



Certificate No. : L0248-190824

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

Certificate of Accreditation

This is to certify that

**Materials & Electro-Optics Research Division, National
Chung-Shan Institute of Science and Technology
Material Testing Laboratory**

P.O.Box 90008-8-5, Lung-Tang Township, Taoyuan County 325, Taiwan (R.O.C.)

is accredited in respect of laboratory

Accreditation Criteria : ISO/IEC 17025:2017;CNS 17025:2018
Accreditation Number : 0248
Originally Accredited : June 01, 1996
Effective Period : July 24, 2019 to July 23, 2022
Accredited Scope : Testing Field, see described in the Appendix

Chung-Lin Wang

Chung-Lin Wang
President, Taiwan Accreditation Foundation
Date: August 24, 2019



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Laboratory Head : TSAI, Deng-Horng

01. 01 Metals and Alloys Products

Stainless Steels

C001 Elemental Analysis

ASTM E1086

C: (0.018 to 0.297) %

Si: (0.17 to 1.14) %

Mn: (0.235 to 1.80) %

P: (0.008 to 0.037) %

S: (0.001 to 0.326) %

Cr: (9.06 to 25.39) %

Ni: (0.24 to 20.60) %

Mo: (0.032 to 3.55) %

Cu: (0.016 to 3.67) %

Nb: (0.004 to 0.28) %

Co: (0.010 to 0.27) %

V: (0.04 to 0.30) %

Approval Signatory: HSU, Li; CHEN, Yu-Liang; TSAI, Deng-Horng

01. 01 Metals and Alloys Products

Carbon Steels & Low-alloy Steels

C001 Elemental Analysis

ASTM E415

C: (0.020 to 1.29) %

Si: (0.004 to 1.71) %

Mn: (0.047 to 1.84) %

P: (0.006 to 0.074) %

S: (0.006 to 0.069) %

Cr: (0.007 to 3.03) %

Ni: (0.006 to 4.58) %

Mo: (0.001 to 1.04) %

Cu: (0.005 to 0.66) %

V: (0.002 to 0.52) %

Approval Signatory: HSU, Li; CHEN, Yu-Liang; TSAI, Deng-Horng

01. 01 Metals and Alloys Products

Iron-based Materials

C001 Elemental Analysis

ASTM E1019

C: (0.03 to 3.4) %

P2, total 3 pages



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Approval Signatory: HSU, Li; CHEN, Yu-Liang; TSAI, Deng-Horng

■ 01. 01 Metals and Alloys Products
Metals & Metallic Wires
M002 Tension
ASTM E8/E8M
(10 to 90) kN

Approval Signatory: CHEN, Yu-Liang; HUANG, Yue-Poe; TSAI, Deng-Horng

■ 01. 01 Metals and Alloys Products
Metals
M101 Rockwell/Rockwell Superficial Hardness
ASTM E18
(40 to 100) HRBW
(20 to 65) HRC
(84 to 90) HREW
(42 to 82) HR30N

Approval Signatory: CHEN, Yu-Liang; HUANG, Yue-Poe; TSAI, Deng-Horng

M102 Brinell Hardness
ASTM E10
(225 to 650) HBW 10/3000

Approval Signatory: CHEN, Yu-Liang; HUANG, Yue-Poe; TSAI, Deng-Horng

M103 Vickers Hardness
ASTM E384
(100 to 600) HV 0.05
(95 to 600) HV 0.1
>600 HV 0.1
(90 to 600) HV 0.2
>600 HV 0.2
(100 to 600) HV 0.3
>600 HV 0.3
(240 to 600) HV 0.5
>600 HV 0.5

Approval Signatory: LI, You-Yun; HSU, Li; CHEN, Yu-Liang; TSAI, Deng-Horng

(Null below)