



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: Micro Fuse

Product #: 272xxx Series (.05 Amperage and Above)

Issue Date: September 19, 2011

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: 
KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the Micro 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	087129	Hardner	3-8
2	087128	Epoxy	9-14
3	087192	Epoxy	15-20
4	270000-010	Microfuse	21-27
5	934-002	Cap	28-34
6	001xxx (001101)	Element-55% Cu 45% Ni	35-43
7	082xxx (082306)	Element- 94% Cu 6% Ni	35-43
8	497xxx(497556)	Element-99% Ni	44-49
9	082xxx	Element-Ag Plated Cu	50-58



Test Report

Number : TWNC00186566

Applicant: Littelfuse, Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Dec 29, 2010

Sample Description:

One (1) group of submitted samples said to be :

Part Description : Hardener

Part Number : 087129

Date Sample Received : Dec 24, 2010

Date Test Started : Dec 24, 2010

Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized By:

On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director

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except in full, without the written
approval of the laboratory.



Number : TWNC00186566

Test Conducted

(I) Test Result Summary :

Testing Item	Result (ppm)
	Yellow Paste
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	426
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on wet weight of tested sample =
mg/kg

ND = Not detected

Responsibility Of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Dec 24, 2010

Testing Period : Dec 24, 2010 To Dec 28, 2010

Test Conducted

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by ion chromatography	50 ppm

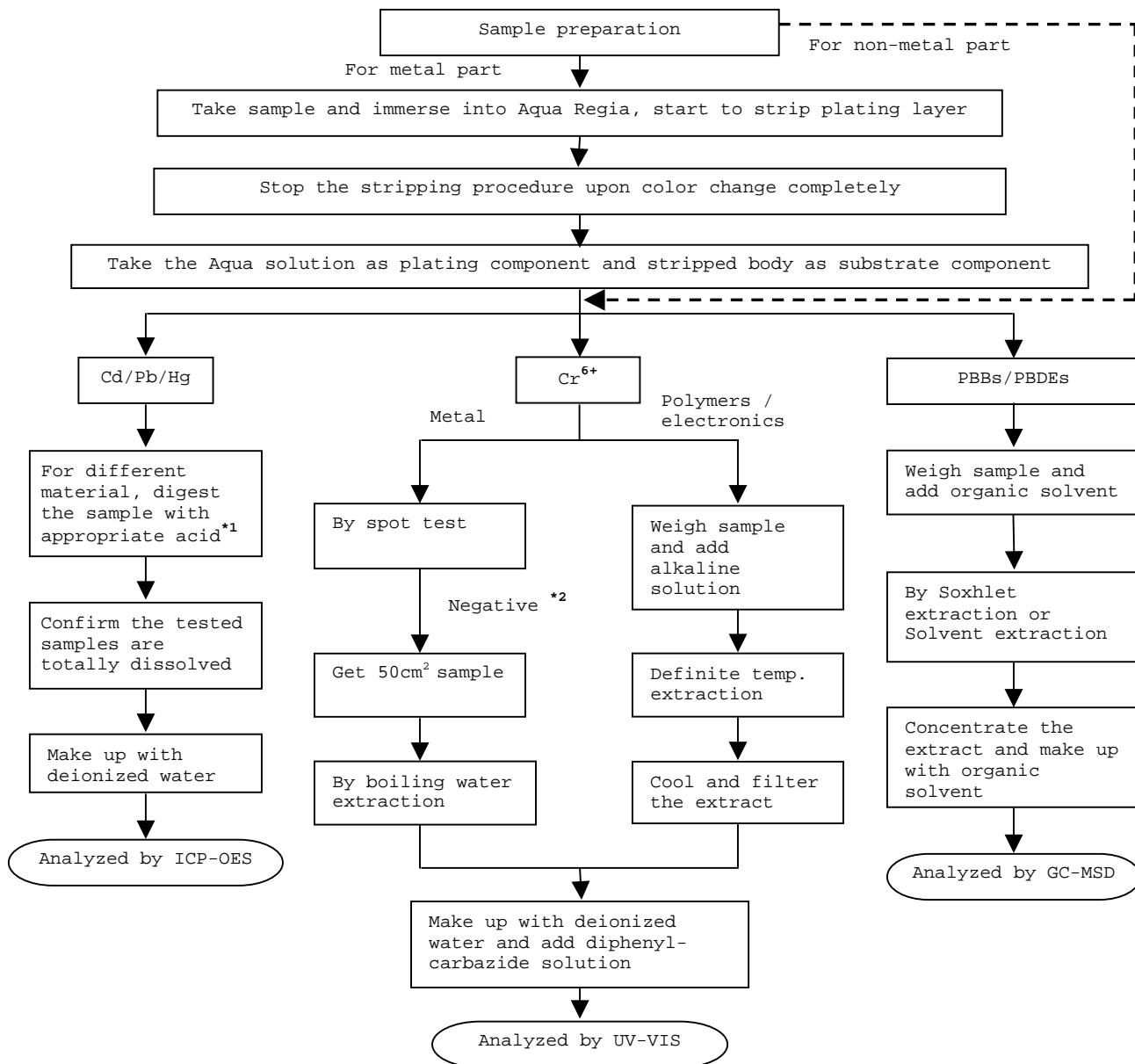
Remark: Reporting limit = Quantitation limit of analyte in sample

Test Conducted

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

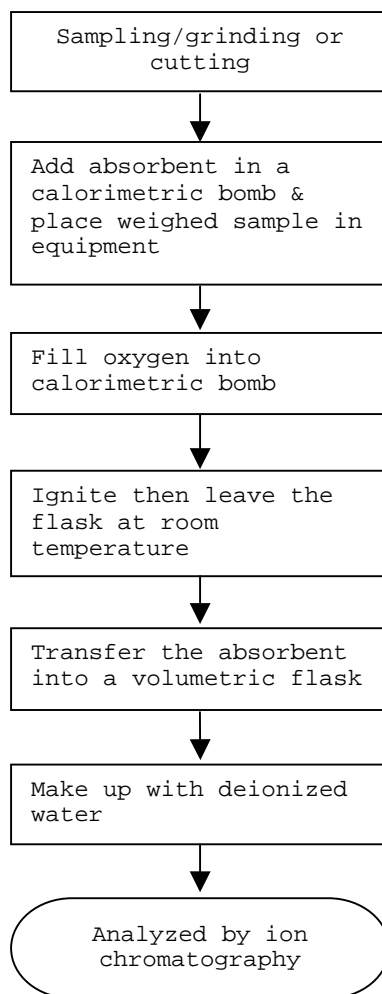
*2: If the result of spot test is positive, Chromium VI would be determined as detected.

Test Conducted

(IV) Measurement Flowchart:

Test For Halogen Content

Reference Standard : EN 14582

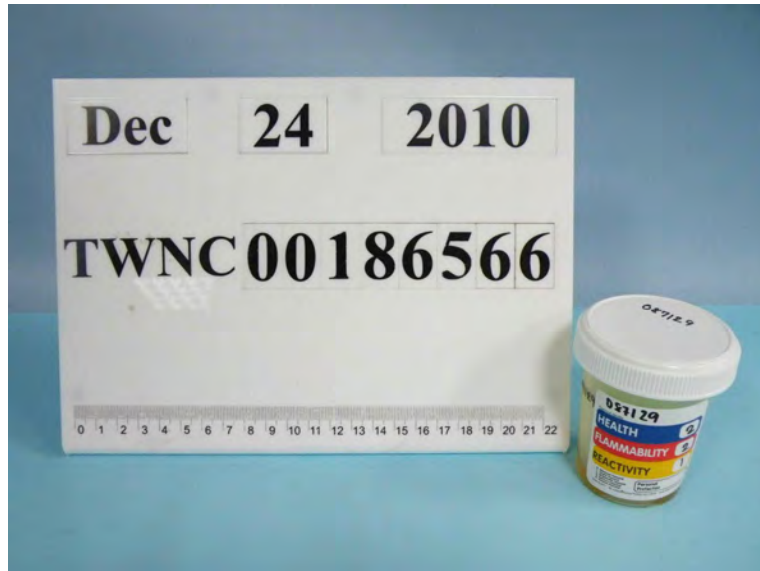


End Of Report

Test Conducted

Number : TWNC00186566

Photo





Test Report

Number : TWNC00186564

Applicant: Littelfuse, Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Dec 29, 2010

Sample Description:

One (1) group of submitted samples said to be :

Part Description : Epoxy Resin

Part Number : 087128

Date Sample Received : Dec 24, 2010

Date Test Started : Dec 24, 2010

Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized By:

On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director

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Number : TWNC00186564

Test Conducted

(I) Test Result Summary :

Testing Item	Result (ppm)
	Transparent Paste
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	1767
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on wet weight of tested sample =
mg/kg

ND = Not detected

Responsibility Of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Dec 24, 2010

Testing Period : Dec 24, 2010 To Dec 28, 2010

Test Conducted

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by ion chromatography	50 ppm

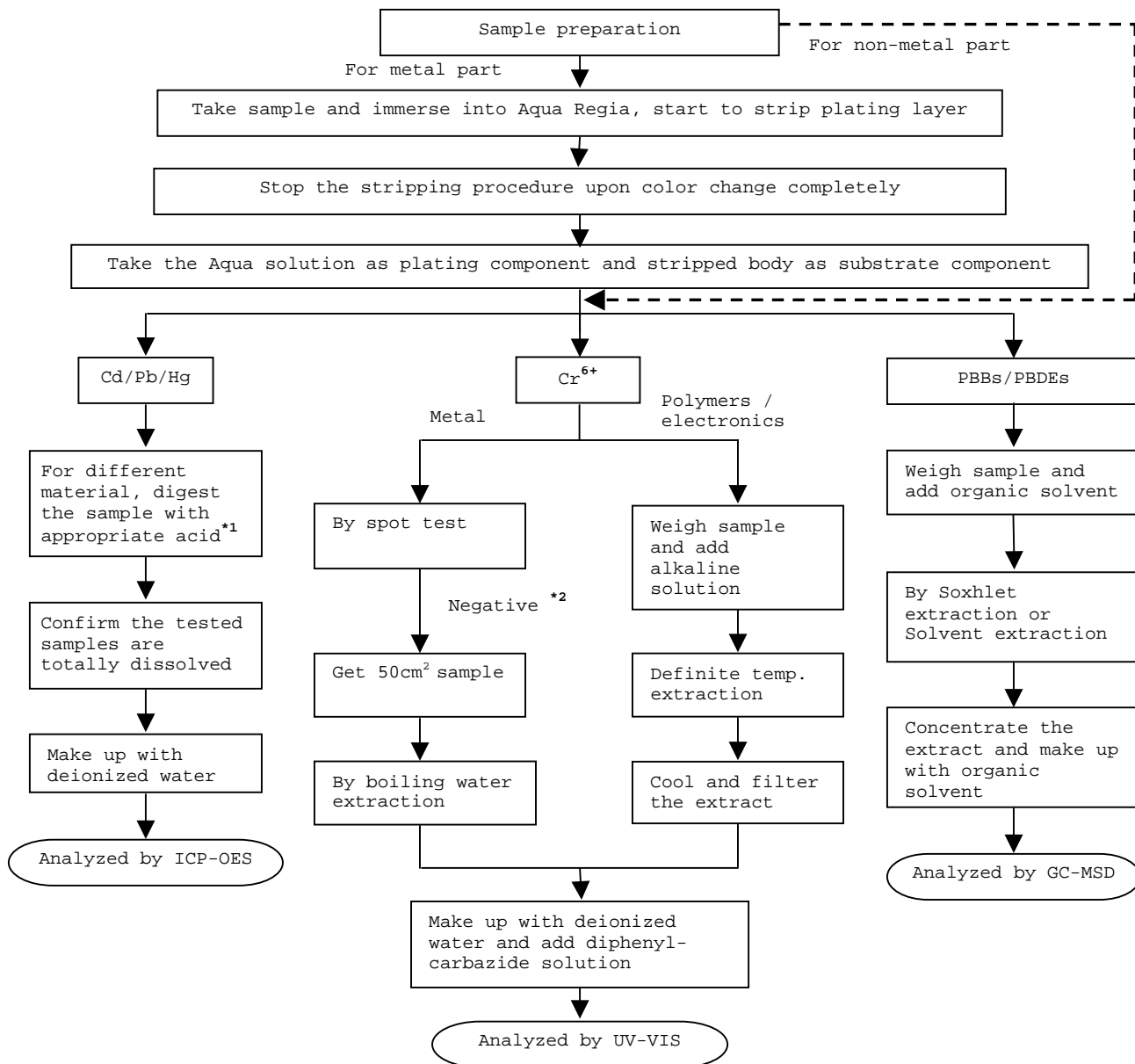
Remark: Reporting limit = Quantitation limit of analyte in sample

Test Conducted

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

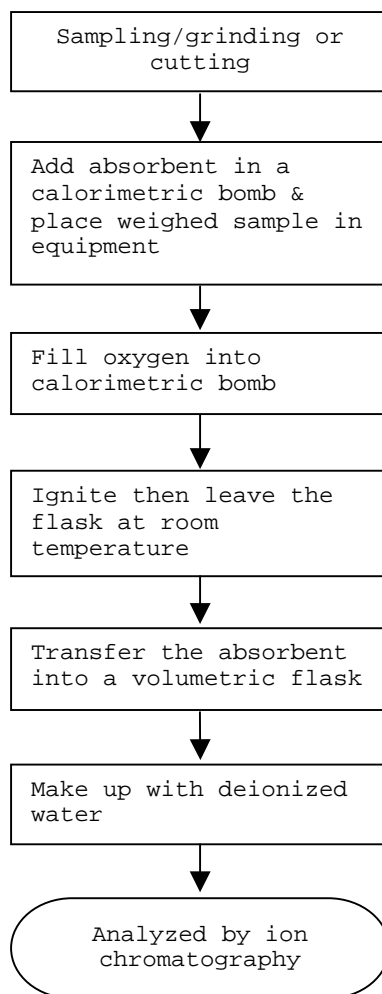
*2: If the result of spot test is positive, Chromium VI would be determined as detected.

Test Conducted

(IV) Measurement Flowchart:

Test For Halogen Content

Reference Standard : EN 14582



End Of Report

Test Conducted

Number : TWNC00186564

Photo





Test Report

Applicant: Littelfuse, Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Number : TWNC00186565S1

Date : Jan 03, 2011
This is to supersede
report No. TWNC00186565
dated Dec 29, 2010

Sample Description:

One (1) group of submitted samples said to be :

Part Description : Black Epoxy
Part Number : 087192
Date Sample Received : Dec 24, 2010
Date Test Started : Dec 24, 2010

Test Conducted :

As requested by the applicant, for details please refer to attached pages.

Authorized By:

On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director

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approval of the laboratory.

Test Conducted

(I) Test Result Summary :

Testing Item	Result (ppm)
	Black Paste
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content	ND
Polybrominated Biphenyls (PBBs)	
Monobrominated Biphenyls (MonoBB)	ND
Dibrominated Biphenyls (DiBB)	ND
Tribrominated Biphenyls (TriBB)	ND
Tetrabrominated Biphenyls (TetraBB)	ND
Pentabrominated Biphenyls (PentaBB)	ND
Hexabrominated Biphenyls (HexaBB)	ND
Heptabrominated Biphenyls (HeptaBB)	ND
Octabrominated Biphenyls (OctaBB)	ND
Nonabrominated Biphenyls (NonaBB)	ND
Decabrominated Biphenyl (DecaBB)	ND
Polybrominated Diphenyl Ethers (PBDEs)	
Monobrominated Diphenyl Ethers (MonoBDE)	ND
Dibrominated Diphenyl Ethers (DiBDE)	ND
Tribrominated Diphenyl Ethers (TriBDE)	ND
Tetrabrominated Diphenyl Ethers (TetraBDE)	ND
Pentabrominated Diphenyl Ethers (PentaBDE)	ND
Hexabrominated Diphenyl Ethers (HexaBDE)	ND
Heptabrominated Diphenyl Ethers (HeptaBDE)	ND
Octabrominated Diphenyl Ethers (OctaBDE)	ND
Nonabrominated Diphenyl Ethers (NonaBDE)	ND
Decabrominated Diphenyl Ether (DecaBDE)	ND
Halogen Content	
Fluorine (F)	ND
Chlorine (Cl)	1648
Bromine (Br)	ND
Iodine (I)	ND

Remarks: ppm = Parts per million based on wet weight of tested sample =
mg/kg

ND = Not detected

Responsibility Of Chemist : Irene Chiou / Kevin Liu / Cathy Chen

Date Sample Received : Dec 24, 2010

Testing Period : Dec 24, 2010 To Dec 28, 2010

Test Conducted

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ehters (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by ion chromatography	50 ppm

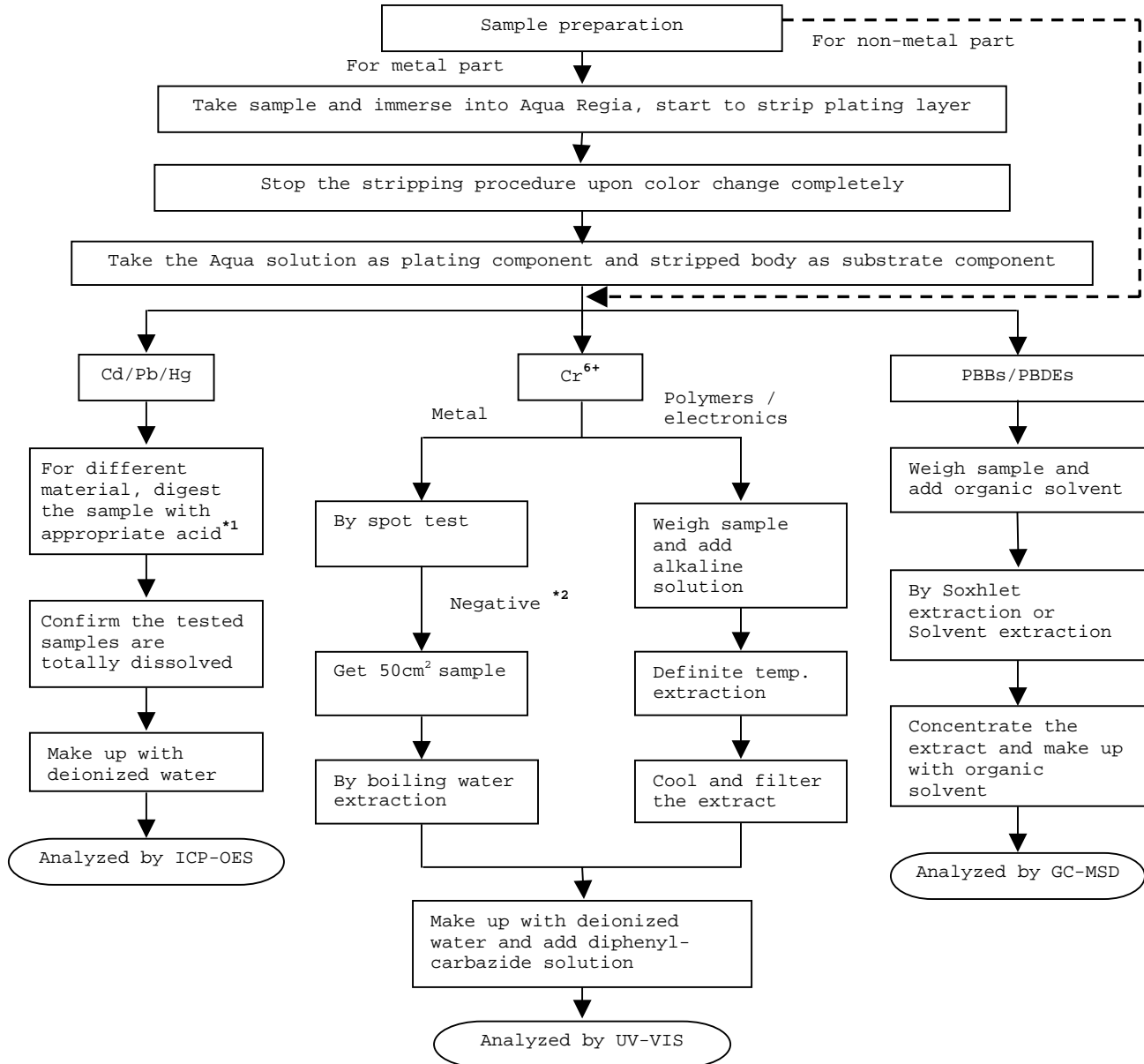
Remark: Reporting limit = Quantitation limit of analyte in sample

Test Conducted

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

*1: List Of Appropriate Acid:

Material	Acid Added For Digestion
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

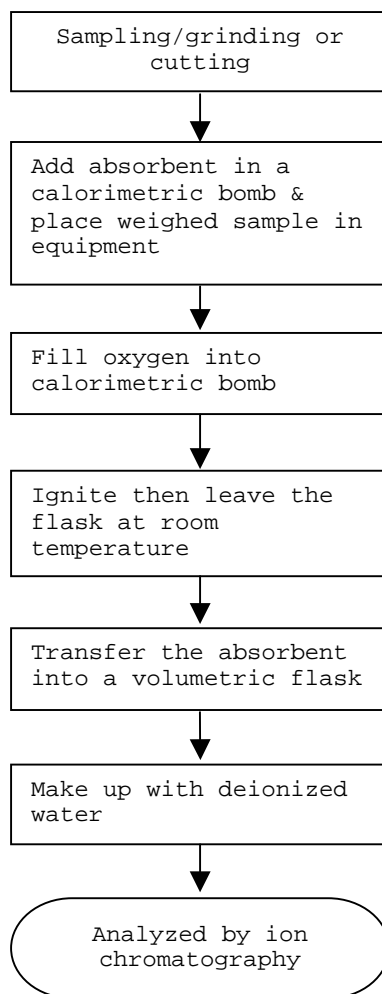
*2: If the result of spot test is positive, Chromium VI would be determined as detected.

Test Conducted

(IV) Measurement Flowchart:

Test For Halogen Content

Reference Standard : EN 14582

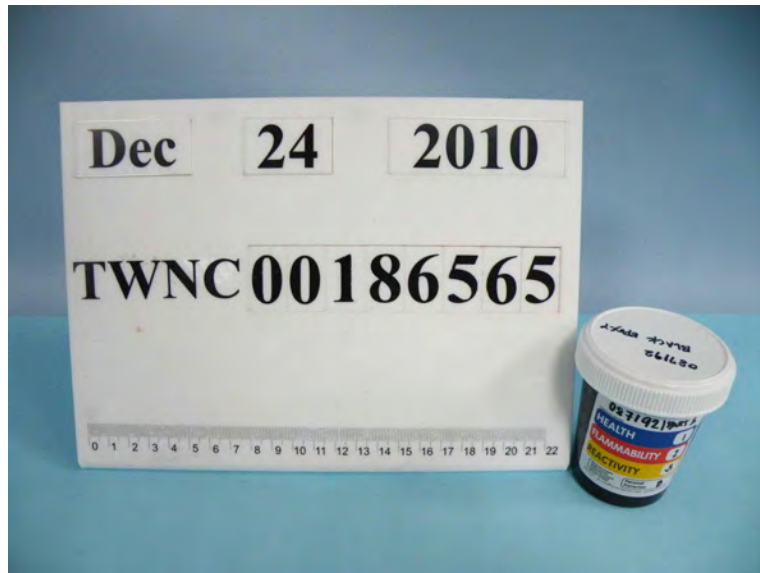


End Of Report

Test Conducted

Number : TWNC00186565S1

Photo



Test Report

No. : CE/2007/50987 Date : 2007/05/09 Page : 1 of 7

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 : SOCKET WITH PIN
Style/Item No. : 270000-010
Facility : PIEDRAS
Sample Receiving Date : 2007/05/07
Testing Period : 2007/05/07 TO 2007/05/10


=====

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 non-metallic samples by UV/Vis Spectrometry.
- (5) Determination of Hexavalent Chromium for metallic samples by Spot test / Colorimetric Method.
- (6) Determination of PBB and PBDE by GC/MS.

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


Daniel Yeh, M.R. / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.

Test Report

No. : CE/2007/50987

Date : 2007/05/09

Page : 2 of 7

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	No.3	
Cadmium (Cd)	(1)	n.d.	n.d.	---	2
Lead (Pb)	(2)	n.d.	n.d.	---	2
Mercury (Hg)	(3)	n.d.	n.d.	---	2
Hexavalent Chromium Cr(VI) by alkaline extraction	(4)	n.d.	---	---	2
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	(5)	---	---	Negative	See Note 5
Sum of PBBs	(6)	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 Report

No. : CE/2007/50987

Date : 2007/05/09

Page : 3 of 7

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



TEST PART DESCRIPTION:

NO.1 : BLACK PLASTIC BODY
 NO.2 : SILVER COLORED METAL PIN
 NO.3 : PLATING LAYER OF SILVER COLORED METAL PIN

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. "--" = Not Conducted

Test Report

No. : CE/2007/50987

Date : 2007/05/09

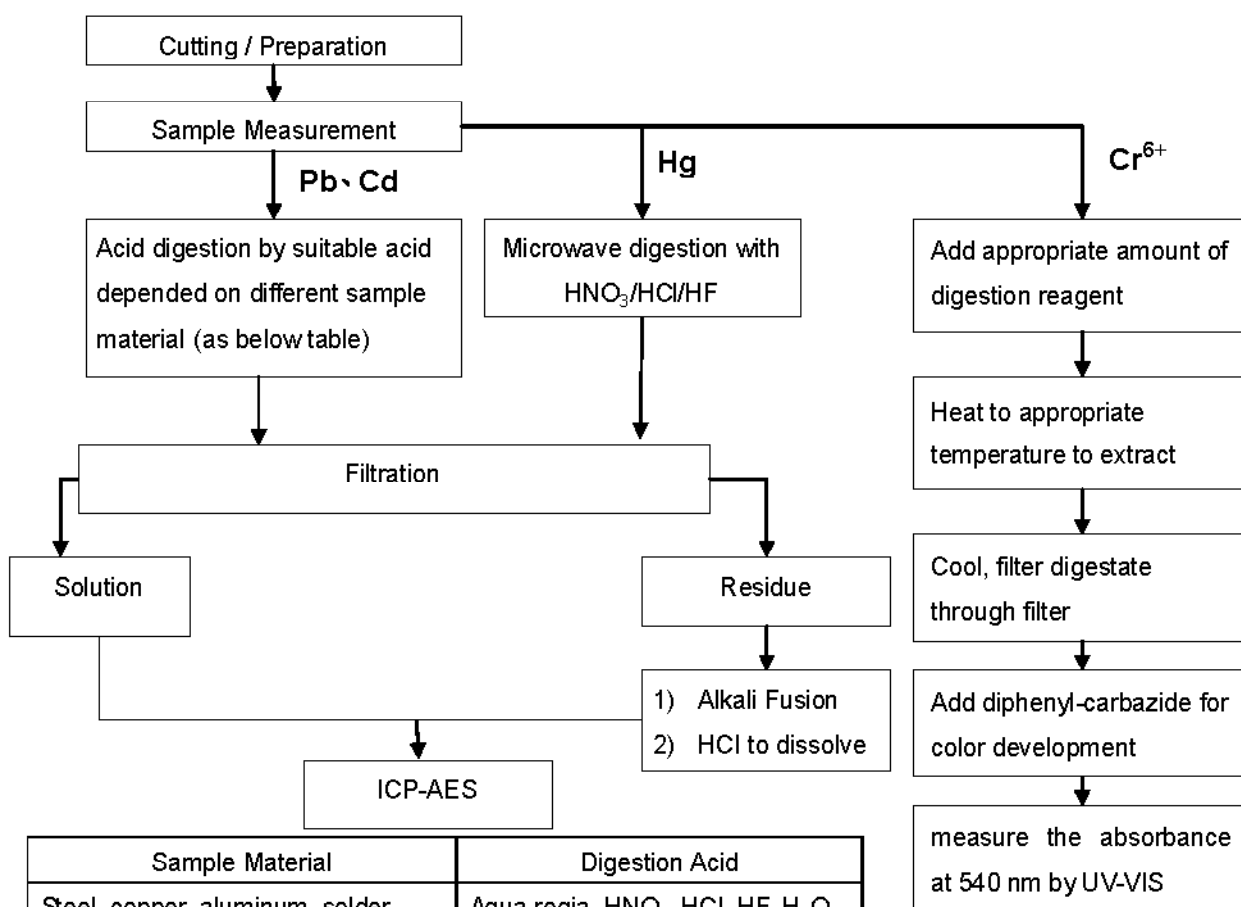
Page : 4 of 7

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: Daniel Yeh



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/2007/50987

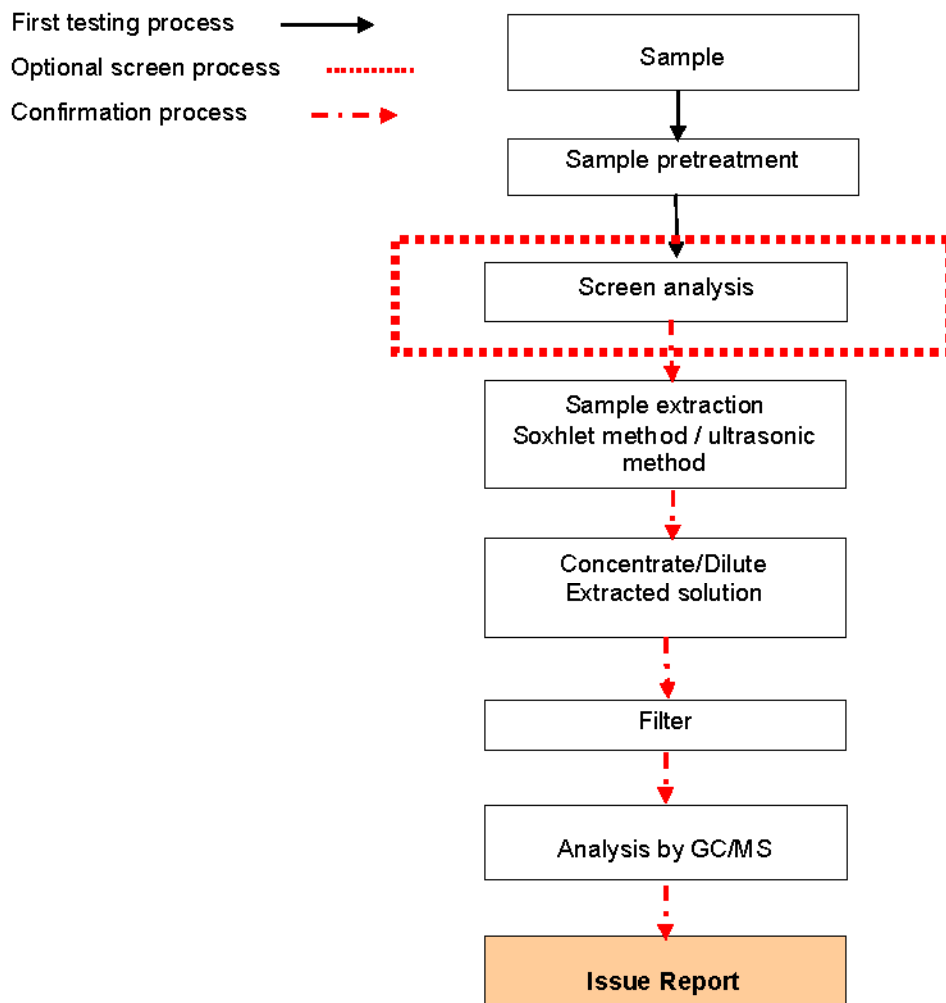
Date : 2007/05/09

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



PBB/PBDE analytical FLOW CHART



Test Report

No. : CE/2007/50987

Date : 2007/05/09

Page : 6 of 7

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



Test Report

No. : CE/2007/50987

Date : 2007/05/09

Page : 7 of 7

LITTELFUSE INC.

800 E. NORTHWEST HWY. DES PLAINES, IL 60016



** End of Report **

RESULTS REPORT

INTERTEK TESTING SERVICES

DE MEXICO SA DE CV

LABORATORIO CD. DE MEXICO

DELIVER TO:

Littelfuse, S.A. de C.V.
Bld. Fausto Z. Martínez 1800, Col. Magisterio Sección 38,
Piedras Negras, Coahuila

ATTENTION: Ing. Mario Falcón / Ing. Manuel Berain

01

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V.

Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila

Ing. Mario Falcón / Ing. Manuel Berain

SAMPLE DESCRIPTION

One (1) group of submitted samples said to be :

Sample Description

Serie 272

1) N/P 082282

2) N/P 692168

Item No.

3) N/P 876-074-001

4) N/P 934-002

Country of Origin NP

Buyer's Name NP

Supplier's Name NP

Date sample received 2010-08-19

Testing period 2010-08-25 to 2010-08-26

TEST CONDUCTED

As requested by the applicant, for details please refer to attached pages.

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
1	N/P 082282	Pass See Result summary	---	---
2	N/P 692168	Fail See Result summary	Lead	74210
3	N/P 876-074-001	Pass See Result summary	---	---
4	N/P 934-002	Pass See Result summary	---	---

TEST CONDUCTED

Samples:

- 1) N/P 082282
- 2) N/P 692168
- 3) N/P 876-074-001
- 4) N/P 934-002

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(1)	(2)	(3)	(4)	
Cadmium (Cd) content	ND	2,340	ND	ND	0,01% (100 ppm)
Lead (Pb) content	ND	74210	ND	13,84	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr ⁶⁺)	ND	ND	ND	ND	0,1% (1000 ppm)

ppm = parts per million based on dry weight of sample.

µg/cm² = microgram per square centimeter.

mg/kg WITH 50cm² = milligram per kilogram with 50 square centimeter.

< = less than.

ND = Not detected.

The above limits were quoted from 2002/95/EC and amendment 2005/618/EC for homogeneous material.

These Accreditations only apply for the methods listed in such. Not accredited under EMA Ω.

Prepared and checked by :

For Intertek

Irma Lopez
[Signature]
Cecilia de Arce



Laboratory Manager

The Official Mexican Standard NOM-008-SCFI-1993 establishes like separator decimal the comma (,).

03

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1ª. Emisión Junio 2005, 1ª Revisión Junio 26, 2009.

ILTA/003/GENS-F8

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03

NOTE :DecaBDE IN POLYMERIC APPLICATIONS IS EXEMPTED ACCORDING TO
ROHS DIRECTIVE AMENDMENT 2005/717/EC.

=ACCORDING TO IEC 62321, A POSITIVE RESULT INDICATES THE PRESENCE OF
Cr(VI) COATING. IT IS THE Cr(VI) CONCENTRATION DETECTED IN THE
BOILING-WATER-EXTRACTION SOLUTION AND SHOULD NOT BE INTERPRETED AS
THE Cr(VI) CONCENTRATION IN THE COATING LAYER OF THE SAMPLE.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF
TESTED COMPONENTS OF THE SAMPLE MX10-1827-1 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF
TESTED COMPONENTS OF THE SAMPLE MX10-1827-2 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF
TESTED COMPONENTS OF THE SAMPLE MX10-1827-3 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF
TESTED COMPONENTS OF THE SAMPLE MX10-1827-4 WERE TESTED TOGETHER.

Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-4	Chromium VI (Cr ⁶⁺) content	With reference to USEPA 3060, by EPA 7196	QHU2009-3p172	2010-08-26	MELA	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	5,0
2	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	5,0
3	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	5,0
4	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	5,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	2,0
2	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	2,0
3	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	2,0
4	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-32p58	2010-08-26	DCL	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p61	2010-08-26	UBM	0,25
2	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p61	2010-08-26	UBM	0,25
3	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p61	2010-08-26	UBM	0,25
4	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p61	2010-08-26	UBM	0,25

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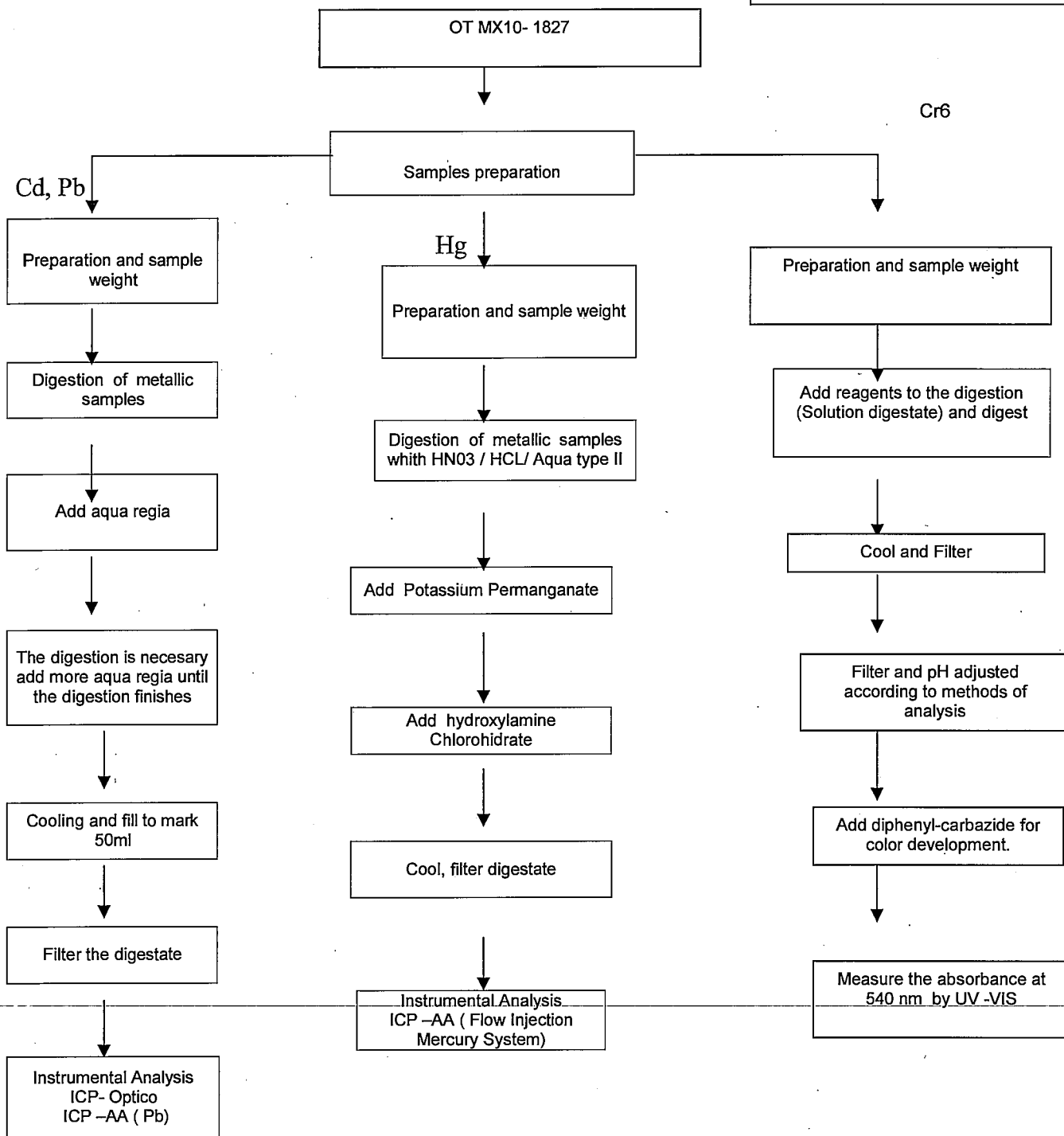
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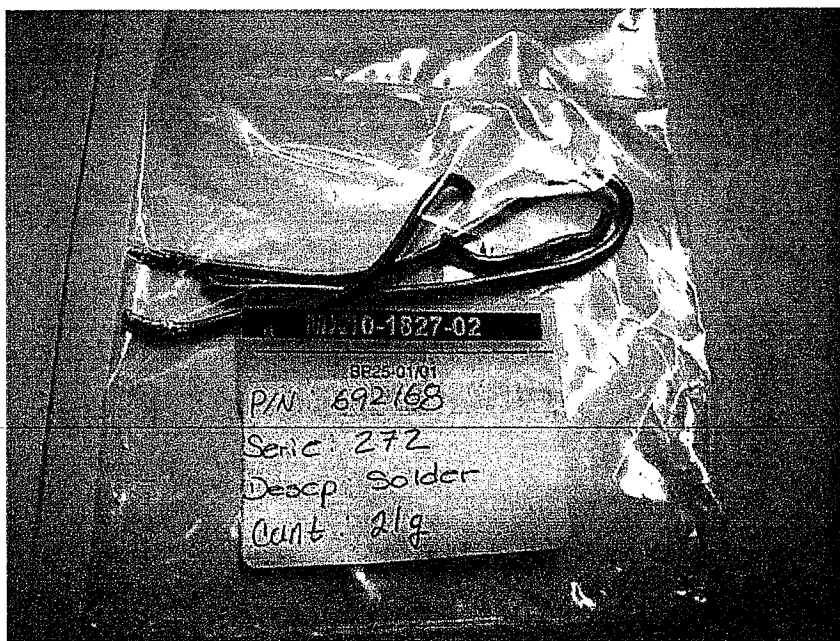
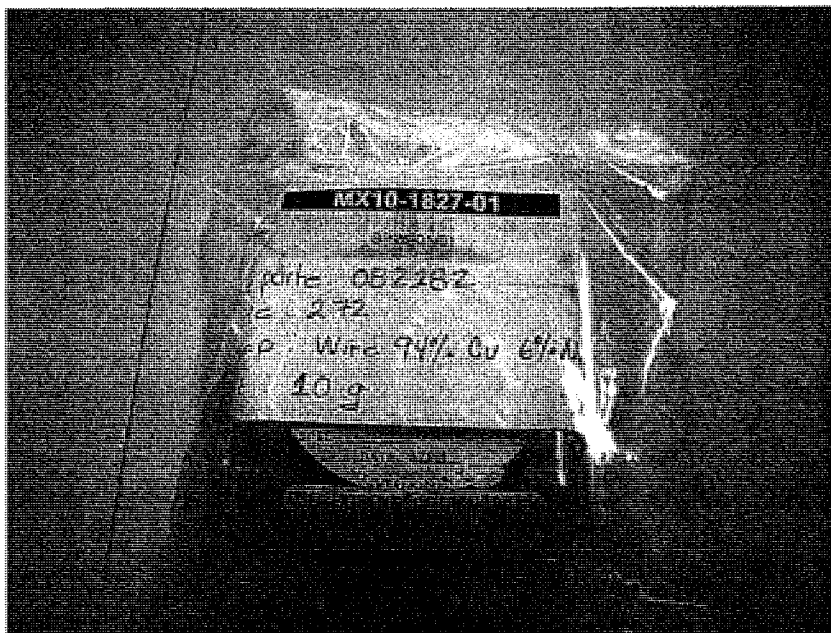
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MX10-1827



MX10-1827



Test Report

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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU 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	:	COPPER NICKEL ALLOY WIRES, NICKEL PLATED WIRES
Style/Item No.	:	(1) 101- - 228.0- - - TUNGSTEN - TINNED WIRE - W, Sn (2) 101.0121.0 - - - EWN 01.03. - COPPER - NICKEL 44 ALLOY (CONSTANTAN) WIRE - CuNi44 (3) 101.0124.0 - - - EWN 02.01. - COPPER - NICKEL-ZINC -ALLOY WIRE (NS 18) - CuNi18Zn20 (4) 101.0127.0--- COPPER - NICKEL -ALLOY WIRE - CuNi 2 (5) 101.0129.0--- COPPER - NICKEL -ALLOY WIRE - CuNi 12 (6) 101.0174.0--- COPPER - NICKEL -ALLOY WIRE - CuNi 6 (7) 101.0175.0--- COPPER - NICKEL -ALLOY WIRE - CuNi 22 (8) 101.0178.0--- IRON - NICKEL -ALLOY WIRE - FeNi36 (Invar) (9) 101.0125.0--- COPPER - MANGANESE - NICKEL -ALLOY WIRE - CuMn12Ni
Country of Origin	:	GERMANY
Sample Receiving Date	:	2011/01/04
Testing Period	:	2011/01/04 TO 2011/01/11

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

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Test Report

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



Test Result(s)

PART NAME No.1 : MIXED ALL COLOR METAL WIRE (INCLUDING THE PLATING LAYER) (9 KINDS)

Test Item (s):	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	With reference to IEC 62321: 2008 and performed by Spot test / boiling water extraction Method. (See Note 5)	0.02mg/kg with 50 cm ² surface area	Negative
Perfluorooctane sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide	mg/kg	With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
PFOA (CAS No.: 000335-67-1)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.
Halogen				
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 022537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)			50	n.d.
Halogen-Iodine (I) (CAS No.: 014362-44-8)			50	n.d.

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



Test Item (s):	Unit	Method	MDL	Result No.1
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed 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			-	n.d.
Monobromodiphenyl ether			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 Report

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



Note : 1. mg/kg = ppm; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

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. ** = Qualitative analysis (No Unit)

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.

PFOS Reference Information : Directive 2006/122/EC

(1) May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.

(2) May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than 1µg/m² of the coated material.

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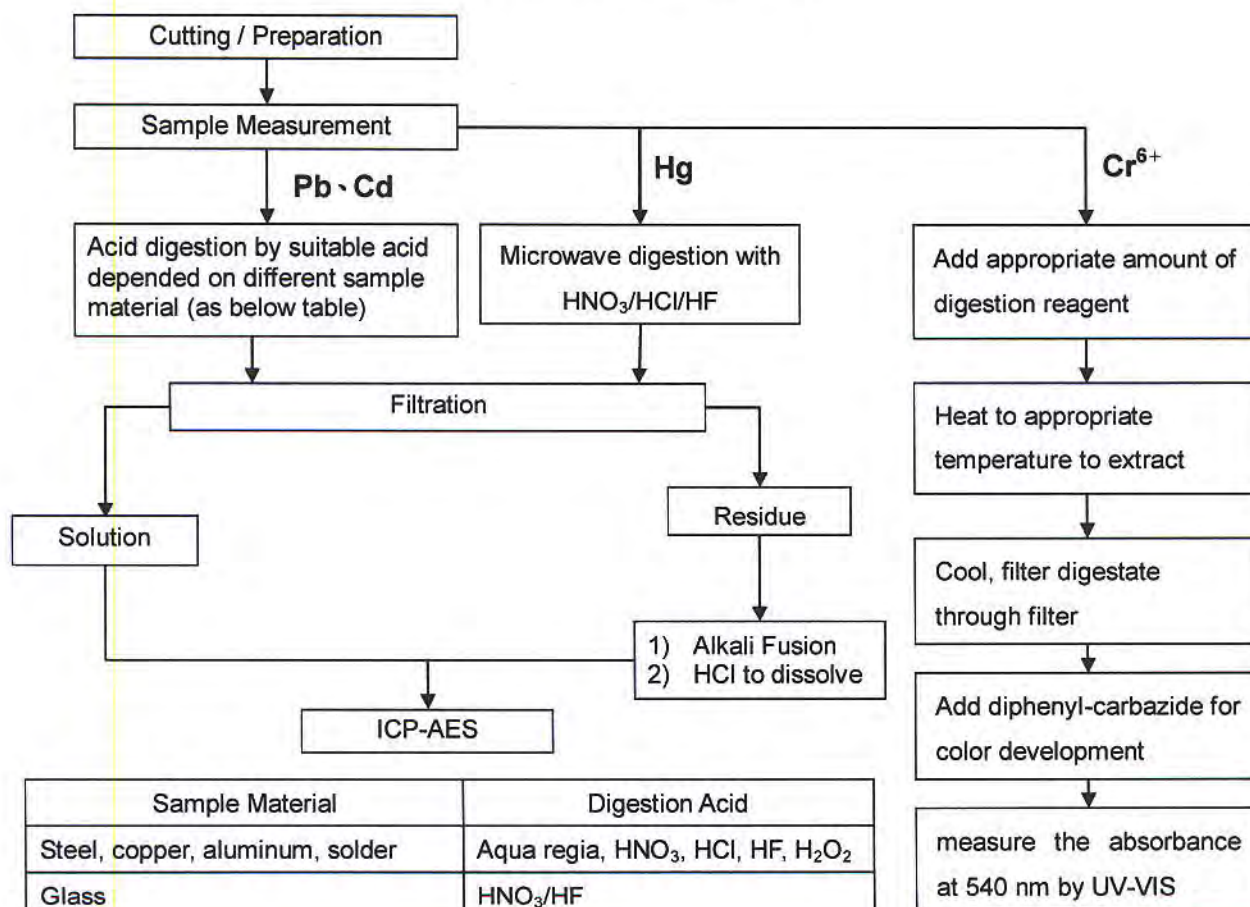
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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



- 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



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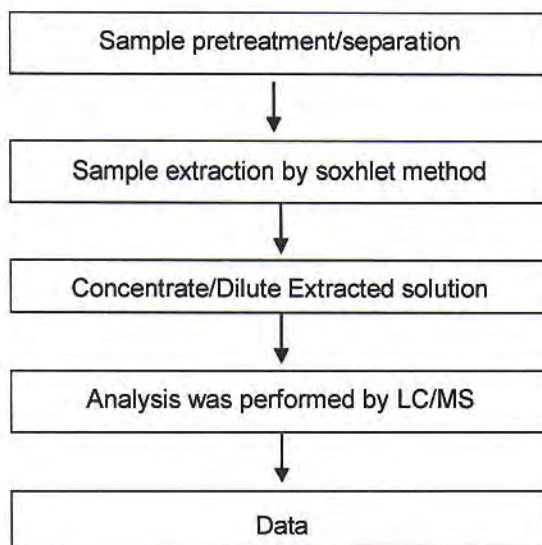
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GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 1) Name of the person who made measurement: Lydia Fu
- 2) Name of the person in charge of measurement: Shinjyh Chen

■ Test Items: PFOS/PFOA 、 Benzotriazole



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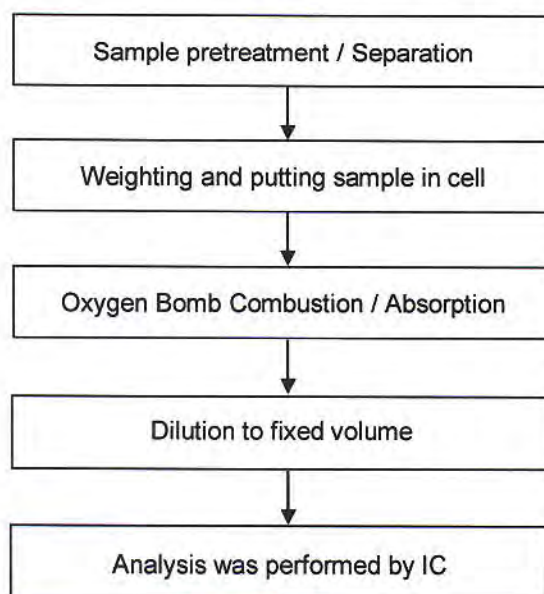
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GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Analytical flow chart of halogen content

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



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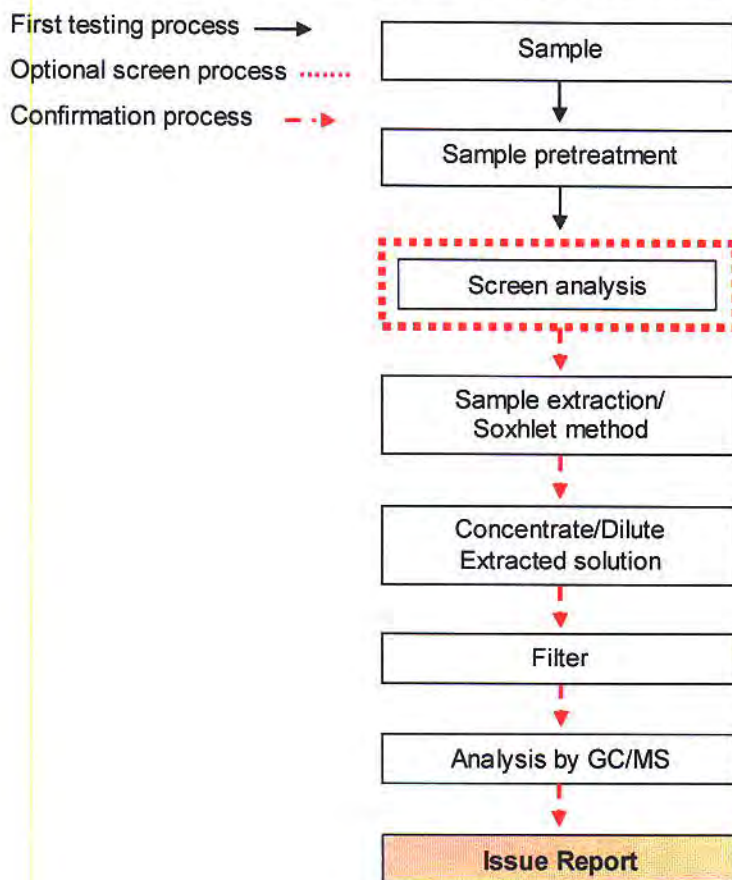
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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



PBB/PBDE analytical FLOW CHART

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



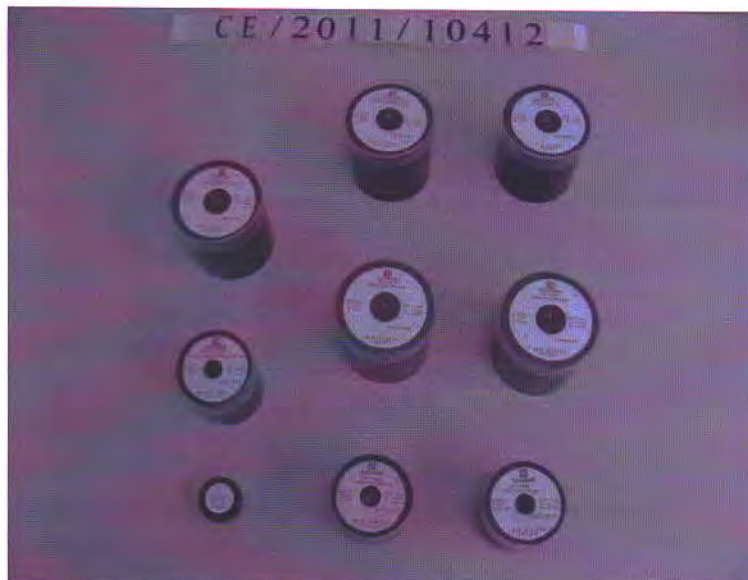
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Test Report

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



**** End of Report ****

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TEST REPORT

NUMBER: SHAH00236052

APPLICANT: LITTELFUSE, INC.
800 E. NORTHWEST HWY
ATTN: A. CESISTA/ K. BACILA

DATE: DEC 22, 2010

SAMPLE DESCRIPTION:

One(1) submitted sample said to be :**Silver wire.**

Part Description : Element.

Part Number : Wire Ni 497555.

Date Sample Received : Dec.17, 2010.

Date Test Started : Dec.17, 2010.

TESTS CONDUCTED:

AS REQUESTED BY THE APPLICANT, FOR DETAILS REFER TO ATTACHED PAGE(S)

TO BE CONTINUED

PREPARED AND CHECKED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

MYRA LV
CHEMICAL LAB SENIOR MANAGER

AUTHORIZED BY:
FOR INTERTEK TESTING SERVICES
LTD., SHANGHAI

STEPHEN TSANG
GENERAL MANAGER

TEST REPORT

NUMBER: SHAH00236052

TESTS CONDUCTED

1 (I) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²)	Negative (< 0.02)

Remarks: ppm = Parts per million = mg/kg

ND = Not detected

mg/kg with 50cm² = milligram per kilogram with 50 square
centimetre

Negative = A negative test result indicated positive
observation was not found at the time of testing.

Responsibility Of Chemist : Dent Fang

(II) RoHS Requirement:

<u>Restricted Substances</u>	<u>Limits</u>
Cadmium (Cd) Content	0.01% (100ppm)
Lead (Pb) Content	0.1% (1000ppm)
Mercury (Hg) Content	0.1% (1000ppm)
Chromium VI (Cr ⁶⁺) Content	0.1% (1000ppm)
Polybrominated Biphenyls (PBBs)	0.1% (1000ppm)
Polybrominated Diphenyl Ethers (PBDEs)	0.1% (1000ppm)

The above limits were quoted from 2002/95/EC and amendment
2005/618/EC for homogeneous material.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00236052

TESTS CONDUCTED

(III) Test Method:

<u>Testing Item</u>	<u>Testing Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr ⁶⁺) content	With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis spectrophotometer.	0.02 mg/kg with 50cm ²

Remark: Reporting limit = Quantitation limit of analyte in sample

Date Sample Received : DEC.17, 2010

Testing Period : DEC.21, 2010

TO BE CONTINUED

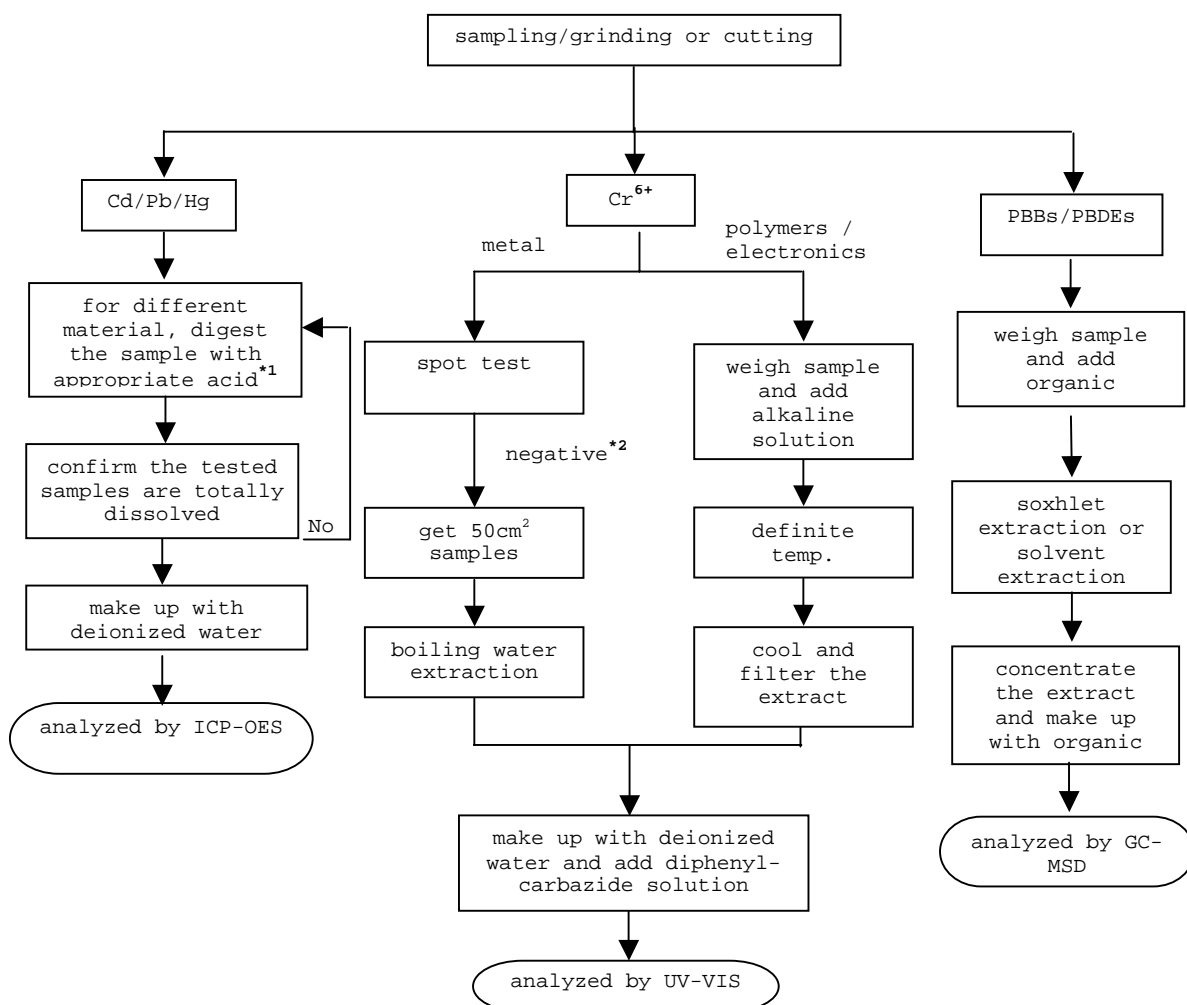
TEST REPORT

NUMBER: SHAH00236052

TESTS CONDUCTED

(IV) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)/PBBs/PBDEs Contents
 Reference Standard: IEC 62321 edition 1.0:2008



TO BE CONTINUED



TEST REPORT

NUMBER: SHAH00236052

TESTS CONDUCTED

REMARKS:

*1: List of appropriate acid:

<u>Material</u>	<u>Acid added for digestion</u>
Polymers	HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃
Metals	HNO ₃ , HCl, HF
Electronics	HNO ₃ , HCl, H ₂ O ₂ , HBF ₄

*2: If the result of spot test is positive, Chromium VI would be determined as detected.

TO BE CONTINUED

TEST REPORT

NUMBER: SHAH00236052

TESTS CONDUCTED



END OF REPORT

Test Report

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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU 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 PLATED & PURE SILVER WIRES
Style/Item No. : (1) 101. 014 - . - - -
EWN 02.01.-SILVER PLATED COPPER WIRE - Cu, Ag - - %
(2) 101. 0131. - - - -
EWN 02.01.-PURE SILVER WIRE-Ag 1000
(3) 101.0123.0 - - -
EWN 01.03. - SILVER PLATED PUREST NICKEL WIRE -
Ni99.98%, Ag1%
(4) 101.0182.0 - - -
EWN 03.07. - SILVER-COPPER ALLOY PLATED COPPER
CLAD WIRE-ELCON D, AgCu5%
(5) 101.0120.0 - - -
SILVER PLATED CONSTANTAN WIRE-CuNi44, Ag5%

Country of Origin : GERMANY
Sample Receiving Date : 2011/01/04
Testing Period : 2011/01/04 TO 2011/01/11

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

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



Test Result(s)

PART NAME No.1 : MIXED ALL COLOR METAL WIRE (INCLUDING THE PLATING LAYER) (5 KINDS)

Test Item (s):	Unit	Method	MDL	Result No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by Spot test / boiling water extraction	**	With reference to IEC 62321: 2008 and performed by Spot test / boiling water extraction Method. (See Note 5)	0.02mg/kg with 50 cm ² surface area	Negative
Perfluorooctane sulfonates (PFOS) PFOS – Acid PFOS – Metal Salt PFOS – Amide	mg/kg	With reference to US EPA 3540C: 1996 method for PFOS Content. Analysis was performed by LC/MS.	10	n.d.
PFOA (CAS No.: 000335-67-1)	mg/kg	With reference to US EPA 3540C: 1996 method for PFOA Content. Analysis was performed by LC/MS.	10	n.d.
Halogen				
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (Cl) (CAS No.: 022537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)			50	n.d.
Halogen-Iodine (I) (CAS No.: 014362-44-8)			50	n.d.

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



Test Item (s):	Unit	Method	MDL	Result No.1
Sum of PBBs	mg/kg	With reference to IEC 62321: 2008 and performed 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			-	n.d.
Monobromodiphenyl ether			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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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Note : 1. mg/kg = ppm; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit

4. " - " = Not Regulated

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. ** = Qualitative analysis (No Unit)

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.

PFOS Reference Information : Directive 2006/122/EC

(1) May not be placed on the market or used as a substance or constituent of preparations in a concentration equal to or higher than 0.005 % by mass.

(2) May not be placed on the market in semi-finished products or articles, or parts thereof, if the concentration of PFOS is equal to or higher than 0.1 % by mass calculated with reference to the mass of structurally or microstructurally distinct parts that contain PFOS or, for textiles or other coated materials, if the amount of PFOS is equal to or higher than 1µg/m² of the coated material.

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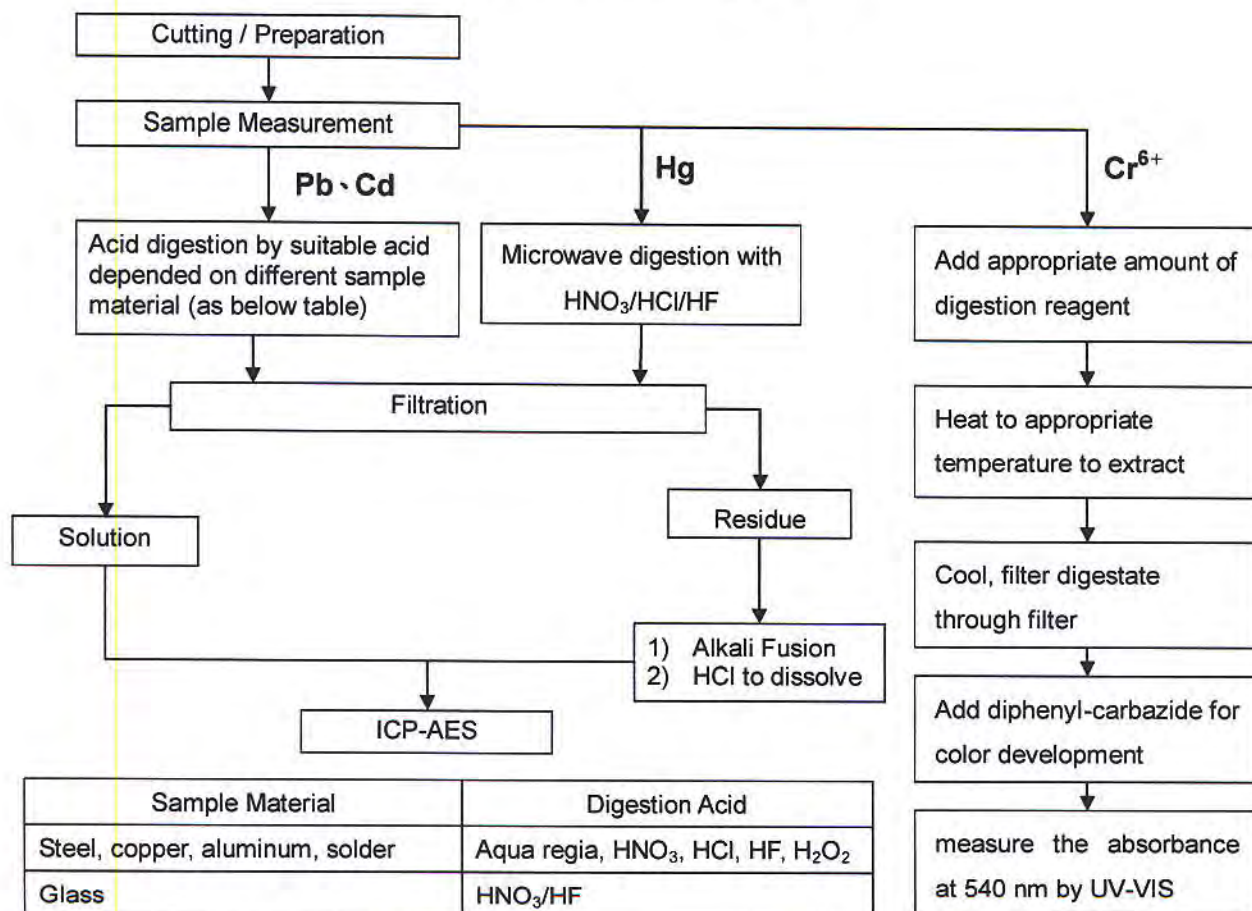
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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



- 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



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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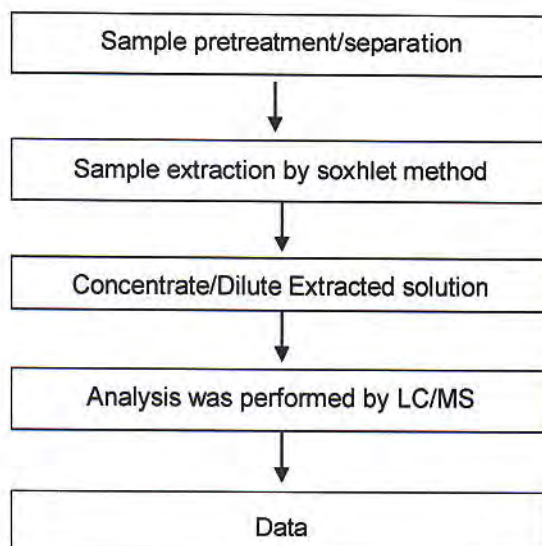
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GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Analytical flow chart of Soxhlet extraction (LC/MS) procedure

- 1) Name of the person who made measurement: Lydia Fu
- 2) Name of the person in charge of measurement: Shinjyh Chen

■ Test Items: PFOS/PFOA 、Benzotriazole



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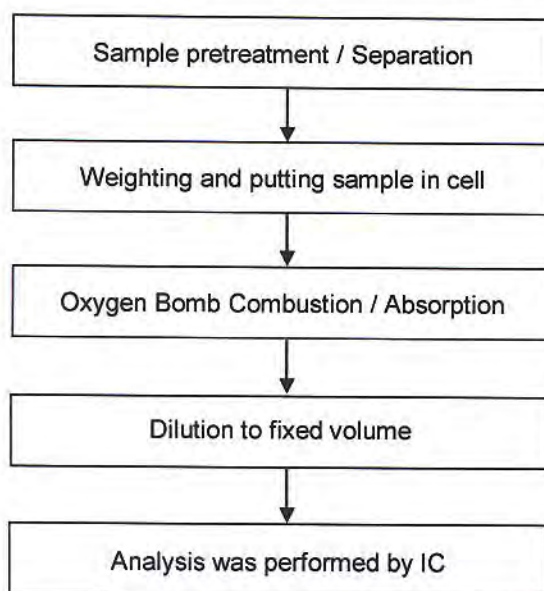
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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



Analytical flow chart of halogen content

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



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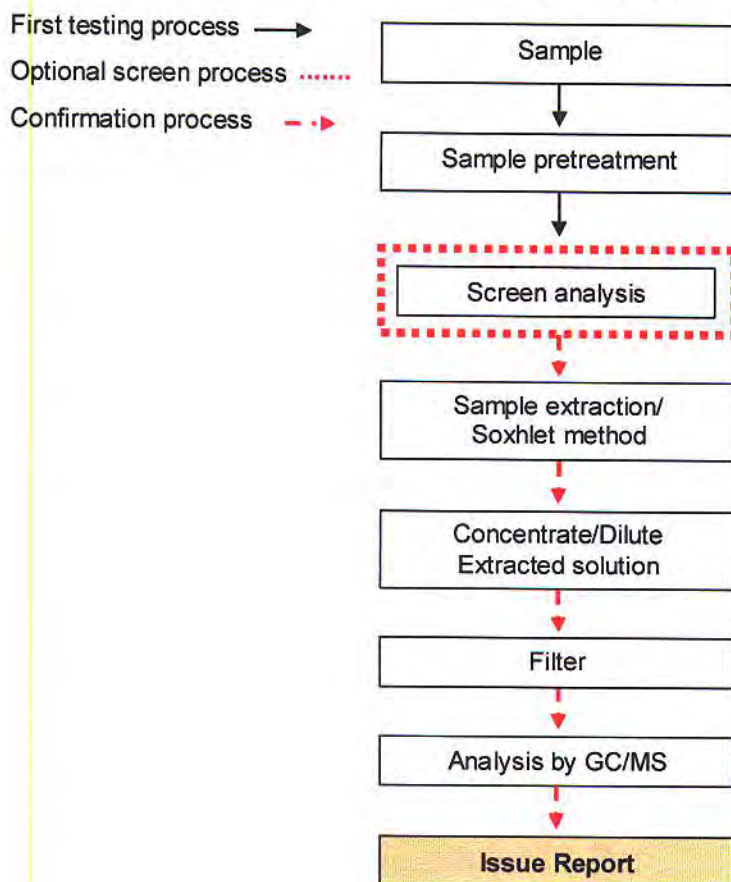
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ELSCHUKOM ELEKTROSCHUTZKOMPONENTENBAU GMBH
GEWERBESTRASSE 87, D-98669 VEILSDORF, GERMANY



PBB/PBDE analytical FLOW CHART

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



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**** End of Report ****

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