serial No. : M000001~M000026
Specification No. : ISO 17712:2013(E)
Test Dates : 2023/12/11~2023/12/18



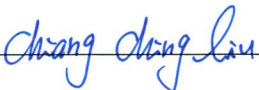



MIRDC ,Certifies that 26 samples, 5 for each test and 1 for measurements, of the seal referenced above were subjected to the following tests.

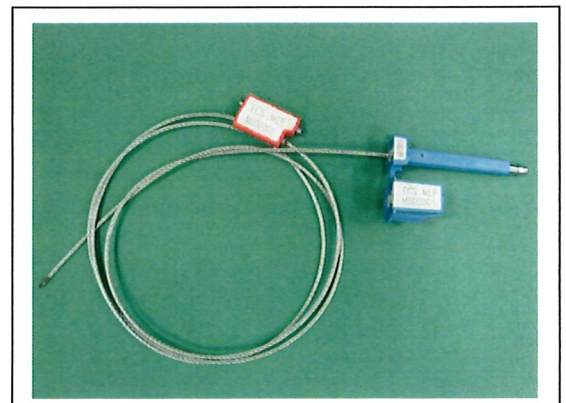
Test Item	Section Number	Classification
Evidence of Tampering (Minimum Diameter)	4.1.3	Pass
Tensile Test	5.2	High security seal (H)
Shear Test	5.3	High security seal (H)
Bending Test	5.4	High security seal (H)
Impact Test room temp	5.5	High security seal (H)
Impact Test reduced temp	5.5	High security seal (H)

Remarks : As per ISO17712:2013(E) Clause 5.1.2 “Testing is to be done once every two years”.
Therefore, this report expires two years from the test completion date.

Results : The above listed tests were completed with no discrepancies noted. Refer to test report number M1211066-T01 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 MIRDC

Approved Signatory : CHIANG, Ching-Liu	 
Engineer : SU, Yuan-Da	 





財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169

Metal Industries Research & Development Centre

Mechanical Testing Laboratory

No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)

試驗報告 TEST REPORT



Testing Laboratory
0099

Test Report No. : M1211066-T01

Page 1 of 10

Customer :

MEGAFORTRIS SDN. BHD.

NO.29 JALAN ANGGERIK MOKARA 31/47, KOTA KEMUNING, SEKSYEN 31, 40460 SHAH ALAM, SELANGOR, MALAYSIA.

SUBJECT : Freight containers Mechanical seals classification Testing

Name of Article: Fort Container Seal Megalock Premium

Type: FCS MLP

Received Date : 2023/12/11

Test Dates : 2023/12/11~2023/12/18

Date Issued : 2023/12/18



CHIANG, Ching-Liu

Chiang Ching Liu



報告簽署人 (Report Authorized Person)

SU, Yuan-Da

Su Yuan-Da



檢驗員 (Inspector)

Note :

- (1) The operation and testing of MIRDC laboratory are in conformity to the requirements of ISO/IEC 17025 : 2017
(Taiwan Accreditation Foundation, Accreditation No. : 0099)
- (2) This report is responsible for designated samples only.
- (3) Reproduction of all or parts this report without a written approval is strictly prohibited.
- (4) Decision rules of conformance statement of this test report, do not consider uncertainty of measurement.



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01 Page 2 of 10

1. ABSTRACT

Customer :

MEGAFORTRIS SDN. BHD.

NO.29 JALAN ANGGERIK MOKARA 31/47, KOTA KEMUNING, SEKSYEN 31, 40460 SHAH ALAM,
SELANGOR, MALAYSIA.

Name of Article: Fort Container Seal Megalock Premium

Type: FCS MLP

Serial No. : M000001~M000026

Quantity Tested : 26

Inspection Reference : ISO 17712:2013(E)

Test Item	Section Number	Serial No.	Results
Evidence of Tampering (Minimum Diameter)	4.1.3	M000026	See Page 3
Tensile Test	5.2	M000001~ M000005	See Page 4
Shear Test	5.3	M000006~ M000010	See Page 6
Bending Test	5.4	M000011~ M000015	See Page 7
Impact Test room temp	5.5	M000016~ M000020	See Page 8
Impact Test reduced temp	5.5	M000021~ M000025	See Page 8



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01 Page 3 of 10

2. Evidence of tampering Test :

Ambient Temp. : 17°C ; 55% R.H.
Inspection Reference : ISO 17712:2013(E)
Result :

Evidence of tampering Section 4.1.3

Specimen No.	Measurement (mm)		Pass/Fail
M000026	Pin Head	18.12	Pass
	Lock Body	18.12	Pass

Requirement :

The minimum diameter (or minimum widest cross-dimension) for the metal components of a bolt seal shall be 18 mm.



Pin Head



Lock Body



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01 Page 4 of 10

3. Tensile Test :

Testing Instrument : Universal Testing Machine (No.TG0103)

Ambient Temp. : 17°C ; 55% R.H

Inspection Reference : ISO 17712:2013(E)

Result :

Tensile Test Section 5.2

The seal was gripped in a tensile machine and a pull force applied.

Specimen No.	Requirement Load to failure	Result kN	Seal classification
M000001	10.0 kN : High security seal 2.27 kN : Security seal < 2.27 kN : Indicative seal	18.6	High security seal (H)
M000002		18.2	High security seal (H)
M000003		18.1	High security seal (H)
M000004		17.8	High security seal (H)
M000005		18.0	High security seal (H)



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT

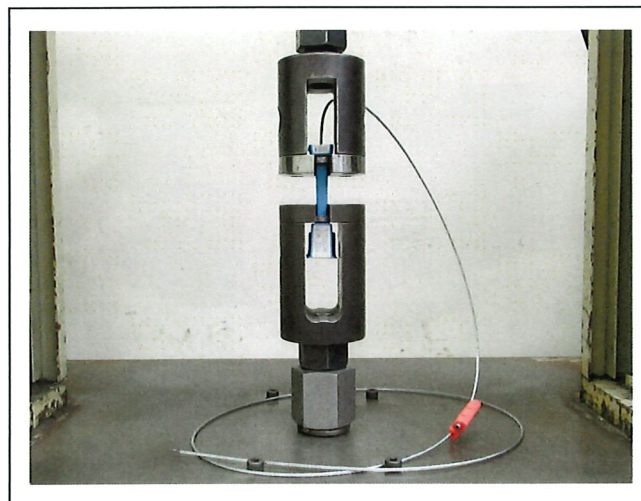


Test Report No. : M1211066-T01 Page 5 of 10

Universal Testing Machine



Tensile Set up





財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01 Page 6 of 10

4. Shear Test

Testing Instrument : Universal Testing Machine (No.TG0103)

Ambient Temp. : 17°C ; 55% R.H.

Inspection Reference : ISO 17712:2013(E)

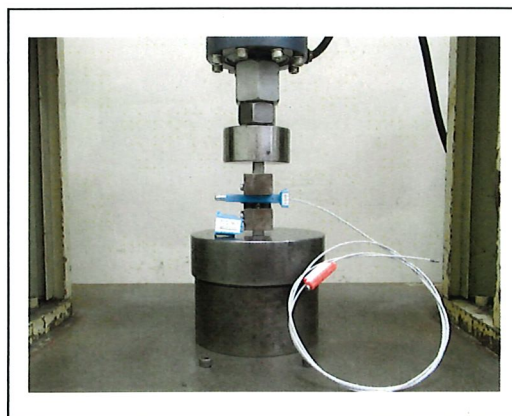
Result :

Shear Test Section 5.3

The seal was fixed in a universal testing machine to withstand cutting with shearing blades and a compressive load applied slowly until the seal is severed.

Specimen No.	Requirement Load to failure	Result kN	Seal classification
M000006	3.336 kN : High security seal 2.224 kN : Security seal <2.224 kN : Indicative seal	8.896	High security seal (H)
M000007		8.896	High security seal (H)
M000008		8.896	High security seal (H)
M000009		8.896	High security seal (H)
M000010		8.896	High security seal (H)

Shear Set up



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



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01

Page 7 of 10

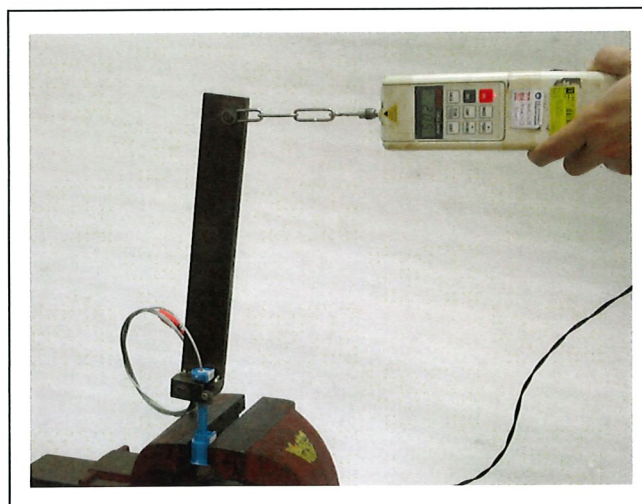
5. Bending Test

Testing Instrument : FORCE GAURE
Ambient Temp. : 17°C ; 55% R.H
Inspection Reference : ISO 17712:2013(E)
Result :

Bending Test Section 5.4

Fix the locking end on the universal testing machine in a horizontal position.
Apply a load on the remaining portion of the seal at a distance (the moment arm) above the fixed end so as to bend the seal 90 degrees.

Specimen No.	Requirement Bending moment to failure	Result N·m	Seal classification
M000011	50 N·m : High security seal 22 N·m : Security seal < 22 N·m : Indicative seal	78.9	High security seal (H)
M000012		80.4	High security seal (H)
M000013		79.5	High security seal (H)
M000014		77.7	High security seal (H)
M000015		79.1	High security seal (H)



Bend Set up



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169
Metal Industries Research & Development Centre
Mechanical Testing Laboratory
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)
試驗報告 TEST REPORT



Test Report No. : M1211066-T01 Page 8 of 10

6. Impact Test

Testing Instrument :

1. Impact Tester
2. Programmable Low Temp. Tester (No.SG5501)

Inspection Reference : ISO 17712:2013(E)

Impact Test Section 5.5

The impact test is performed at 18 degrees C and minus 27 degrees C of temperature.
The impact load is applied at the locking mechanism of the seal in the direction opposite the direction used in locking the seal.

Result :

Impact Test at 18±3°C					
Specimen No.	Requirement	Result Joule			Seal classification
		13.56	27.12	40.68	
M000016	40.68J : High security seal 27.12J : Security seal <27.12J : Indicative seal 5 impacts at each load	Pass	Pass	Pass	High security seal (H)
M000017		Pass	Pass	Pass	High security seal (H)
M000018		Pass	Pass	Pass	High security seal (H)
M000019		Pass	Pass	Pass	High security seal (H)
M000020		Pass	Pass	Pass	High security seal (H)

Impact Test at -27±3°C					
Specimen No.	Requirement	Result Joule			Seal classification
		13.56	27.12	40.68	
M000021	40.68J : High security seal 27.12J : Security seal <27.12J : Indicative seal 5 impacts at each load	Pass	Pass	Pass	High security seal (H)
M000022		Pass	Pass	Pass	High security seal (H)
M000023		Pass	Pass	Pass	High security seal (H)
M000024		Pass	Pass	Pass	High security seal (H)
M000025		Pass	Pass	Pass	High security seal (H)



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169

Metal Industries Research & Development Centre
Mechanical Testing Laboratory

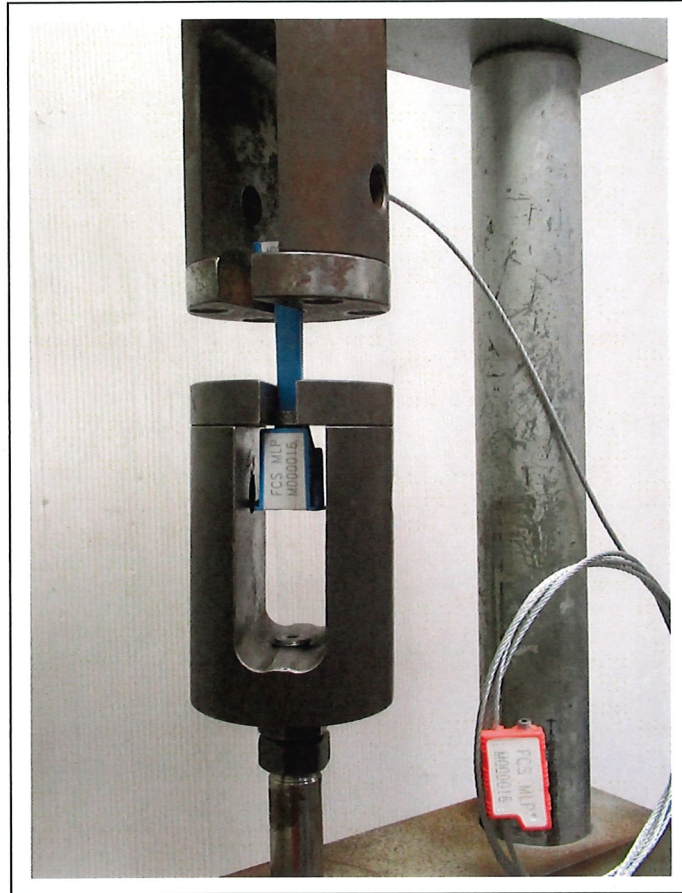
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)

試驗報告 TEST REPORT



Test Report No. : M1211066-T01

Page 9 of 10



Impact Set up



財團法人金屬工業研究發展中心
機械測試實驗室

40768 台中市工業區 37 路 25 號 TEL : (04)23502169

Metal Industries Research & Development Centre

Mechanical Testing Laboratory

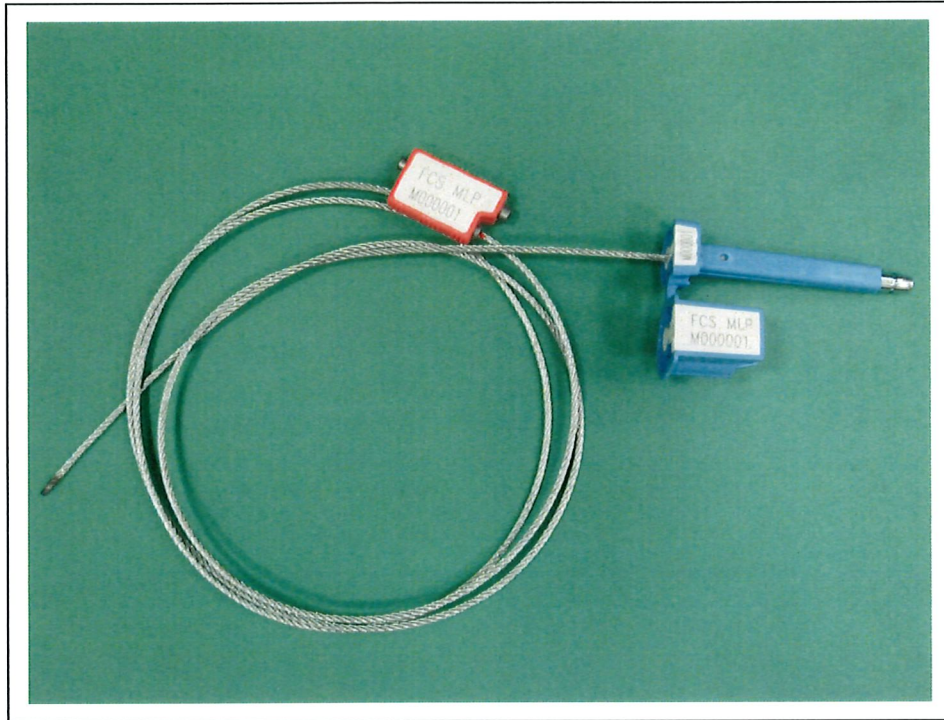
No.25, 37th Road, Industrial Park, Taichung City 40768, Taiwan (R.O.C.)

試驗報告 TEST REPORT



Test Report No. M1211066-T01

Page 10 of 10



Name of Article : Fort Container Seal Megalock Premium

Type : FCS MLP

---End---