ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: 345 series - PC Mount Shock Safe Holders

Product #: 03450121H/ 03450101H/ 03450613H Series

Issue Date: June 20, 2012

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (2011/65/EU – recast of 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 2AG, 3AG Shock Safe Holder 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 identifed 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	891-018-003	Knob Insert	3-7
2	882-426	Back Terminal	8-21
3	882-425	Side Terminal	8-21
4	883-055	Contact Clip	22-26
5	912-296	Compress Spring (03450121H)	27-31
6	070115	Compress Spring (03450101H)	32-36
7	057275	Body - Valox Gray (345101-1) Knob (03450101H)	37-45
8	057277	Knob – Rynite (03450613H)	46-55
9	057269	Cover - Valox Blk (345101-3)	56-64
10	875-460	Side Terminal	65-69
11	903-097	Hex nut	70-76
12	875-461	Back Terminal	77-81
13	425205	White paint	82-90
14	057838	Knob (03450121H)	91-94

Test Report Number : TWNC00260673

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Jun 18, 2012

Sample Description:
One (1) group of submitted samples said to be :
Part Description : KNOB INSERT
Part Number : 891-018-003
Date Sample Received : Jun 04, 2012
Date Test Started : Jun 05, 2012

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

Intertek Testing Services Taiwan Ltd.
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00260673

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)	
	(1)	(2)
Heavy Metal		
Cadmium (Cd) content	ND	ND
Lead (Pb) content	16	478
Mercury (Hg) content	ND	ND
Chromium VI (Cr^{6+}) content (mg/kg with $50cm^2$)	Negative (< 0.02)	Negative (< 0.02)

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg
ND = Not detected
< = Less than
mg/kg with $50cm^2$ = milligram per kilogram with 50 square centimetre
Negative = A negative test result indicated positive observation was not found at the time of Test.

Tested Components
(1) Coppery Metal Base Material
(2) Silvery Plating Layer

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

Date Sample Received : Jun 04, 2012
Test Period : Jun 05, 2012 To Jun 18, 2012

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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)

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

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Test Conducted
(Ⅲ) Test Method:

Test Item	Test 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 (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

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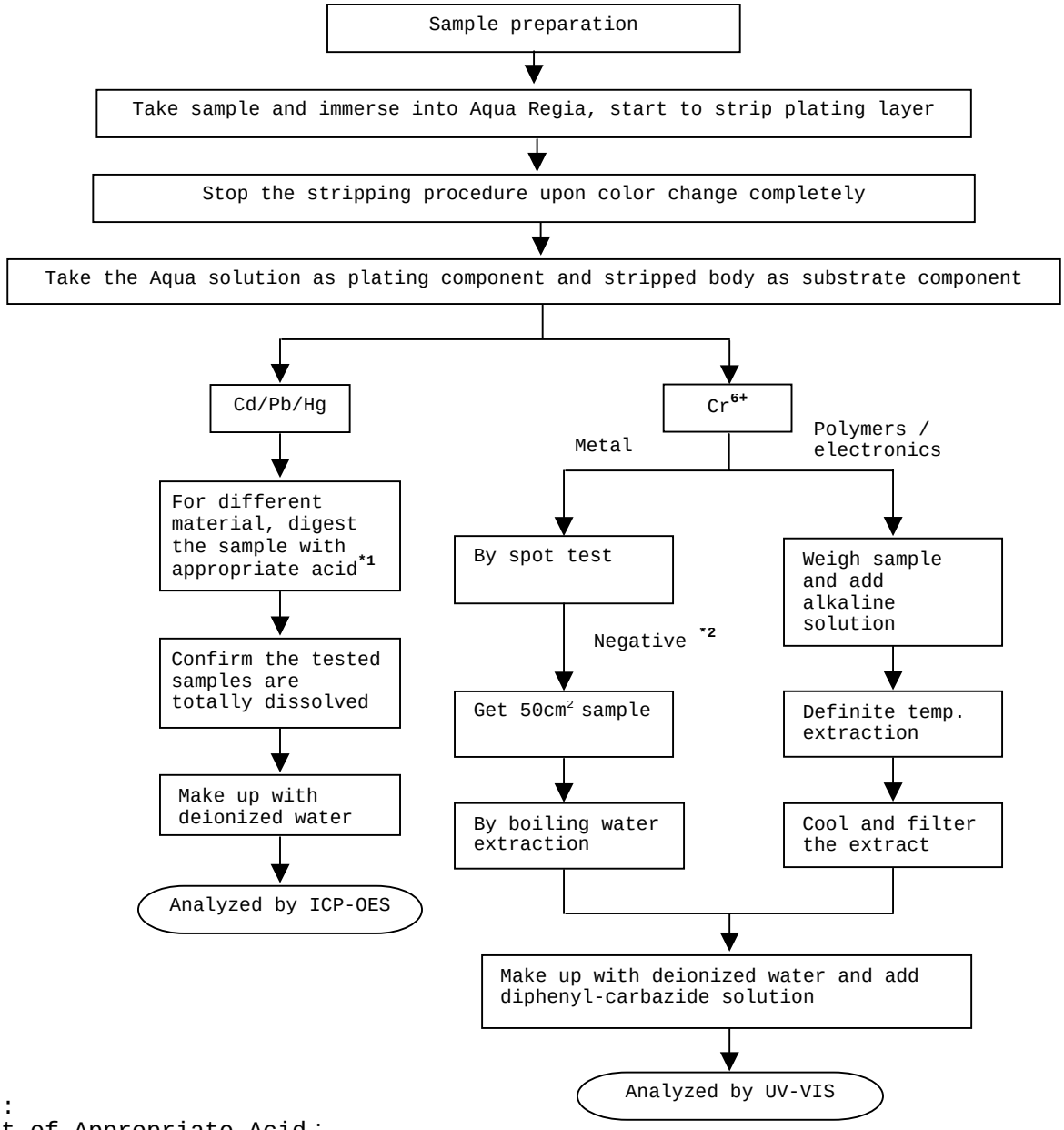
Number : TWNC00260673

Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)

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_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

End of Report

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Test Conducted

Photo

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

Report No.: MX11-0367
Date : 2011-03-22

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila
Ing. Maria Valdez

SAMPLE DESCRIPTION

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

Sample Description	NP
Item No.	1) N/P 882-425 base y plateo 2) N/P 882-426 base y plateo 3) N/P 883-048 base y plateo 4) N/P 891-023 base y plateo 5) N/P 344006-4 base y plateo 6) N/P 915-010 base y plateo 7) N/P 905-010 8) N/P 912-072 9) N/P 912-296 10) N/P 070126
Country of Origin	NP
Buyer's Name	NP
Supplier's Name	NP
Date sample received	2011-02-23
Testing period	2011-02-28 to 2011-03-03

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TEST CONDUCTED

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

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000002

Intertek Testing Services de México, S.A. de C.V.
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www.intertek.com

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Report No.: MX11-0367
Date : 2011-03-22

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
1 (a)	N/P 882-425 plateo	Pass See Result summary	---	---
1 (b)	N/P 882-425 base	Pass See Result summary	---	---
2(a)	N/P 882-426 plateo	Pass See Result summary	---	---
2(b)	N/P 882-426 base	Pass See Result summary	---	---
3(a)	N/P 883-048 plateo	Pass See Result summary	---	---
3(b)	N/P 883-048 base	Pass See Result summary	---	---
4(a)	N/P 891-023 plateo	Pass See Result summary	---	---
4(b)	N/P 891-023 base	Pass See Result summary	---	---
5(a)	N/P 344006-4 plateo	Pass See Result summary	---	---
5(b)	N/P 344006-4 base	Pass See Result summary	---	---
6(a)	N/P 915-010 plateo	Pass See Result summary	---	---
6(b)	N/P 915-010 base	Pass See Result summary	---	---
7	N/P 905-010	Pass See Result summary	---	---
8	N/P 912-072	Pass See Result summary	---	---
9	N/P 912-296	Pass See Result summary	---	---
10	N/P 070126	Pass See Result summary	---	---

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000003

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Report No.: MX11-0367
Date : 2011-03-22

TEST CONDUCTED

Samples:

1) N/P 882-425 base y plateo
2) N/P 882-426 base y plateo

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	1 (a) covering	1 (b) base	2 (a) covering	2 (b) base	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	219,5	11,73	ND	23,91	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)

TEST CONDUCTED

Samples:

3) N/P 883-048 base y plateo
4) N/P 891-023 base y plateo

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	3 (a) covering	3 (b) base	4 (a) covering	4 (b) base	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	ND	ND	ND	13,67	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)

000004

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Report No.: MX11-0367
Date : 2011-03-22

TEST CONDUCTED

Samples:

5) N/P 344006-4 base y plateo
6) N/P 915-010 base y plateo

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	5 (a) covering	5 (b) base	6 (a) covering	6 (b) base	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	ND	7,885	331,8	ND	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)

TEST CONDUCTED

Samples:

7) N/P 905-010
8) N/P 912-072

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(7)	(8)	
Cadmium (Cd) content	55,93	36,54	0,01% (100 ppm)
Lead (Pb) content	24,52	32,77	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	ND	0,1% (1000 ppm)

C00005

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TEST CONDUCTED

Samples:

9) N/P 912-296
10) N/P 070126

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(9)	(10)	
Cadmium (Cd) content	35,38	34,25	0,01% (100 ppm)
Lead (Pb) content	32,12	29,92	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	ND	0,1% (1000 ppm)

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = milligram per kilogram with 50 square centimeter.
< = less than.
ND = Not detected the quantification limit.
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 López M.
Coord de área

Laboratory Manager

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

C30006

Intertek Testing Services de México, S.A. de C.V.
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Report No.: MX11-0367
Date : 2011-03-22

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 MX11-0367-01 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-02 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-03 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-04 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-05 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-06 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-07 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-08 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-09 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0367-10 WERE TESTED TOGETHER.

CJ0007

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Report No.: MX11-0367
Date : 2011-03-22

Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-10	Chromium VI (Cr^{6+}) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p17	2011-03-03	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	125,0
1 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	5,0
2 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	125,0
2 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	5,0
3 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	125,0
3 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	5,0
4 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	125,0
4 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	5,0
5 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	125,0
5 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	5,0
6 (a)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	250,0
6 (b)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	DCL	20,0
7	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	DCL	5,0
8	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	DCL	20,0
9	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	DCL	20,0
10	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	DCL	20,0

C30008

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Report No.: MX11-0367
Date : 2011-03-22

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
1 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
2 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
2 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
3 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
3 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
4 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
4 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
5 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
5 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
6 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	100,0
6 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
7	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
8	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
9	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0
10	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	625,0
1 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
2 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	625,0
2 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
3 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	625,0
3 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
4 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	416,6
4 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
5 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	625,0
5 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
6 (a)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	625,0
6 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
7	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
8	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
9	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25
10	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25

CJ0009

Intertek Testing Services de México, S.A. de C.V.
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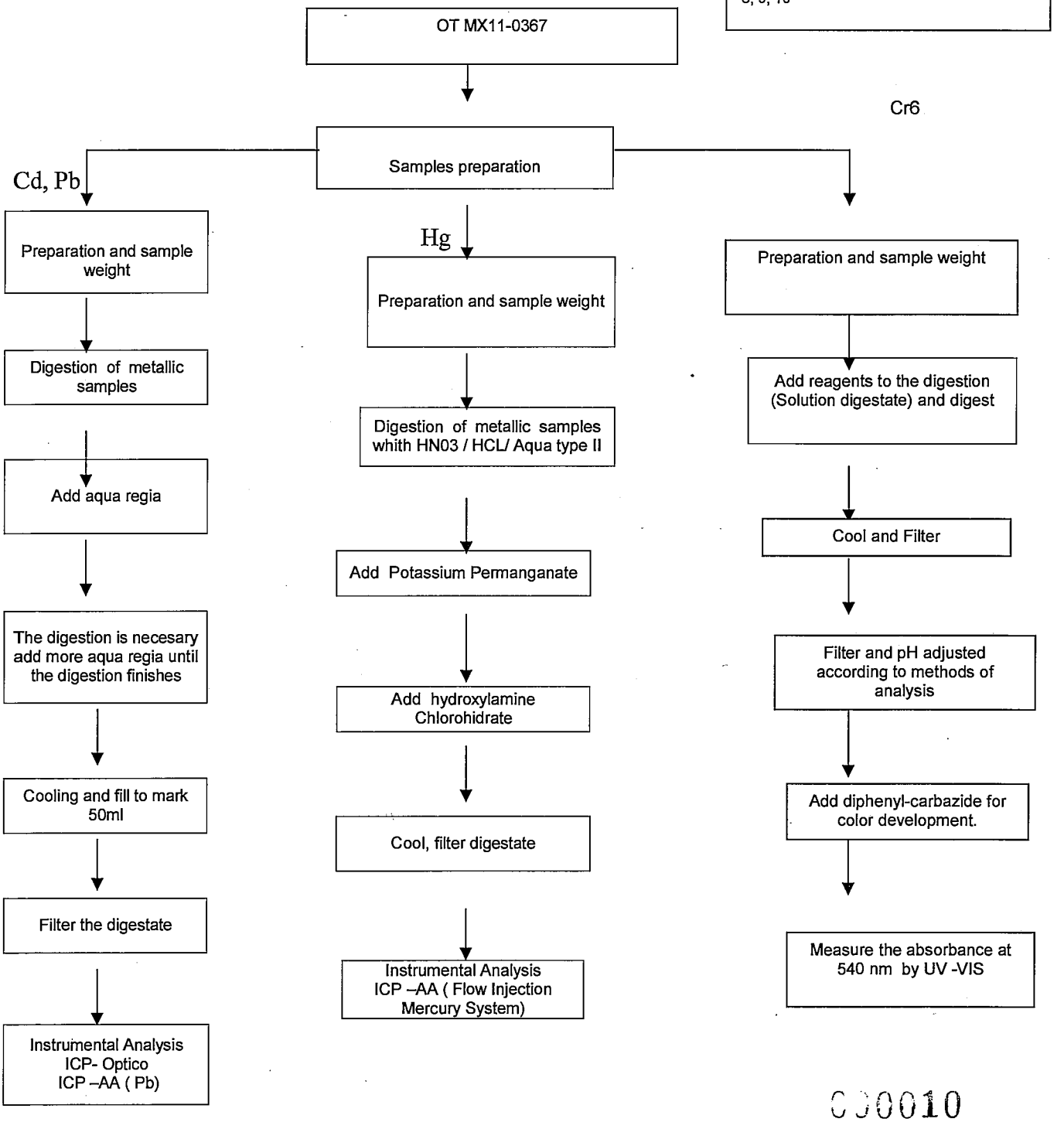
Report No.: MX11-0367
Date: 2011-03-22

Metallic samples
Flow chart for samples: 1(a), 1(b), 2(a), 2(b), 3(a), 3(b), 4(a), 4(b), 5(a), 5(b), 6(a), 6(b), 7, 8, 9, 10



000010

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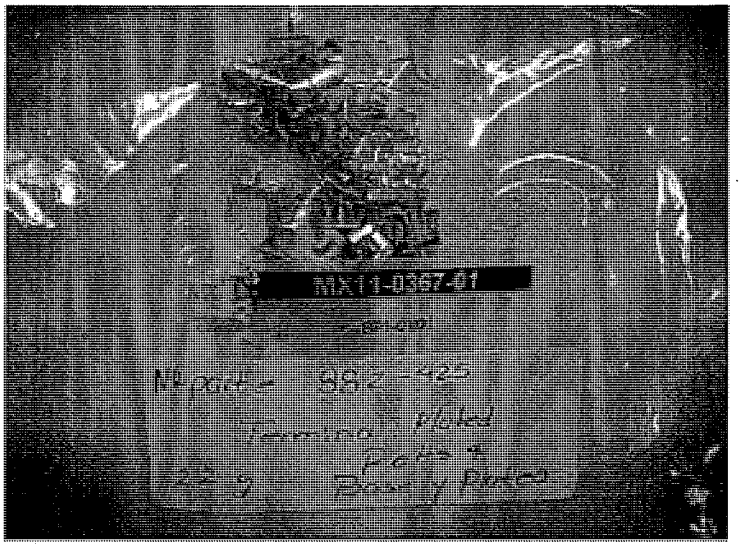
MX11-0367



000011

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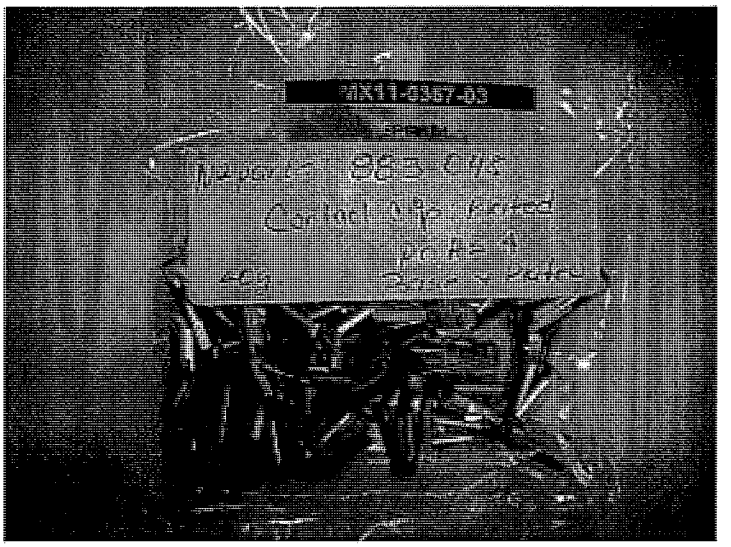
MX11-0367



000012

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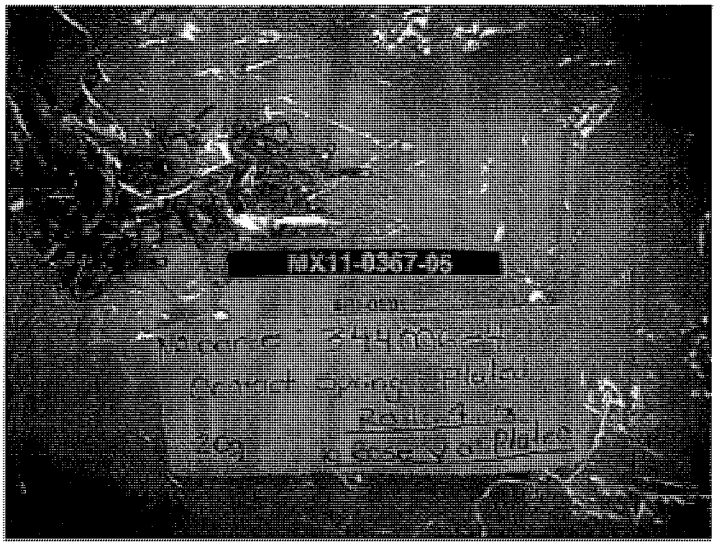
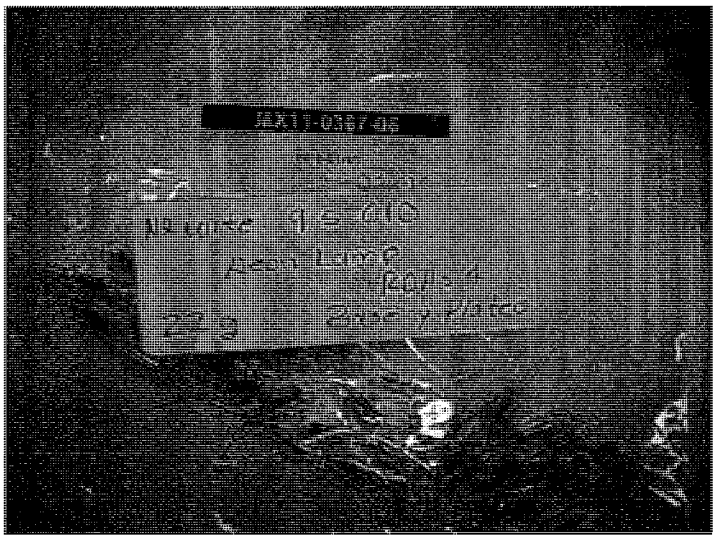
MX11-0367





000013

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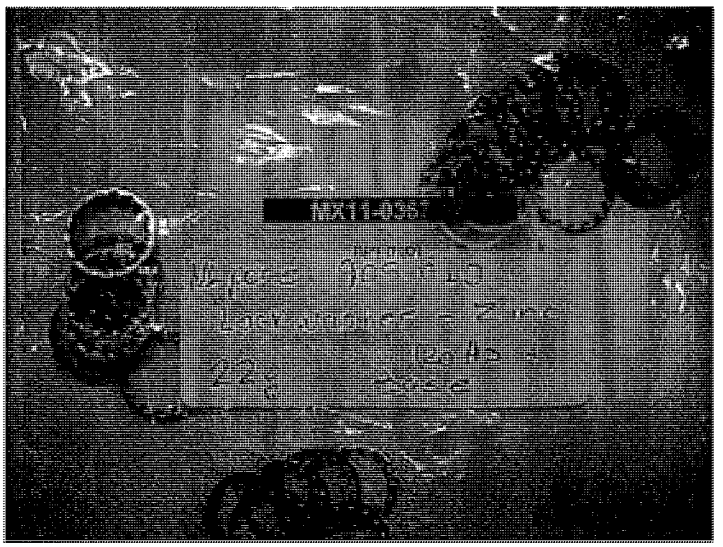
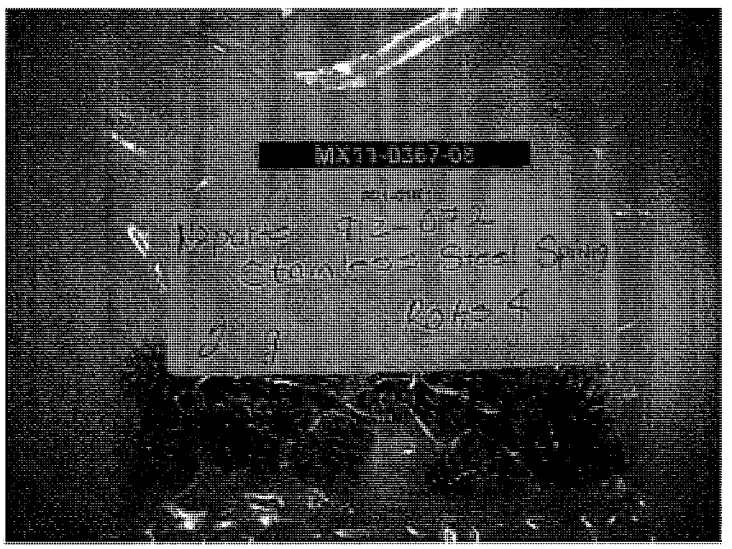
MX11-0367





CJ0014

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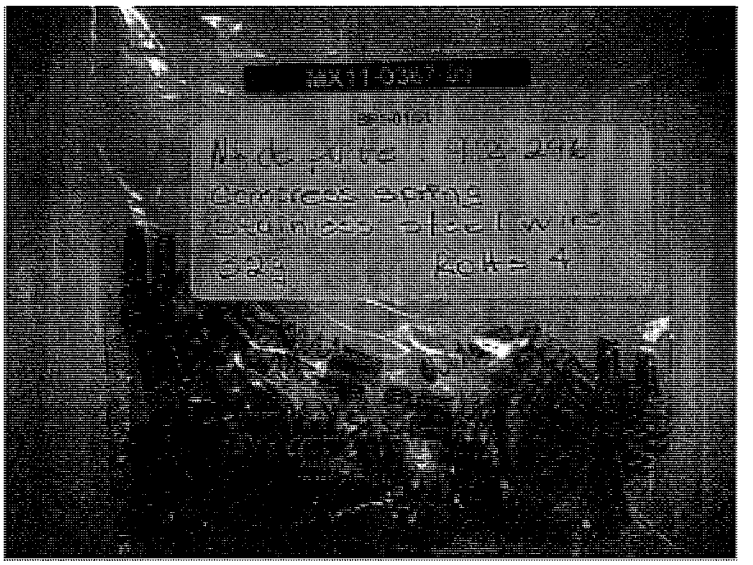
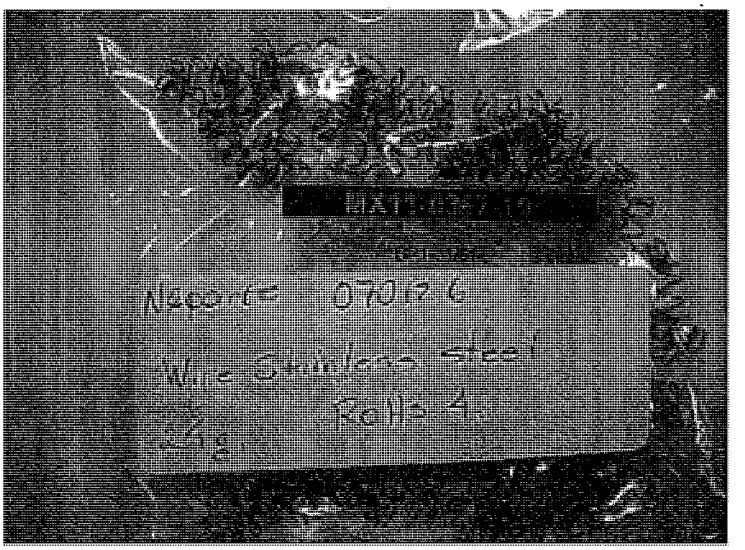
MX11-0367





000015

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Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1223-26
Date : 2011-06-28

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila
Ing. María Valdez

SAMPLE DESCRIPTION

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

Sample Description	NP
Item No.	26) N/P 883-055 5x20 Cont Clip
Country of Origin	NP
Buyer's Name	NP
Supplier's Name	NP
Date sample received	2011-06-08
Testing period	2011-06-09 to 2011-06-16

****

TEST CONDUCTED

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

****

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
26 (Base)	N/P 883-055 5x20 Cont Clip	Pass See Result summary	---	---
26 (Plated)	N/P 883-055 5x20 Cont Clip	Pass See Result summary	---	---

****

000002

Intertek Testing Services de México, S.A. de C.V.
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1223-26
Date : 2011-06-28

TEST CONDUCTED

Samples:

26) Base N/P 883-055 5x20 Cont Clip
26) Plated N/P 883-055 5x20 Cont Clip

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(26) Base	(26) Plated	
Cadmium (Cd) content	ND	ND	0,01% (100 ppm)
Lead (Pb) content	13,74	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	ND	0,1% (1000 ppm)

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = 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 López M
Coord de área
Laboratory Manager

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

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 MX11-1223-26 WERE TESTED SEPARATED.

000003

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Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1223-26
Date : 2011-06-28

Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
26	Chromium VI (Cr^{6+}) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p23	2011-06-16	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
26 (Base)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2011-12p12	2011-06-13	MARY	5,0
26 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p06	2011-06-13	MARY	250,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
26 (Base)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-12p12	2011-06-13	MARY	2,0
26 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p06	2011-06-13	MARY	100,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
26 (Base)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-12p07	2011-06-10	RNC	0,25
26 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-22p05	2011-06-10	RNC	2,5

000004

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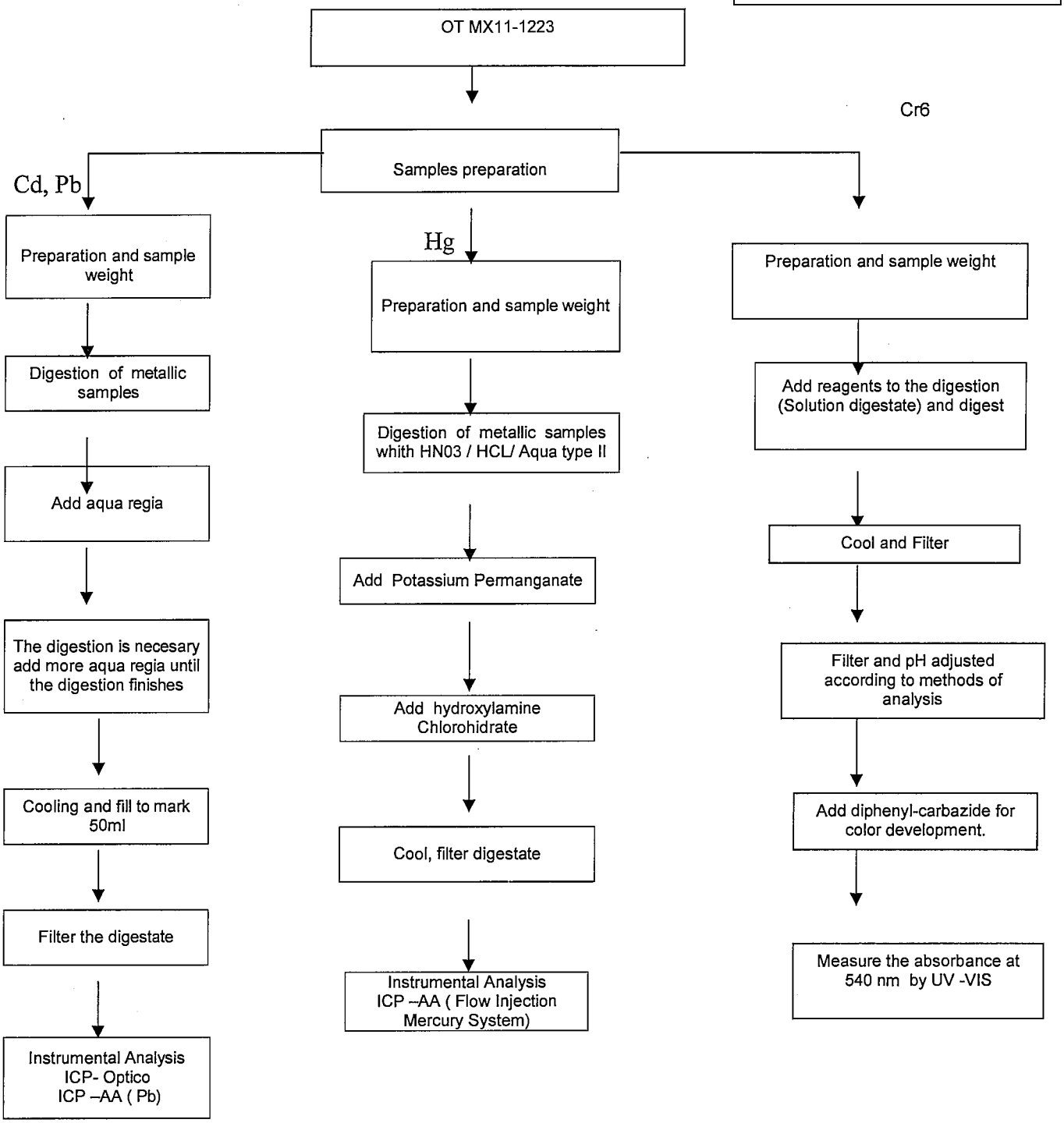
Metallic samples
Flow chart for sample: 26

Report No.: MX11-1223-26
Date: 2011-06-28



000005

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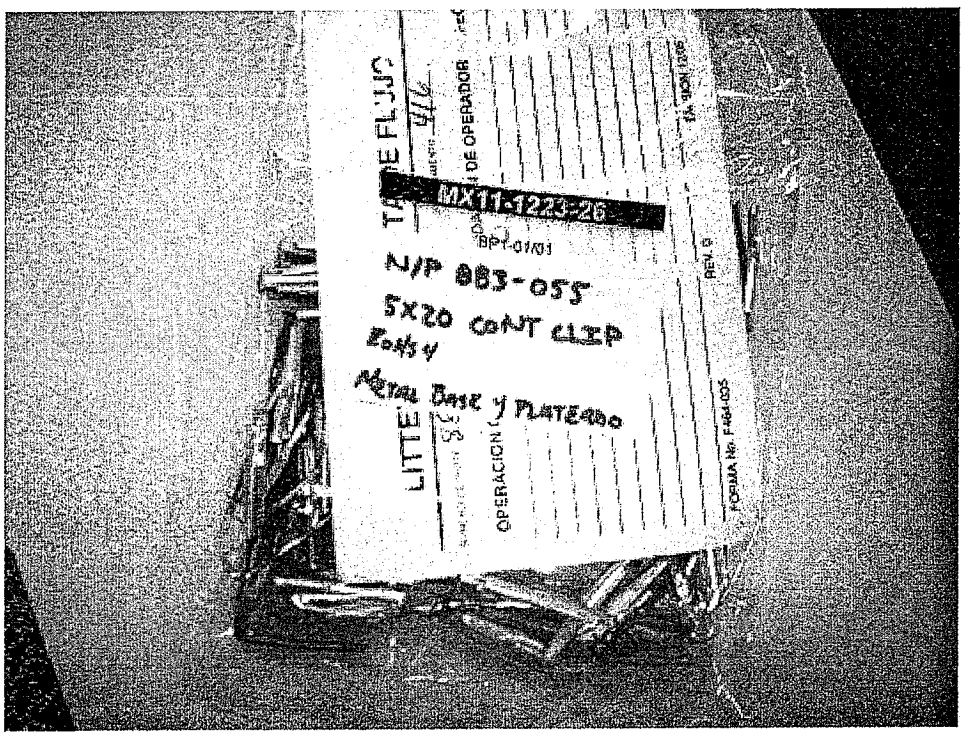

000006

Intertek Testing Services de México, S.A. de C.V.
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX11-1223-28
Date : 2011-06-28

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila
Ing. María Valdez

SAMPLE DESCRIPTION

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

Sample Description	NP
Item No.	28) N/P 912-296 Compress Spring
Country of Origin	NP
Buyer's Name	NP
Supplier's Name	NP
Date sample received	2011-06-08
Testing period	2011-06-09 to 2011-06-16

****

TEST CONDUCTED

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

****

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
28 (Base)	N/P 912-296 Compress Spring	Pass See Result summary	---	---
28 (Plated)	N/P 912-296 Compress Spring	Pass See Result summary.	---	---

****

000002

Intertek Testing Services de México, S.A. de C.V.
Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
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Report No.: MX11-1223-28
Date : 2011-06-28

TEST CONDUCTED

Samples:

28) Base N/P 912-296 Compress Spring
28) Plated N/P 912-296 Compress Spring

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(28) Base	(28) Plated	
Cadmium (Cd) content	48,76	ND	0,01% (100 ppm)
Lead (Pb) content	45,66	733,7	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	ND	0,1% (1000 ppm)

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = 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 López M
Coord de área
Laboratory Manager

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

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 MX11-1223-28 WERE TESTED SEPARATED.

000003

Intertek Testing Services de México, S.A. de C.V.
Poniente 134 No. 660, Col. Industrial Vallejo
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Report No.: MX11-1223-28
Date : 2011-06-28

Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
28	Chromium VI (Cr^{6+}) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p23	2011-06-16	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
28 (Base)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2011-12p11,122	2011-06-14	MARY	20,0
28 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p06	2011-06-13	MARY	250,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
28 (Base)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2011-12p11,122	2011-06-13	MARY	2,0
28 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p06	2011-06-13	MARY	100,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
28 (Base)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-12p07	2011-06-10	RNC	0,25
28 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-22p05	2011-06-10	RNC	2,5

000004

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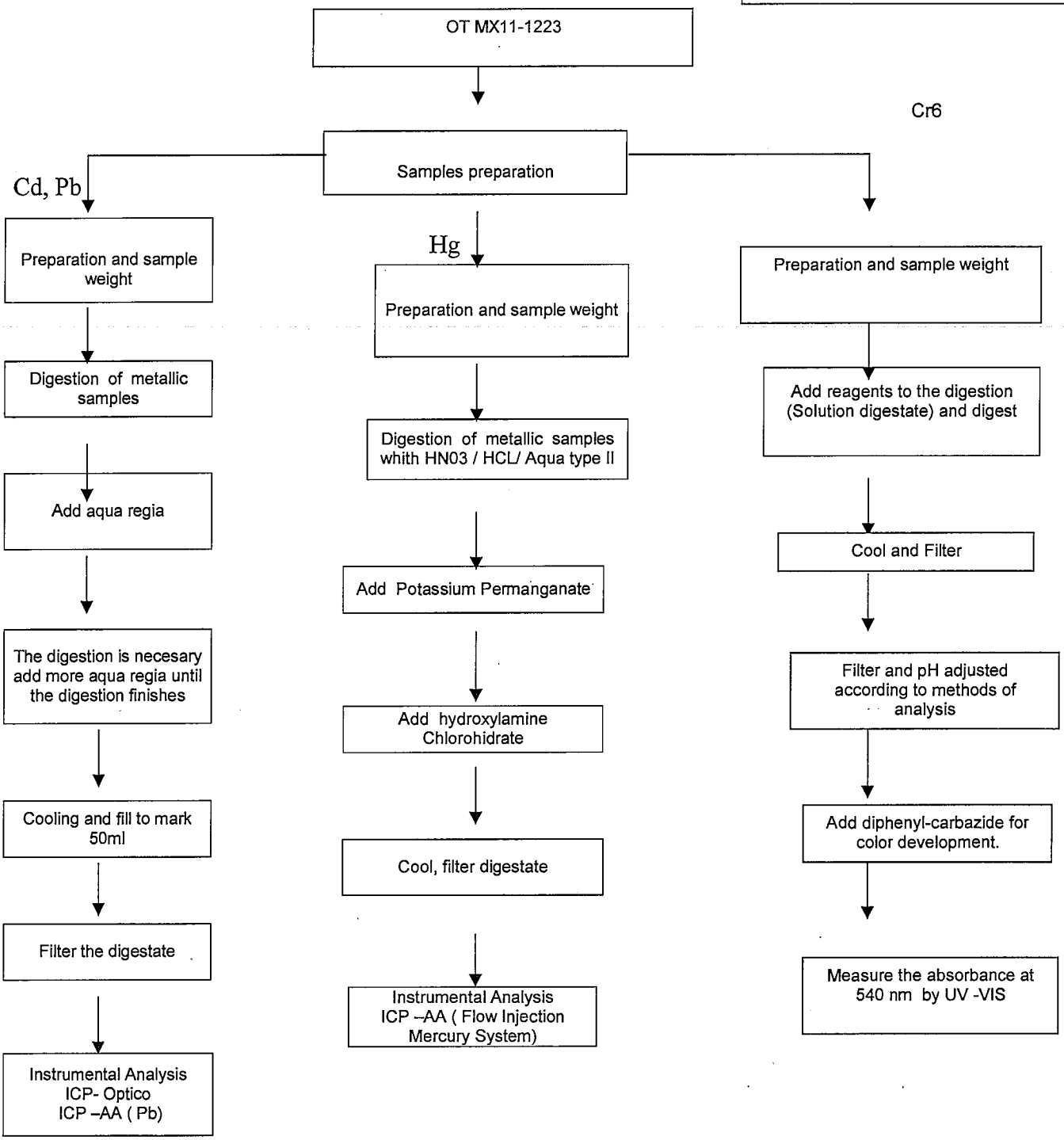
Metallic samples
Flow chart for sample: 28

Report No.: MX11-1223-28
Date: 2011-06-28



000005

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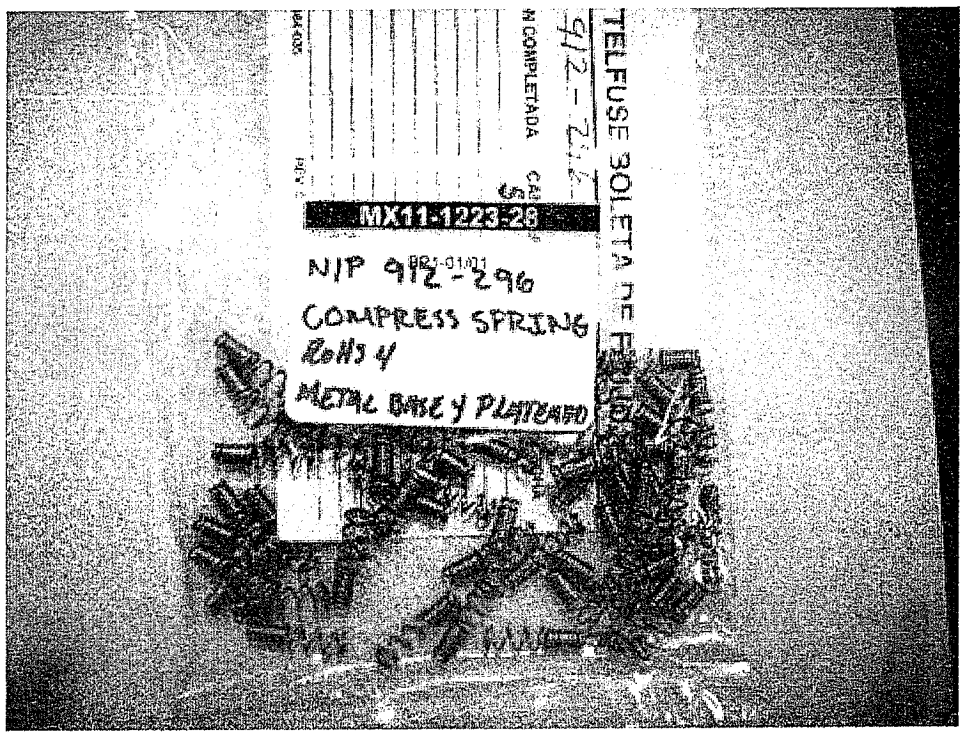

000006

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Poniente 134 No. 660, Col. Industrial Vallejo
C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
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Test Report Number : TWNC00254444

Applicant: Littelfuse, S.A. De C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Apr 30, 2012

Sample Description:
One (1) group of submitted samples said to be :
Part Description : WIRE STAINLESS STEEL .034 DIA.
Part Number : 070115
Date Sample Received : Apr 24, 2012
Date Test Started : Apr 26, 2012

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

Intertek Testing Services Taiwan Ltd.
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
全國公證檢驗股份有限公司
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

Number : TWNC00254444

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Silvery Metal
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 based on weight of tested sample = mg/kg
ND = Not detected
< = Less than
mg/kg with $50cm^2$ = milligram per kilogram with 50 square centimetre
Negative = A negative test result indicated positive observation was not found at the time of Test.

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

Date Sample Received : Apr 24, 2012
Test Period : Apr 26, 2012 To Apr 30, 2012

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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)

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

Intertek Testing Services Taiwan Ltd.
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全國公證檢驗股份有限公司
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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00254444

Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 (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

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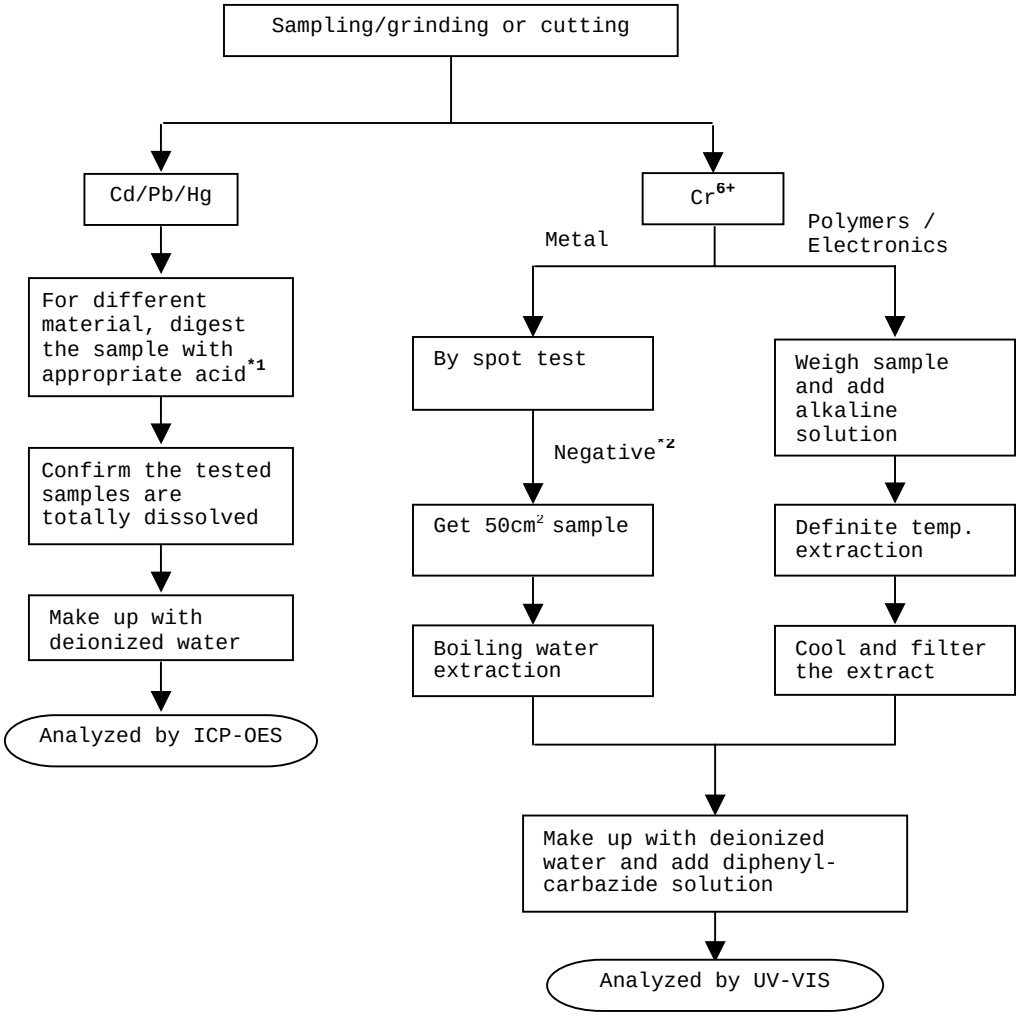
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00254444

Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Cd/Pb/Hg/Chromium (VI)
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_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

End of Report

Intertek Testing Services Taiwan Ltd.
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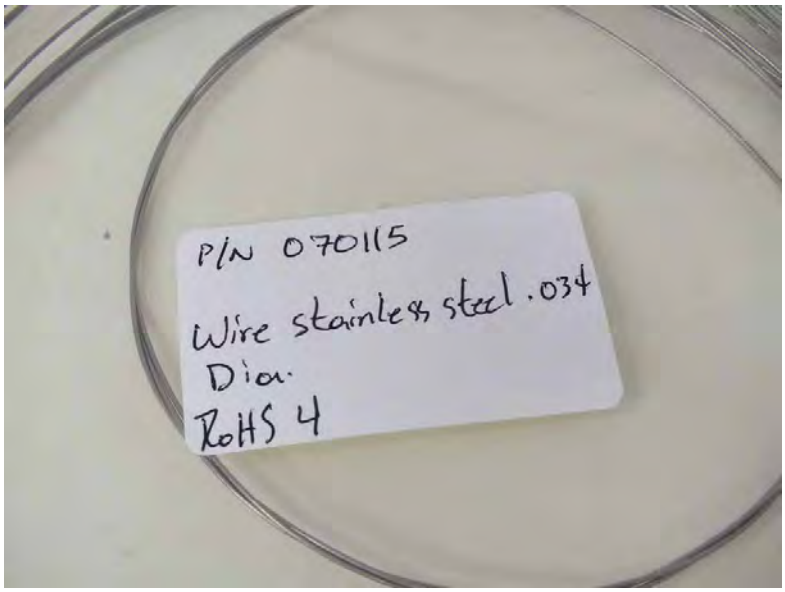
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00254444

Test Conducted

Photo



Intertek Testing Services Taiwan Ltd.
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全國公證檢驗股份有限公司
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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Test Report Number : TWNC00235726

Applicant: Littelfuse, S.A. de C.V. Date : Dec 08, 2011
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila, Mexico

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

Part Description	: VALOX 457 GY
Part Number	: 057275
Date Sample Received	: Dec 06, 2011
Date Test Started	: Dec 06, 2011

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

Intertek Testing Services Taiwan Ltd.
8F., No. 423, Ruiguang Rd., Neihu District, Taipei 114, Taiwan, R.O.C.
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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

Number : TWNC00235726

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Grey Plastic
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)	530
Chlorine (Cl)	ND
Bromine (Br)	32857
Iodine (I)	ND

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Number : TWNC00235726

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Grey Plastic
Phthalates	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND
Others	
Hexabromocyclododecane (HBCDD)	ND

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

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

Date Sample Received : Dec 06, 2011
Test Period : Dec 06, 2011 To Dec 08, 2011

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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.

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Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 (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
Phthalates	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MSD	50 ppm
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD	10 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

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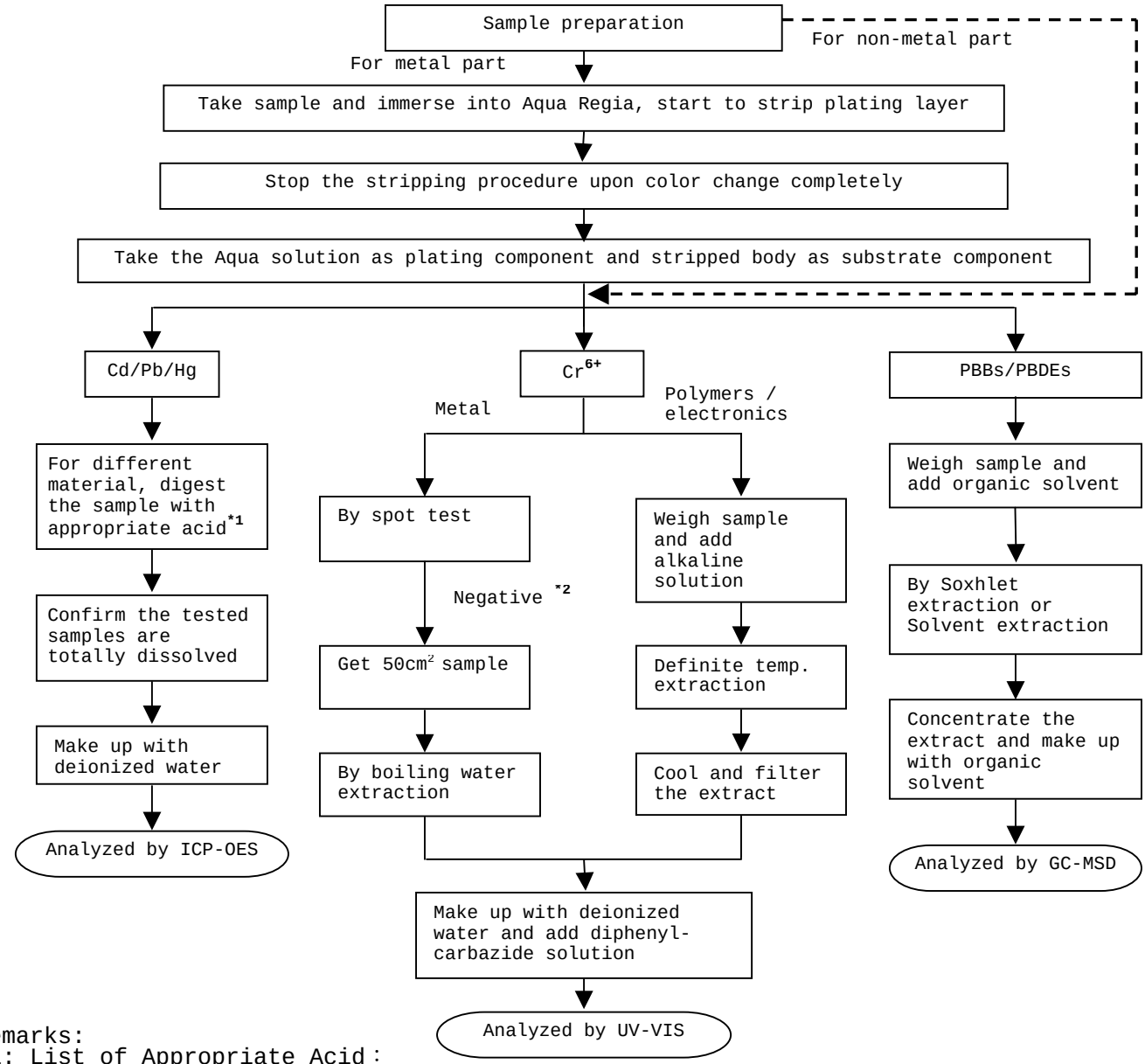
Test Conducted

(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	$HNO_3, HCl, HF, H_2O_2, H_3BO_3$
Metals	HNO_3, HCl, HF
Electronics	$HNO_3, HCl, H_2O_2, HBF_4$

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

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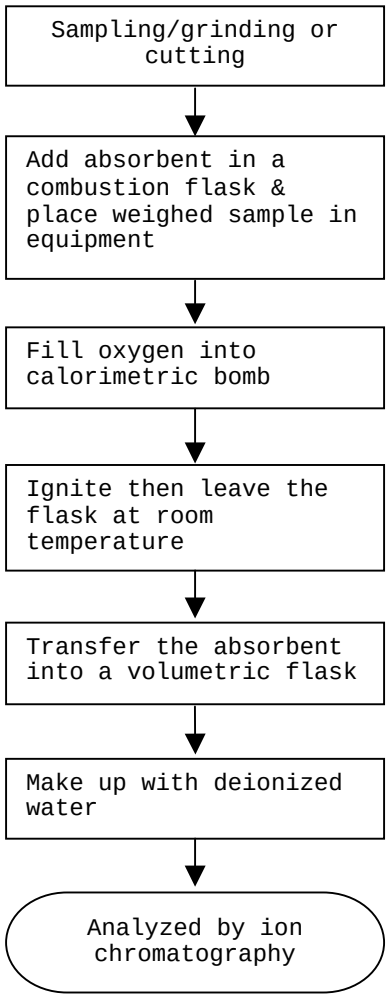
Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard：EN 14582



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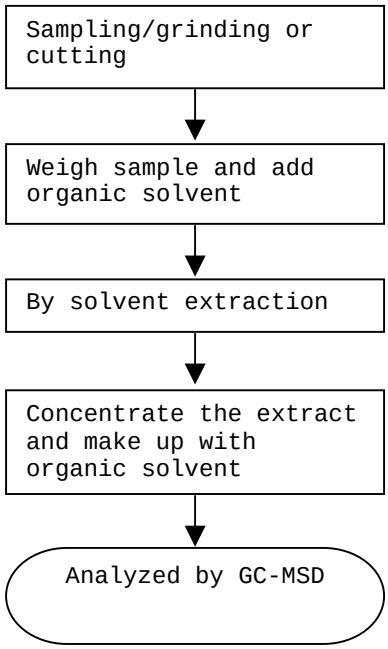
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



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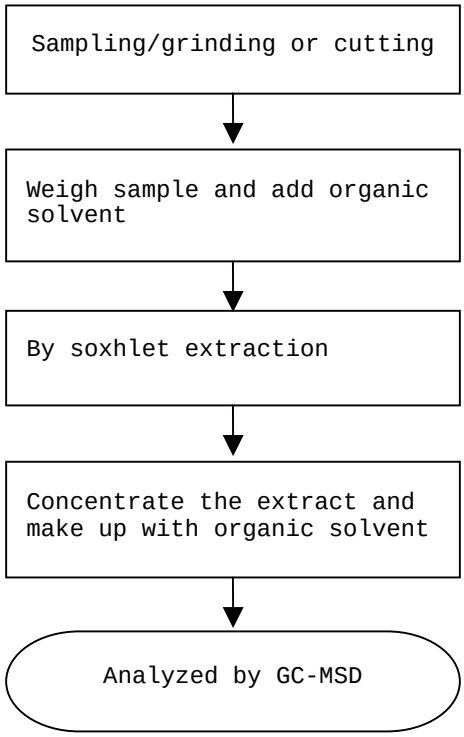
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard：USEPA 3540C



End of Report

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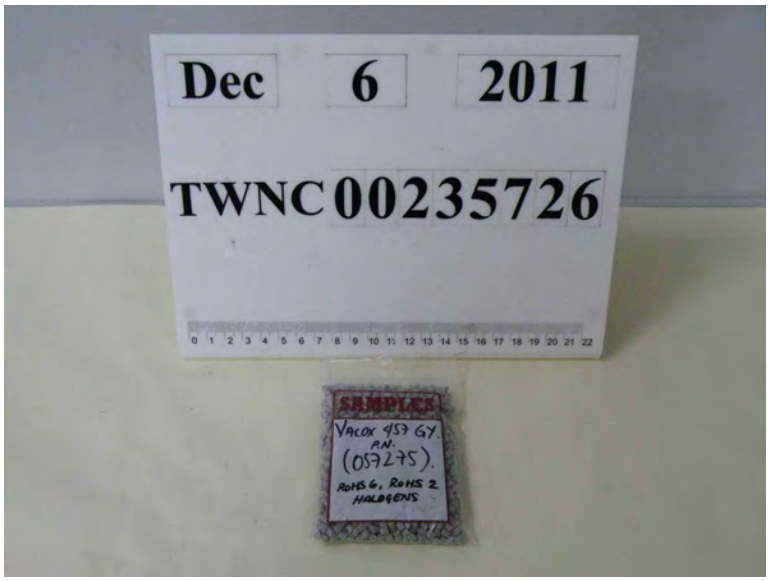
Number : TWNC00235726

Test Conducted

Photo



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Test Report Number : TWNC00234708

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Dec 02, 2011

Sample Description:
One (1) group of submitted samples said to be :
Part Description : RYNITE FR530 BK507
Part Number : 057277
Date Sample Received : Nov 28, 2011
Date Test Started : Nov 29, 2011

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 : TWNC00234708

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm) Black Plastic Pellet
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	7
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)	ND
Bromine (Br)	ND
Iodine (I)	ND
Phthalates	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND
Others	
Hexabromocyclododecane (HBCDD)	ND

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

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

Date Sample Received : Nov 28, 2011
Test Period : Nov 29, 2011 To Dec 02, 2011

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Test Conducted

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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:

Test Item	Test 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 (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

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Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
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
Phthalates	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MSD	50 ppm
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD	10 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

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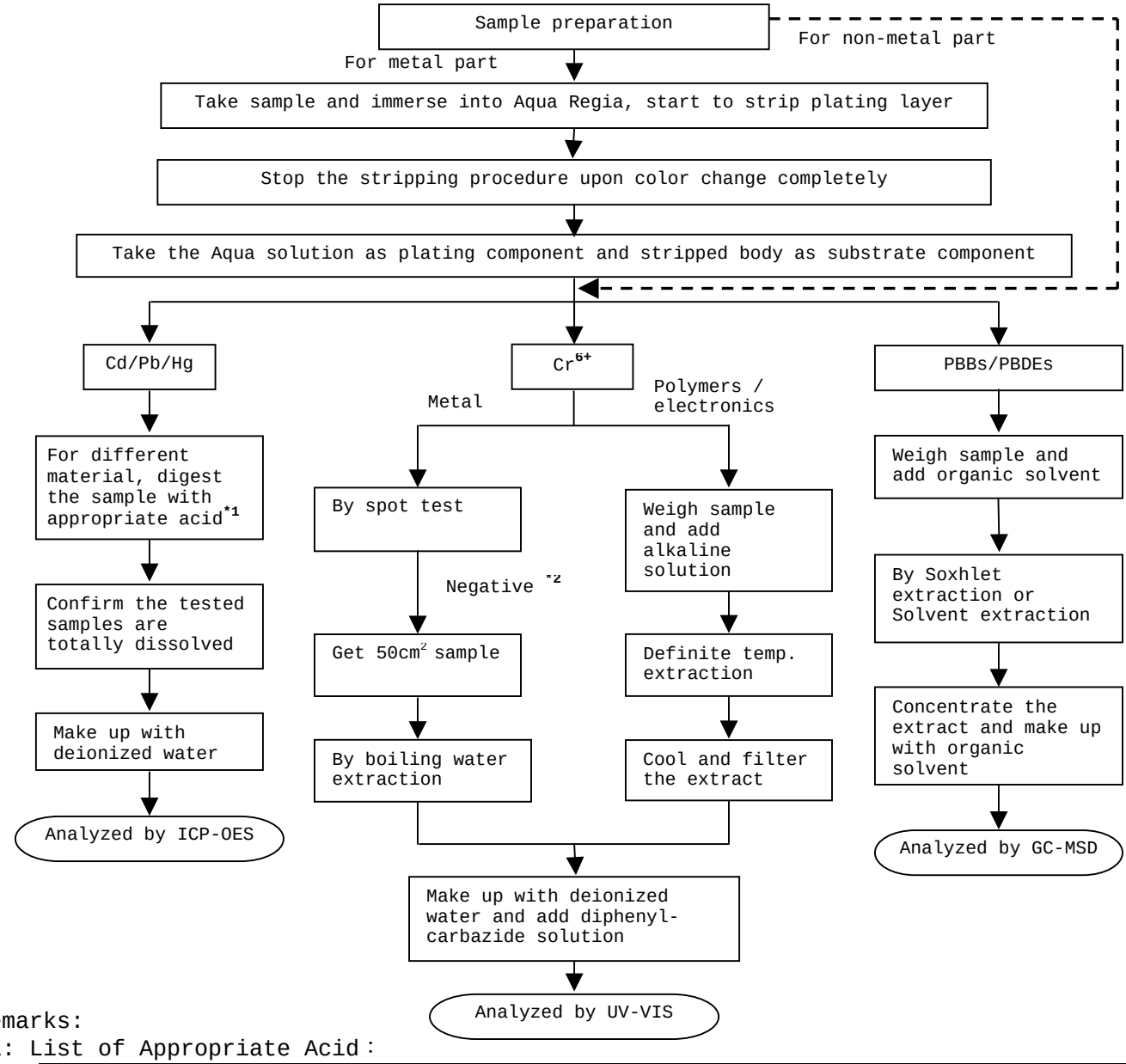
Number : TWNC00234708

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_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

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Test Conducted

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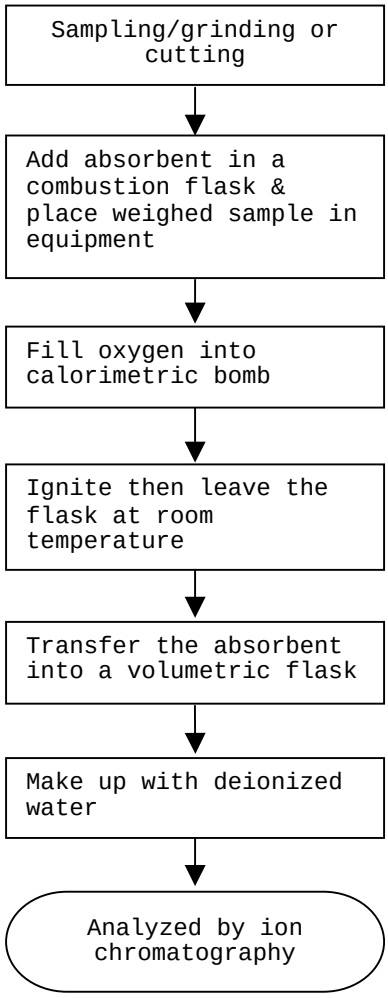
Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard：EN 14582



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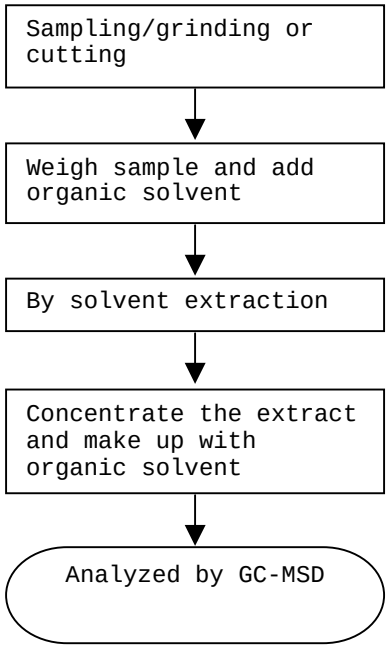
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



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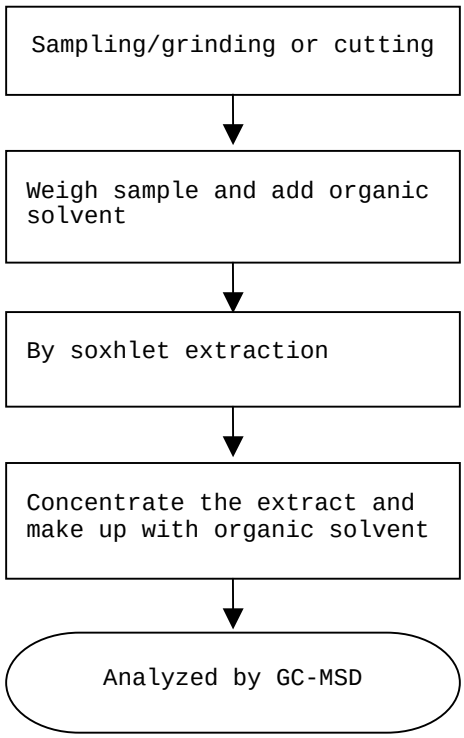
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard：USEPA 3540C



End of Report

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Number : TWNC00234708

Test Conducted

Photo

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Test Report Number : TWNC00235724

Applicant: Littelfuse, S.A. de C.V. Date : Dec 08, 2011
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila, Mexico

Sample Description:
One (1) group of submitted samples said to be :
Part Description : VALOX 457 BK(RESIN)
Part Number : 057269
Date Sample Received : Dec 06, 2011
Date Test Started : Dec 06, 2011

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

Intertek Testing Services Taiwan Ltd.
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Number : TWNC00235724

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic Pellet
Heavy Metal	
Cadmium (Cd) content	ND
Lead (Pb) content	22
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)	1013
Chlorine (Cl)	ND
Bromine (Br)	42876
Iodine (I)	ND

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Number : TWNC00235724

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic Pellet
Phthalates	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND
Others	
Hexabromocyclododecane (HBCDD)	ND

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

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

Date Sample Received : Dec 06, 2011
Test Period : Dec 06, 2011 To Dec 08, 2011

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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.

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

Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 (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
Phthalates	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MSD	50 ppm
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD	10 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

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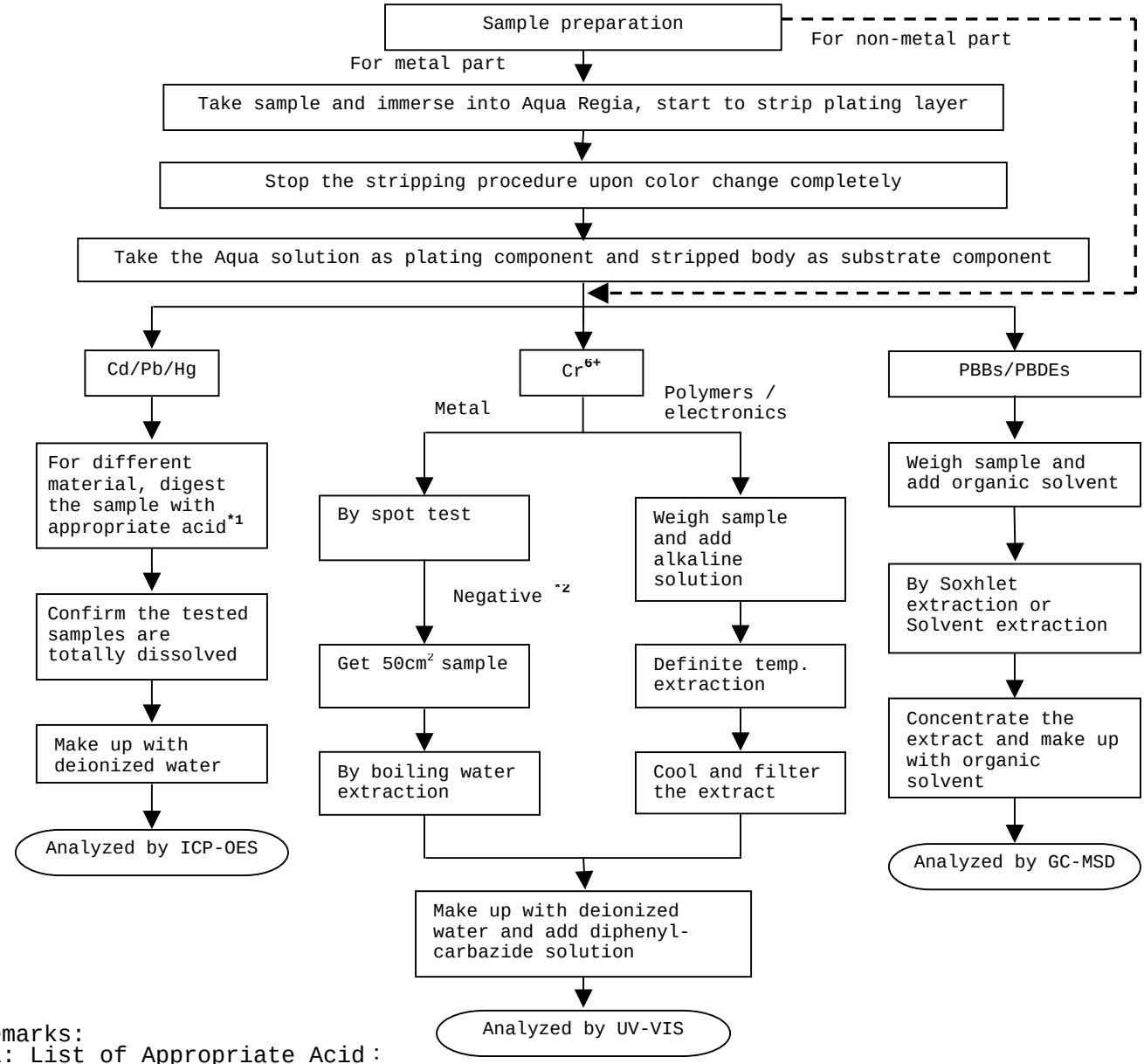
Number : TWNC00235724

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_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

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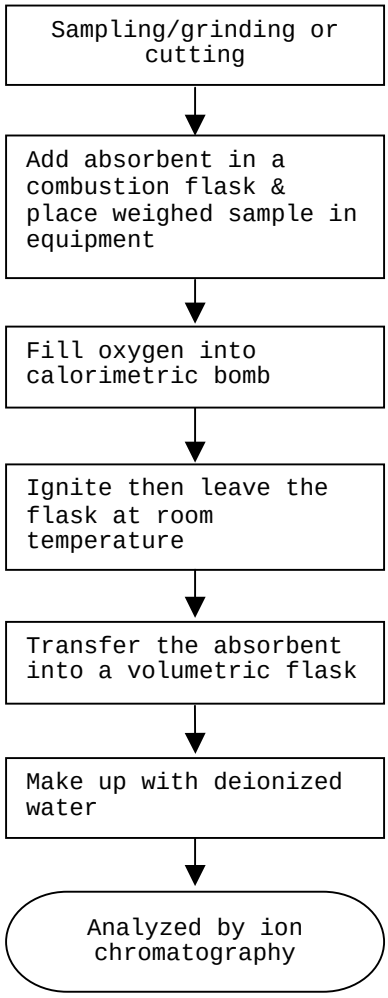
Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard：EN 14582



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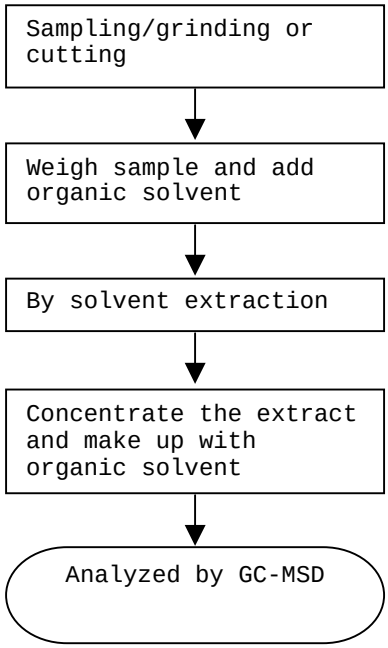
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



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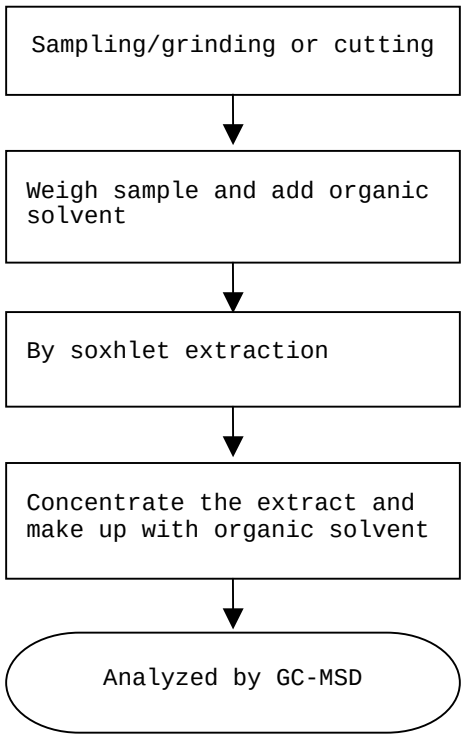
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard：USEPA 3540C



End of Report

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Number : TWNC00235724

Test Conducted

Photo

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Report No.: MX10-0928 - 875-460-Serie 345
Date : 2010-05-31

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
Item No.	5) P/N: 875-460 Serie 345
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
5	P/N: 875-460 Serie 345	Pass See Result summary	---	---

02

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
www.intertek.com

Report No.: MX10-0928 - 875-460-Serie 345
Date : 2010-05-31

TEST CONDUCTED

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

5) P/N: 875-460 Serie 345

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)	Limit #
	(5)	
Cadmium (Cd) content	ND	0,01% (100 ppm)
Lead (Pb) content	19,58	0,1% (1000 ppm)
Mercury (Hg) content	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	0,1% (1000 ppm)

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = 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

Laboratory Manager

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

Intertek Testing Services de México, S.A. de C.V.
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Report No.: MX10-0928 - 875-460-Serie 345
Date : 2010-05-31

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 928-5 WERE TESTED TOGETHER.

Test method :

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
	Chromium VI (Cr^{6+}) content	With reference to USEPA 3060, by EPA 7196	BEQ160p5b	2010-05-01,03	MELA,JLHS	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-PCL	2010-04-28 2010-05-22	CONT	50*
	POLYBROMINATED DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2010-004440-PCL	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
5	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-4p59	2010-04-29	MARY,DCL	4,630

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
5	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-4p59	2010-04-29	MARY,DCL	1,852

No. de Muestra	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
5	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-4p61	2010-04-30	UBM	0,0833

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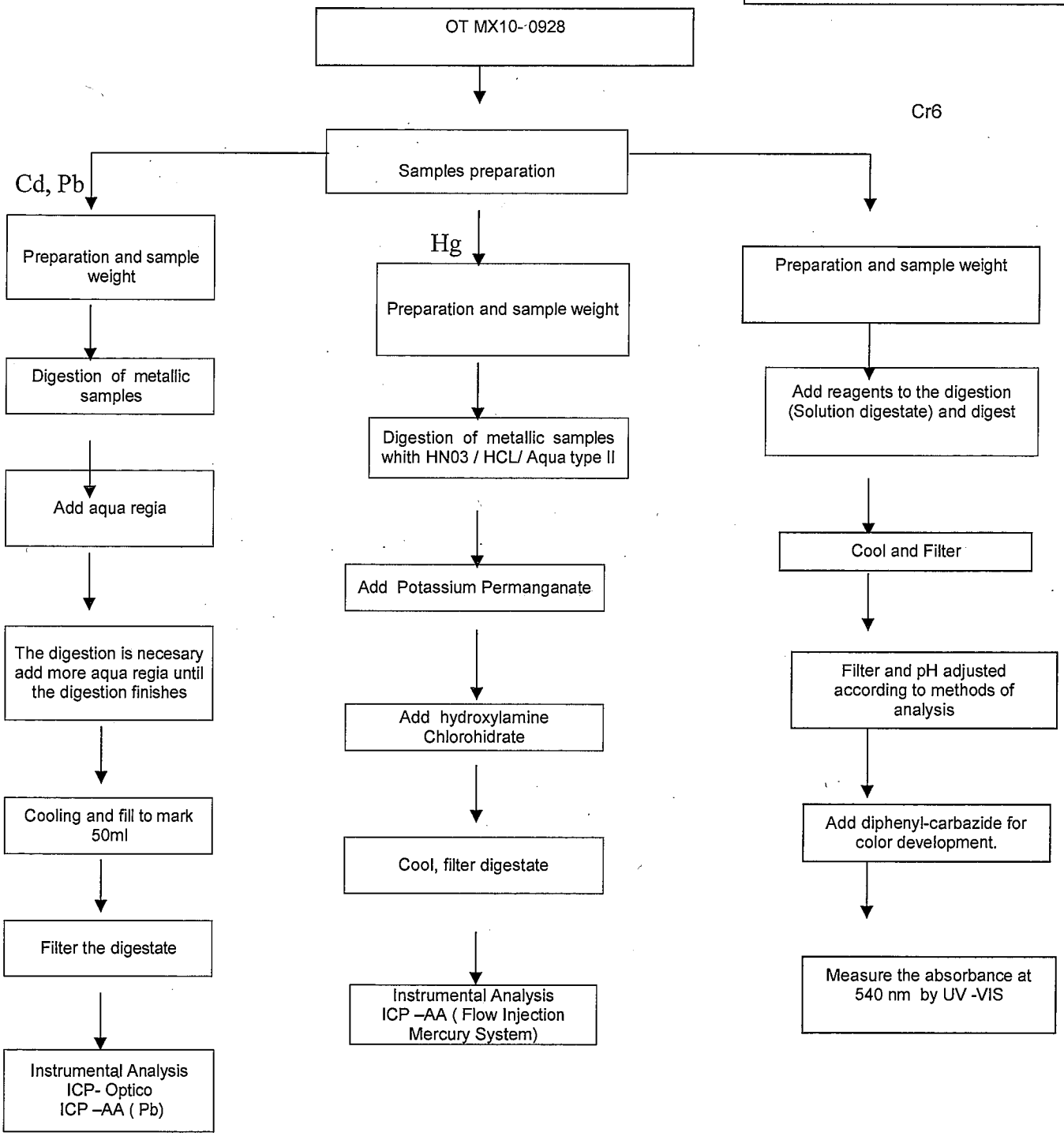
Report No.: MX10-0928
Date: 2010-05-31

Metallic samples
Flow chart for samples: 5



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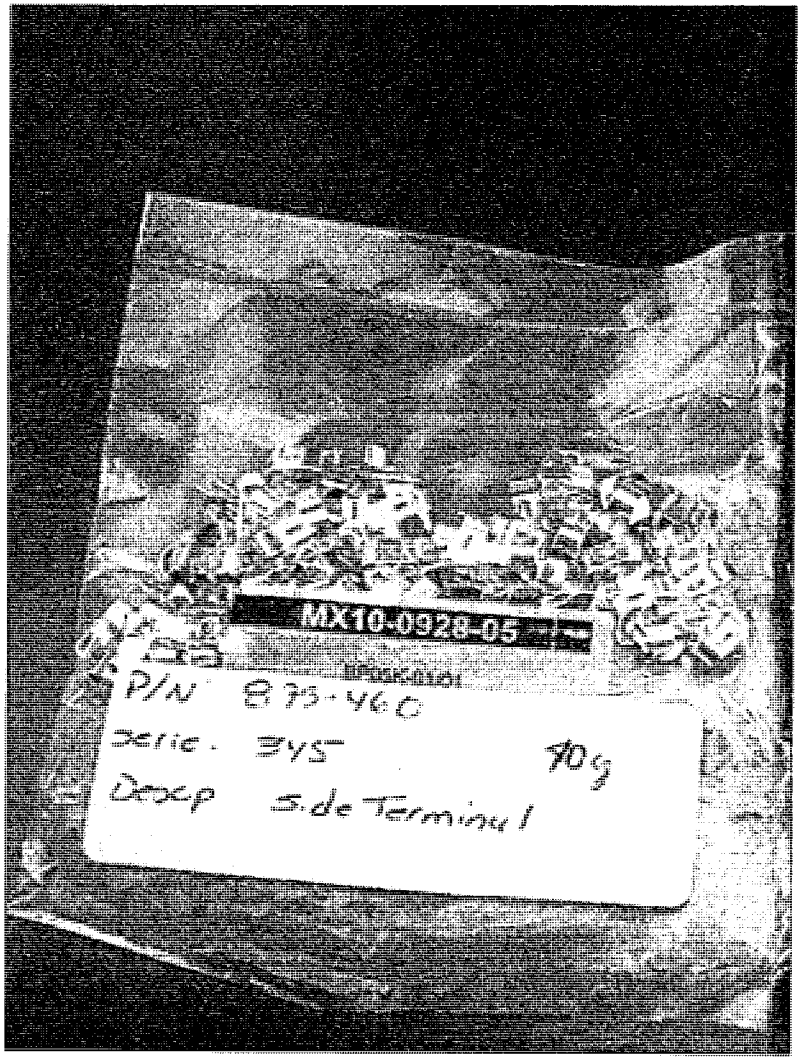
1ª. Emisión Junio 2005, 1° Revisión Junio 26, 2009. ILTA/003/GENS-F8

MX10-0928-05



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

Test Report Number : TWNC00225550

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : Sep 30, 2011

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

Part Description	: Hex Nut
Part Number	: 903-097
Date Sample Received	: Sep 26, 2011
Date Test Started	: Sep 27, 2011

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

Intertek Testing Services Taiwan Ltd.
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Number : TWNC00225550

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic
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)	ND
Bromine (Br)	ND
Iodine (I)	ND

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

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

Date Sample Received : Sep 26, 2011
Test Period : Sep 27, 2011 To Sep 29, 2011

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Number : TWNC00225550

Test Conducted

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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:

Test Item	Test 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 (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

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Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
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

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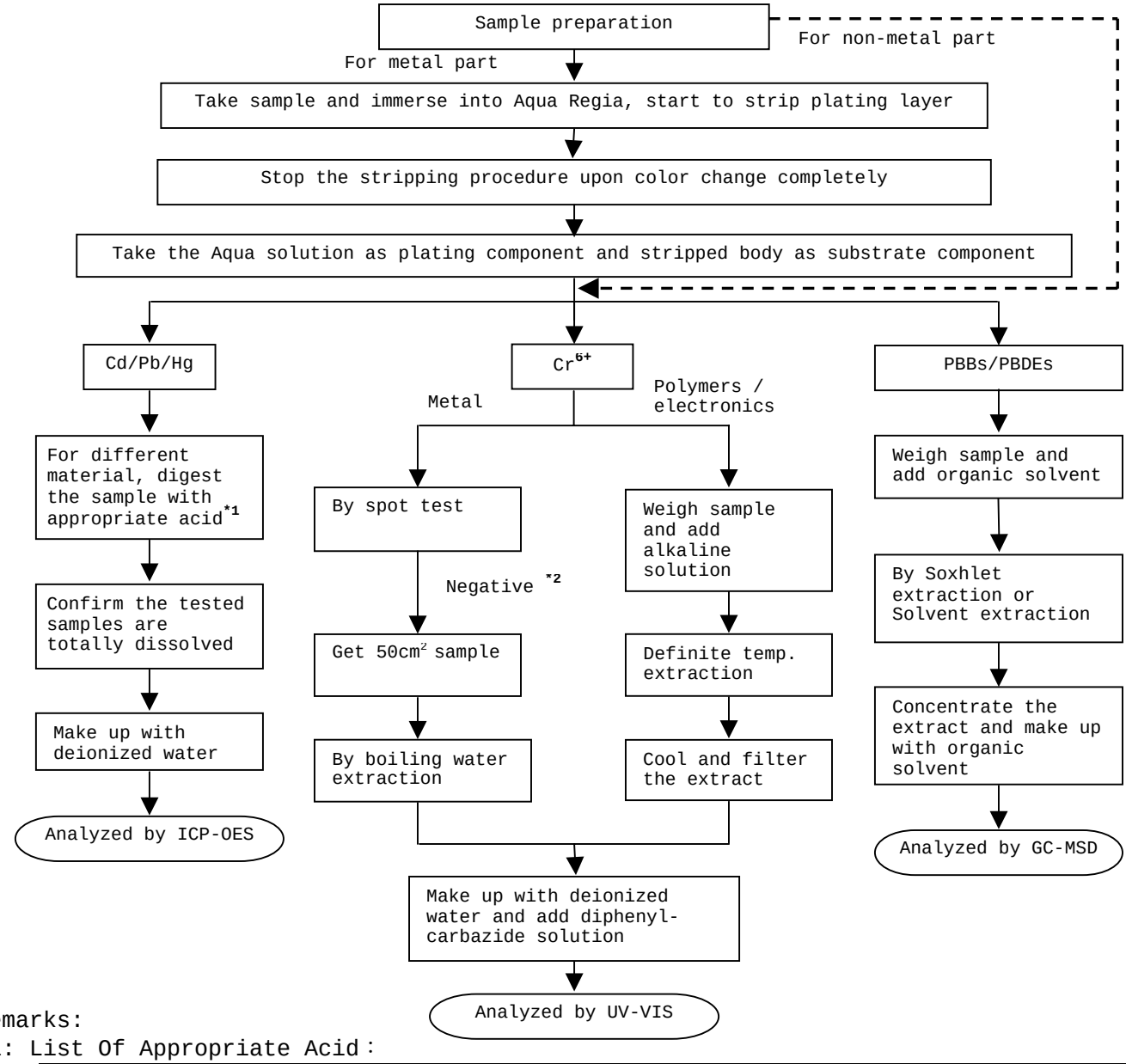
Number : TWNC00225550

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_2O_2, H_3BO_3
Metals	HNO_3, HCl, HF
Electronics	HNO_3, HCl, H_2O_2, HBF_4

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

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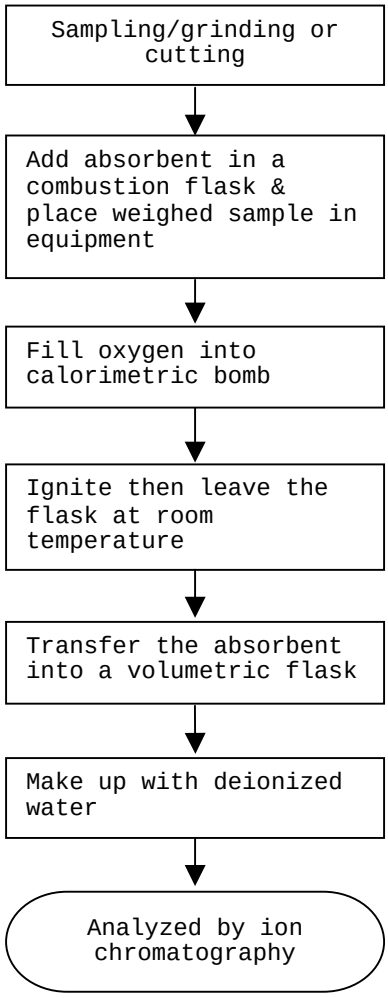
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Halogen Content
Reference Standard：EN 14582



End of Report

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Number : TWNC00225550

Test Conducted

Photo

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

Report No.: MX10-1603
Date : 2010-08-13

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 340

Item No.:
1) N.P. 340267-11
2) N.P. 342024-4
3) N.P. 345603-2
4) N.P. 903-097
5) N.P. 345603-1
6) N.P. 901-156
7) N.P. 901-185
8) N.P. 901-126
9) N.P. 875-461
10) N.P. 891-026
11) N.P. 912-286
12) N.P. 340231-3
13) N.P. 340231-2
14) N.P. 340231-020
15) N.P. 883-026
16) N.P. 882-140
17) N.P. 905-016
18) N.P. 340231-5
19) N.P. 904-228-001
20) N.P. 903-012
21) N.P. 425205
22) N.P.087232

Country of Origin	NP
Buyer's Name	NP
Supplier's Name	NP
Date sample received	2010-07-26
Testing period	2010-07-29 to 2010-08-12

****

TEST CONDUCTED

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

****

000002

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
www.intertek.com

9205

Report No.: MX10-1603
Date : 2010-08-13

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
1	N.P. 340267-11	Pass See Result summary	---	---
2	N.P. 342024-4	Pass See Result summary	---	---
3	N.P. 345603-2	Pass See Result summary	---	---
4	N.P. 903-097	Pass See Result summary	---	---
5	N.P. 345603-1	Pass See Result summary	---	---
6	N.P. 901-156	Pass See Result summary	---	---
7	N.P. 901-185	Pass See Result summary	---	---
8	N.P. 901-126	Pass See Result summary	---	---
9	N.P. 875-461	Pass See Result summary	---	---
10	N.P. 891-026	Pass See Result summary	---	---
11	N.P. 912-286	Pass See Result summary	---	---
12	N.P. 340231-3	Pass See Result summary	---	---
13	N.P. 340231-2	Fail See Result summary	Lead	23 550,0
14	N.P. 340231-020	Fail See Result summary	Lead	22 140,0
15	N.P. 883-026	Pass See Result summary	---	---
16	N.P. 882-140	Pass See Result summary	---	---
17	N.P. 905-016	Pass See Result summary	---	---
18	N.P. 340231-5	Fail See Result summary	Lead	24 490,0
19	N.P. 904-228-001	Pass See Result summary	---	---
20	N.P. 903-012	Pass See Result summary	---	---
21	N.P. 425205	Pass See Result summary	---	---
22	N.P. 087232	Pass See Result summary	---	---

000003

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Report No.: MX10-1603
Date : 2010-08-13

TEST CONDUCTED

Sample :

1) N.P. 340267-11
2) N.P. 342024-4
3) N.P. 345603-2
4) N.P. 903-097

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(1)	(2)	(3)	(4)	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	7,886	11,77	32,89	ND	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)
POLYBROMINATED BIPHENYLS (PBBs)	ND	ND	ND	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	ND	ND	ND	---
Dibromobiphenyl (DiBB)	ND	ND	ND	ND	---
Tribromobiphenyl (TriBB)	ND	ND	ND	ND	---
Tetrabromobiphenyl (TetraBB)	ND	ND	ND	ND	---
Pentabromobiphenyl (PentaBB)	ND	ND	ND	ND	---
Hexabromobiphenyl (HexaBB)	ND	ND	ND	ND	---
Heptabromobiphenyl (HeptaBB)	ND	ND	ND	ND	---
Octabromobiphenyl (OctaBB)	ND	ND	ND	ND	---
Nonabromobiphenyl (NonaBB)	ND	ND	ND	ND	---
Decabromobiphenyl (DecaBB)	ND	ND	ND	ND	---
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	ND	ND	ND	ND	0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	ND	ND	ND	---
Dibromodiphenyl (DiBDE)	ND	ND	ND	ND	---
Tribromodiphenyl (TriBDE)	ND	ND	ND	ND	---
Tetrabromodiphenyl (TetraBDE)	ND	ND	ND	ND	---
Pentabromodiphenyl (PentaBDE)	ND	ND	ND	ND	---
Hexabromodiphenyl (HexaBDE)	ND	ND	ND	ND	---
Heptabromodiphenyl (HeptaBDE)	ND	ND	ND	ND	---
Octabromodiphenyl (OctaBDE)	ND	ND	ND	ND	---
Nonabromodiphenyl (NonaBDE)	ND	ND	ND	ND	---
Decabromodiphenyl (DecaBDE)	ND	ND	ND	ND	---

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Report No.: MX10-1603
Date : 2010-08-13

TEST CONDUCTED

Sample :

9) N.P. 875-461
10) N.P. 891-026
11) N.P. 912-286
12) N.P. 340231-3

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(9)	(10)	(11)	(12)	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	93,05	25,69	7,91	18,95	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)

TEST CONDUCTED

Sample :

13) N.P. 340231-2
14) N.P. 340231-020
15) N.P. 883-026
16) N.P. 882-140

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(13)	(14)	(15)	(16)	
Cadmium (Cd) content	12,74	15,60	ND	ND	0,01% (100 ppm)
Lead (Pb) content	23 550,0	22 140,0	18,33	ND	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)

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Report No.: MX10-1603
Date : 2010-08-13

TEST CONDUCTED

Sample :

21) N.P. 425205
22) N.P. 087232

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(21)	(22)	
Cadmium (Cd) content	ND	ND	0,01% (100 ppm)
Lead (Pb) content	ND	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr^{6+})	ND	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs)	---	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	---	ND	---
Dibromobiphenyl (DiBB)	---	17,0	---
Tribromobiphenyl (TriBB)	---	ND	---
Tetrabromobiphenyl (TetraBB)	---	ND	---
Pentabromobiphenyl (PentaBB)	---	ND	---
Hexabromobiphenyl (HexaBB)	---	ND	---
Heptabromobiphenyl (HeptaBB)	---	ND	---
Octabromobiphenyl (OctaBB)	---	ND	---
Nonabromobiphenyl (NonaBB)	---	ND	---
Decabromobiphenyl (DecaBB)	---	ND	---
POLYBROMINATED DIPHENYL ETHERS (PBDEs)	---	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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Test Report Number : TWNC00254445

Applicant: Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martinez #1800
Col. Magisterio Seccion 38 C.P.
26070 Piedra Negras, Coahuila,
Mexico

Date : May 02, 2012

Sample Description:
One (1) group of submitted samples said to be :
Part Description : PAINT,WHITE
Part Number : 425205
Date Sample Received : Apr 24, 2012
Date Test Started : Apr 26, 2012

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

Intertek Testing Services Taiwan Ltd.
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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2400 · 6602-2401

Number : TWNC00254445

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	White 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)	ND
Bromine (Br)	ND
Iodine (I)	ND
Phthalates	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND

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Number : TWNC00254445

Test Conducted

(Ⅰ) Test Result Summary :

Test Item	Result (ppm)
	White Paste
Others	
Hexabromocyclododecane (HBCDD)	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 : Apr 24, 2012
Test Period : Apr 26, 2012 To Apr 30, 2012

(Ⅱ) RoHS Requirement:

Restricted Substances	Limits
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.

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Test Conducted

(Ⅲ) Test Method:

Test Item	Test 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 (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-MS and further HPLC-DAD 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-MS and further HPLC-DAD confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph.	50 ppm
Phthalates	With reference to EN 14372: 2004, by solvent extraction and determined by GC-MS.	10 ppm
Hexabromocyclododecane (HBCDD)	With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD.	10 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample

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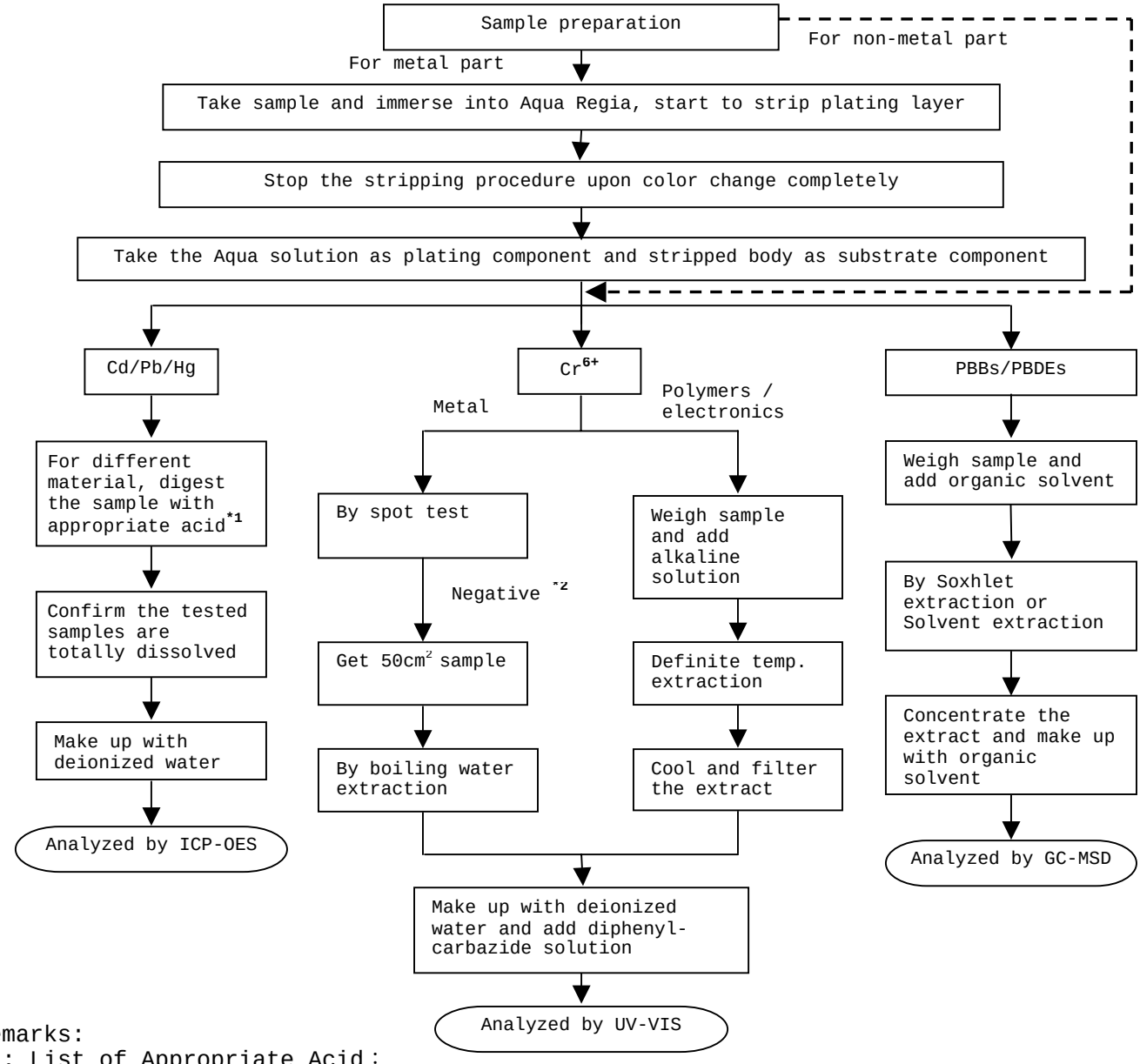
Test Conducted

(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	$HNO_3, HCl, HF, H_2O_2, H_3BO_3$
Metals	HNO_3, HCl, HF
Electronics	$HNO_3, HCl, H_2O_2, HBF_4$

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

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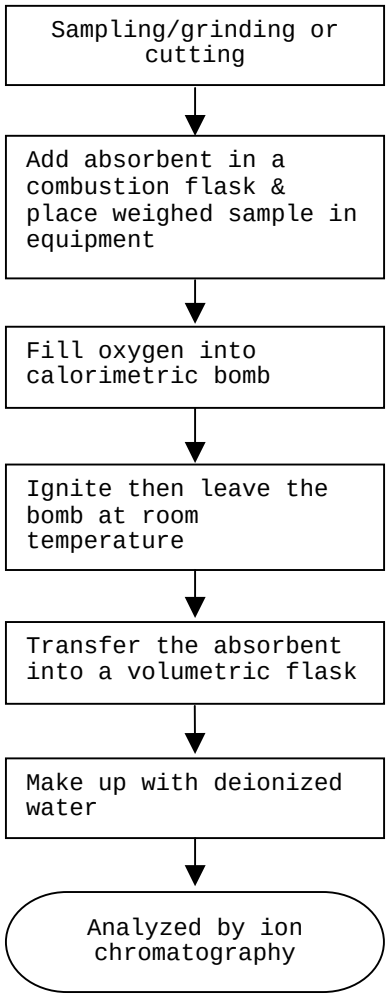
Test Conducted

(Ⅳ) Measurement Flowchart:

Test for Halogen Content
Reference Standard：EN 14582



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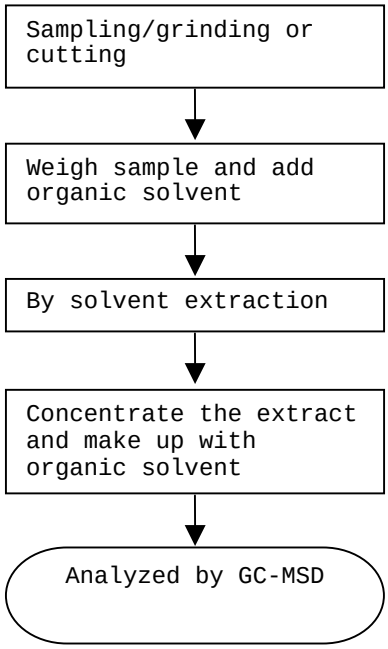
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Phthalates Contents
Reference Method: EN 14372: 2004



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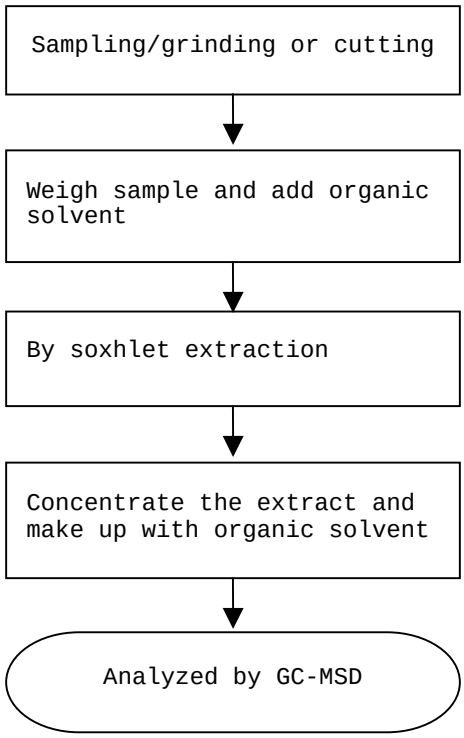
Test Conducted

(Ⅳ) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)
Reference Standard：USEPA 3540C



End of Report

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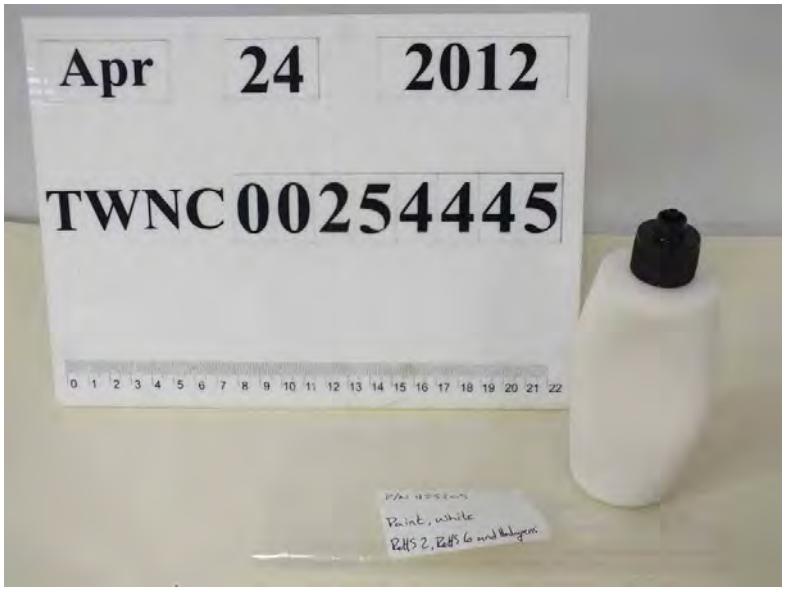
Number : TWNC00254445

Test Conducted

Photo



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Report No.: MX1-0593
Date : 2011-05-02

TEST REPORT

APPLICANT

Littelfuse, S.A. de C.V.
Blvd. Fausto Z. Martínez 1800, Col. Magisterio Sección 38, Piedras Negras, Coahuila
Ing. María Valdez

SAMPLE DESCRIPTION

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

Sample Description NP

Item No.
1) N/P 057249
2) N/P 057357
3) N/P 057883
4) N/P 057838
5) N/P 057259

Country of Origin NP
Buyer's Name NP
Supplier's Name NP
Date sample received 2011-03-02
Testing period 2011-04-14 to 2011-04-27

****

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 057249	Pass See Result summary	---	---
2	N/P 057357	Pass See Result summary	---	---
3	N/P 057883	Pass See Result summary	---	---
4	N/P 057838	Pass See Result summary	---	---
5	N/P 057259	Pass See Result summary	---	---

****

000002

Intertek Testing Services de México, S.A. de C.V.
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www.intertek.com

Report No.: MX1-0593
Date : 2011-05-02

TEST CONDUCTED

Samples:

1) N/P 057249
2) N/P 057357
3) N/P 057883

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)			Limit
	(1)	(2)	(3)	
Fluor (F) content	ND	ND	ND	30 ppm
Chlorine (Cl) content	ND	ND	ND	30 ppm
Bromine (Br) content	45751	ND	ND	30 ppm
Iodine (I) content	ND	ND	ND	30 ppm
POLYBROMINATED BIPHENYLS (PBBs) Total	ND	ND	ND	0.1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	ND	ND	—
Dibromobiphenyl (DiBB)	ND	ND	ND	—
Tribromobiphenyl (TriBB)	ND	ND	ND	—
Tetrabromobiphenyl (TetraBB)	ND	ND	ND	—
Pentabromobiphenyl (PentaBB)	ND	ND	ND	—
Hexabromobiphenyl (HexaBB)	ND	ND	ND	—
Heptabromobiphenyl (HeptaBB)	ND	ND	ND	—
Octabromobiphenyl (OctaBB)	ND	ND	ND	—
Nonabromobiphenyl (NonaBB)	ND	ND	ND	—
Decabromobiphenyl (DecaBB)	ND	ND	ND	—
POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total	ND	ND	ND	0.1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	ND	ND	—
Dibromodiphenyl (DiBDE)	ND	ND	ND	—
Tribromodiphenyl (TriBDE)	ND	ND	ND	—
Tetrabromodiphenyl (TetraBDE)	ND	ND	ND	—
Pentabromodiphenyl (PentaBDE)	ND	ND	ND	—
Hexabromodiphenyl (HexaBDE)	ND	ND	ND	—
Heptabromodiphenyl (HeptaBDE)	ND	ND	ND	—
Octabromodiphenyl (OctaBDE)	ND	ND	ND	—
Nonabromodiphenyl (NonaBDE)	ND	ND	ND	—
Decabromodiphenyl (DecaBDE)	ND	ND	ND	—

000003

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Report No.: MX1-0593
Date : 2011-05-02

TEST CONDUCTED

Samples:

4) N/P 057838
5) N/P 057259

TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)		Limit
	(4)	(5)	
Fluor (F) content	ND	ND	30 ppm
Chlorine (Cl) content	1 777,0	ND	30 ppm
Bromine (Br) content	6 045	37 238	30 ppm
Iodine (I) content	ND	ND	30 ppm

ppm = parts per million based on dry weight of sample.
$\mu g/cm^2$ = microgram per square centimeter.
mg/kg WITH $50cm^2$ = 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 López M.
Coord. de área

Laboratory Manager

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

000004

Intertek Testing Services de México, S.A. de C.V.
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C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150
www.intertek.com

Report No.: MX1-0593
Date : 2011-05-02

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 MX11-0593-01 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0593-02 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0593-03 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0593-04 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0593-05 WERE TESTED TOGETHER.

Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-5	Fluor	With reference to EN 14582:2007by calorimetric bomb metrhod with oxygen and determined by ion chromatography	2011-000238-PCL	2011-04-27	▲ CONT	30
1-5	Chlorine	With reference to EN 14582:2007by calorimetric bomb metrhod with oxygen and determined by ion chromatography	2011-000238-PCL	2011-04-27	▲ CONT	30
1-5	Bromine	With reference to EN 14582:2007by calorimetric bomb metrhod with oxygen and determined by ion chromatography	2011-000238-PCL	2011-04-27	▲ CONT	30
1-5	Iodine	With reference to EN 14582:2007by calorimetric bomb metrhod with oxygen and determined by ion chromatography	2011-000238-PCL	2011-04-27	▲ CONT	30

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-3	POLYBROMINATED BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000238-PCL	2011-04-27	▲ CONT	50,0
1-3	POLYBROMINATED DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000238-PCL	2011-04-27	▲ CONT	50,0

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