



Certificate No. : L1401-190726

財團法人全國認證基金會
Taiwan Accreditation Foundation

Certificate of Accreditation

This is to certify that

**National Chung Shan Institute of Science & Technology,
Chemical System Research Division**

Chin Yuan Lab. of Chung Shan Institute of Science & Technology

No. 210, Shigu, Rd., Longtan, Township, Taoyuan County 32544, Taiwan (R.O.C.)

is accredited in respect of laboratory

Accreditation Criteria	: ISO/IEC 17025:2017;CNS 17025:2018
Accreditation Number	: 1401
Originally Accredited	: December 28, 2004
Effective Period	: July 26, 2019 to July 25, 2022
Accredited Scope	: Testing Field, see described in the Appendix
Specific Accreditation Program	: Accreditation Program for Designated Testing Laboratory for Commodities Inspection

Chung-Lin Wang

Chung-Lin Wang
President, Taiwan Accreditation Foundation
Date: July 26, 2019



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Accreditation Number : 1401

Laboratory Head : YUAN, Liang-Yann

■ 01. 01 Metals and Alloys Products

Metallic and Alloy's Mold, Component, Combination, Fixture

M017 Geometric Tolerance Measurement

In-House Test Method, Document No.: 1401-SOP-09-107-01, 1401-SOP-09-107-02

Coordinate Measurement Machine:

X-Axis ≤ 700 mm

Y-Axis ≤ 1000 mm

Z-Axis ≤ 700 mm

Video Measurement System:

X-Axis ≤ 250 mm

Y-Axis ≤ 150 mm

Approval Signatory: CHIU, Min-Han; CHANG, Dar-Ming; CHEN, Chung-Han; GONG, Sheng-Ping

■ 01. 01 Metals and Alloys Products

Metallic Material

M101 Rockwell Hardness

ISO 6508-1

JIS Z2245

ASTM E18

CNS 2114

(20 to 65) HRC

(40 to 100) HRBW

Approval Signatory: CHIU, Min-Han; CHANG, Dar-Ming; CHEN, Chung-Han; GONG, Sheng-Ping

■ 03. 99 Cements, Clays, Ceramics and Related Materials

Ceramic's Mold, Component, Combination, Fixture

M017 Geometric Tolerance Measurement

In-House Test Method, Document No.: 1401-SOP-09-107-01, 1401-SOP-09-107-02

Coordinate Measurement Machine:

X-Axis ≤ 700 mm

Y-Axis ≤ 1000 mm

Z-Axis ≤ 700 mm

Video Measurement System:

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Approval Signatory: CHIU, Min-Han; CHANG, Dar-Ming; CHEN, Chung-Han; GONG, Sheng-Ping



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■ 06. 01 Polymer and Composite Materials

Polystyrene

C999 Average Molecular Weight

Molecular Weight Distribution

In-House Test Method, Document No.: 1401-SOP-06-107-01

Molecular Weight: (1000 to 3.8×10^6) Daltons

Approval Signatory: WANG, Li-Chun; LIN, Shiaw-Ruey; LIN, Ching-Lung; KUO, Han-Wen; CHUNG, Hsiao-Wu

■ 06. 99 Polymer and Composite Materials

Flat microwave absorption material

E002 Reflection attenuation

In-house Method: 1401-SOP-10-107-01 & 1401-SOP-10-107-02 (Reference MIL-A-17161D (NAVY) Appendix Procedure for ARCH Test)

Dimension: 15 cm × 15 cm

(3 to 4) GHz, -20 dB

(4 to 5) GHz, -25 dB

(5 to 8) GHz, -30 dB

(8 to 18) GHz, -30 dB

Approval Signatory: LEE, Hung-Wei; LIN, Cheng-Chung; GONG, Yan-Jhang

■ 07. 01 Textiles and Related Products

Textiles and Fiber Products

T001 Flammability Test

CNS 10285 Method A1, A2, A5, D

National Fire Agency, Ministry of the Interior Non-flammable Property Testing Standard

Grade 1 of flame-proof

Grade 2 of flame-proof

Out of grade

Approval Signatory: WANG, Shang-Wen; FANG, Chien-Tin; SU, Chun-Ming

■ 21. 10 Building Materials

Sheet, film, panel, fabrics, textiles and other similar material with thickness less than 5mm.;

Flame retardant treated plywood

T001 Flammability Test

CNS 7614

CNS 11668

National Fire Agency, Ministry of the Interior Non-flammable Property Testing Standard

Grade 1 of flame-proof

Grade 2 of flame-proof

Grade 3 of flame-proof

Approval Signatory: WANG, Shang-Wen; FANG, Chien-Tin; SU, Chun-Ming



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■ 21. 35 Building Materials

Fire Window of Building

T002 Fire Resistance Test

CNS 14815

Fire resistant rating: 30 min, 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

■ 21. 35 Building Materials

Fire Door of Building

T002 Fire Resistance Test

CNS 11227-1 (exclude C.2.1)

Fire Resistant Rating: 30 min, 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

■ 21. 35 Building Materials

Fire Rolling Shutter of Building

T002 Fire Resistance Test

CNS 14803 (2010)

CNS 11227-1

Fire resistant rating: 30 min, 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

■ 21. 35 Building Materials

Fire Wall of Building

T002 Fire Resistance Test

CNS 12514-1

CNS12514-8

Fire resistant rating: 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

■ 21. 36 Building Materials

Interior Finish Material of Building (Fire Retardant Plywood, Fiberboard Plastic Panel
Gypsum Board and Other Similar Materials)

T001 Flame resistance test

CNS 15694

Approval Signatory: WANG, Shang-Wen; FANG, Chien-Tin; SU, Chun-Ming

T999 Heat Release Rate Test-Cone Calorimeter Method

CNS 14705 (2011)

CNS 14705-1



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CNS 14705-3 Annex A.2
Fire Retardant Grade 1
Fire Retardant Grade 2
Fire Retardant Grade 3

Approval Signatory: WANG, Shang-Wen; FANG, Chien-Tin; SU, Chun-Ming

■ 21. 99 Building Materials
Fire stop penetration material(putty, caulk mineral panel, pipesal, wrap belt, seal bag, sponge fire barrier, cableseal system, etc)
T002 Fire Resistance Test
CNS 14514 (2010)
CNS 15814-1
Fire resistant rating: 30 min, 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

■ 99. 99 Others
Random Vibration Test
A002 Random Vibration Test
In-House Test Method, Document No.: 1401-SOP-11-107-08
5 Hz to 2k Hz

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; TSAI, Cheng-Hsun

■ 99. 99 Others
Bridgewire Resistance
E007 Bridgewire Resistance
In-House Test Method, Document No.: 1401-SOP-11-107-03
0.1 Ω to 2 k Ω

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; HUANG, Sheng-Kai; TSAI, Cheng-Hsun

■ 99. 99 Others
Insulation Resistance
E007 Insulation Resistance
In-House Test Method, Document No.: 1401-SOP-11-107-04
1 M Ω to 1000 M Ω
(250 Vdc to 1000 Vdc)

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; HUANG, Sheng-Kai; TSAI, Cheng-Hsun



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■ 99. 99 Others

High Temperature and High Temperature Aging Test
M021 High Temperature and High Temperature Aging Test
In-House Test Method, Document No.: 1401-SOP-56-102-09
(23 to 71) °C

Approval Signatory: WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; HUANG, Sheng-Kai; TSAI, Cheng-Hsun

■ 99. 99 Others

Leakage Test
M203 Leakage Test
In-House Test Method, Document No.: 1401-SOP-11-107-07
(10^{-7} to 10^{-3}) atm • cm³/s

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; HUANG, Sheng-Kai; TSAI, Cheng-Hsun

■ 99. 99 Others

All Fire Test
M996 All Fire Test
In-House Test Method, Document No.: 1401-SOP-11-107-01
10 mA to 10 A

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; CHEN, Li-Yan; TSAI, Cheng-Hsun

■ 99. 99 Others

No Fire Test
M996 No Fire Test
In-House Test Method, Document No.: 1401-SOP-11-107-01
10 mA to 10 A

Approval Signatory: TING, Hsiang-Hsuan; WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; CHEN, Li-Yan; TSAI, Cheng-Hsun

■ 99. 99 Others

Dent Test
M996 Dent Test
In-House Test Method, Document No.: 1401-SOP-11-107-02
(0.13 to 2.54) mm

Approval Signatory: WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; CHEN, Li-Yan; TSAI, Cheng-Hsun



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■ 99. 99 Others

Test for Sensitivity to Initiation

M996 Test for Sensitivity to Initiation

In-House Test Method, Document No.: 1401-SOP-11-107-05

10 mA to 10 A

Approval Signatory: WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; CHEN, Li-Yan;
TSAI, Cheng-Hsun

■ 99. 99 Others

Delay Time Measurement

M996 Delay Time Measurement

In-House Test Method, Document No.: 1401-SOP-11-107-06

> 0.1 ms

Approval Signatory: WANG, Yung-Mou; HE, Szu-Yi; HSU, Chin-Tsai; CHEN, Li-Yan;
TSAI, Cheng-Hsun

■ 99. 99 Others

Measurement of Detonation Velocity

M996 Measurement of Detonation Velocity

In-House Test Method, Document No.: 1401-SOP-05-107-01

Explosive Size:

215 mm $\leq$ Length $\leq$ 225 mm

19 mm $\leq$ Width $\leq$ 20 mm

20 mm $\leq$ Height $\leq$ 20.5 mm

Approval Signatory: LIN, Jong-Ching; CHANG, Cheng-Chau; KUO, We-I; CHEN,
Wei-Hsin

**Accreditation Program for Designated Testing Laboratory for
Commodities Inspection**

■ 21. 35 Building Materials

Fire Doors of Building

T002 Fire Resistance Test

CNS 11227-1 (2016-11)

Fire Resistant Rating: 30 min, 1 h, 2 h, 3 h, 4 h

Approval Signatory: WANG, Shang-Wen; SU, Chun-Ming

(Null below)