

RELIABILITY TEST REPORT

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MA-tek is a company with ISO 9001, IECQ 17025 and ISO 27001 certifications and is the only lab in Taiwan awarded the Industrial Excellence Award by the IDB (2008). MA-tek's method of dimension measurement of analytical data can be traced back to the NIST Standard (National Institute of Standard and Technology).

- 2004 Certified by ISO 9001 and IECQ 17025.
- 2006 Elected as the Distinguished Enterprise by the Industry Development Bureau (IDB).
- 2006 Awarded #32 in the Taiwan Top 50 and #157 in the Asia Top 500 Fastest Growing Companies by Deloitte.
- 2008 Awarded the best performance company of Industrial Excellence Award by the Economy Ministry's Industry Development Bureau (IDB).
- 2009 Listed on the Taiwan OTC market (3587)
- 2012 Awarded #474 in the Asia Top 500 Fastest Growing Companies by Deloitte.
- 2013 A+ companies in Taiwan by Global Views Monthly Magazine.
- 2015 Certified by ISO 27001.



ISO/IEC 27001



IECQ 17025



ISO 9001



MA-tek Core Team

■ CEO - Dr. Yong-Fen Hsieh



More than 20 years of experience in various fields of IC(Si), TFT-LCD, LED(III-V, II-VI), LCOS, GaAs, and Ge/ Metal contacts system.

Specialized in TEM analysis, fault isolation/failure analysis, analytical lab operation, quality management (QE, QA, QS, TQM), and materials-related fundamental research.

■ MA - Dr. J.C. Hu



More than 10 years of experience in various fields of Advanced IC exploratory & processing, LED, PV, industry, international technology collaboration, materials analysis.

Specialized in TEM, HRTEM, EDX, EELS, PFA and SEM related analysis, materials science, applied chemistry.

■ FA - Max Kuo



More than 10 years of experience in IC EFA (EMMI, OBIRCH, LCD, etc.) and PFA (Structure and Process diagnosis) analysis.

Specialized in fault isolation/failure analysis, SEM, chemical analysis, FA total solution consulting and coordination.

■ RA - Jerry Lin



More than 10 years of experience in Probe card, Load board, Burn-In board design and analysis.

Specialized in IC test related reliability test and failure analysis, component reliability consulting and coordination.

■ SA - Ming-Ching Huang



More than 10 years of experience in surface analysis of IC(Si), TFT-LCD, LED, LCOS, GaAs, and solar cells.

Specialized in SIMS, Auger, ESCA/XPS, Scanning Capacitance Microscopy, Atomic Force Microscopy, Magnetic Field Microscopy, and SRP.



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1 Background Information

1.1 Client Information

HANSTECH ADVANCED MATERIALS CO., LTD

User Name : Kent Chang

TEL : +886-37-583738 Ext. 1056

1.2 Testing Inquiry

Model Name	Test Item	Quantity
散熱漆樣品	Salt Spray Test	8cs
	Thermal Shock Test	8cs

1.3 Pass/Fail Criteria

N/A

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2 Testing Summary

Test	Condition	Model Name	Judgment
Salt Spray Test	Temperature : 35±2°C Salt Solution : 5±1% PH : 6.5~7.2 Salt Solution Collection : 1-2ml/hr/80cm2 Duration : 48hours	散熱漆樣品	NA
Thermal Shock Test	Temperature : -40~150°C Trans : 5mins Dwell : 60mins Duration : 100cycles	散熱漆樣品	NA

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3 Testing Items, Conditions, and Raw Data

3.1 Salt Spray Test

3.1.1 Test System

Brand/Model No.	Calibration Date
TEN BILLION / SST-B	2020/05/04~2021/05/03

3.1.2 Test Method and Condition

Specification : The test based on Customer's specification.

Environmental Temperature and Humidity : 25°C±5°C / 55%R.H±10%

Test Condition :

Test	Model Name	Condition
Salt Spray Test	散熱漆樣品	Temperature : 35±2°C Salt Solution : 5±1% PH : 6.5~7.2 Salt Solution Collection : 1-2ml/hr/80cm2 Duration : 48hours

3.1.3 Test Results

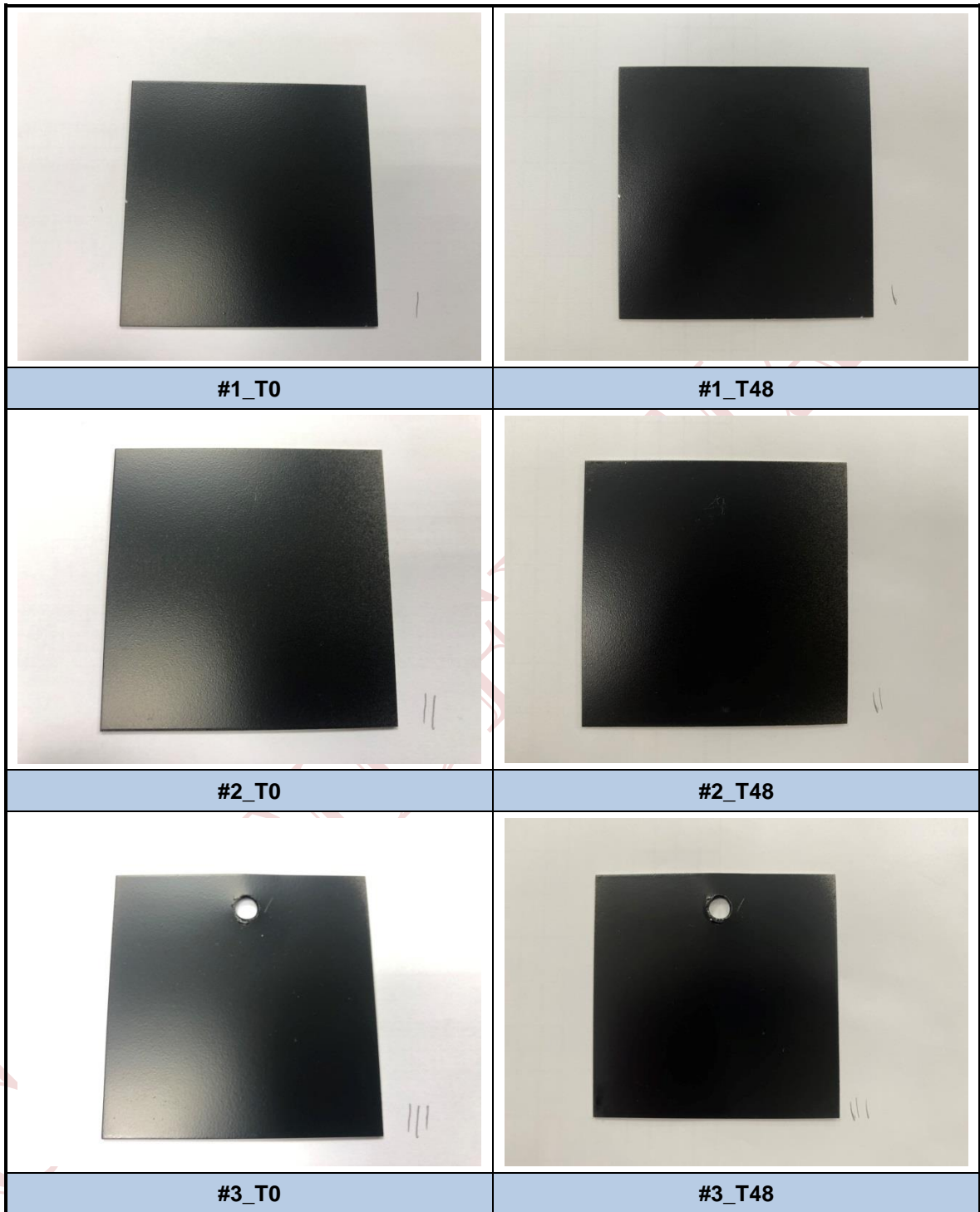
No any defect was found by visual inspection after test.

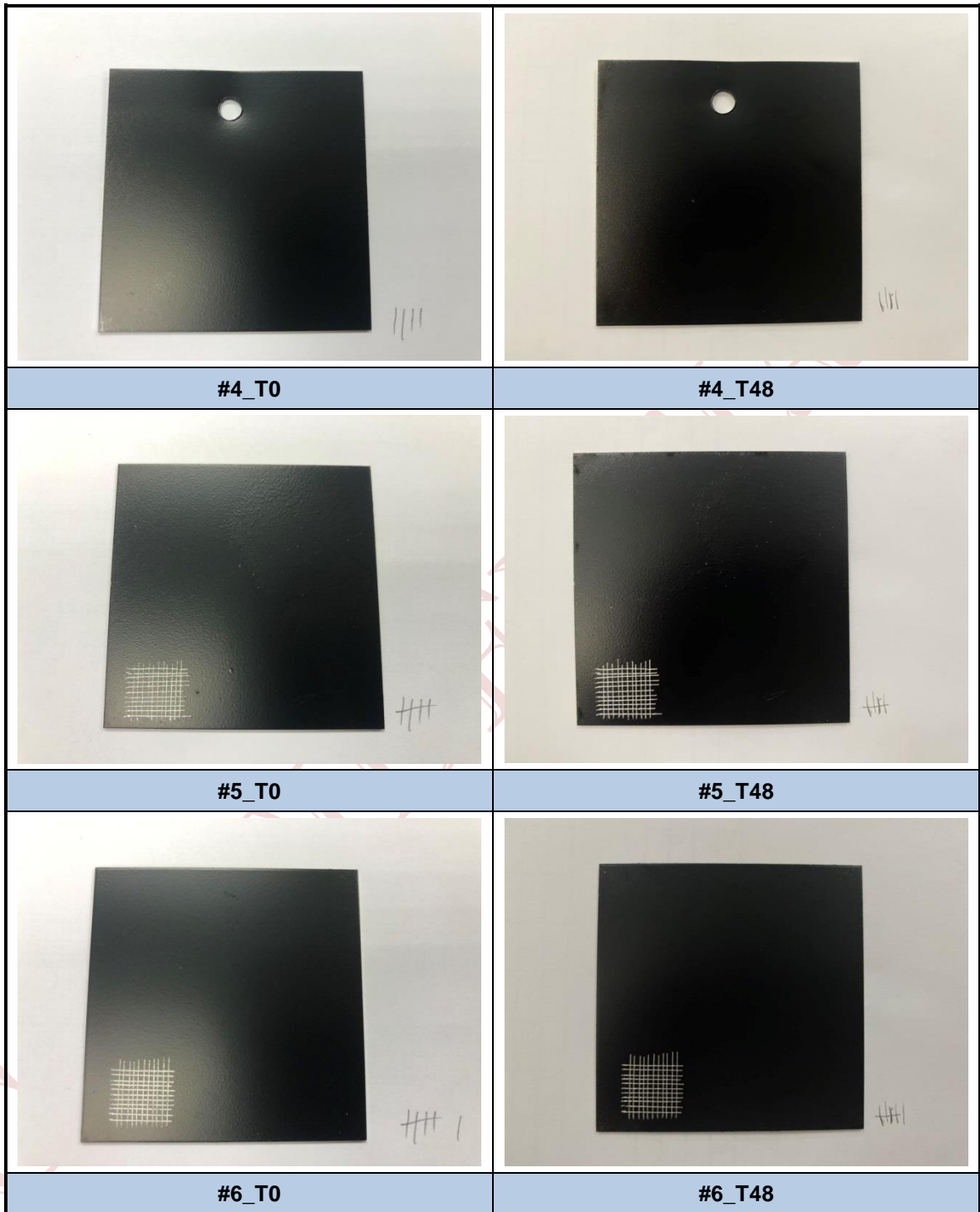
Functional test will be conducted by client.

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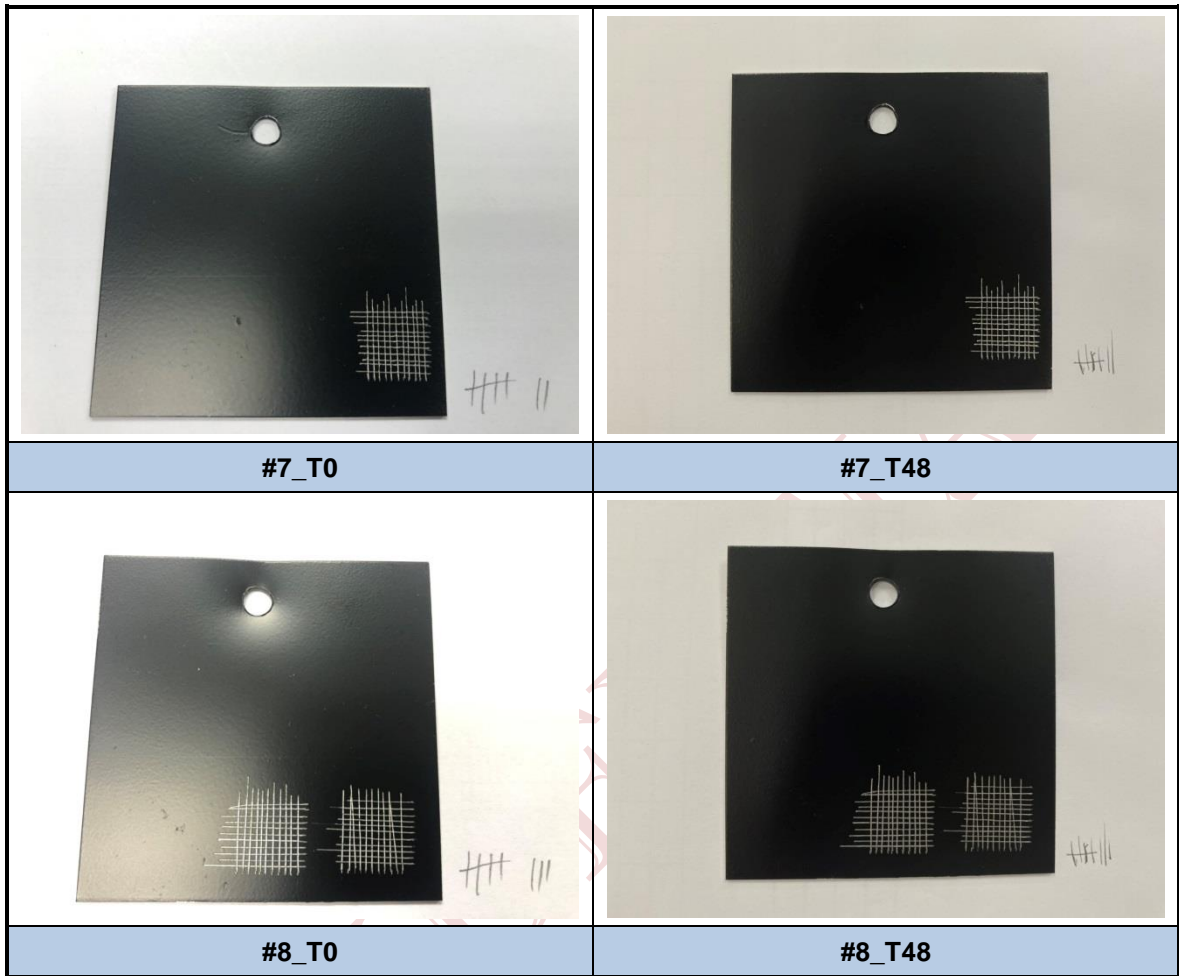
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3.1.1 Pictures of Salt Spray Test





3.2 Thermal Shock Test

3.2.1 Test System

Brand/Model No.	Calibration Date
ESPEC/ TSA-71H-W-1	2019/10/31~2020/10/30

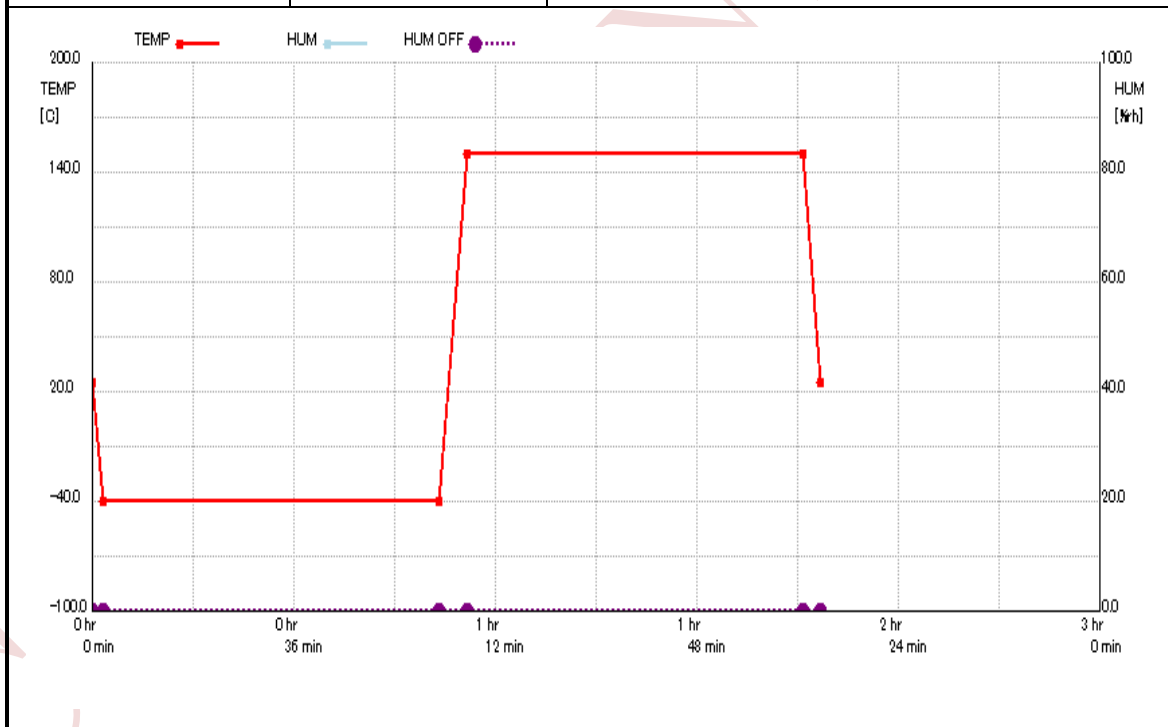
3.2.2 Test Method and Condition

Specification : The test based on Customer's specification.

Environmental Temperature / Humidity : 25°C±5°C / 55%R.H±10%

Test Condition :

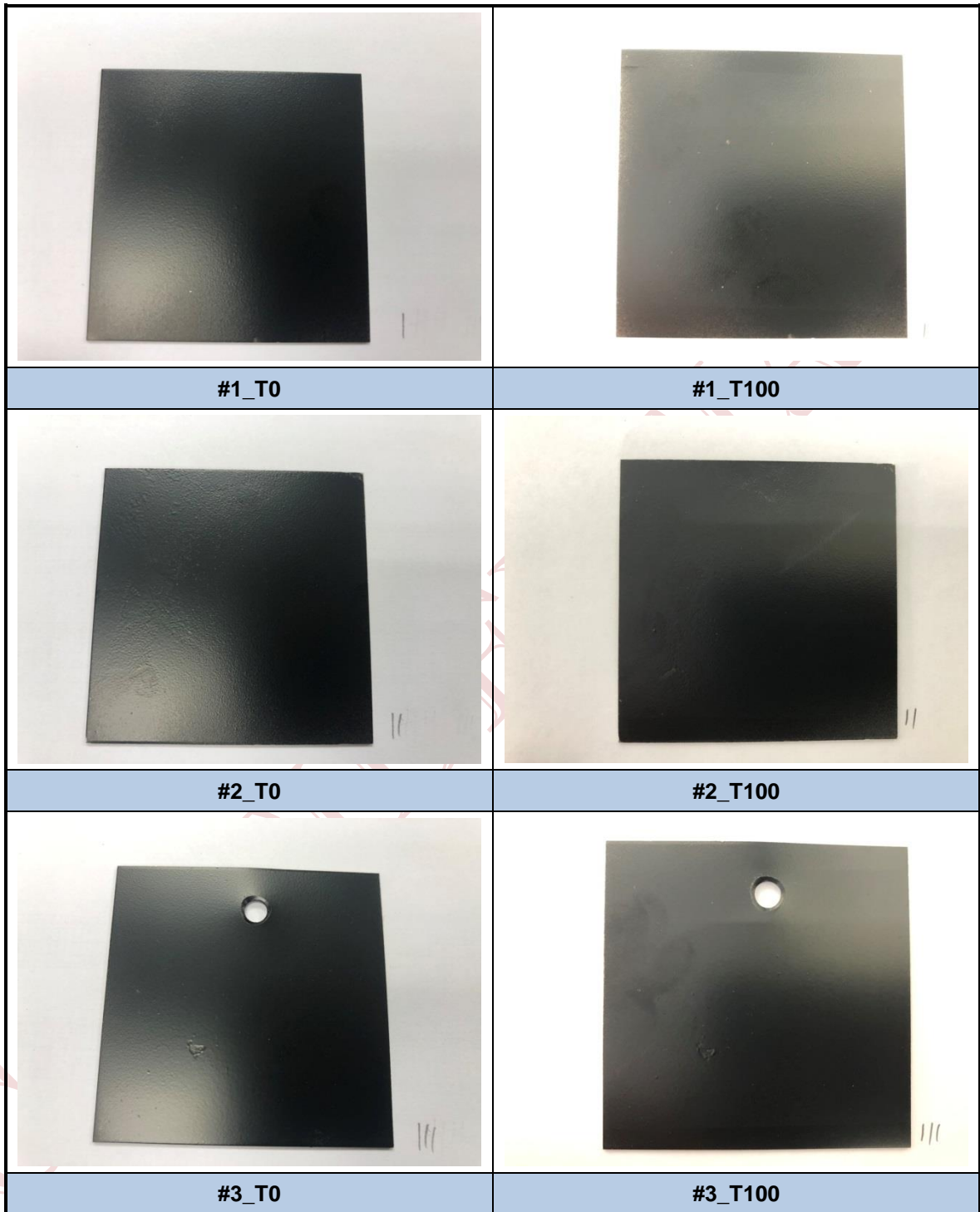
Test	Model Name	Condition
Thermal Shock Test	散熱漆樣品	Temperature : -40~150°C Trans : 5mins Dwell : 60mins Duration : 100cycles



3.2.3 Test Results

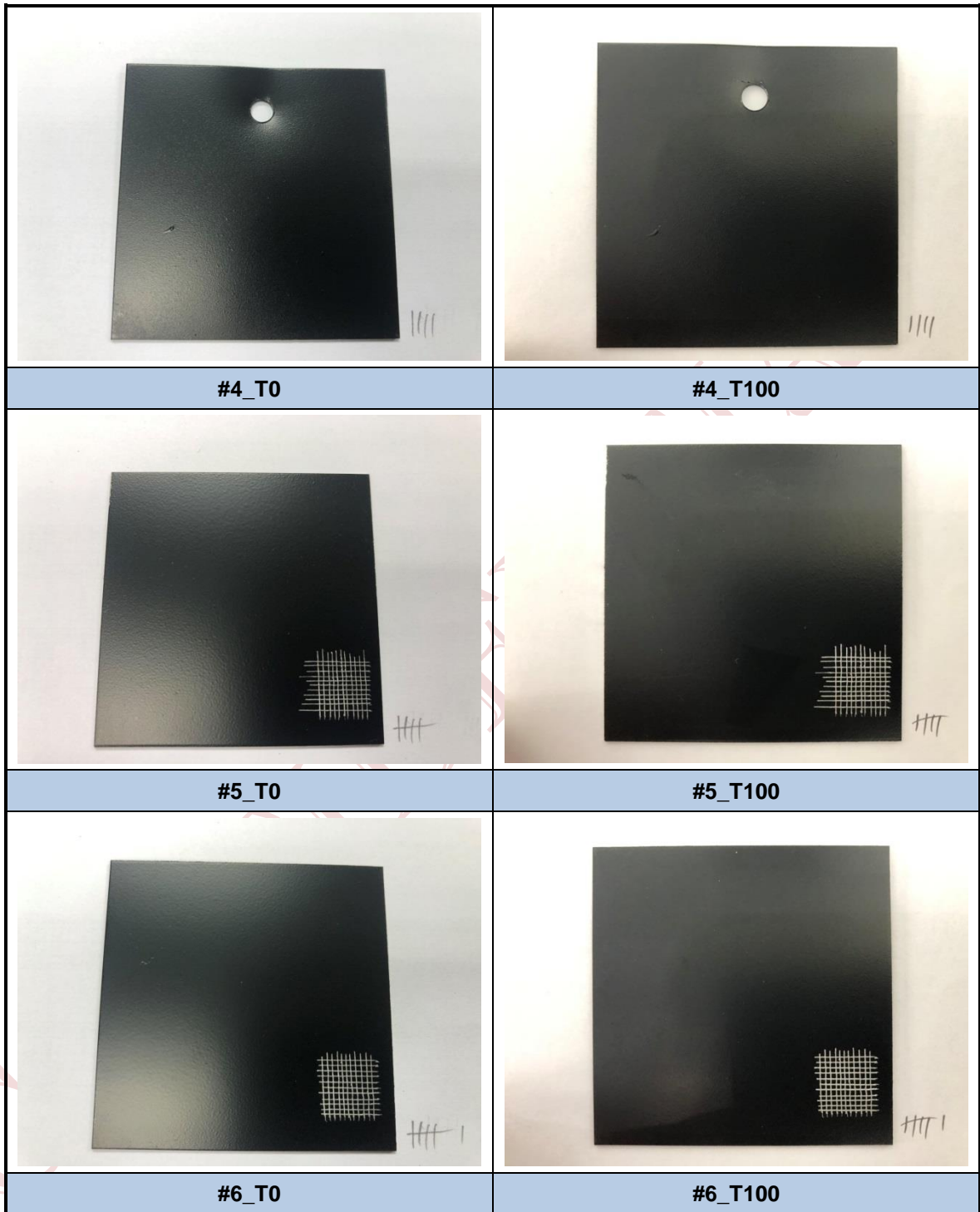
No any defect was found by visual inspection after test.

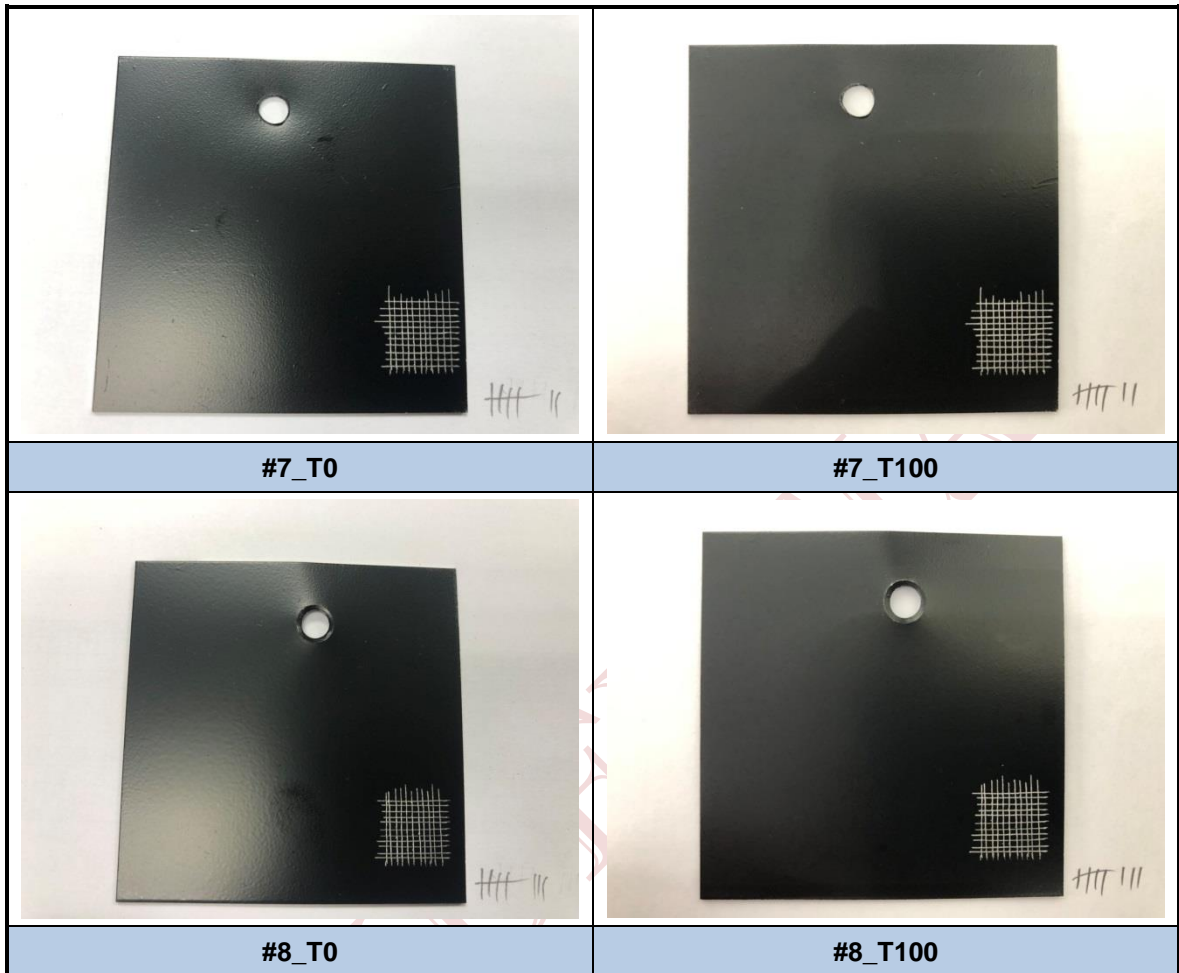
Functional test will be conducted by client.





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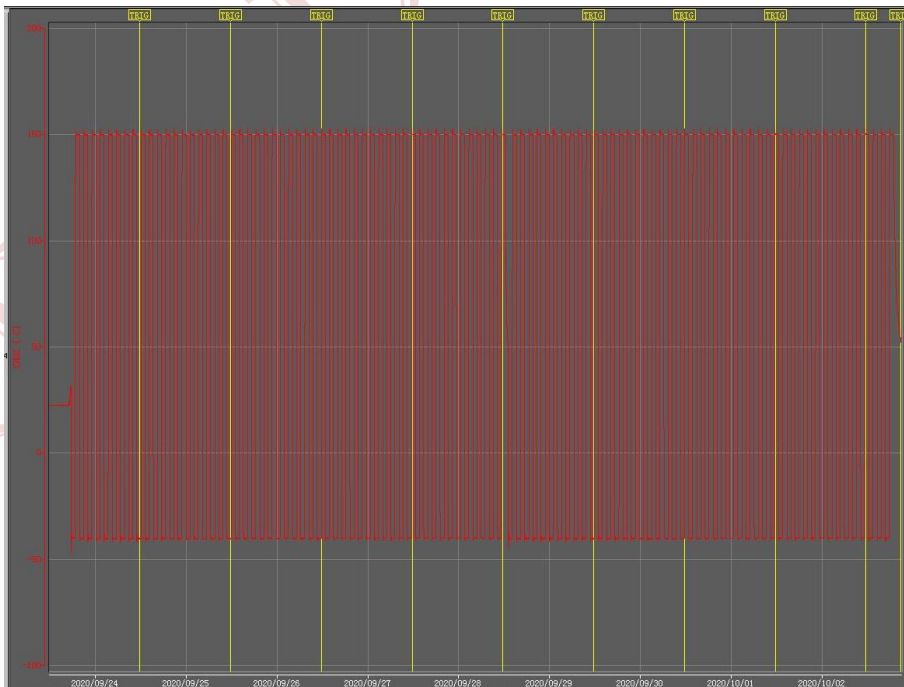
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3.2.4 Pictures of Thermal Shock Test



Specimen Setup for Thermal Shock Test

3.2.5 Profile of Thermal Shock Test



Profile of Thermal Shock Test