



## ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: L600 Series –Fuse Block

Product #: L600xxx-xPQ

Issue Date: July 7, 2010

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:

<Global EHS Coordinator >

(1) Parts, sub-materials and unit parts

This document covers the L600 Series - 600V Fuse Block for Midget Fuse 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**

<b>Total Parts</b>	<b>Raw Material Part Number</b>	<b>Raw Material Description</b>	<b>Page(s)</b>
1	902-122	Type B Self Tapping Phillips	3-13
2	903-117	Square Nut	3-13
3	902-140	Pressure Plate Screw	3-13
4	868-069	Fuse Block	3-13
5	902-119	Type B Self Tapping Screw	14-19
6	929-023	Guide Spring	20-25
7	100060	Rejection Fuse Clip (100 Series)	26-31
8	100069	Fuse Clip (100 Series)	32-37

## TEST REPORT

### APPLICANT

Littelfuse, S.A. de C.V.  
Poder Judicial No. 1005, Col. Burócratas, Piedras Negras, Coahuila, C.P. 26020  
Berenice Casas / Mario Falcón

### SAMPLE DESCRIPTION

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

Sample Description	NP
	1) P/N: 902-122 Serie: L600XXX-XPQ
	2) P/N: 903-117 Serie: L600XXX-XPQ
Item No.	4) P/N: 902-140 Serie L600XXX-XPQ
	21) P/N: 868-069 Serie: L600XXX-XPQ

Country of Origin	NP
Buyer's Name	NP
Supplier's Name	NP
Date sample received	2010-04-20
Testing period	2010-04-29 to 2009-05-22

\*\*\*\*\*

### TEST CONDUCTED

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

\*\*\*\*\*

### CONCLUSION

	Testing item	Conclusion	Failed component	Failed result
1	P/N: 902-122 Serie: L600XXX-XPQ	Pass See Result summary	---	---
2	P/N: 903-117 Serie: L600XXX-XPQ	Pass See Result summary	---	---
4	P/N: 902-140 Serie L600XXX-XPQ	Pass See Result summary	---	---
21	P/N: 868-069 Serie: L600XXX-XPQ	Pass See Result summary	---	---

\*\*\*\*\*

## TEST CONDUCTED

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

- 1) P/N: 902-122 Serie: L600XXX-XPQ
- 2) P/N: 903-117 Serie: L600XXX-XPQ
- 4) P/N: 902-140 Serie L600XXX-XPQ

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)			Limit #
	(1)	(2)	(4)	
Cadmium (Cd) content	58,493	25,093	15,321	0,01% (100 ppm)
Lead (Pb) content	17,26	5,70	3,661	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	0,210	ND	0,043	0,1% (1000 ppm)

# TEST CONDUCTED

One (1) group of submitted samples said to be :  
21) P/N: 868-069 Serie: L600XXX-XPQ

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit #
	(21)		
Cadmium (Cd) content	ND		0,01% (100 ppm)
Lead (Pb) content	13,39		0,1% (1000 ppm)
Mercury (Hg) content	ND		0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND		0,1% (1000 ppm)
<b>POLYBROMINATED BIPHENYLS (PBBs)</b>	ND		0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND		---
Dibromobiphenyl (DiBB)	ND		---
Tribromobiphenyl (TriBB)	ND		---
Tetrabromobiphenyl (TetraBB)	ND		---
Pentabromobiphenyl (PentaBB)	ND		---
Hexabromobiphenyl (HexaBB)	ND		---
Heptabromobiphenyl (HeptaBB)	ND		---
Octabromobiphenyl (OctaBB)	ND		---
Nonabromobiphenyl (NonaBB)	ND		---
Decabromobiphenyl (DecaBB)	ND		---
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs)</b>	ND		0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND		---
Dibromodiphenyl (DiBDE)	ND		---
Tribromodiphenyl (TriBDE)	ND		---
Tetrabromodiphenyl (TetraBDE)	ND		---
Pentabromodiphenyl (PentaBDE)	ND		---
Hexabromodiphenyl (HexaBDE)	ND		---
Heptabromodiphenyl (HeptaBDE)	ND		---
Octabromodiphenyl (OctaBDE)	ND		---
Nonabromodiphenyl (NonaBDE)	ND		---
Decabromodiphenyl (DecaBDE)	ND		---

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The results that appear in this report belong solely to (s) shows (s) analyzed (s).

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

$\mu\text{g}/\text{cm}^2$  = microgram per square centimeter.

mg/kg WITH 50cm<sup>2</sup> = 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  $\Omega$ .

Prepared and checked by :

For Intertek


PA Maria T. Candelario Mota



20100609

Laboratory Manager

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

P.A. Ma. de Jesús Moreno  


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 928-1 WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX10 928-2 WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX10 928-4 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX10 928-21 WERE TESTED TOGETHER.



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**Intertek Testing Services de México, S.A. de C.V.**

Blvd. Manuel Ávila Camacho No. 182 Col. Lomas de Chapultepec  
C.P. 11650, México, D.F. Tel.: 50912150 Fax: 55407863

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**Test method :**

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
	Chromium (Cr <sup>6+</sup> ) content	With reference to USEPA Panasonic (HACH), by EPA Panasonic (HACH) (Sample 1,4) With reference to USEPA 3060, by EPA 7196	BAL827p85 BEQ160p5b	(Sample (1,4) 2010-05-04 2010-05-01,03	MELA,JLHS	0,020 2,0

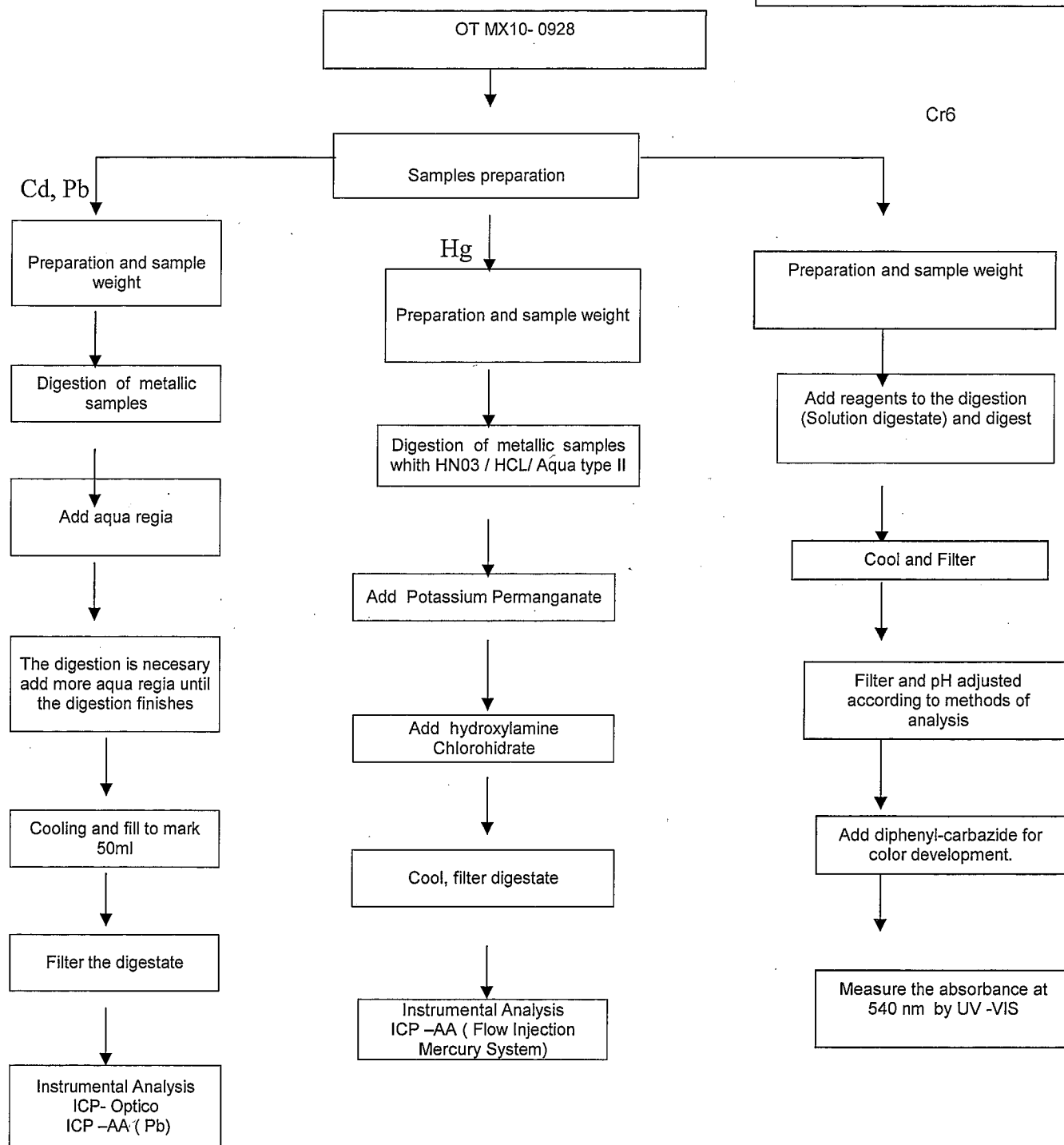
No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
	POLYBROMINATED BIPHENYLS (PBBs)	Determined by GC-MSD	2010-004440-P CL	2010-04-28 2010-05-22	CONT	50*
	POLYBROMINATED DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2010-004440-P CL	2010-04-28 2010-05-22	CONT	50*

No. de Muestra	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 7420	MET2010-4p59	2010-04-29	MARY,DCL	6,85
2	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-4p59	2010-04-29	MARY,DCL	3,09
4	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-4p59	2010-04-29	MARY,DCL	1,79
21	Lead (Pb) content	With reference to USEPA 3052MOD, by EPA 6010	MET2010-4p60	2010-04-29	MARY,DCL	5,435

No. de Muestra	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	MET2010-4p59	2010-04-29	MARY,DCL	1,369
2	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-4p59	2010-04-29	MARY,DCL	0,617
4	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-4p59	2010-04-29	MARY,DCL	0,357
21	Cadmium (Cd) content	With reference to USEPA 3052MOD, by EPA 6010	MET2010-4p60	2010-04-29	MARY,DCL	2,174

No. de Muestra	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	MET2010-4p61	2010-04-30	UBM	0,0685
2	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-4p61	2010-04-30	UBM	0,0303
4	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-4p61	2010-04-30	UBM	0,0178
21	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-8p2	2010-04-30	UBM	0,082

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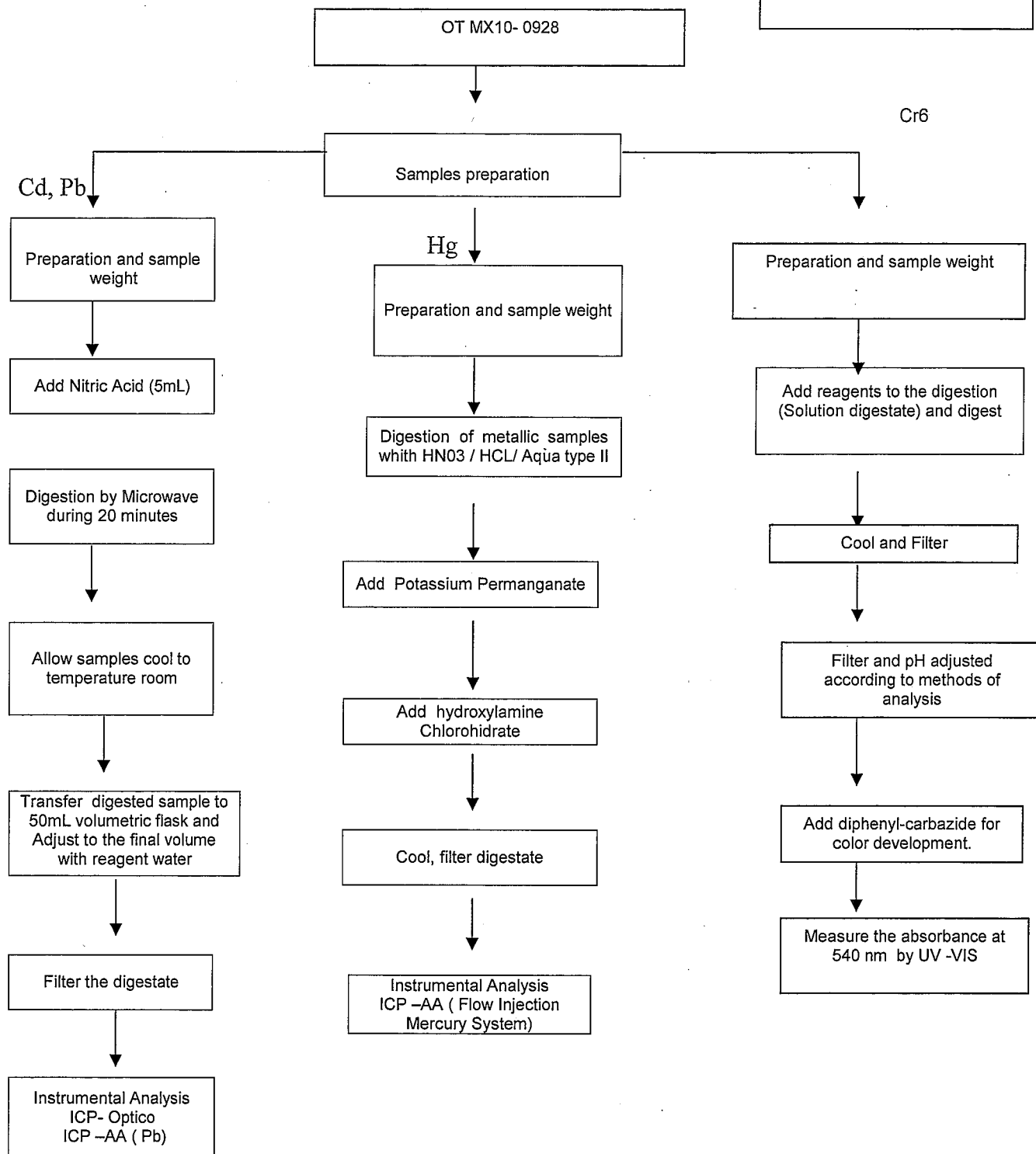
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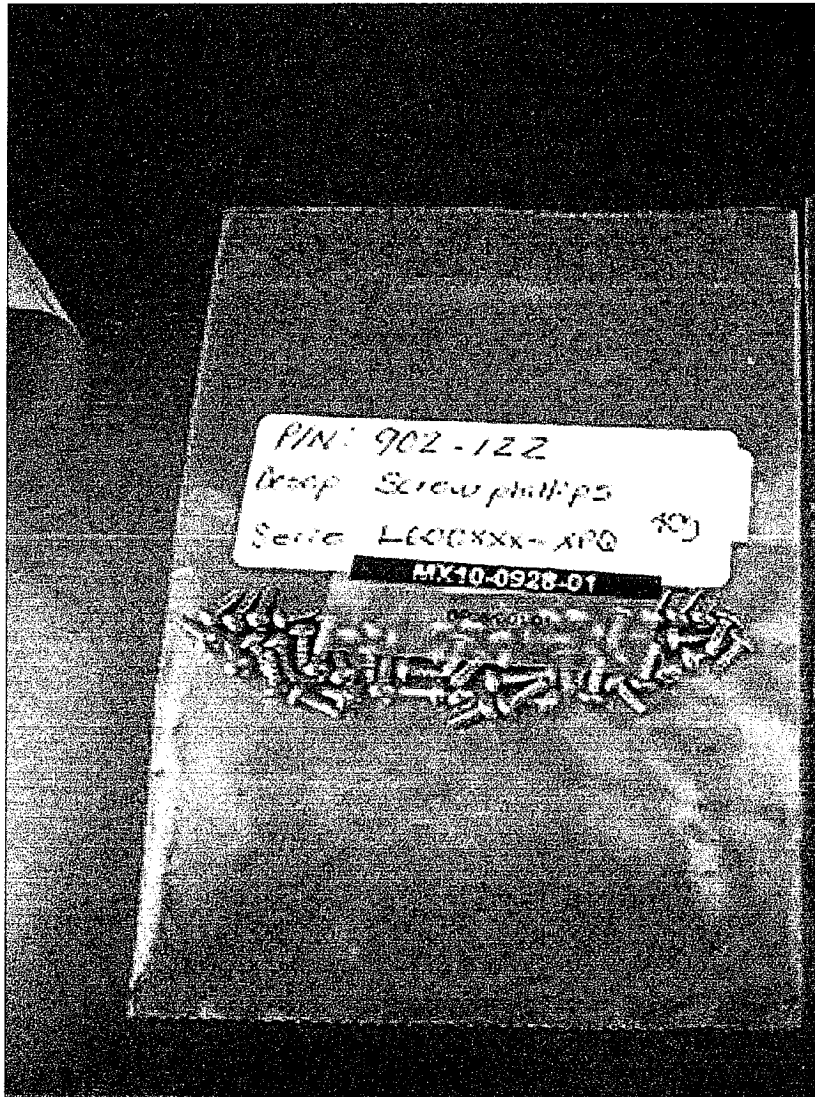
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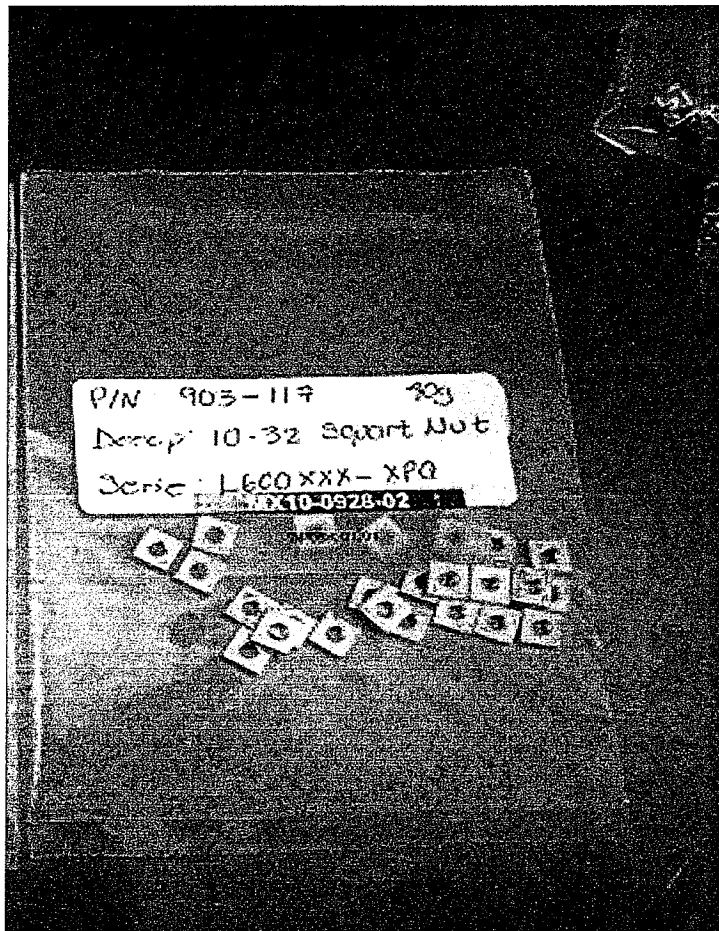
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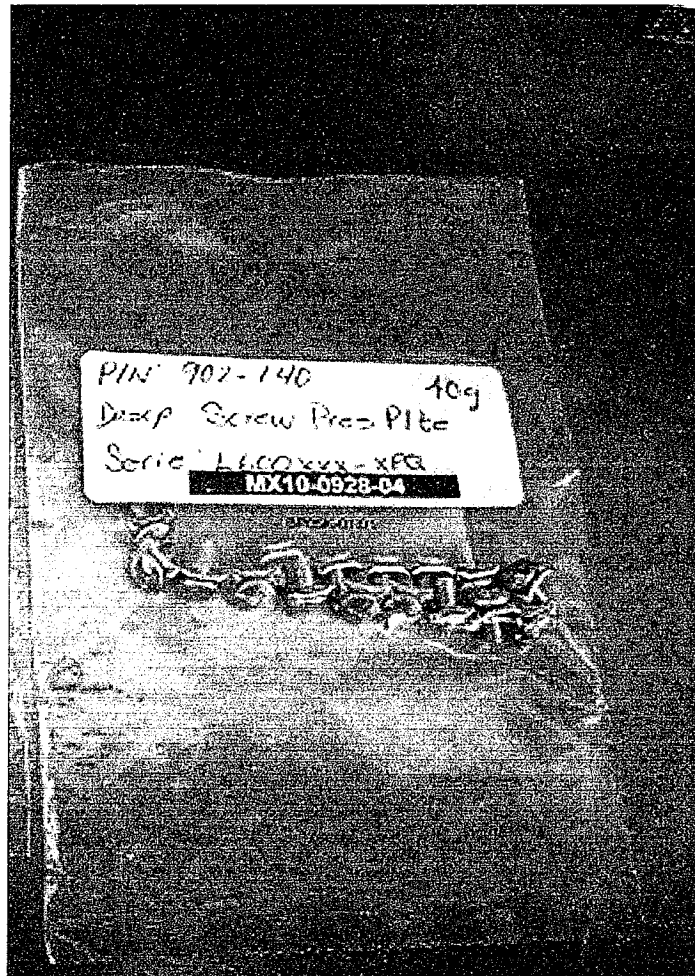


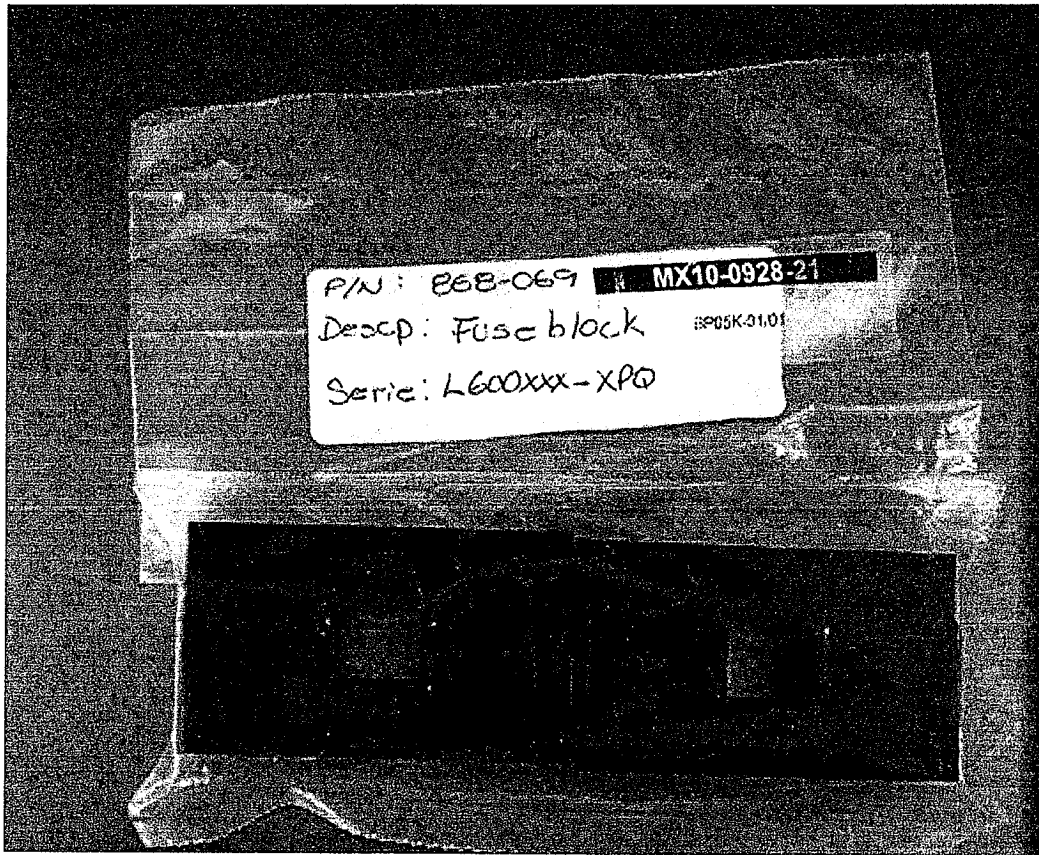
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**MX10-0928-01**

**MX10-0928-02**

**MX10-0928-04**



**MX10-0928-21**

**TEST REPORT**

APPLICANT: LITTELFUSE, INC.  
800 E. NORTHWEST HWY  
DESPLAINES IL 60016

NUMBER : TWNC00104277

DATE : JAN 19, 2009

**SAMPLE DESCRIPTION:**

ONE (1) GROUP OF SUBMITTED SAMPLES SAID TO BE :

PART DESCRIPTION : TYPE B SELF  
TAP-SCREW

PART NUMBER : 902-119

FACILITY : PIEDRAS

DATE SAMPLE RECEIVED : JAN 14, 2009

DATE TEST STARTED : JAN 14, 2009

\*\*\*\*\*

**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.



NUMBER : TWNC00104277

TEST CONDUCTED

( I ) TEST RESULT SUMMARY :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
	<u>SILVER METAL</u> <u>SCREW</u>
<b>HEAVY METAL</b>	
CADMIUM (Cd) CONTENT	ND
LEAD (Pb) CONTENT	ND
MERCURY (Hg) CONTENT	ND
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION BASED ON WEIGHT OF TESTED SAMPLE  
ND = NOT DETECTED

RESPONSIBILITY OF CHEMIST: IRENE CHIOU / KEVIN LIU

DATE SAMPLE RECEIVED : JAN 14, 2009  
TESTING PERIOD : JAN 14, 2009 TO JAN 17, 2009

( II ) ROHS REQUIREMENT :

<u>RESTRICTED SUSTANCES</u>	<u>LIMITS</u>
CADMIUM (Cd)	0.01% (100ppm)
LEAD (Pb)	0.1% (1000ppm)
MERCURY (Hg)	0.1% (1000ppm)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000ppm)

\*\*\*\*\*

NUMBER : TWNC00104277

TEST CONDUCTED

(III) TEST METHOD :

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321-111/95/CDV IN CLAUES 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 62321-111/95/CDV IN CLAUES 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 62321-111/95/CDV IN CLAUES 7, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES	2 ppm
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	WITH REFERENCE TO USEPA 3060A & 7196A, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 ppm

REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE  
TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-10-12 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

\*\*\*\*\*

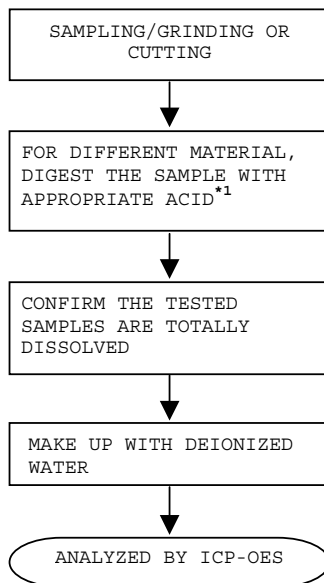


TEST CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg

REFERENCE STANDARD : IEC 62321 (111/95/CDV)



REMARKS:

\*1: LIST OF APPROPRIATE ACID :

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

\*\*\*\*\*

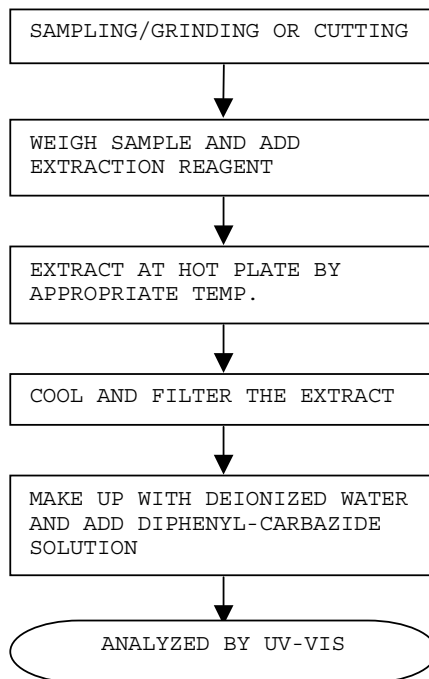


NUMBER : TWNC00104277

TEST CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR CHROMIUM (VI) CONTENT  
REFERENCE STANDARD : USEPA 3060A/7196A



\*\*\*\*\*  
END OF REPORT

NUMBER : TWNC00104277

TEST CONDUCTED

PHOTO



**TEST REPORT**

APPLICANT: LITTELFUSE, INC.  
800 E. NORTHWEST HWY  
DESPLAINES IL 60016

NUMBER : TWNC00104278

DATE : JAN 19, 2009

**SAMPLE DESCRIPTION:**

ONE (1) GROUP OF SUBMITTED SAMPLES SAID TO BE :

PART DESCRIPTION : GUIDE SPRING

PART NUMBER : 929-023

FACILITY : PIEDRAS

DATE SAMPLE RECEIVED : JAN 14, 2009

DATE TEST STARTED : JAN 14, 2009

\*\*\*\*\*

**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 : TWNC00104278

TEST CONDUCTED

( I ) TEST RESULT SUMMARY :

<u>TESTING ITEM</u>	<u>RESULT (ppm)</u>
	<u>SILVERY METAL</u>
<b>HEAVY METAL</b>	
CADMIUM (Cd) CONTENT	ND
LEAD (Pb) CONTENT	ND
MERCURY (Hg) CONTENT	ND
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	ND

REMARKS : ppm = PARTS PER MILLION BASED ON WEIGHT OF TESTED SAMPLE  
ND = NOT DETECTED

RESPONSIBILITY OF CHEMIST: IRENE CHIOU / KEVIN LIU

DATE SAMPLE RECEIVED : JAN 14, 2009

TESTING PERIOD : JAN 14, 2009 TO JAN 17, 2009

( II ) ROHS REQUIREMENT :

<u>RESTRICTED SUSTANCES</u>	<u>LIMITS</u>
CADMIUM (Cd)	0.01% (100ppm)
LEAD (Pb)	0.1% (1000ppm)
MERCURY (Hg)	0.1% (1000ppm)
CHROMIUM (VI) (Cr <sup>6+</sup> )	0.1% (1000ppm)

\*\*\*\*\*



NUMBER : TWNC00104278

TEST CONDUCTED

(III) TEST METHOD :

TESTING ITEM	TESTING METHOD	REPORTING LIMIT
CADMIUM (Cd) CONTENT	WITH REFERENCE TO IEC 62321-111/95/CDV IN CLAUES 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 62321-111/95/CDV IN CLAUES 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 62321-111/95/CDV IN CLAUES 7, BY MICROWAVE DIGESTION UNTIL THE TESTED SAMPLES ARE TOTALLY DISSOLVED AND DETERMINED BY ICP-OES	2 ppm
CHROMIUM VI (Cr <sup>6+</sup> ) CONTENT	WITH REFERENCE TO USEPA 3060A & 7196A, BY ALKALINE DIGESTION AND DETERMINED BY UV-VIS SPECTROPHOTOMETER	1 ppm

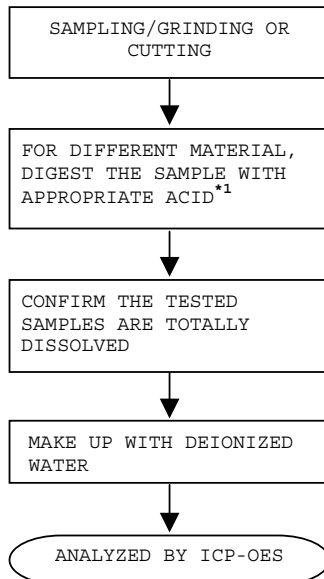
REMARKS : REPORTING LIMIT = QUANTITATION LIMIT OF ANALYTE IN SAMPLE  
TESTS WERE CONDUCTED WITH REFERENCE TO 111/95/CDV VERSION 2007-10-12 WHICH IS STILL A DRAFT METHOD AND SUBJECT TO FUTURE CHANGES PRIOR TO PUBLICATION.

\*\*\*\*\*

TEST CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR Cd/Pb/Hg  
REFERENCE STANDARD : IEC 62321 (111/95/CDV)



REMARKS:

\*1: LIST OF APPROPRIATE ACID :

MATERIAL	ACID ADDED FOR DIGESTION
POLYMERS	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
METALS	HNO <sub>3</sub> , HCl, HF
ELECTRONICS	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

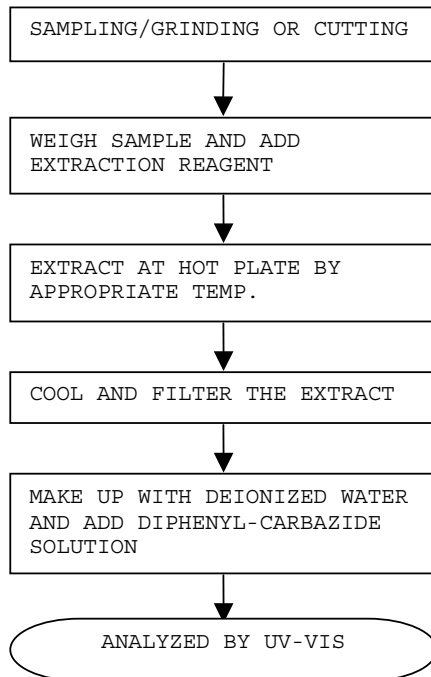
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TEST CONDUCTED

(IV) MEASUREMENT FLOWCHART:

TEST FOR CHROMIUM (VI) CONTENT

REFERENCE STANDARD : USEPA 3060A/7196A



\*\*\*\*\*  
END OF REPORT



NUMBER : TWNC00104278

TEST CONDUCTED

PHOTO



**Test Report**

Number : TWNC00108551  
Page 1 Of 6

Applicant: Littelfuse, Inc.  
800 E. Northwest Hwy  
Des Plaines IL 60016

Date : FEB 27, 2009

**Sample Description:**

One (1) group of submitted samples said to be :  
Part Description : Rejection Fuse Clip  
Part Number : 100060  
Date Sample Received : FEB 24, 2009  
Date Test Started : FEB 25, 2009

---

**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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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

## Test Conducted

## ( I ) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
	<u>Silvery Metal</u>
<b>Heavy Metal</b>	
Cadmium (Cd) content	ND
Lead (Pb) content	30
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) content	ND

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
ND = Not detected

Responsibility Of Chemist : Irene Chiou / Kevin Liu

Date Sample Received : FEB 24, 2009

Testing Period : FEB 25, 2009 TO FEB 26, 2009

## ( 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 <sup>6+</sup> ) Content	0.1% (1000ppm)

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

Test Conducted

## (III) Test Method:

Testing Item	Testing Method	Reporting Limit
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 ( $\text{Cr}^{6+}$ ) Content	With reference to USEPA 3060A & 7196A, by alkaline digestion and determined by UV-Vis Spectrophotometer	1 ppm

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Remark: Reporting limit = Quantitation limit of analyte in sample

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**Intertek Testing Services Taiwan Ltd.**

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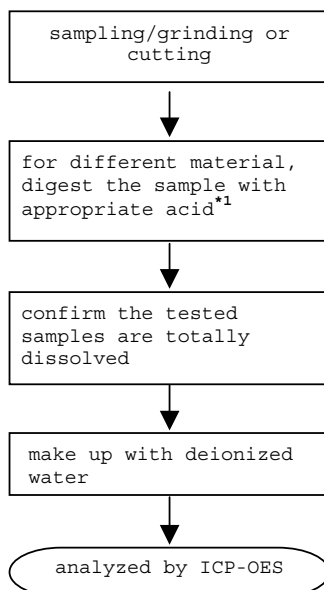
114 台北市內湖區瑞光路 423 號 8 樓

Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Conducted

(IV) Measurement Flowchart:

Test For Heavy Metal (Cd/Pb/Hg) Contents  
Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

\*1: List Of Appropriate Acid:

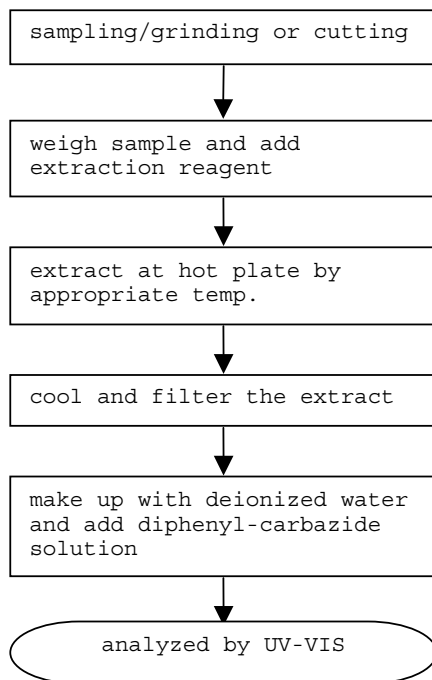
Material	Acid Added For Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

Test Conducted

(IV) Measurement Flowchart:

Test For Chromium (VI) Content

Reference Standard: USEPA 3060A/7196A



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End Of Report

Test Conducted

Photo



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**Test Report**

Number : TWNC00108549  
Page 1 Of 6

Applicant: Littelfuse, Inc.  
800 E. Northwest Hwy  
Desplaines Il 60016

Date : FEB 27, 2009

**Sample Description:**

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

Part Description : Fuse Clip  
Part Number : 100069  
Date Sample Received : FEB 24, 2009  
Date Test Started : FEB 25, 2009

---

**Test Conducted :**

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

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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.

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Test Conducted

( I ) Test Result Summary :

<u>Testing Item</u>	<u>Result (ppm)</u>
	<u>Silvery Metal</u>
<b>Heavy Metal</b>	
Cadmium (Cd) content	ND
Lead (Pb) content	47
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) content	ND

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg  
ND = Not detected

Responsibility Of Chemist : Irene Chiou / Kevin Liu

Date Sample Received : FEB 24, 2009

Testing Period : FEB 25, 2009 TO FEB 26, 2009

( 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 <sup>6+</sup> ) Content	0.1% (1000ppm)

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

## Test Conducted

## (III) Test Method:

Testing Item	Testing Method	Reporting Limit
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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 ( $\text{Cr}^{6+}$ ) Content	With reference to USEPA 3060A & 7196A, by alkaline digestion and determined by UV-Vis Spectrophotometer	1 ppm

---

Remark: Reporting limit = Quantitation limit of analyte in sample

---

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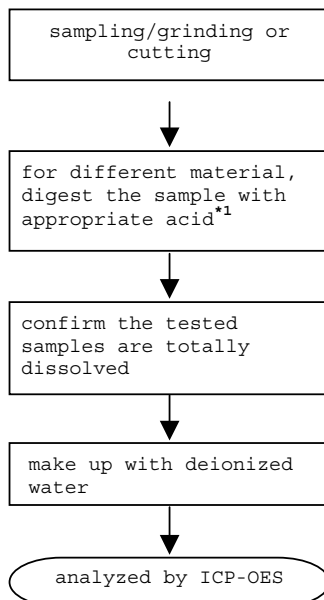
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Test Conducted

(IV) Measurement Flowchart:

Test For Heavy Metal (Cd/Pb/Hg) Contents  
Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

\*1: List Of Appropriate Acid:

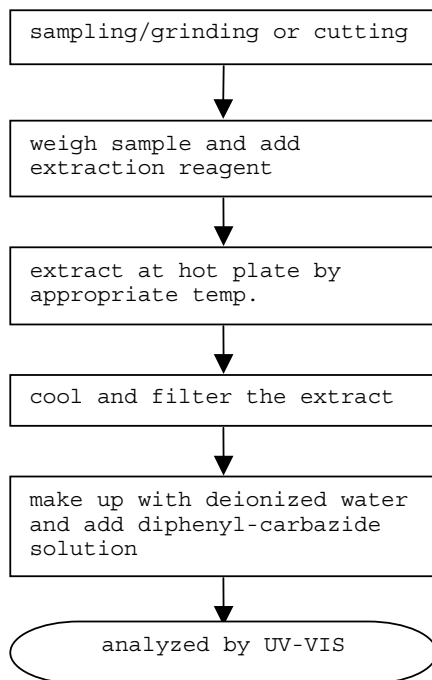
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Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

Test Conducted

(IV) Measurement Flowchart:

Test For Chromium (VI) Content

Reference Standard: USEPA 3060A/7196A



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End Of Report

Test Conducted

Photo



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