

Test Report

No. : CE/2013/55890

Date : 2013/06/07

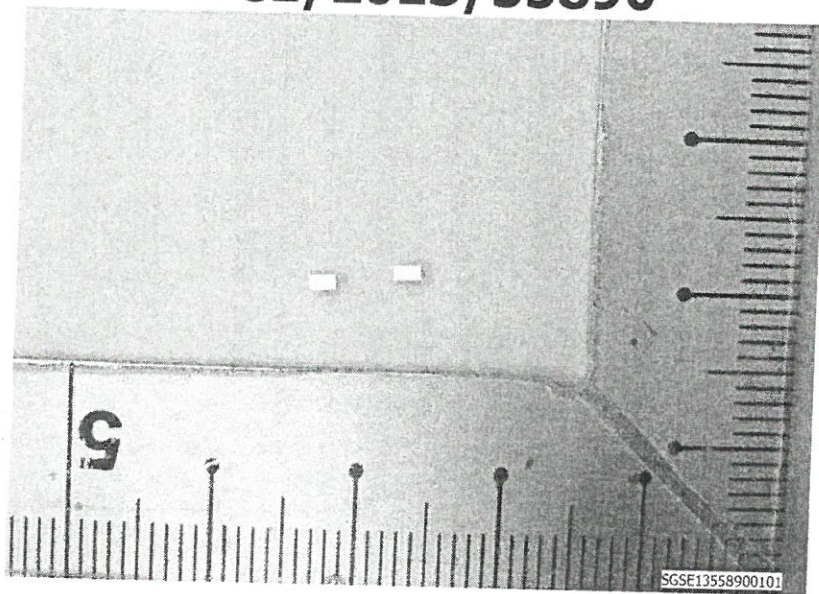
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ADVANCED CERAMIC X (ACX) CORPORATION
16, TZU CHIANG ROAD, HSINCHU INDUSTRIAL DISTRICT, HSINCHU HSIEN, TAIWAN 303



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

CE/2013/55890



** End of Report **



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4/30
 有效性不詳
 For Question
 Please Contact with SGS
 www.tw.sgs.com

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 16, TZU CHIANG ROAD, HSINCHU INDUSTRIAL DISTRICT, HSINCHU HSIEN, TAIWAN 303



The following sample(s) was/were submitted and identified by/on behalf of the applicant as :

Sample Submitted By : ADVANCED CERAMIC X (ACX) CORPORATION
 Sample Description : TERMINATION MATERIAL
 Style/Item No. : AD SERIES, AT SERIES, BD SERIES, BF SERIES, BL SERIES, BM SERIES, BW SERIES, CD SERIES, CF SERIES, CP SERIES, DM SERIES, DP SERIES, DS SERIES, EF SERIES, ES SERIES, FA SERIES, FB SERIES, FD SERIES, FM SERIES, GS SERIES, HI SERIES, HF SERIES, HM SERIES, HS SERIES, LF SERIES, OM SERIES, OS SERIES, PD SERIES, NF SERIES, QS SERIES, SF SERIES, TS SERIES, TP SERIES, LTCC SUBSTRATES, CB SERIES
 Sample Receiving Date : 2014/05/08
 Testing Period : 2014/05/08 TO 2014/05/15

Test Requested : (1) As specified by client, with reference to RoHS Directive 2011/65/EU Annex II to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs contents in the submitted sample.
 (2) As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine contents in the submitted sample.

Test Method : Please refer to next page(s).

Test Result(s) : Please refer to next page(s).


 Troy Chang, Manager - Tech
 Signed for and on Behalf of
 SGS TAIWAN LTD.
 Chemical Laboratory - Taipei


 2014-05-15
 01
 02

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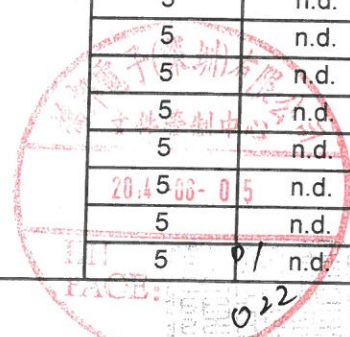
16, TZU CHIANG ROAD, HSINCHU INDUSTRIAL DISTRICT, HSINCHU HSIEN, TAIWAN 303



Test Result(s)

PART NAME No.1 : GRAY FRAGMENTS

Test Item(s)	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321-5: 2013 and performed by ICP-AES.	2	32
Mercury (Hg)	mg/kg	With reference to IEC 62321-4: 2013 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI)	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
Sum of PBBs			-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
Sum of PBDEs			-	n.d.
Monobromodiphenyl ether	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether			5	n.d.
Decabromodiphenyl ether			5	n.d.



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Test Item(s)	Unit	Method	MDL	Result
				No.1
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 22537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 10097-32-2)			50	n.d.
Halogen-Iodine (I) (CAS No.: 14362-44-8)			50	n.d.

Note :

- 1. mg/kg = ppm ; 0.1wt% = 1000ppm
- 2. n.d. = Not Detected
- 3. MDL = Method Detection Limit
- 4. " - " = Not Regulated



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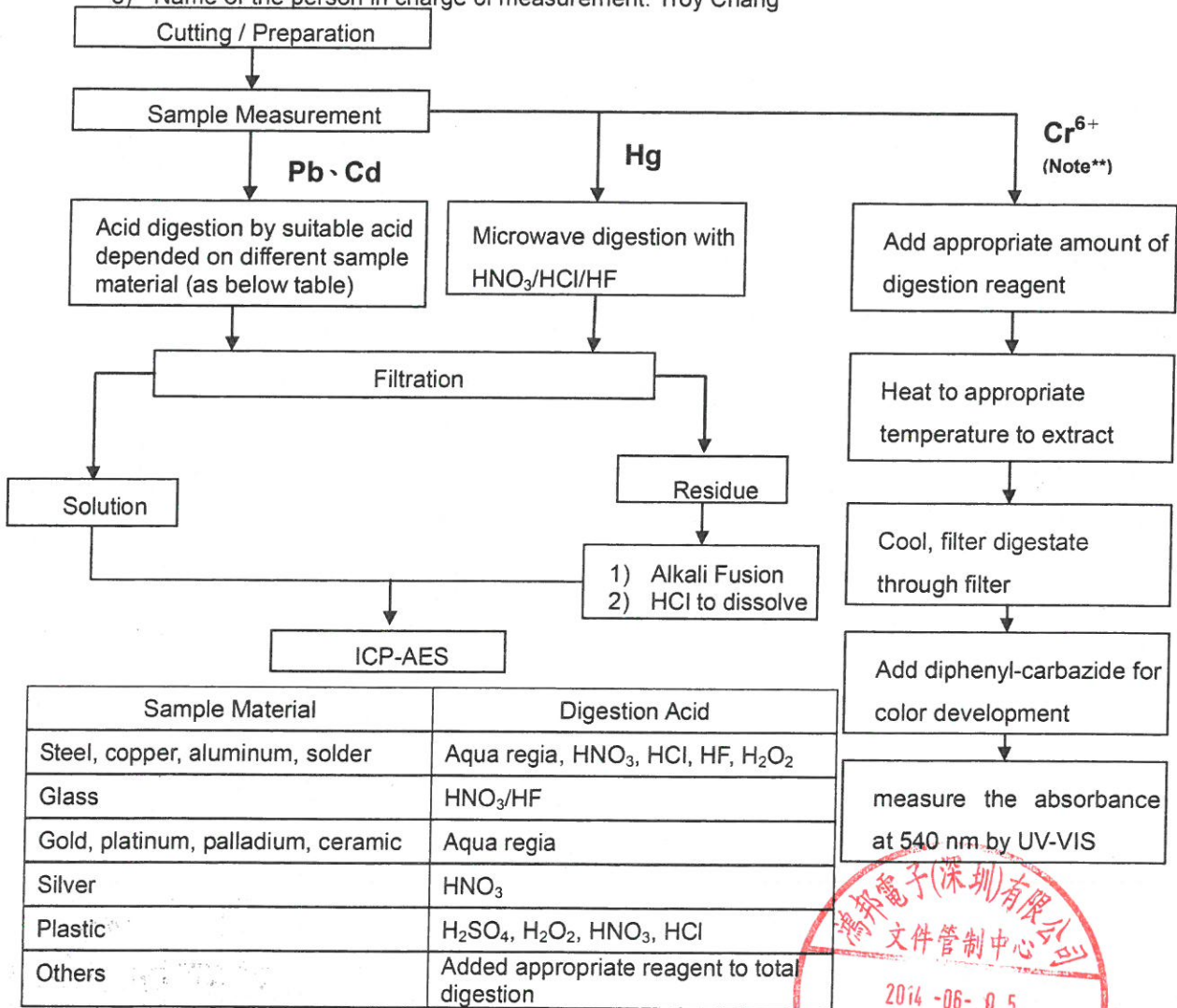
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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



Note :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95°C.
 (2) For metallic material, add pure water and heat to boiling.



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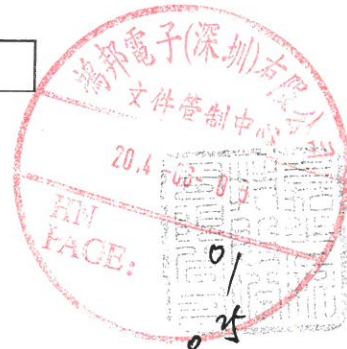
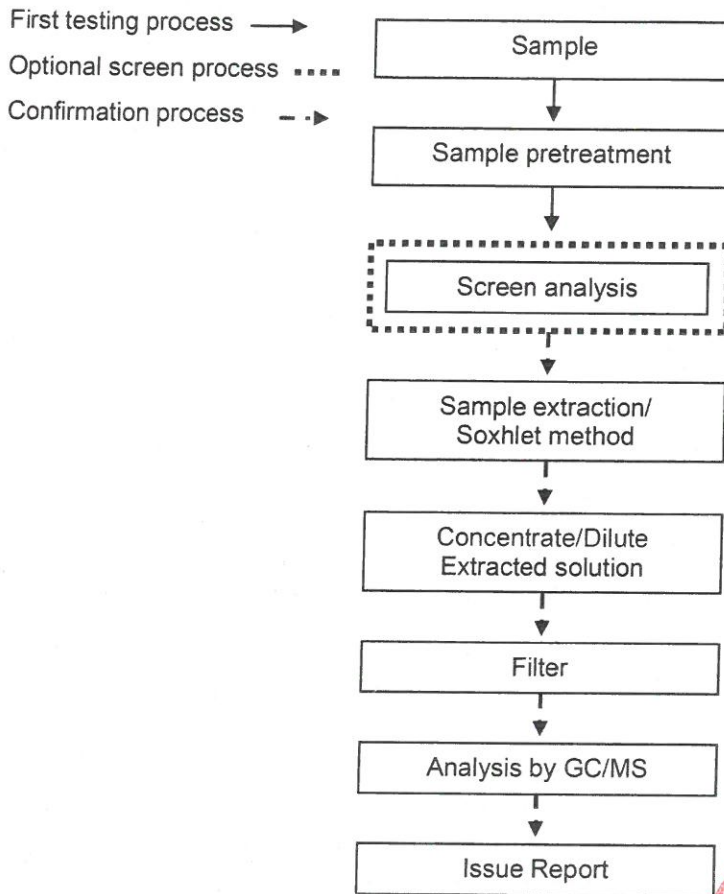
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PBB/PBDE analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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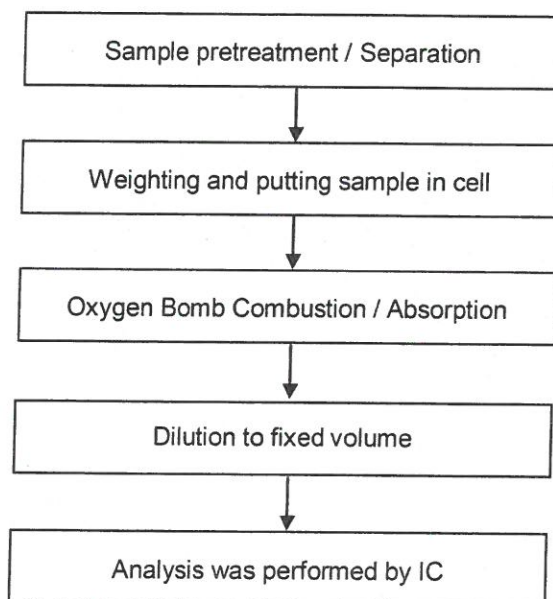
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Analytical flow chart of halogen content

- Name of the person who made measurement: Rita Chen
- Name of the person in charge of measurement: Troy Chang



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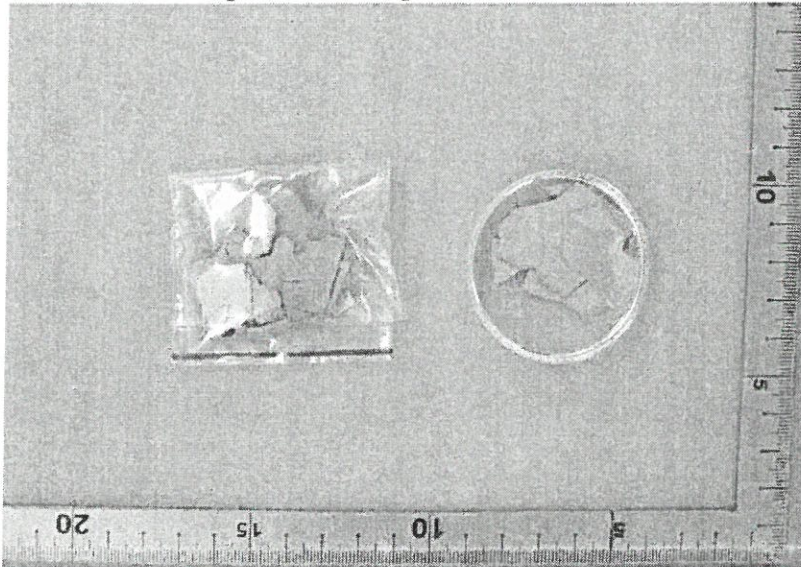
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