



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: Nano2 Fuse FA, with Clip

Product #: 157 Series

Issue Date: September 10, 2008

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by: Anna Di Vietro

<Environmental Data Analyst>

(1) Parts, sub-materials and unit parts

This document covers the Nano2 Fuse FA with Clip RoHS-Compliant series
products manufactured by Littelfuse, Inc.

< Raw Materials Used
Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks : .

Table 1: List of Raw Materials covered by this report

Total Parts	Raw Material Part Number	Raw Material Description	Page(s)
1	910-238	Cap	3-7
2	909-434	Body	8-12
3	082xxx	Wire-2% by weight Ag Clad Cu	13-18
4	082xxx	Wire-5% by weight Ag Clad Cu	19-22
5	497xxx	Wire-Ag Plated 36 Alloy	23-26
6	497xxx	Wire-Cu Clad Fe58 42Ni 5Ag by weight	27-30
7	692321	Solder	31-34
8	087266	HMA	35-41
9	425809	Ink	42-48
10	883-069	Clip	49-54

Test Report

No. : CE/2008/16196 Date : 2008/01/23 Page : 1 of 5

LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description : CAP
Style/Item No. : 910-238
Sample Receiving Date : 2008/01/21
Testing Period : 2008/01/21 TO 2008/01/23

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated
Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.

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

Nicole Chien

Nicole Chien / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

Test Report

No. : CE/2008/16196 Date : 2008/01/23

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LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result		MDL
		No.1	No.2	
Cadmium (Cd)	(1)	n.d.	n.d.	2
Lead (Pb)	(2)	24	19	2
Mercury (Hg)	(3)	n.d.	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	Negative	See Note 4

TEST PART DESCRIPTION:

NO.1 : PLATING LAYER OF SILVER COLORED METAL CAP
NO.2 : BASE MATERIAL OF SILVER COLORED METAL CAP

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

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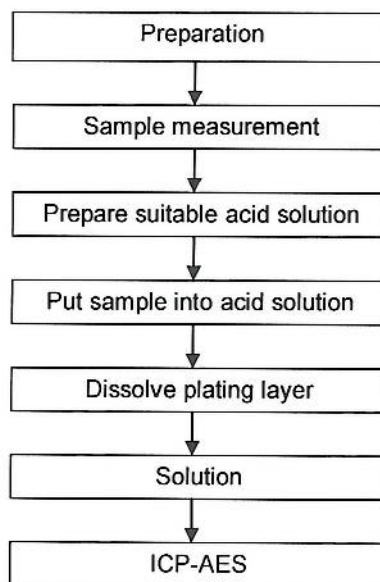
LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



NO.1

- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
- 2) Name of the person who made measurement: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung

Flow Chart of Stripping method for metal analysis



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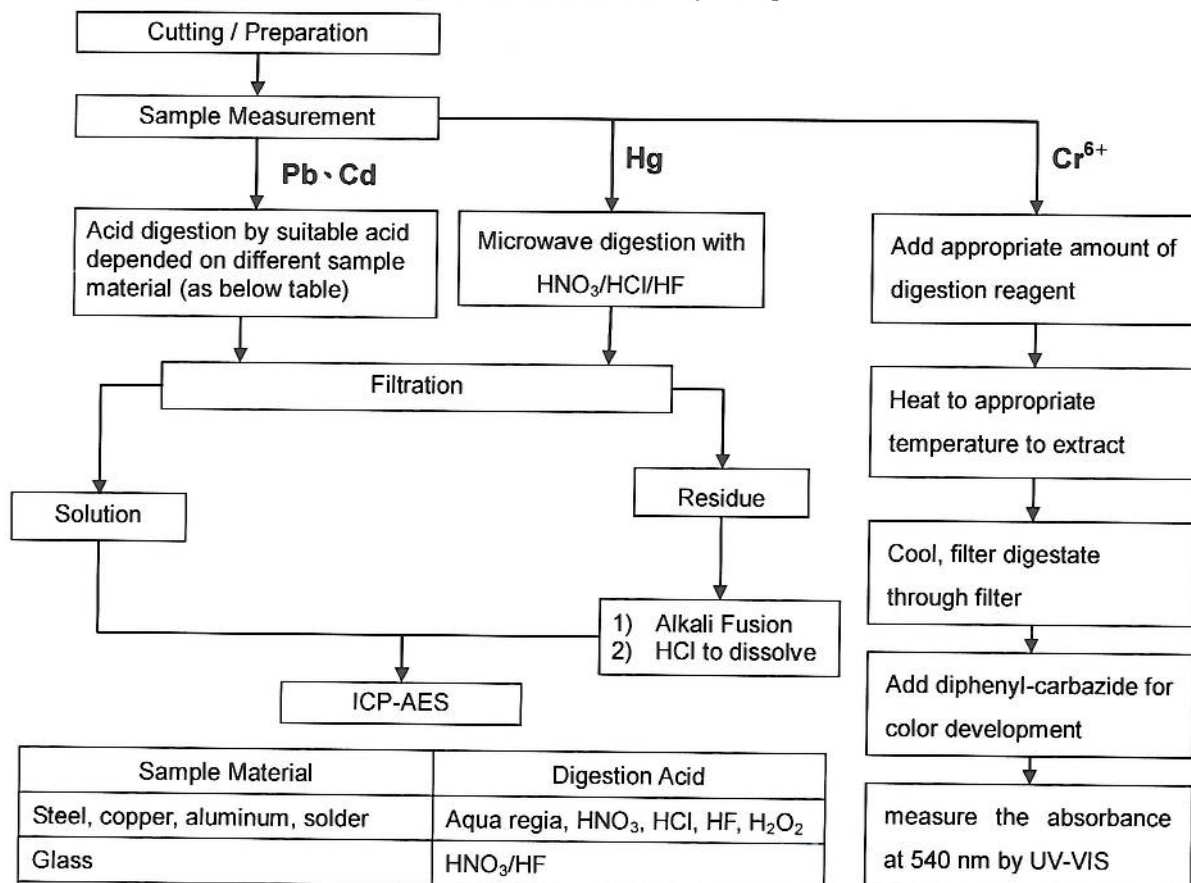
LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



NO.2 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: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

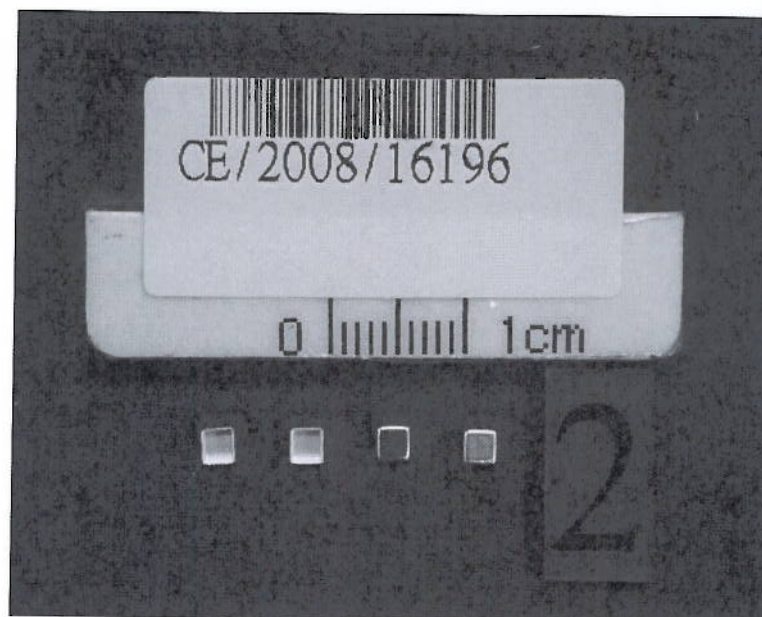
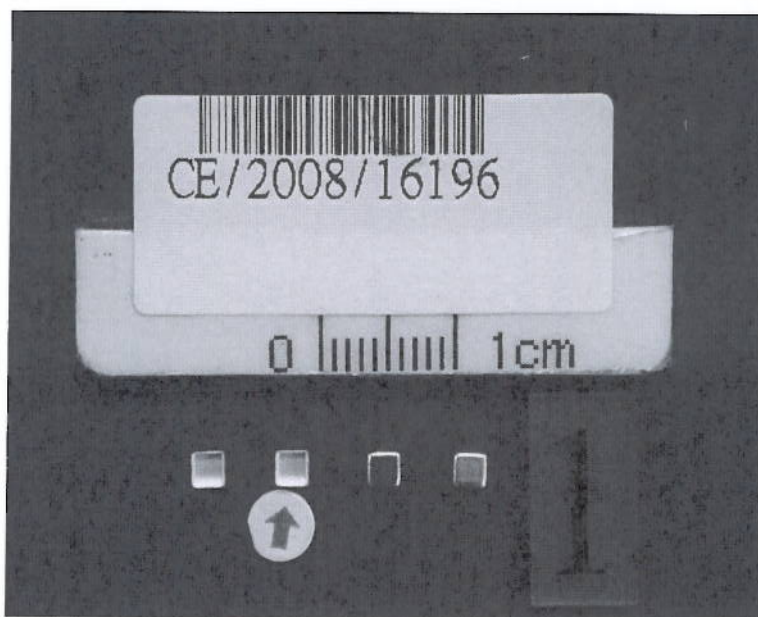
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



** End of Report **

Test Report

No. : CE/2008/25083 Date : 2008/03/04

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LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



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

Sample Description : CERAMIC BODY
Style/Item No. : PART NUMBER : 909-434
Sample Receiving Date : 2008/02/25
Testing Period : 2008/02/25 TO 2008/03/04


=====

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321/2nd CDV (111/95/CDV)
Procedures for the Determination of Levels of Regulated
Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.
- (5) Determination of PBB and PBDE by GC/MS.

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


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Test Report

No. : CE/2008/25083

Date : 2008/03/04

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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	18	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	2
Sum of PBBs	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
Sum of PBDEs (Mono to Deca)		n.d.	-

TEST PART DESCRIPTION:

NO.1 : WHITE CERAMIC

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. "-" = Not Regulated

Test Report

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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES

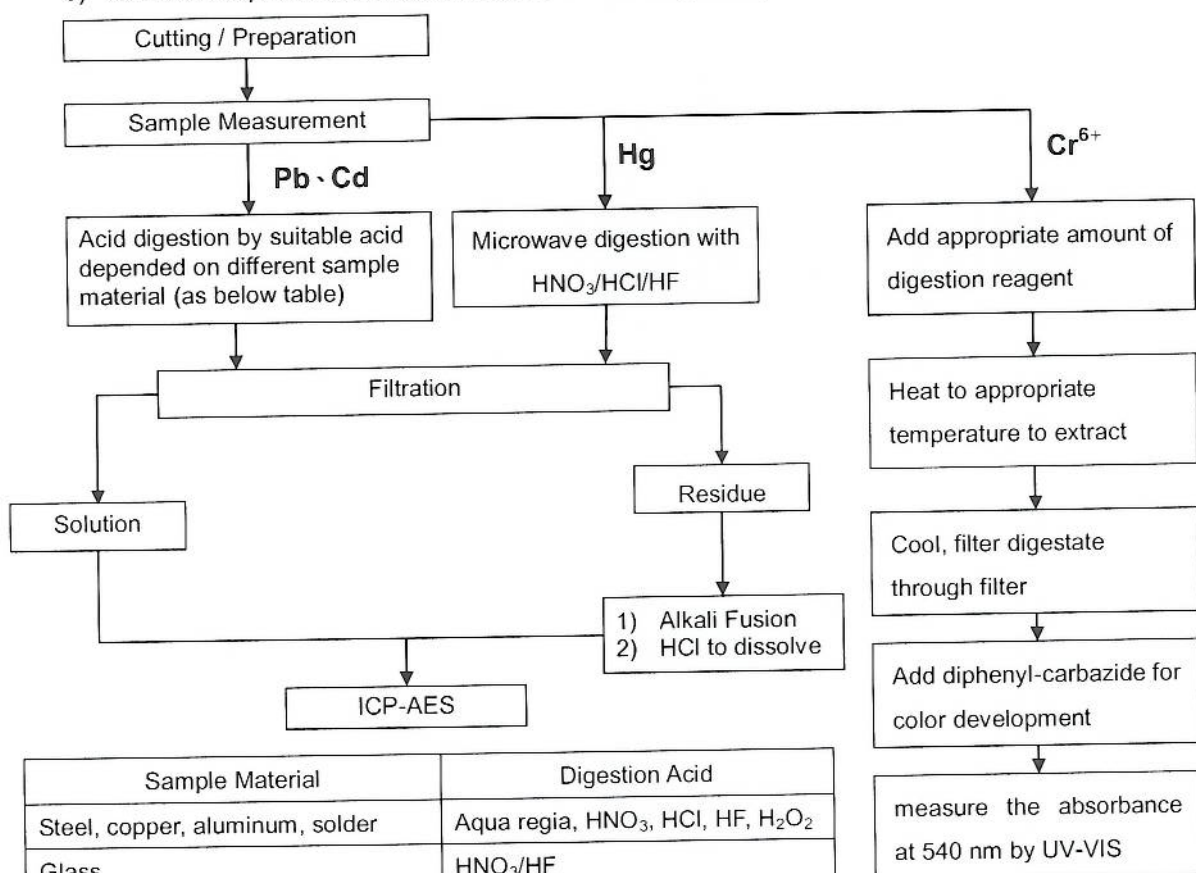


1) These samples were dissolved totally by pre-conditioning method according to below flow chart.

(Cr⁶⁺ test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

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Date : 2008/03/04

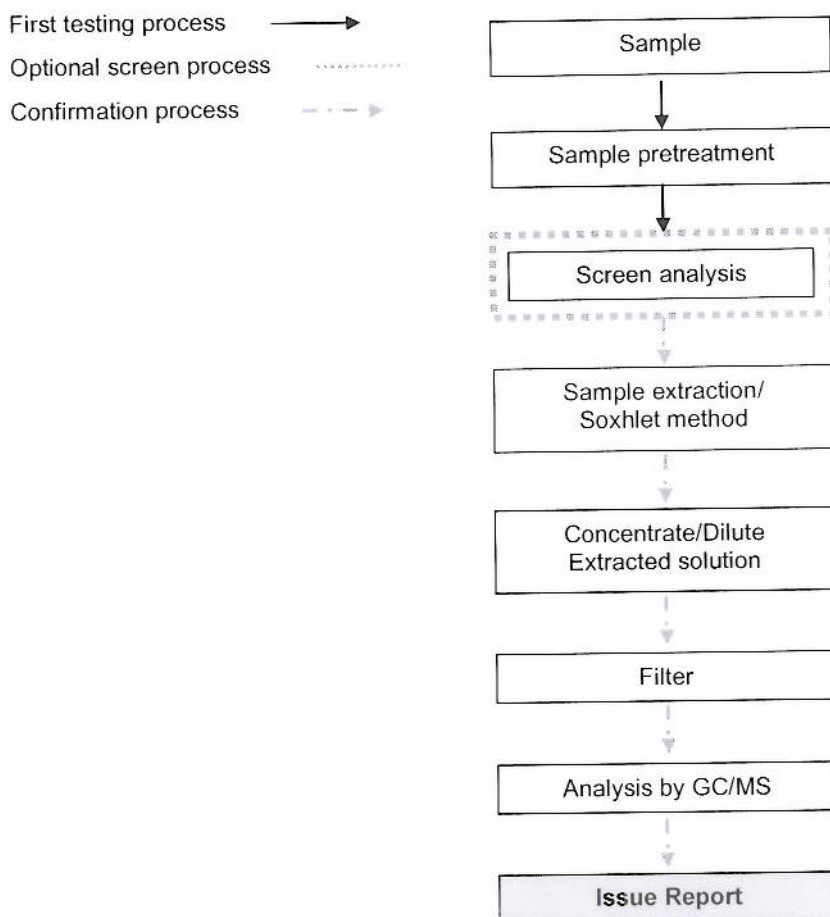
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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



PBB/PBDE analytical FLOW CHART



Test Report

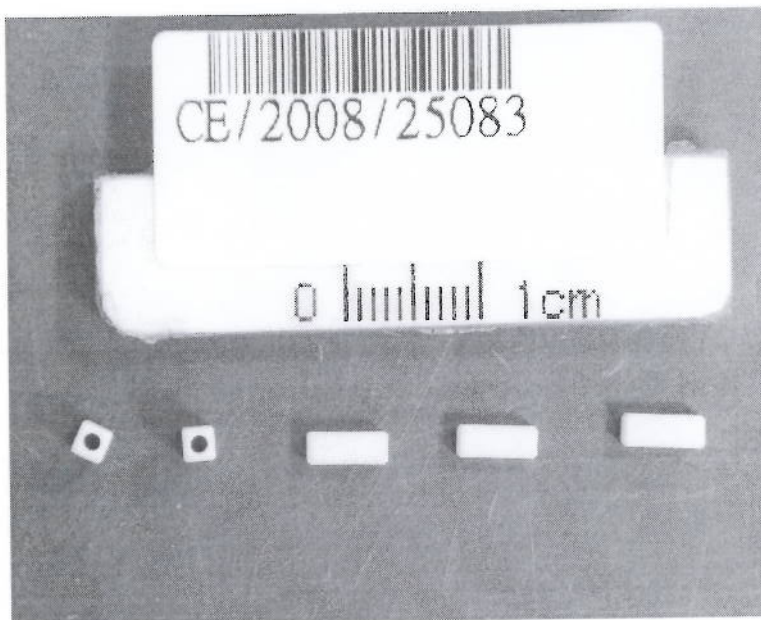
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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



** End of Report **

Test Report

No. : CE/2008/34136 Date : 2008/03/19

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LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



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

Sample Description : 2% Ag-PLATED Cu WIRE
Part Number : 082671
Facility Name : PHILIPPINES
Sample Receiving Date : 2008/03/12
Testing Period : 2008/03/12 TO 2008/03/19

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321/2nd CDV (111/95/CDV)
Procedures for the Determination of Levels of Regulated
Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for metallic samples
by Spot test / Colorimetric Method.
- (5) Determination of PBB and PBDE by GC/MS.

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

Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Test Report

No. : CE/2008/34136 Date : 2008/03/19

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LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5
Sum of PBBs	(5)	n.d.	-
Monobromobiphenyl		n.d.	5
Dibromobiphenyl		n.d.	5
Tribromobiphenyl		n.d.	5
Tetrabromobiphenyl		n.d.	5
Pentabromobiphenyl		n.d.	5
Hexabromobiphenyl		n.d.	5
Heptabromobiphenyl		n.d.	5
Octabromobiphenyl		n.d.	5
Nonabromobiphenyl		n.d.	5
Decabromobiphenyl		n.d.	5
Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-
Monobromobiphenyl ether		n.d.	5
Dibromobiphenyl ether		n.d.	5
Tribromobiphenyl ether		n.d.	5
Tetrabromobiphenyl ether		n.d.	5
Pentabromobiphenyl ether		n.d.	5
Hexabromobiphenyl ether		n.d.	5
Heptabromobiphenyl ether		n.d.	5
Octabromobiphenyl ether		n.d.	5
Nonabromobiphenyl ether		n.d.	5
Decabromobiphenyl ether		n.d.	5
Sum of PBDEs (Mono to Deca)		n.d.	-

TEST PART DESCRIPTION:

NO.1 : SILVER COLORED METAL WIRE (INCLUDING THE PLATING LAYER)

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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. According to 2005/717/EC DecaBDE is exempt.

5. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

6. "-" = Not Regulated

7. The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing.
The above result(s) was/were only given as the informality value.

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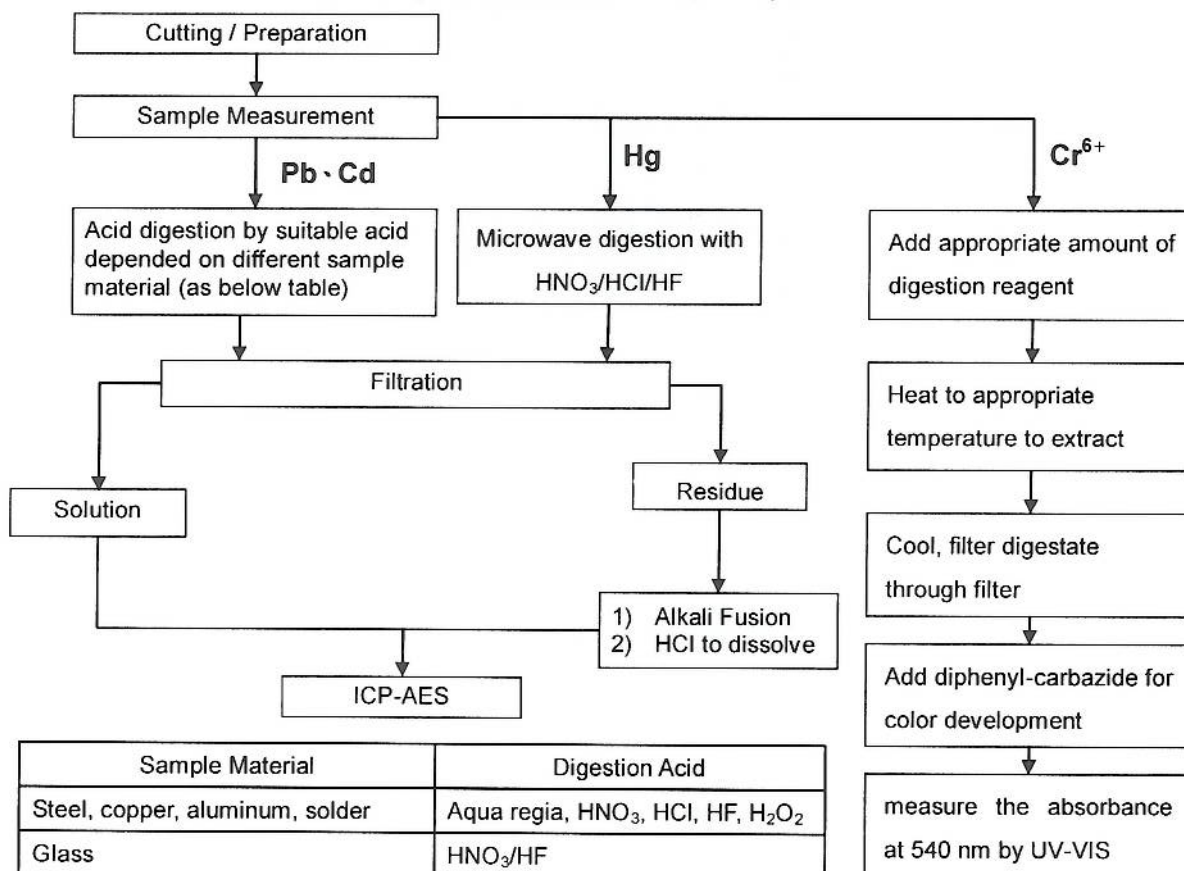
LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



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: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

No. : CE/2008/34136

Date : 2008/03/19

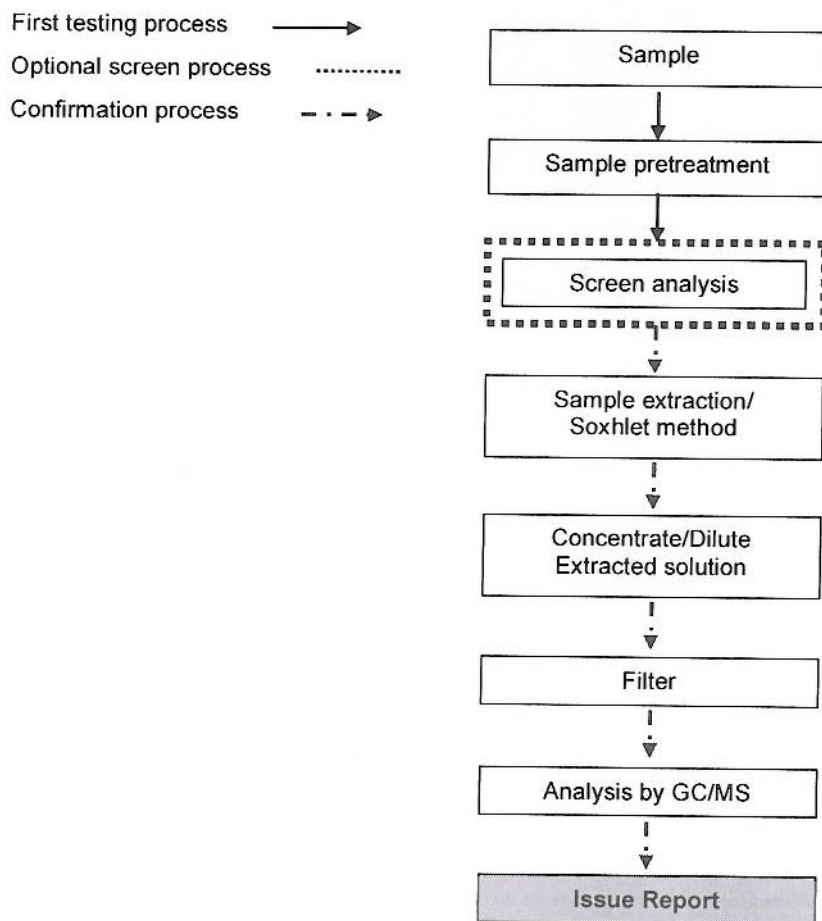
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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



PBB/PBDE analytical FLOW CHART



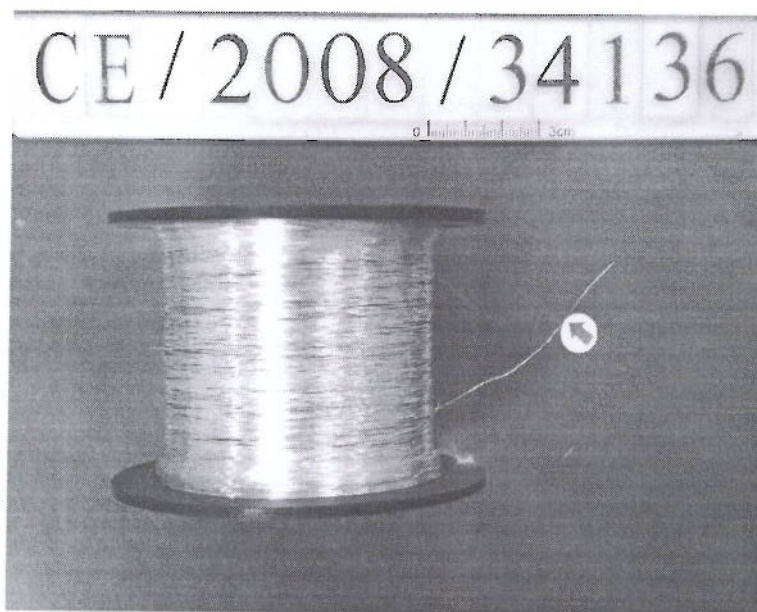
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LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER-SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



** End of Report **

Test Report

No. : CE/2008/19438 Date : 2008/02/13 Page : 1 of 4

LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description	:	ELEMENT, 5% BY WEIGHT Ag CLAD Cu (082XXX)
Part Number	:	082666
Part Series	:	448
Sample Receiving Date	:	2008/01/31
Testing Period	:	2008/01/31 TO 2008/02/13

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Test Requested	:	In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.
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Test Method	:	With reference to IEC 62321, Ed.1 111/54/CDV Procedures for the Determination of Levels of Regulated Substances in Electrotechnical Products.
		(1) Determination of Cadmium by ICP-AES.
		(2) Determination of Lead by ICP-AES.
		(3) Determination of Mercury by ICP-AES.
		(4) Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.

Test Result(s)	:	Please refer to next page(s).
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Nicole Chien
Nicole Chien / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

Test Report

No. : CE/2008/19438 Date : 2008/02/13

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 4

TEST PART DESCRIPTION:

NO.1 : SILVER COLORED METAL WIRE

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

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Date : 2008/02/13

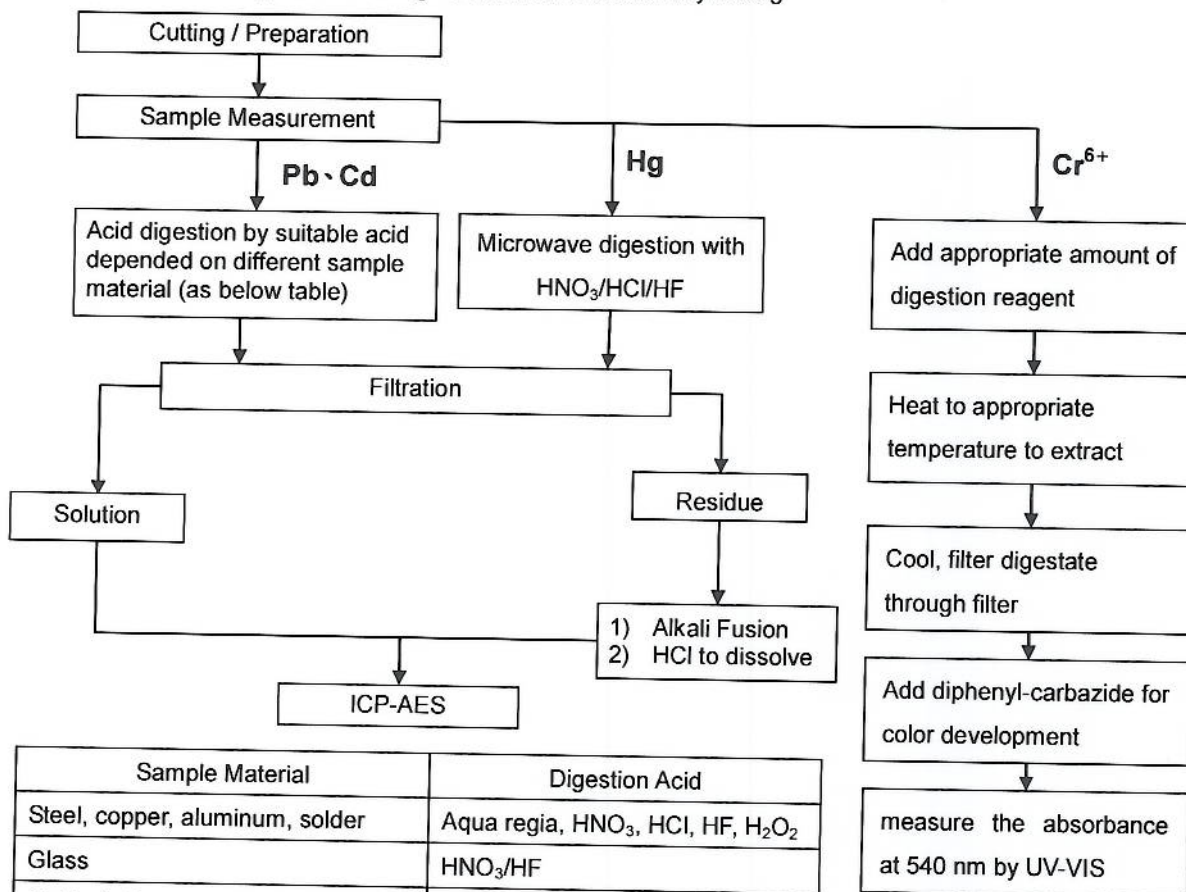
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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



- 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: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



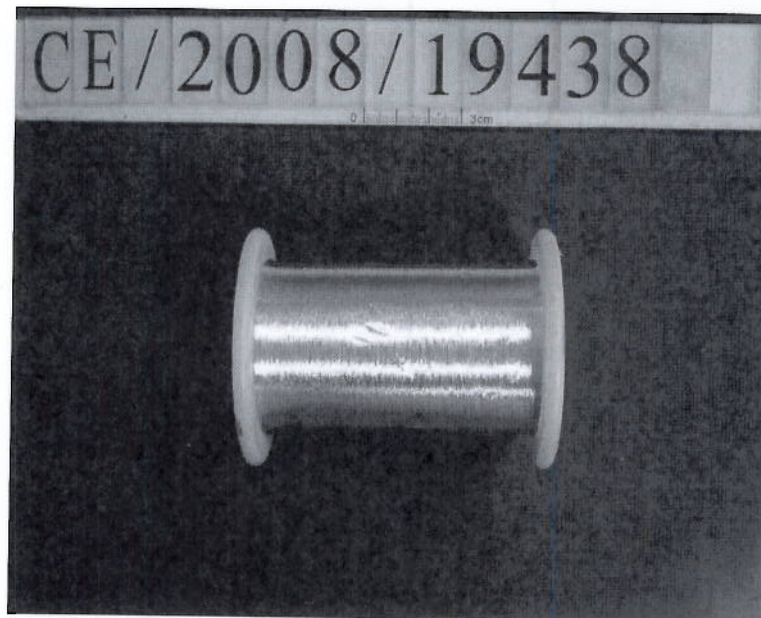
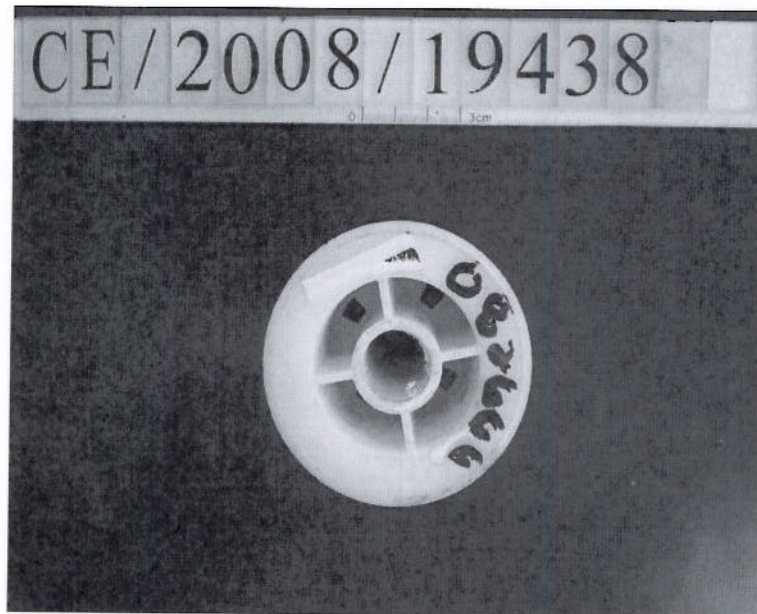
Sample Material	Digestion Acid
Steel, copper, aluminum, solder	Aqua regia, HNO ₃ , HCl, HF, H ₂ O ₂
Glass	HNO ₃ /HF
Gold, platinum, palladium, ceramic	Aqua regia
Silver	HNO ₃
Plastic	H ₂ SO ₄ , H ₂ O ₂ , HNO ₃ , HCl
Others	Any acid to total digestion

Test Report

No. : CE/2008/19438 Date : 2008/02/13

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LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



** End of Report **

Test Report

No. : CE/2007/C6603 Date : 2008/01/02 Page : 1 of 4

ELSCHUKOM ELEKTROSCHUTZKOMONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



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

Sample Description	:	SILVER & SILVER-ALLOY PLATED AND PURE SILVER WIRES
Style/Item No.	:	(1)101.014-.0--- EWN 02.01-SILVER PLATED COPPER WIRE- Cu, Ag--%
		(2)101.0131.0--- EWN 02.01-PURE SILVER WIRE-Ag 1000
		(3)101.0120.0--- EWN 06.06-Silver Plated Constantan Wire-CuNi44, Ag5%
		(4)101.0123.0--- EWN 01.03-Silver Plated Purest Nickel Wire- Ni99.98%, Ag1%
		(5)101.0182.0--- EWN 03.07-Silver-Copper Alloy Plated Copper Clad Wire-Elcon D, AgCu5%
Sample Receiving Date	:	2007/12/25
Testing Period	:	2007/12/25 TO 2008/01/02

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



Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei



Test Report

No. : CE/2007/C6603 Date : 2008/01/02 Page : 2 of 4

ELSCHUKOM ELEKTROSCHUTZKOMONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Test Result(s)

PART NAME NO.1 : MIXED ALL SILVER COLORED METAL WIRE (INCLUDING THE PLATING LAYER) (FIVE KINDS)

Test Item (s):	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Sum of PBBs	mg/kg	With reference to IEC 62321, Ed.1 111/54/CDV. Determination of PBB and PBDE by GC/MS.	-	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 (Mono to Nona) (Note 4)			-	n.d.
Monobromobiphenyl ether			5	n.d.
Dibromobiphenyl ether			5	n.d.
Tribromobiphenyl ether			5	n.d.
Tetrabromobiphenyl ether			5	n.d.
Pentabromobiphenyl ether			5	n.d.
Hexabromobiphenyl ether			5	n.d.
Heptabromobiphenyl ether			5	n.d.
Octabromobiphenyl ether			5	n.d.
Nonabromobiphenyl ether			5	n.d.
Decabromobiphenyl ether			5	n.d.
Sum of PBDEs (Mono to Deca)			-	n.d.

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Test Report

No. : CE/2007/C6603 Date : 2008/01/02 Page : 3 of 4

ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



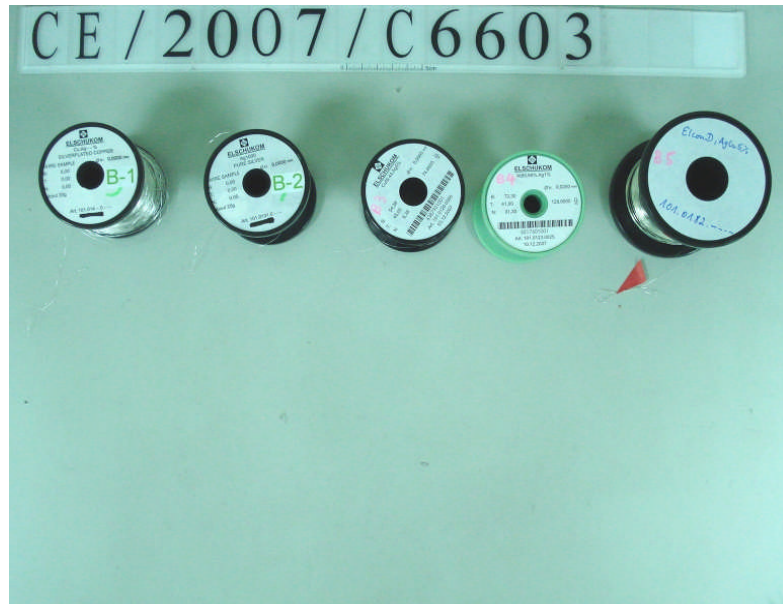
Test Item (s):	Unit	Method	MDL	Result
				No.1
Halogen	---	With reference to BS EN 14582. Analysis was performed by IC method for F , Cl , Br , I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Chlorine content.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Bromine content.	50	n.d.
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582. Analysis was performed by IC method for Iodine content.	50	n.d.

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. "---" = Not Conducted
 6. " - " = Not Regulated
 7. The sample(s) was/were analyzed on behalf of the applicant as mixing sample in one testing.
The above result(s) was/were only given as the informality value.

Test Report

No. : CE/2007/C6603 Date : 2008/01/02 Page : 4 of 4

ELSCHUKOM ELEKTROSCHUTZKOMONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



** End of Report **

Test Report

No. : CE/2008/19394 Date : 2008/02/13

Page : 1 of 4

LITTELFUSE INC.
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description : ELEMENT, Cu CLAD Fe58 42Ni 5Ag BY WEIGHT
Part Number : 497238
Part Series : 448
Sample Receiving Date : 2008/01/31
Testing Period : 2008/01/31 TO 2008/02/13

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated
Substances in Electrotechnical Products.
(1) Determination of Cadmium by ICP-AES.
(2) Determination of Lead by ICP-AES.
(3) Determination of Mercury by ICP-AES.
(4) Determination of Hexavalent Chromium for metallic samples
by Spot test / Colorimetric Method.

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

Nicole Chien
Nicole Chien / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

Test Report

No. : CE/2008/19394

Date : 2008/02/13

Page : 2 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	n.d.	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 4

TEST PART DESCRIPTION:

NO.1 : SILVER COLORED METAL WIRE

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

Test Report

No. : CE/2008/19394

Date : 2008/02/13

Page : 3 of 4

LITTELFUSE INC.

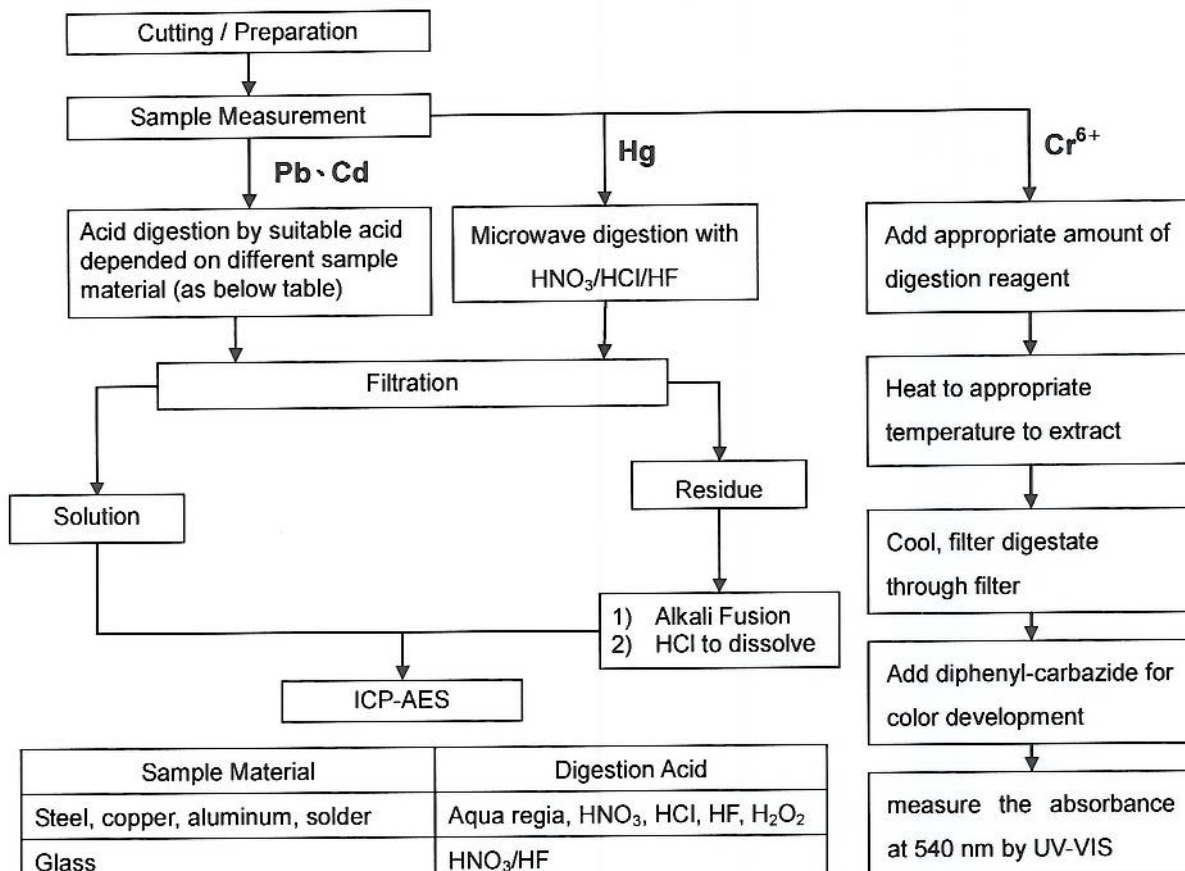
800 E. NORTHWEST HWY. DES PLAINES, IL 60016



- 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: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

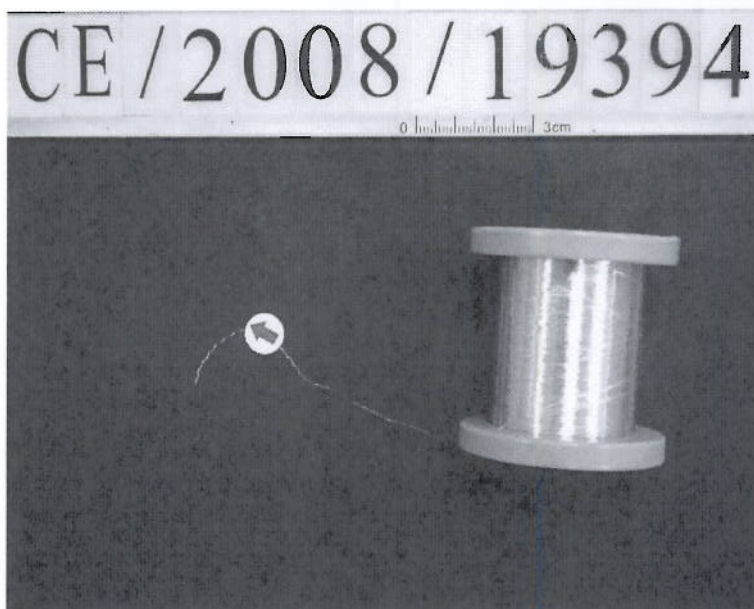
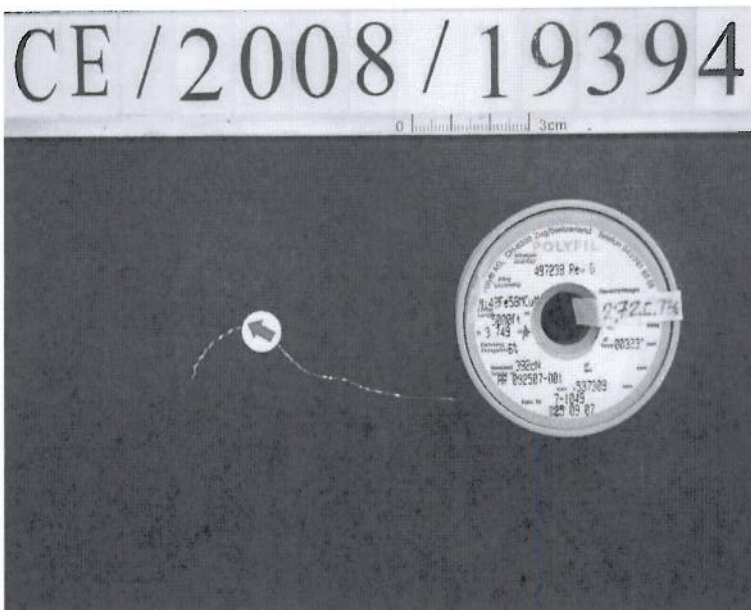
No. : CE/2008/19394

Date : 2008/02/13

Page : 4 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



** End of Report **



Test Report

No. : CE/2008/15443

Date : 2008/01/24

Page : 1 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



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

Sample Description : SOLDER
Style/Item No. : 692321
Sample Receiving Date : 2008/01/18
Testing Period : 2008/01/18 TO 2008/01/24


=====

Test Requested : In accordance with the RoHS Directive 2002/95/EC, and its amendment directives.

Test Method : With reference to IEC 62321, Ed.1 111/54/CDV
Procedures for the Determination of Levels of Regulated
Substances in Electrotechnical Products.

- (1) Determination of Cadmium by ICP-AES.
- (2) Determination of Lead by ICP-AES.
- (3) Determination of Mercury by ICP-AES.
- (4) Determination of Hexavalent Chromium for metallic samples
by Spot test / Colorimetric Method.

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


Nicole Chien / Supervisor
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

Test Report

No. : CE/2008/15443

Date : 2008/01/24

Page : 2 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test results by chemical method (Unit: mg/kg)

Test Item (s):	Method (Refer to)	Result	MDL
		No.1	
Cadmium (Cd)	(1)	n.d.	2
Lead (Pb)	(2)	929000	2
Mercury (Hg)	(3)	n.d.	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 4

TEST PART DESCRIPTION:

NO.1 : SILVER COLORED SOLDER WIRE

Note : 1. mg/kg = ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. Spot-test:

Negative = Absence of Cr(VI) coating / surface layer,

Positive = Presence of Cr(VI) coating / surface layer;

(The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.)

Boiling-water-extraction:

Negative = Absence of Cr(VI) coating / surface layer.

Positive = Presence of Cr(VI) coating / surface layer;

the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.

Test Report

No. : CE/2008/15443

Date : 2008/01/24

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LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016

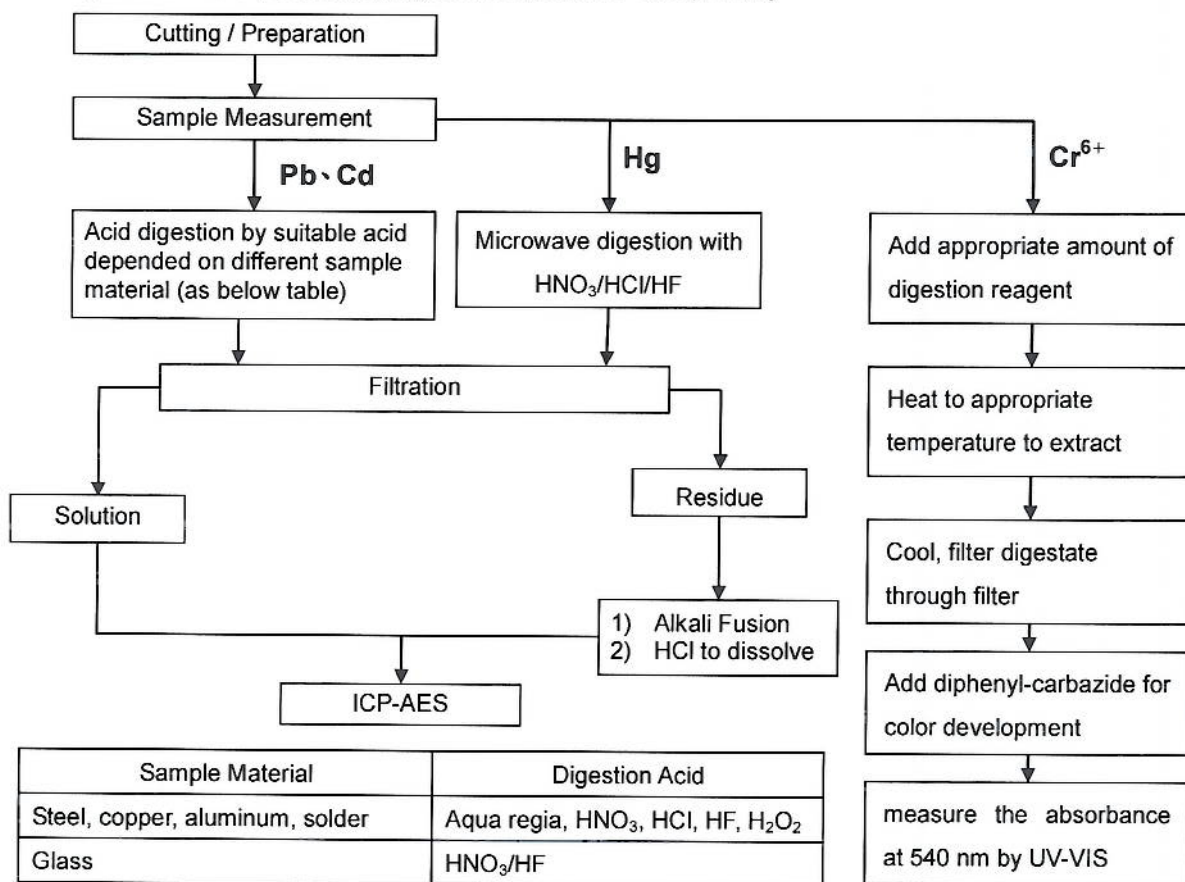


1) These samples were dissolved totally by pre-conditioning method according to below flow chart.

(Cr⁶⁺ test method excluded)

2) Name of the person who made measurement: Troy Chang

3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

No. : CE/2008/15443

Date : 2008/01/24

Page : 4 of 4

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



**** End of Report ****

Test Report

No. : CE/2008/25059 Date : 2008/03/04 Page : 1 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES**The following sample(s) was/were submitted and identified by/on behalf of the client as :**

Sample Description : ANAEROBIC ADHESIVE
Style/Item No. : PART NUMBER:087266
Sample Receiving Date : 2008/02/25
Testing Period : 2008/02/25 TO 2008/03/04

=====

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

Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Test Report

No. : CE/2008/25059 Date : 2008/03/04 Page : 2 of 7

LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test Result(s)

PART NAME NO.1 : DK. GREEN LIQUID

Test Item (s):	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , Br, I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	n.d.
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.

Test Report

No. : CE/2008/25059 Date : 2008/03/04 Page : 3 of 7

LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test Item (s):	Unit	Method	MDL	Result
				No.1
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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 (Mono to Nona) (Note 4)			-	n.d.
Monobromobiphenyl ether			5	n.d.
Dibromobiphenyl ether			5	n.d.
Tribromobiphenyl ether			5	n.d.
Tetrabromobiphenyl ether			5	n.d.
Pentabromobiphenyl ether			5	n.d.
Hexabromobiphenyl ether			5	n.d.
Heptabromobiphenyl ether			5	n.d.
Octabromobiphenyl ether			5	n.d.
Nonabromobiphenyl ether			5	n.d.
Decabromobiphenyl ether			5	n.d.
Sum of PBDEs (Mono to Deca)			-	n.d.

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. " - " = Not Regulated
 6. " --- " = Not Conducted

Test Report

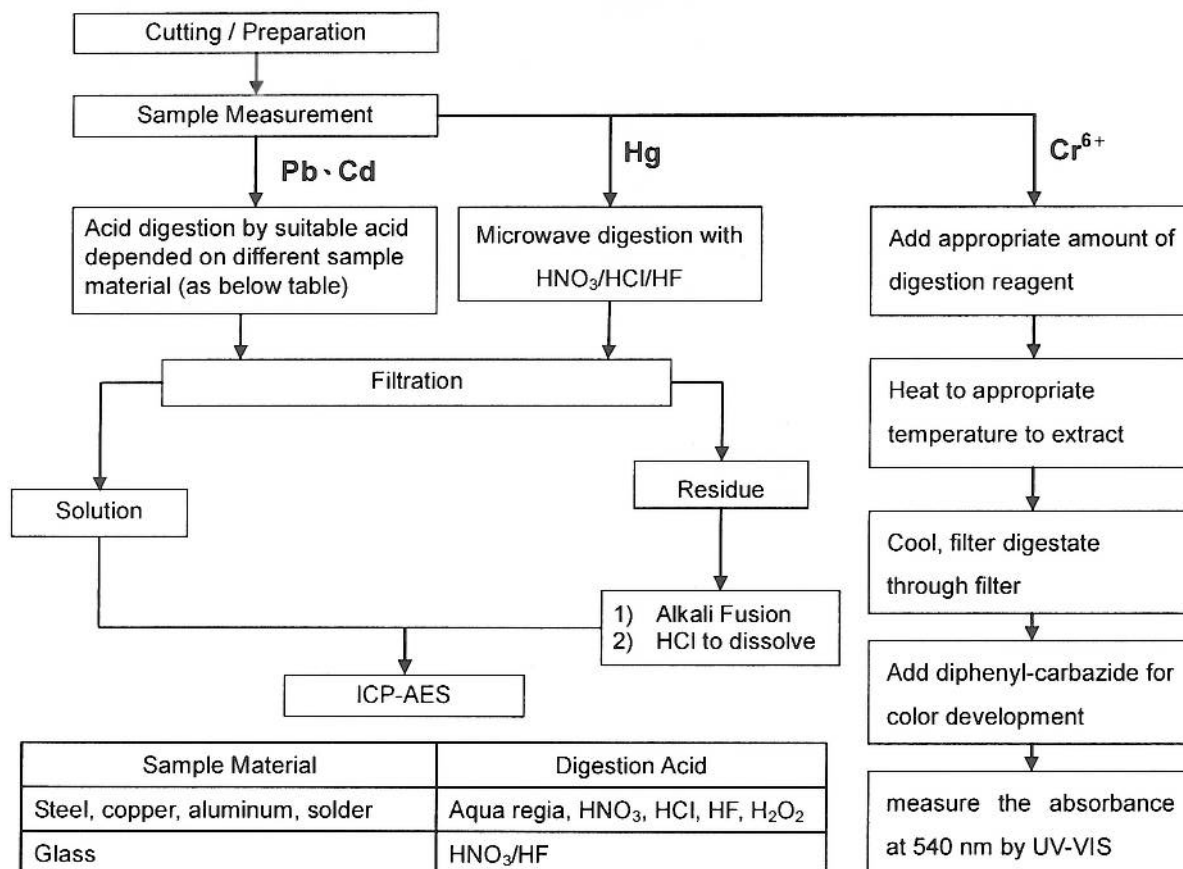
No. : CE/2008/25059 Date : 2008/03/04 Page : 4 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



- 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: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

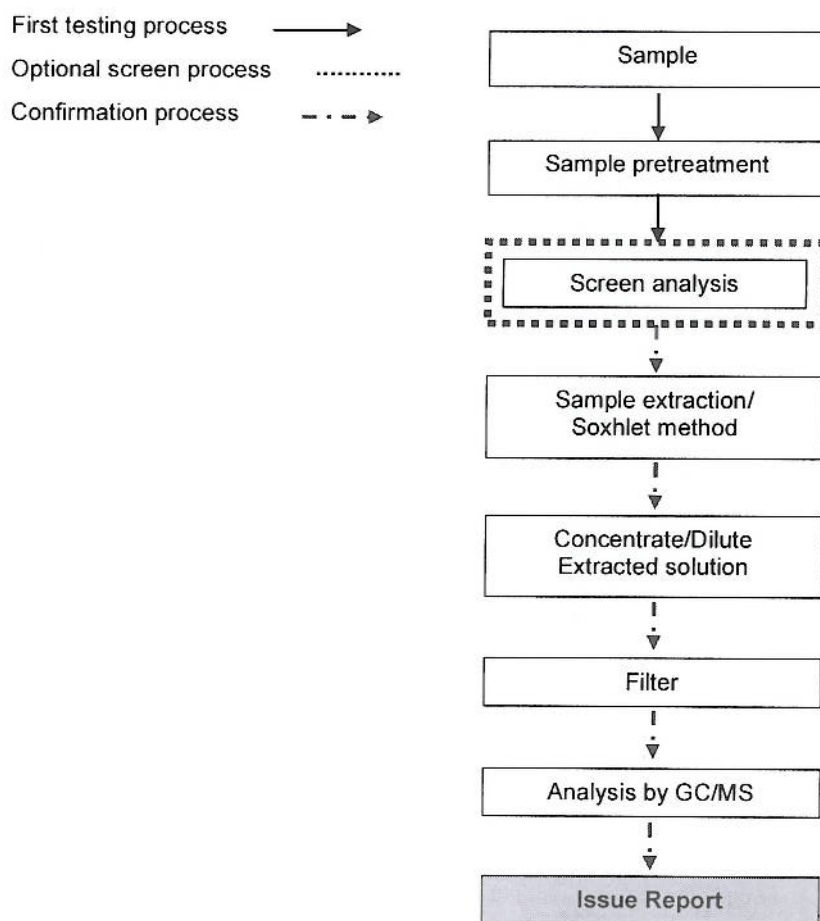
No. : CE/2008/25059 Date : 2008/03/04 Page : 5 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



PBB/PBDE analytical FLOW CHART



Test Report

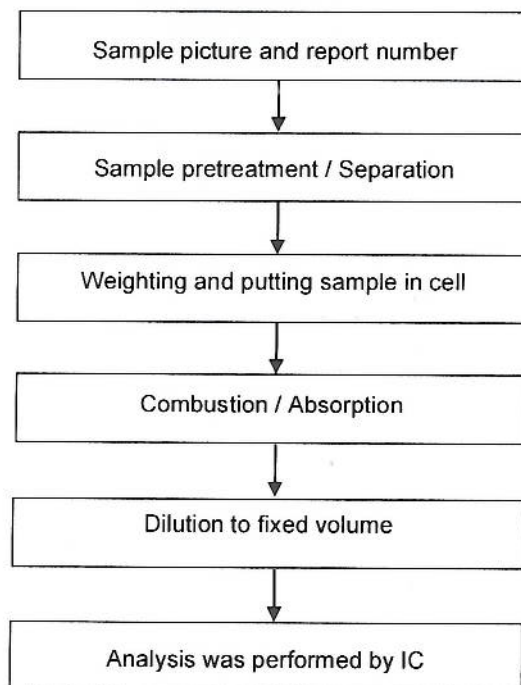
No. : CE/2008/25059 Date : 2008/03/04 Page : 6 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Analytical flow chart of halogen content

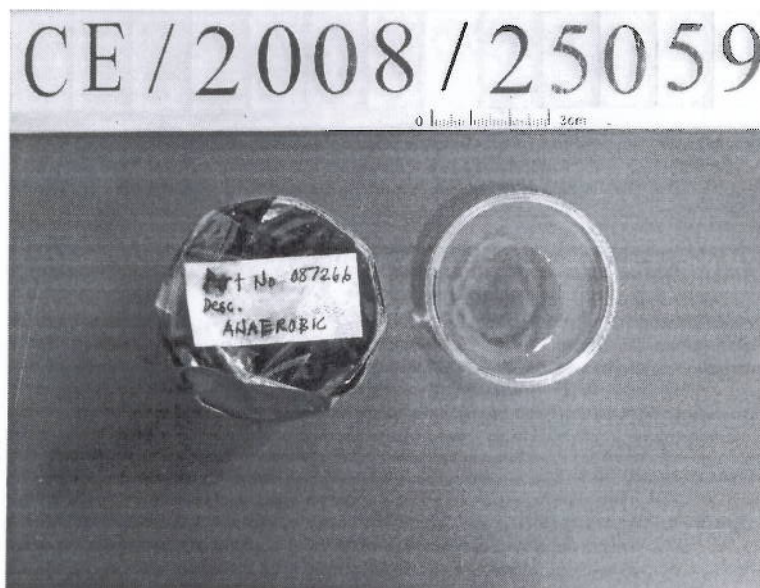


Test Report

No. : CE/2008/25059 Date : 2008/03/04 Page : 7 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



** End of Report **

Test Report

No. : CE/2008/25058 Date : 2008/03/04 Page : 1 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES

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

Sample Description : INK
Style/Item No. : PART NUMBER:425809
Sample Receiving Date : 2008/02/25
Testing Period : 2008/02/25 TO 2008/03/04

=====

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

Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

Test Report

No. : CE/2008/25058 Date : 2008/03/04 Page : 2 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test Result(s)

PART NAME NO.1 : BLACK INK

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Cadmium by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Lead by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Mercury by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of Hexavalent Chromium for non-metallic samples by UV/Vis Spectrometry.	2	n.d.
Halogen	---	With reference to BS EN 14582:2007. Analysis was performed by IC method for F , Cl , Br, I content.	---	---
Halogen-Fluorine (F) (CAS No.: 007782-41-4)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Fluorine content.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 007782-50-5)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Chlorine content.	50	n.d.
Halogen-Bromine (Br) (CAS No.: 007726-95-6)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Bromine content.	50	n.d.
Halogen-Iodine (I) (CAS No.: 007553-56-2)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC method for Iodine content.	50	n.d.

Test Report

No. : CE/2008/25058 Date : 2008/03/04 Page : 3 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Test Item (s):	Unit	Method	MDL	Result
				No.1
Sum of PBBs	mg/kg	With reference to IEC 62321/2nd CDV (111/95/CDV). Determination of PBB and PBDE by GC/MS.	-	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 (Mono to Nona) (Note 4)			-	n.d.
Monobromobiphenyl ether			5	n.d.
Dibromobiphenyl ether			5	n.d.
Tribromobiphenyl ether			5	n.d.
Tetrabromobiphenyl ether			5	n.d.
Pentabromobiphenyl ether			5	n.d.
Hexabromobiphenyl ether			5	n.d.
Heptabromobiphenyl ether			5	n.d.
Octabromobiphenyl ether			5	n.d.
Nonabromobiphenyl ether			5	n.d.
Decabromobiphenyl ether			5	n.d.
Sum of PBDEs (Mono to Deca)			-	n.d.

- Note :
1. mg/kg = ppm
 2. n.d. = Not Detected
 3. MDL = Method Detection Limit
 4. According to 2005/717/EC DecaBDE is exempt.
 5. " - " = Not Regulated
 6. "----" = Not Conducted

Test Report

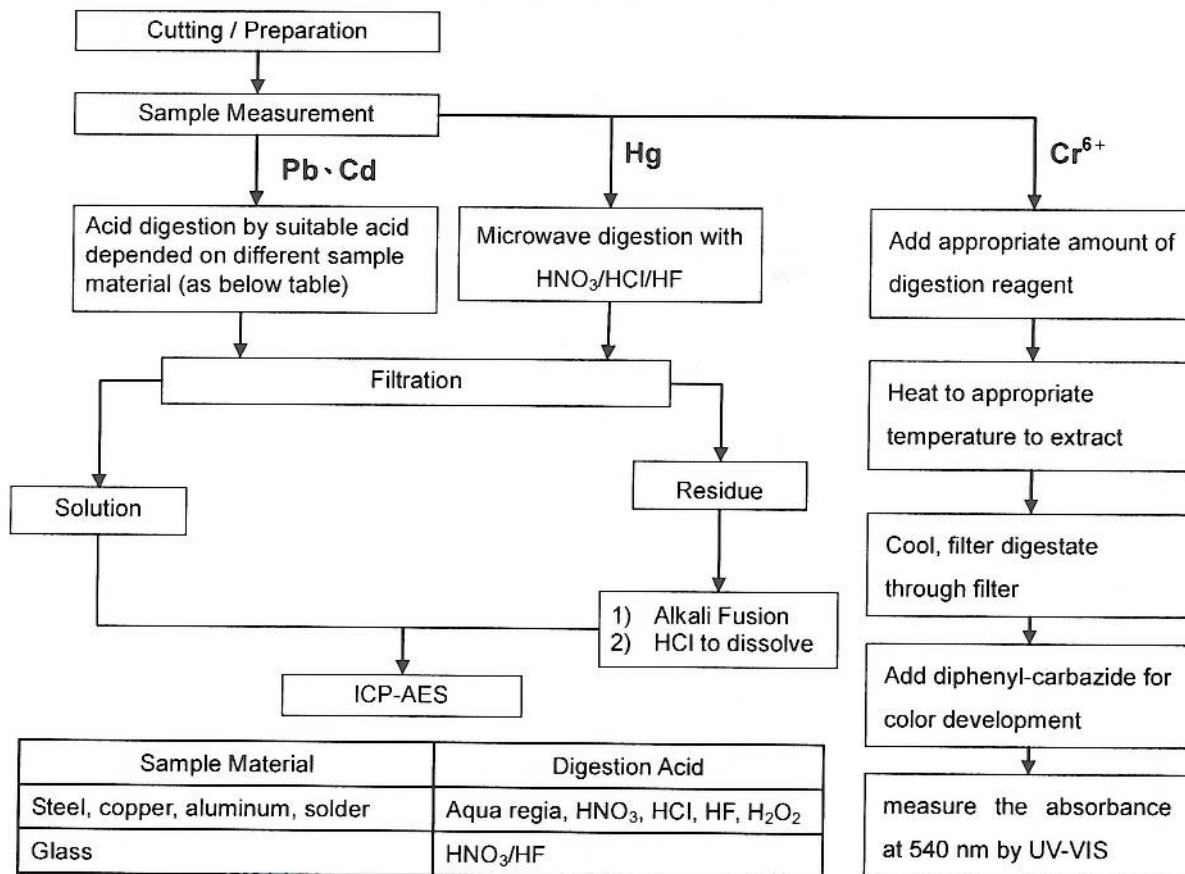
No. : CE/2008/25058 Date : 2008/03/04 Page : 4 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



- 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: Troy Chang
- 3) Name of the person in charge of measurement: Chenyu Kung



Sample Material	Digestion Acid
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	Any acid to total digestion

Test Report

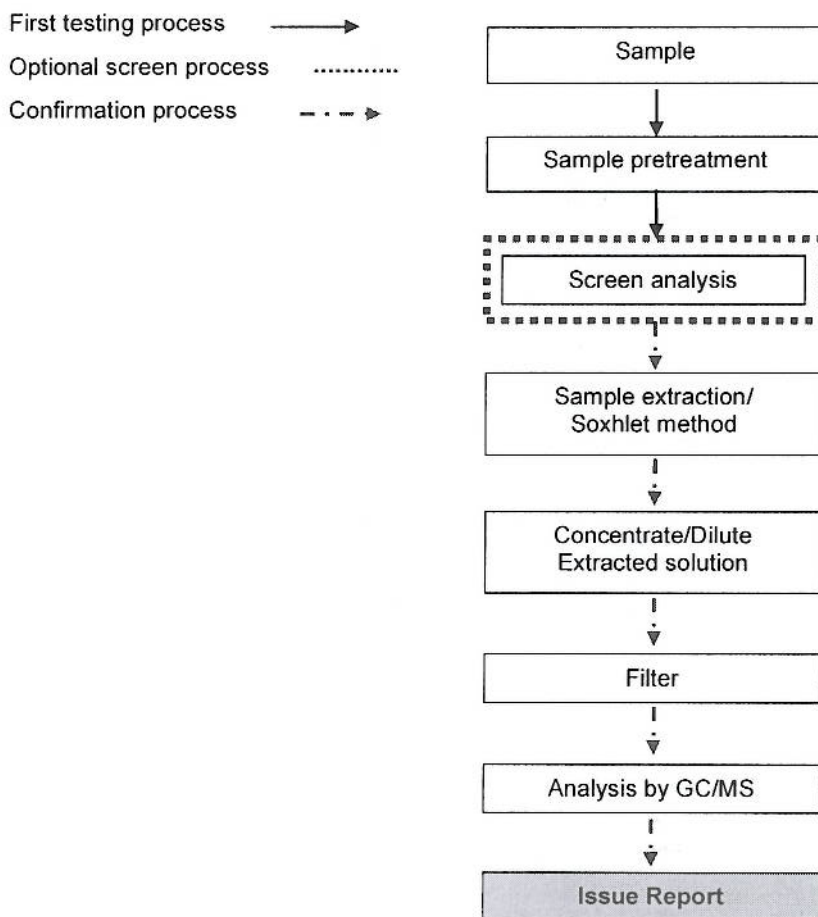
No. : CE/2008/25058 Date : 2008/03/04 Page : 5 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



PBB/PBDE analytical FLOW CHART



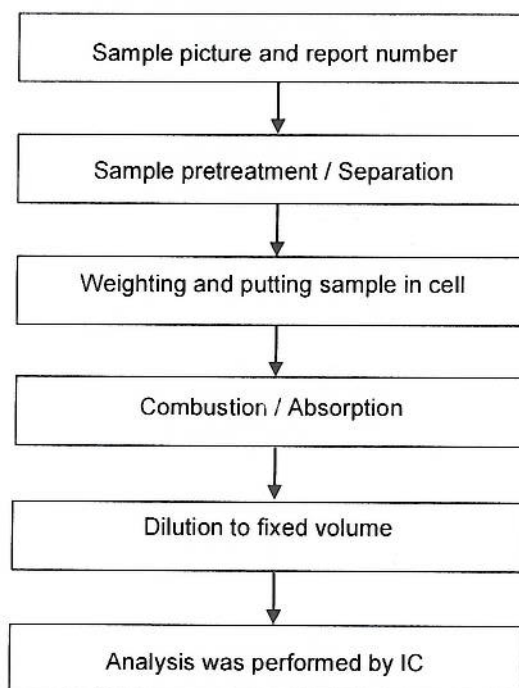
Test Report

No. : CE/2008/25058 Date : 2008/03/04 Page : 6 of 7

LITTELFUSE PHILIPPINES INC.
LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



Analytical flow chart of halogen content



Test Report

No. : CE/2008/25058 Date : 2008/03/04 Page : 7 of 7

LITTELFUSE PHILIPPINES INC.

LIMA TECHNOLOGY CENTER, SEZ, LIPA CITY-MALVAR, BATANGAS,
PHILIPPINES



** End of Report **

測試報告 Test Report

號碼(No.): CE/2007/B2094

日期(Date): 2007/11/15

頁數(Page): 1 of 6

鈦貿科技股份有限公司

TAIMAO TECHNOLOGY CO., LTD.

台北縣五股工業區五權五路18號

NO. 18WUCHUN 5TH RD. WUKU IND. ZONE, TAIPEI HSIEN, TAIWAN

以下測試樣品係由客戶送樣，且由客戶聲稱並經客戶確認如下 (The following samples was/were submitted and identified by/on behalf of the client as):

樣品名稱(Sample Description) : 磷青銅
樣品型號(Style/Item No.) : C5191(PBP)
生產或供應廠商(Manufacturer/Vendor) : 鈦貿科技股份有限公司
原產國(Country of Origin) : 台灣 (TAIWAN)
收件日期(Sample Receiving Date) : 2007/11/08
測試期間(Testing Period) : 2007/11/08 TO 2007/11/15

測試需求(Test Requested) : 參照 RoHS 2002/95/EC 及其修定指令要求。 (In accordance with the RoHS Directive 2002/95/EC, and its amendment directives).

測試方法(Test Method) :

- (1) 參考IEC 62321, Ed. 1 111/54/CDV - Section 12方法，用感應耦合電漿原子發射光譜儀檢測鎘含量。 / With reference to IEC 62321, Ed.1 111/54/CDV - Section 12. Determination of Cadmium by ICP-AES.
- (2) 參考IEC 62321, Ed. 1 111/54/CDV - Section 12方法，用感應耦合電漿原子發射光譜儀檢測鉛含量。 / With reference to IEC 62321, Ed.1 111/54/CDV - Section 12. Determination of Lead by ICP-AES.
- (3) 參考IEC 62321, Ed. 1 111/54/CDV - Section 10方法，用感應耦合電漿原子發射光譜儀檢測汞含量。 / With reference to IEC 62321, Ed.1 111/54/CDV - Section 10. Determination of Mercury by ICP-AES.
- (4) 針對金屬材質之樣品，參考IEC 62321, Ed. 1 111/54/CDV - Section 8方法檢測，用Spot test / Colorimetric方法檢測六價鉻含量。 / With reference to IEC 62321, Ed.1 111/54/CDV - Section 8. Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.
- (5) 參考IEC 62321, Ed. 1 111/54/CDV - Section 7方法，以氣相層析儀/質譜儀檢測多溴聯苯和多溴聯苯醚含量。 / With reference to IEC 62321, Ed.1 111/54/CDV - Section 7. Determination of PBB and PBDE by GC/MS.

測試結果(Test Results) : 請見下一頁 (Please refer to next pages).

結論(Conclusion) : 根據客戶所提供樣品的測試結果，符合RoHS(2002/95/EC)及其修定指令之要求 (Based on the performed tests on submitted samples, the test results are compliant with the limits of RoHS Directive 2002/95/EC and its subsequent amendments).

Chenyu

Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

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測試結果(Test Results) 單位(Unit): mg/kg

測試項目 (Test Items)	測試方法 Method (Refer to)	結果 (Result)	方法偵測 極限值 (MDL)	RoHS 限值 (Limit)
		No.1		
鎘 / Cadmium (Cd)	(1)	n.d.	2	100
鉛 / Lead (Pb)	(2)	18	2	1000
汞 / Mercury (Hg)	(3)	n.d.	2	1000
六價鉻 / Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(4)	Negative	See Note 5	#
多溴聯苯總和 / Sum of PBBs	(5)	n.d.	-	1000
一溴聯苯 / Monobromobiphenyl		n.d.	5	-
二溴聯苯 / Dibromobiphenyl		n.d.	5	-
三溴聯苯 / Tribromobiphenyl		n.d.	5	-
四溴聯苯 / Tetrabromobiphenyl		n.d.	5	-
五溴聯苯 / Pentabromobiphenyl		n.d.	5	-
六溴聯苯 / Hexabromobiphenyl		n.d.	5	-
七溴聯苯 / Heptabromobiphenyl		n.d.	5	-
八溴聯苯 / Octabromobiphenyl		n.d.	5	-
九溴聯苯 / Nonabromobiphenyl		n.d.	5	-
十溴聯苯 / Decabromobiphenyl		n.d.	5	-
多溴聯苯醚總和 (一至九溴) / Sum of PBDEs (Mono to Nona) (Note 4)		n.d.	-	1000
一溴聯苯醚 / Monobromobiphenyl ether		n.d.	5	-
二溴聯苯醚 / Dibromobiphenyl ether		n.d.	5	-
三溴聯苯醚 / Tribromobiphenyl ether		n.d.	5	-
四溴聯苯醚 / Tetrabromobiphenyl ether		n.d.	5	-
五溴聯苯醚 / Pentabromobiphenyl ether		n.d.	5	-
六溴聯苯醚 / Hexabromobiphenyl ether		n.d.	5	-
七溴聯苯醚 / Heptabromobiphenyl ether		n.d.	5	-
八溴聯苯醚 / Octabromobiphenyl ether		n.d.	5	-
九溴聯苯醚 / Nonabromobiphenyl ether		n.d.	5	-
十溴聯苯醚 / Decabromobiphenyl ether		n.d.	5	-
多溴聯苯醚總和 (一至十溴) / Sum of PBDEs (Mono to Deca)		n.d.	-	-

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測試部位描述 (TEST PART DESCRIPTION):

NO.1 : 銅色金屬 (COPPER COLORED METAL)

備註(Note):

1. mg/kg = ppm
2. n.d. = Not Detected (未檢出)
3. MDL = Method Detection Limit (方法偵測極限值)
4. 根據2005年10月13日歐盟會議公佈2005/717/EC, 修訂2002/95/EC內容, 通過解除高分子材質中十溴聯苯醚之使用限制. (According to 2005/717/EC DecaBDE is exempt.)
5. Spot-test:
 - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
 - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
 - The tested sample should be further verified by boiling-water-extraction method if the spot test result cannot be confirmed.
 - (當該測項無法確認時, 測試樣品可藉由boiling-water-extraction測試方法進一步確認)
- Boiling-water-extraction:
 - Negative = Absence of Cr(VI) coating / surface layer(鍍層中偵測不到六價鉻),
 - Positive = Presence of Cr(VI) coating / surface layer(鍍層中偵測到六價鉻);
 - the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm² sample surface area.
 - 該溶液濃度 ≥ 0.02 mg/kg with 50 cm² (sample surface area)
6. # = Positive indicates the presence of Cr(VI) on the tested areas and result be regarded as not comply with RoHS requirement. (Positive表示測試區域之六價鉻不符合RoHS要求)
- Negative indicates the absence of Cr(VI) on the tested areas and result be regarded as comply with RoHS requirement. (Negative表示測試區域之六價鉻符合RoHS要求)
7. "-" = Not Regulated (無規格值)

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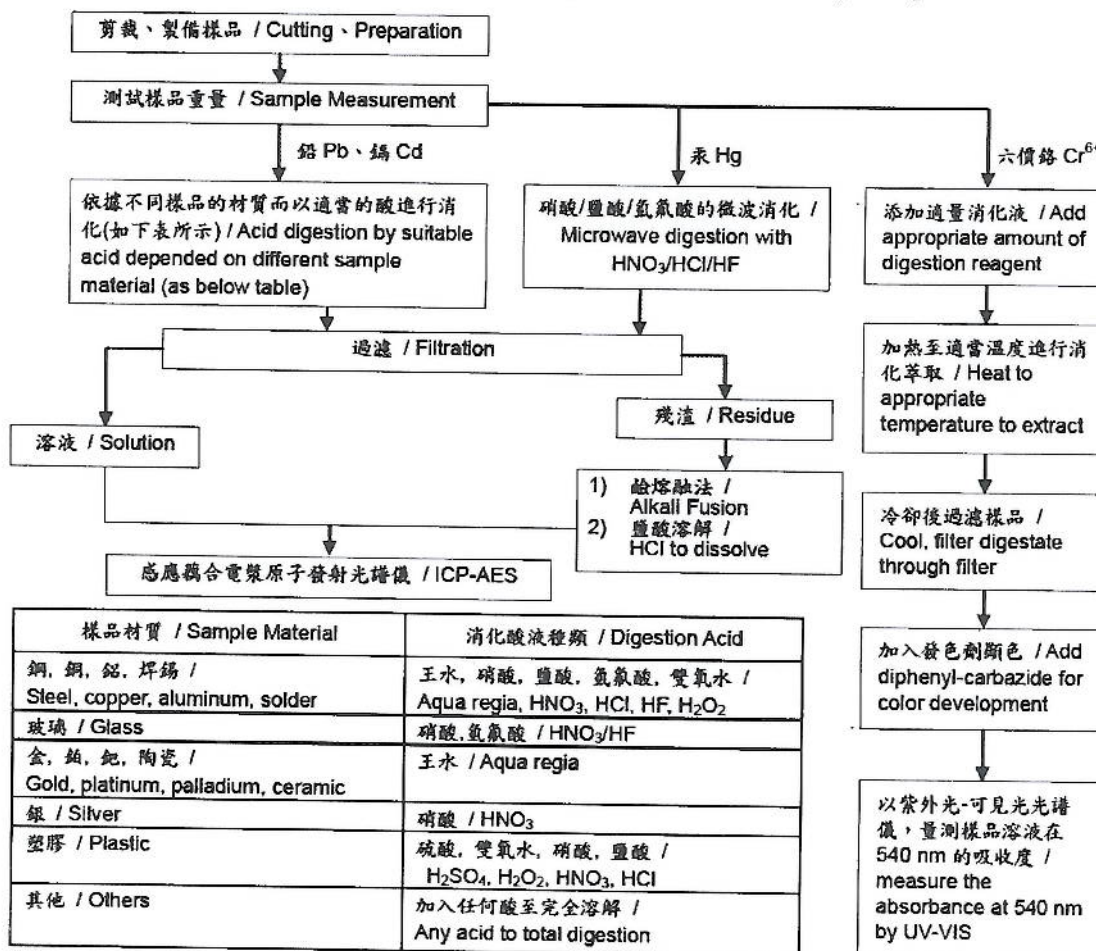
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- 1) 根據以下的流程圖之條件，樣品已完全溶解。(六價鉻測試方法除外) / These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) 測試人員：張啓典 / Name of the person who made measurement: Troy Chang
- 3) 測試負責人：龔振裕 / Name of the person in charge of measurement: Chenyu Kung



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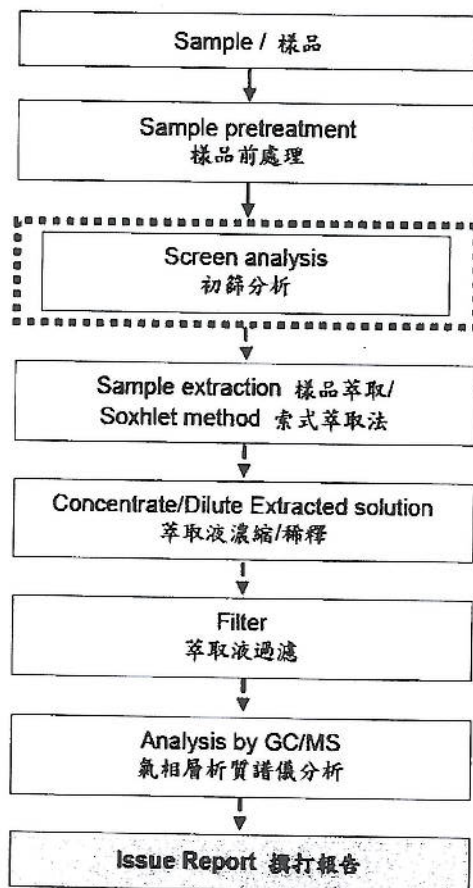


多溴聯苯/多溴聯苯醚分析流程圖 / PBB/PBDE analytical FLOW CHART

初次測試程序 / First testing process ———→

選擇性篩檢程序 / Optional screen process→

確認程序 / Confirmation process - - - →



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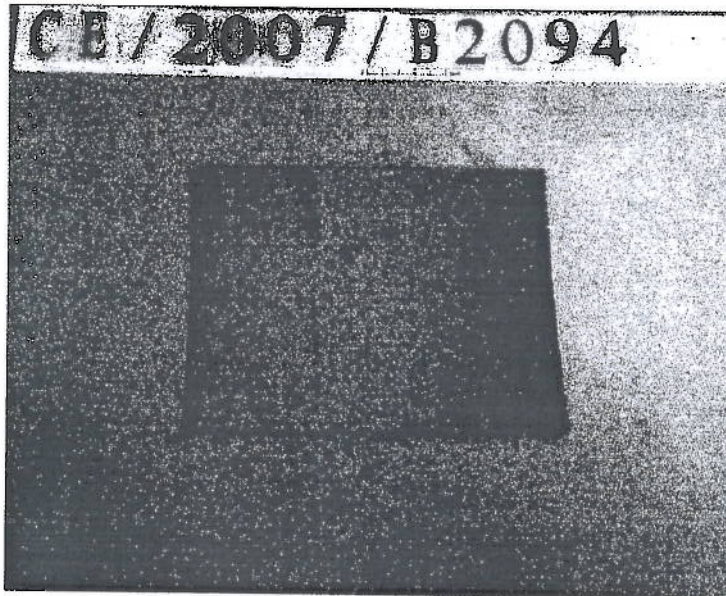
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** 報告結尾 **

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