

Test Report

No. : CE/2020/11870

Date : 2020/01/14

Page : 1 of 5

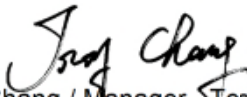
HITACHI CHEMICAL CO., LTD.

1500 OGAWA, CHIKUSEI-SHI IBARAKI, 308-8521, JAPAN

The following samples was/were submitted and identified by/on behalf of the applicant as :

Sample Submitted By : HITACHI CHEMICAL CO., LTD.
Sample Description : GENERAL COPPER FOIL
Style/Item No. : COPPER FOIL
Sample Receiving Date : 2020/01/07
Testing Period : 2020/01/07 to 2020/01/14

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Test Result(s) : Please refer to following pages.


Troy Chang / Manager - Tech
Signed for and behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei



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Test Report

No. : CE/2020/11870

Date : 2020/01/14

Page : 2 of 5

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Test Result(s)

PART NAME No.1 : ORANGE/COPPER COLORED FOIL

Test Item(s)	Unit	Method	MDL	Result
				No.1
Antimony (Sb)	mg/kg	With reference to US EPA 3052 (1996). Analysis was performed by ICP-OES.	2	n.d.
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)	mg/kg		50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.

Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected = less than MDL

Test Report

No. : CE/2020/11870

Date : 2020/01/14

Page : 3 of 5

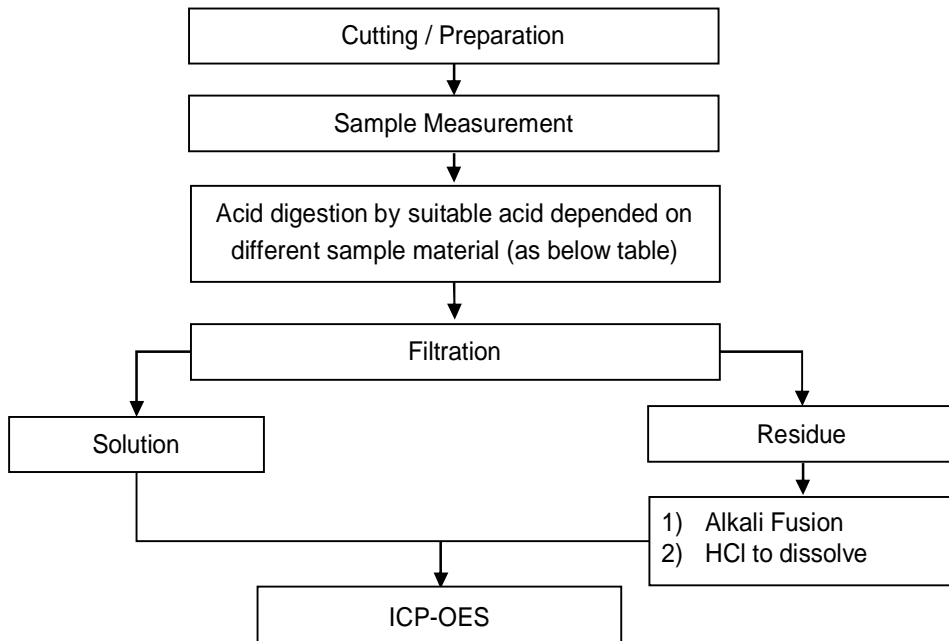
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These samples were dissolved totally by pre-conditioning method according to below flow chart.

- Technician: Rita Chen
- Supervisor: Troy Chang

Flow Chart of digestion for the elements analysis performed by ICP-OES



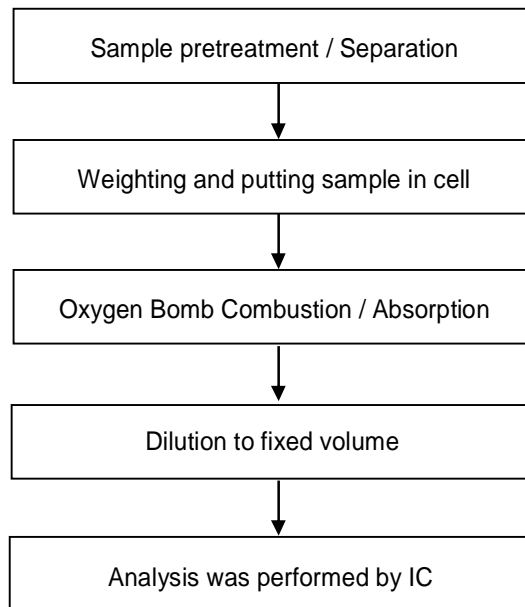
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Added appropriate reagent to total digestion

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Analytical flow chart - Halogen

- Technician: Rita Chen
- Supervisor: Troy Chang



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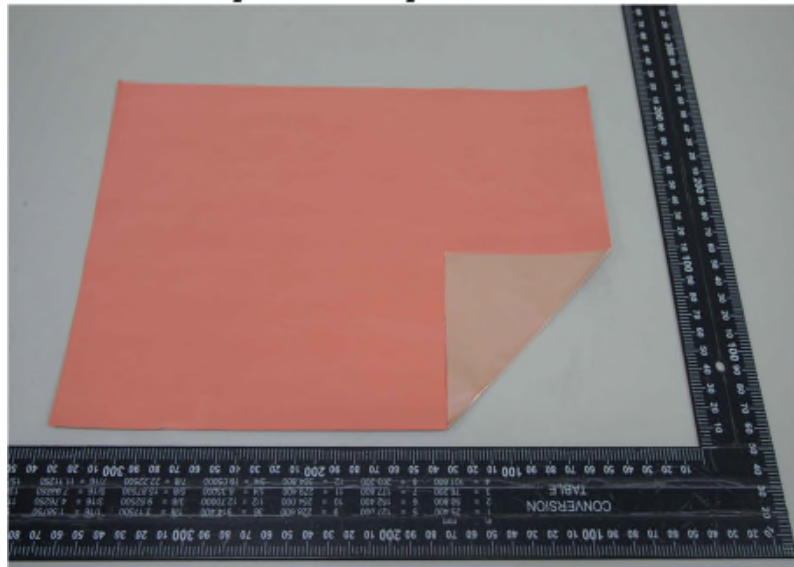
Page : 5 of 5

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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **