



## ICP Test Report Certification Packet

Company name: Littelfuse, Inc.

Product Series: 2AG, 3AG Shock Safe Holder (3453xxxx, 3452xxxx)

Product #: 345 International Holders

Issue Date: February 3, 2012

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes.

In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by:

  
KRISTEEN BACILA

<Global EHS Engineer>

(1) Parts, sub-materials and unit parts

This document covers the 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 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	883-048	Contact Clip	3-17
2	875-525/ 875-526/ 875-528	Side Terminals	18-27
3	875-521	Back terminal	18-27
4	891-023	Knob Insert	18-27
5	883-055 (883-050)	Contact Clip	18-27
6	912-296/ 912-297	Compress Spring	28-35
7	070126	Wire	28-35
8	875-522	Back Terminal	36-43
9	875-524	Back Terminal	36-43
10	057259/ 057261/ 057256	Body/ Cap/ Knob Black Valox - RoHS	44-52
11	903-114	Nut	53-68
12	903-097	Nut	69-75

**RESULTS REPORT**

**INTERTEK TESTING SERVICES**

**DE MEXICO SA DE CV**

**LABORATORIO CD. DE MEXICO**

DELIVER TO:

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

ATTENTION: Ing. Maria Valdez

000 01

**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

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

Item No.

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

**TEST CONDUCTED**

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

000002



## 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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## 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 <sup>6+</sup> )	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 <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

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**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	$\Omega$ 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) ( $\text{Cr}^{6+}$ )	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	$\Omega$ 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) ( $\text{Cr}^{6+}$ )	ND	ND	0,1% (1000 ppm)

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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 <sup>6+</sup> )	ND	ND	0,1% (1000 ppm)

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

µg/cm<sup>2</sup> = microgram per square centimeter.

mg/kg WITH 50cm<sup>2</sup> = 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.*  
*[Signature]*  
*Coord. de área*

Laboratory Manager

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

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*Alt*



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.

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## Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-10	Chromium VI ( $\text{Cr}^{6+}$ ) 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

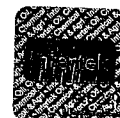
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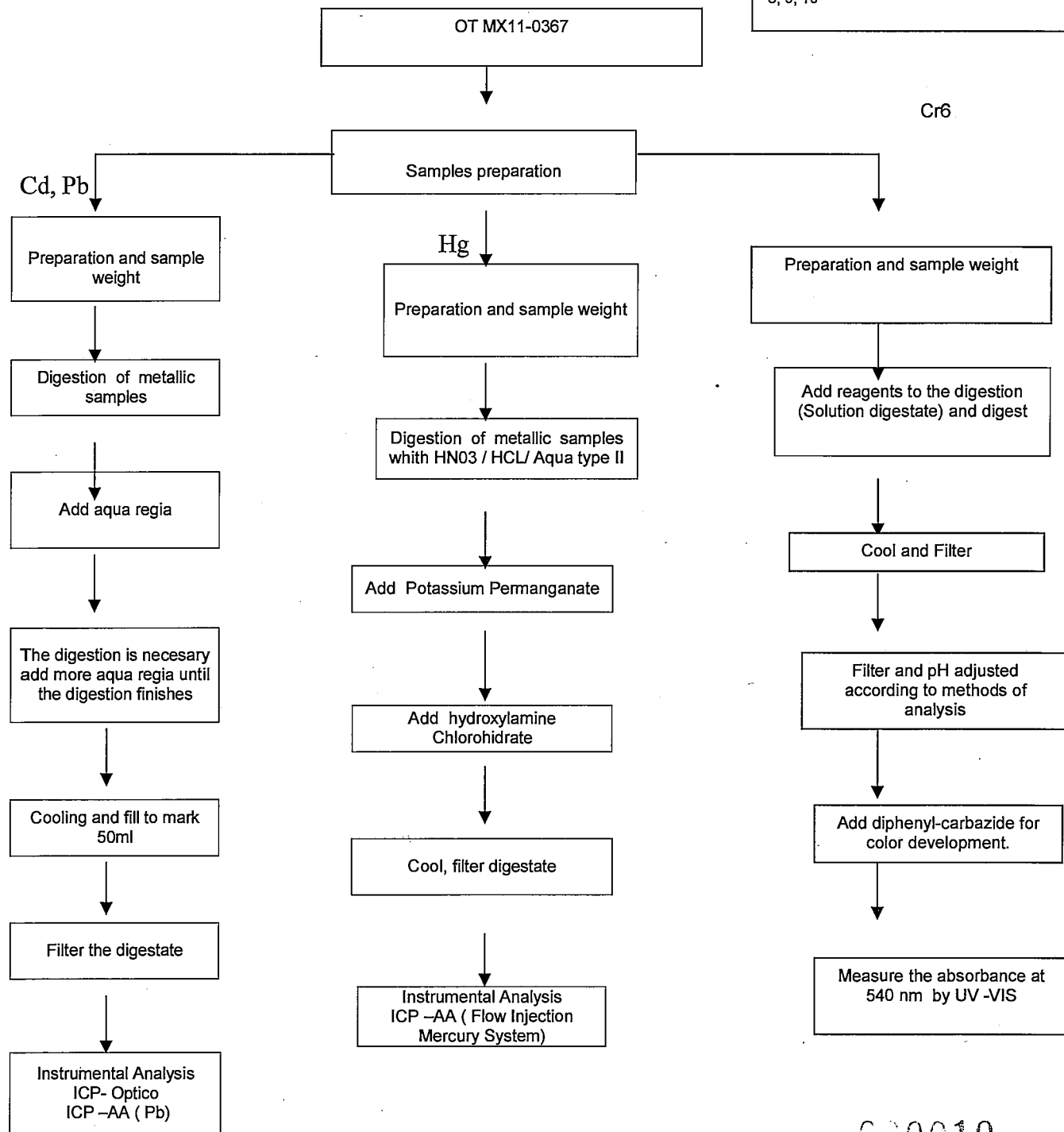


Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
1 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5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

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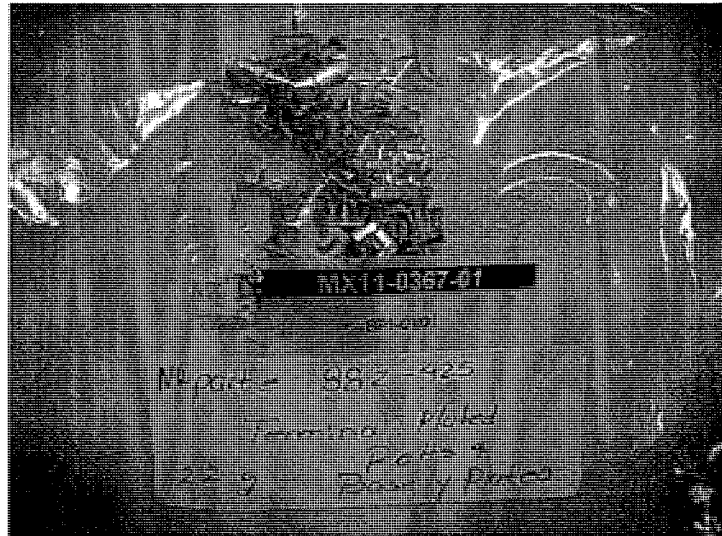
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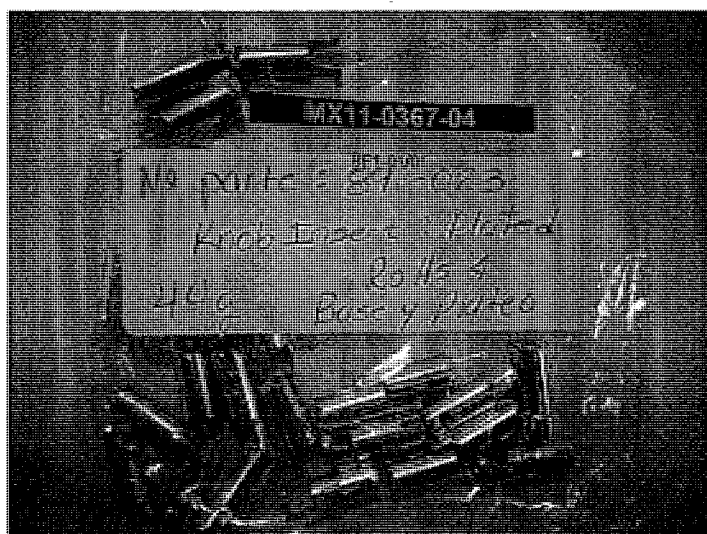
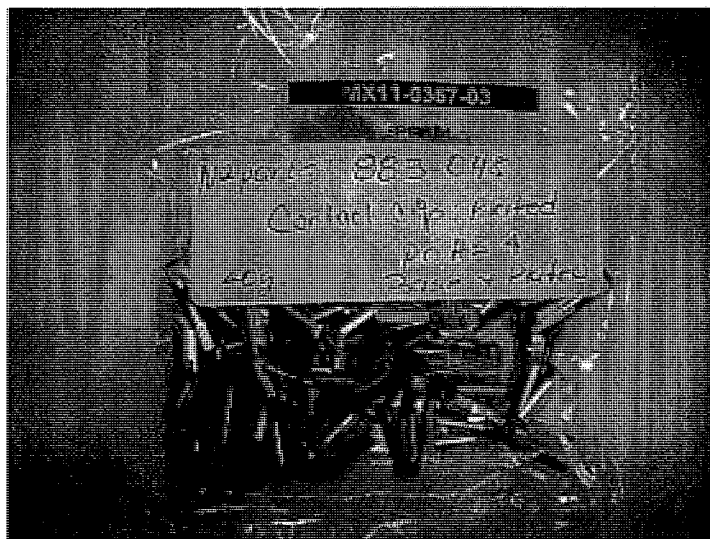
**MX11-0367**



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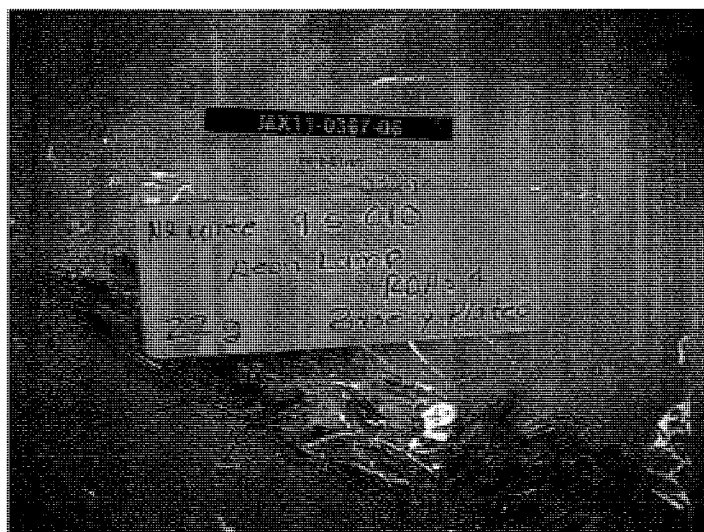
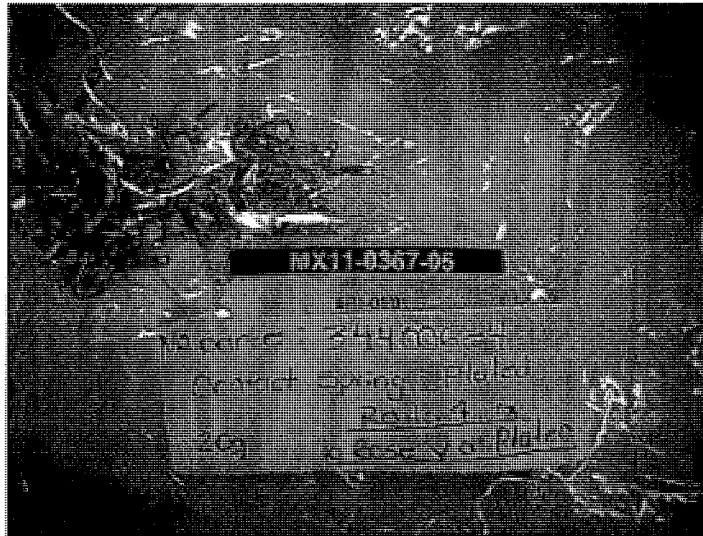


MX11-0367



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MX11-0367



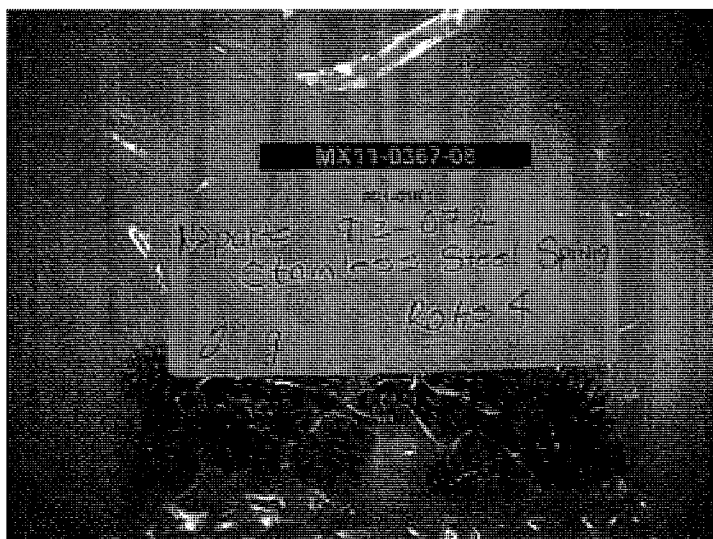
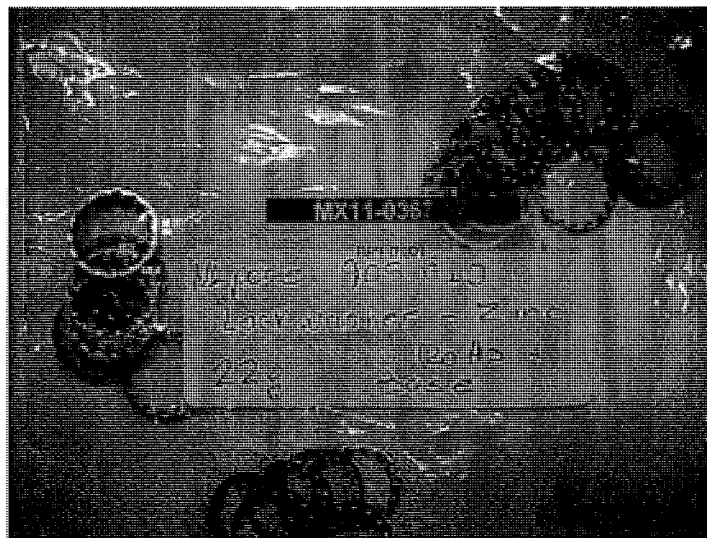
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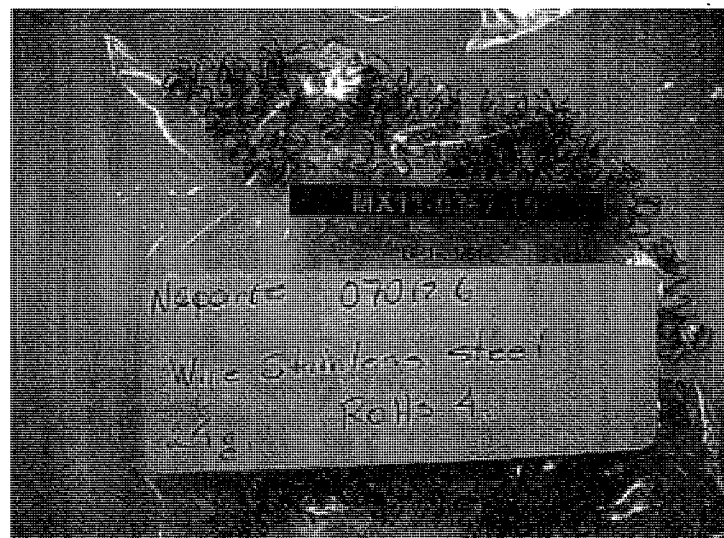
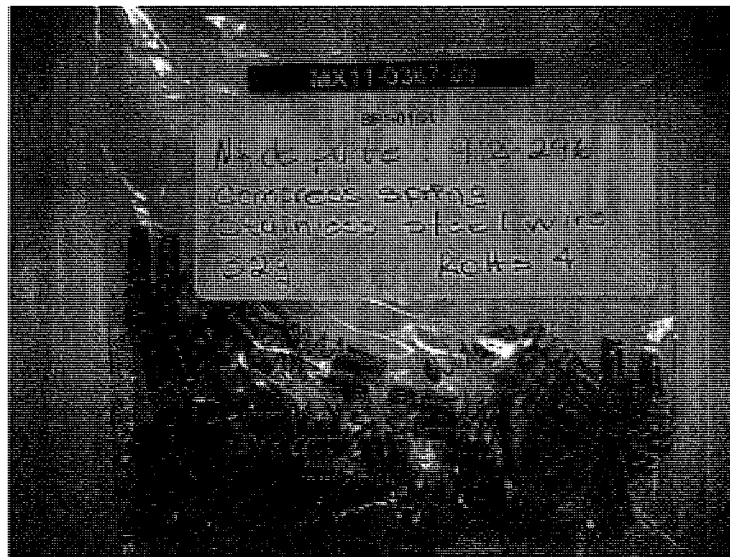
MX11-0367



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MX11-0367



000015





Report No.: MX11-0746

Date : 2011-04-25

**RESULTS REPORT**  
**INTERTEK TESTING SERVICES**  
**DE MEXICO SA DE CV**  
**LABORATORIO CD. DE MEXICO**

DELIVER TO:

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

ATTENTION: Ing. María Valdez

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1\*. Emisión Junio 2005, 1\* Revisión Junio 26, 2009.

ILTA/003/GENS-F8

**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](http://www.intertek.com)



Report No.: MX11-0746  
Date : 2011-04-25

## 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
	1) 875-525 Side terminal
	2) 875-521 Back terminal
Item No.	3) 883-055 5X20 Cont Clip
	4) 891-023 Knob Insert
	5) 912-296 Compress spring

Country of Origin NP  
Buyer's Name NP  
Supplier's Name NP  
Date sample received 2011-04-07  
Testing period 2011-04-11 to 2011-04-18

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### TEST CONDUCTED

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

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

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C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150

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## CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
1a (Base)	875-525 Side terminal	Pass See Result summary	---	---
1b (Plat)	875-525 Side terminal	Pass See Result summary	---	---
2a (Base)	875-521 Back terminal	Pass See Result summary	---	---
2b (Plat)	875-521 Back terminal	Pass See Result summary	---	---
3a (Base)	883-055 5X20 Cont Clip	Pass See Result summary	---	---
3b (Plat)	883-055 5X20 Cont Clip	Pass See Result summary	---	---
4a (Base)	891-023 Knob Insert	Pass See Result summary	---	---
4b (Plat)	891-023 Knob Insert	Pass See Result summary	---	---
5a (Base)	912-296 Compress spring	Pass See Result summary	---	---
5b (Plat)	912-296 Compress spring	Pass See Result summary	---	---

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000003



Report No.: MX11-0746  
Date : 2011-04-25

## TEST CONDUCTED

Samples:

- 1) 875-525 Side terminal
- 2) 875-521 Back terminal

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(1a) base	(1b) Plat	(2a) base	(2b) Plat	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	30,34	ND	60,54	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

Samples:

- 3) 883-055 5X20 Cont Clip
- 4) 891-023 Knob Insert

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(3a) base	(3b) Plat	(4a) base	(4b) Plat	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	8,244	ND	18,05	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

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ILTA/003/GENS-F8





Report No.: MX11-0746

Date : 2011-04-25

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) PLAT. 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 PLAT LAYER OF THE SAMPLE.

REMARK : AS REQUESTED BY THE APPLICANT, PLAT WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0746-01 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, PLAT WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0746-02 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, PLAT WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0746-03 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, PLAT WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0746-04 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, PLAT WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0746-05 WERE TESTED SEPARATED.

#### Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-5	Chromium VI (Cr <sup>6+</sup> ) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p19	2011-04-18	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
(1a) base	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	5,0
(1b) Plat	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	125,0
(2a) base	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	5,0
(2b) Plat	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	83,3
(3a) base	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	5,0
(3b) Plat	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	125,0
(4a) base	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	5,0
(4b) Plat	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	125,0
(5a) base	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-40p107	2011-04-13	MARY	20,0
(5b) Plat	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	125,0

The sample MX11-0746-05a for Lead was analyzed for EPA 7000, the method EPA 6010 presents  
espectral interference.

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Report No.: MX11-0746

Date : 2011-04-25

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
(1a) base	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	2,0
(1b) Plat	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	50,0
(2a) base	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	2,0
(2b) Plat	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	33,3
(3a) base	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	2,0
(3b) Plat	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	50,0
(4a) base	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	2,0
(4b) Plat	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	50,0
(5a) base	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	2,0
(5b) Plat	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p107	2011-04-12	MARY	50,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
(1a) base	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	0,25
(1b) Plat	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	1,0
(2a) base	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	0,25
(2b) Plat	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	1,25
(3a) base	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	0,25
(3b) Plat	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	1,0
(4a) base	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	0,25
(4b) Plat	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	1,0
(5a) base	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	0,25
(5b) Plat	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p108	2011-04-14	UBM,RNC	1,25

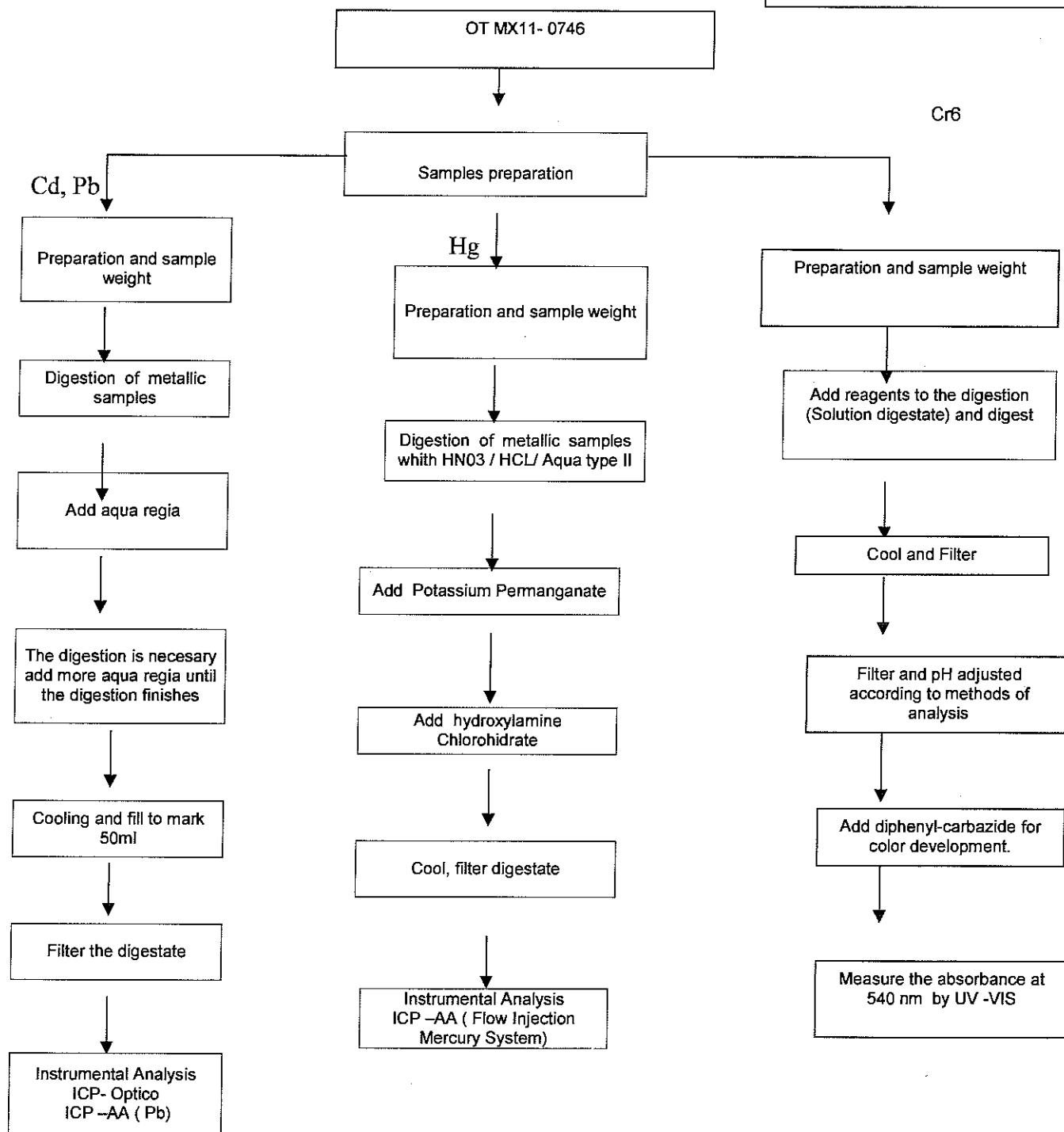
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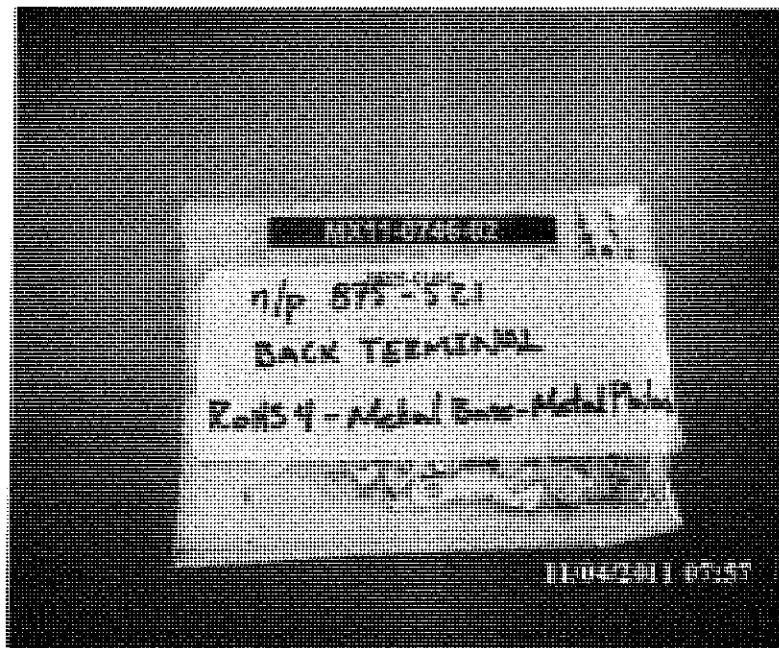
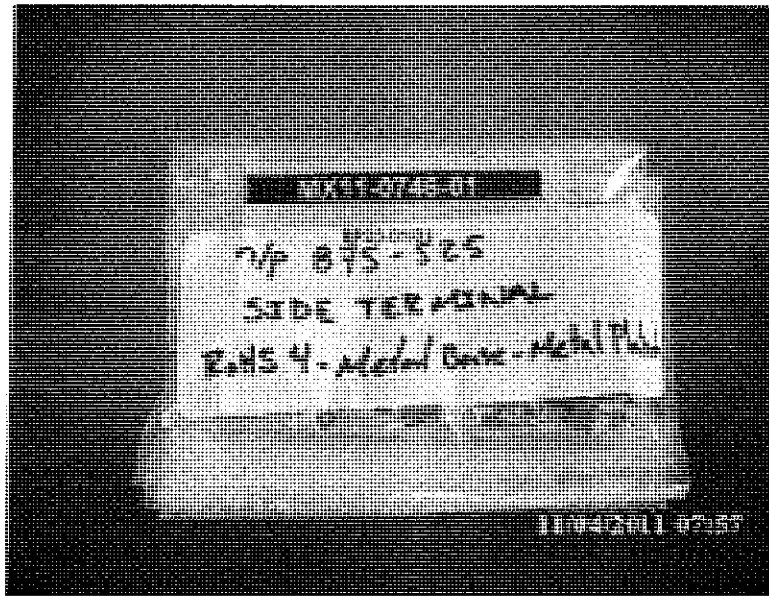
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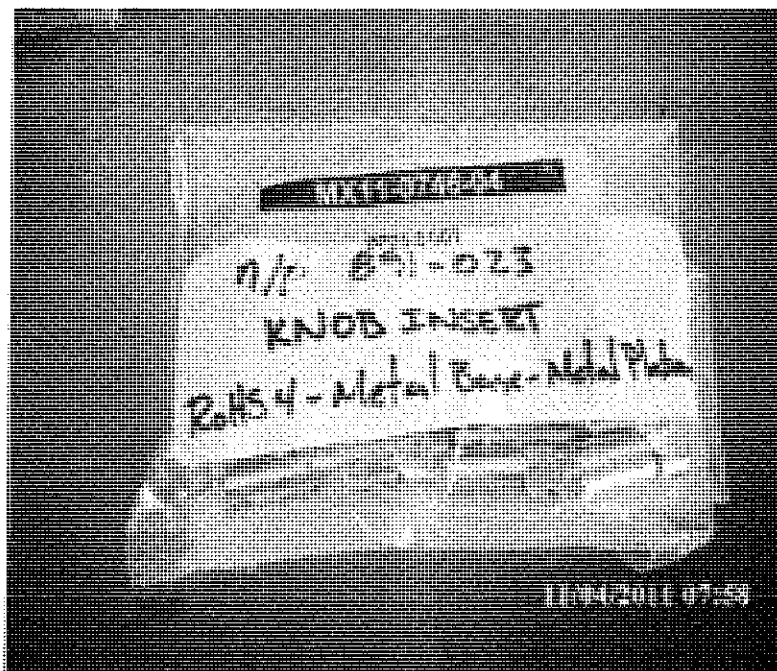
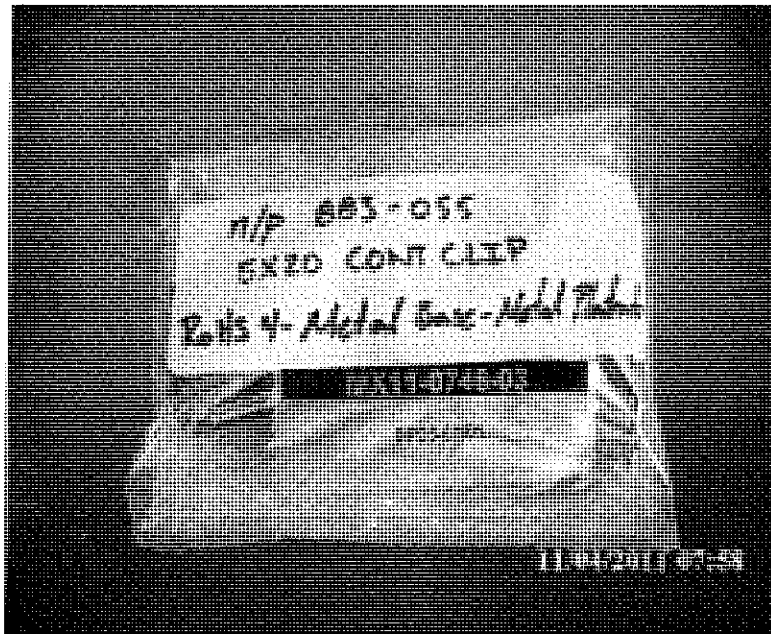
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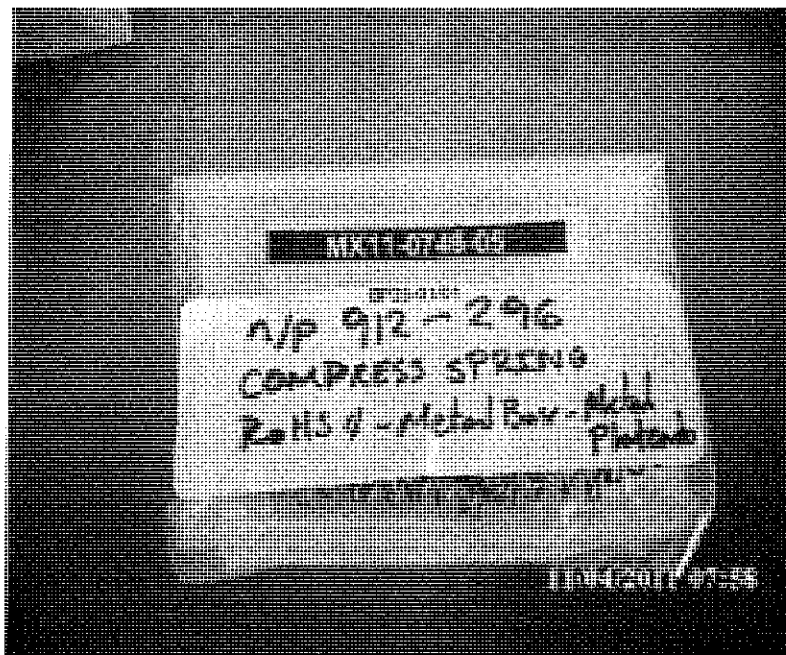




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**RESULTS REPORT**  
**INTERTEK TESTING SERVICES**  
**DE MEXICO SA DE CV**  
**LABORATORIO CD. DE MEXICO**

**DELIVER TO:**

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

**ATTENTION:** Ing. María Valdez

000001



Report No.: MX11-0834

Date : 2011-05-25

## 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 912-072 Spring  
2) N/P 912-296 Compress Spring  
3) N/P 070126 Wire stainless steel-030 DIA  
4) N/P 875-521 Back Terminal

Country of Origin NP

Buyer's Name NP

Supplier's Name NP

Date sample received 2011-04-18

Testing period 2011-04-25 to 2011-05-13

### 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 (Base)	N/P 912-072 Spring	Pass See Result summary	---	---
1 (Plated)	N/P 912-072 Spring	Pass See Result summary	---	---
2 (Base)	N/P 912-296 Compress Spring	Pass See Result summary	---	---
2 (Plated)	N/P 912-296 Compress Spring	Pass See Result summary	---	---
3 (Base)	N/P 070126 Wire stainless steel-030 DIA	Pass See Result summary	---	---
3 (Plated)	N/P 070126 Wire stainless steel-030 DIA	Pass See Result summary	---	---
4 (Plated)	N/P 875-521 Back Terminal	Pass See Result summary	---	---

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Report No.: MX11-0834

Date : 2011-05-25

### TEST CONDUCTED

Samples:

- 1) Base N/P 912-072 Spring
- 1) Plated N/P 912-072 Spring
- 2) Base N/P 912-296 Compress Spring
- 2) Plated N/P 912-296 Compress Spring

### TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(1) Base	(1) Plated	(2) Base	(2) Plated	
Cadmium (Cd) content	43,05	ND	38,50	ND	0,01% (100 ppm)
Lead (Pb) content	29,16	ND	31,96	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

Samples:

- 3) Base N/P 070126 Wire stainless steel-030 DIA
- 3) Plated N/P 070126 Wire stainless steel-030 DIA
- 4) Plated N/P 875-521 Back Terminal

### TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)			Limit
	(3) Base	(3) Plated	(4) Plated	
Cadmium (Cd) content	38,58	ND	ND	0,01% (100 ppm)
Lead (Pb) content	31,59	ND	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	0,1% (1000 ppm)

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

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

mg/kg WITH  $50\text{cm}^2$  = 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  $\Omega$ .

Prepared and checked by :

For Intertek

*Irma Lopez M*  
*[Signature]*  
*Co d de area*

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 MX11-0834-01 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0834-02 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0834-03 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX11-0834-04 WERE TESTED SEPARATED.

000004

*[Signature]*



Report No.: MX11-0834

Date : 2011-05-25

**Test method :**

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-4	Chromium VI (Cr <sup>6+</sup> ) content	With reference to USEPA 3060, by EPA 7196	QHU2010-61p73	2011-05-13	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (Base)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-20p22	2011-04-28	MARY	20,0
1 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-25	UBM	62,5
2 (Base)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-20p22	2011-04-28	MARY	20,0
2 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-25	UBM	83,33
3 (Base)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 7420	MET2010-20p22	2011-04-28	MARY	20,0
3 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-25	UBM	62,5
4 (Plated)	Lead (Pb) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-25	UBM	62,5

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (Base)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	2,0
1 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	25,0
2 (Base)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	2,0
2 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	33,33
3 (Base)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	2,0
3 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	25,0
4 (Plated)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-40p112	2011-04-26	MARY	25,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (Base)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	0,25
1 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	2,5
2 (Base)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	0,25
2 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	2,5
3 (Base)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	0,25
3 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	2,5
4 (Plated)	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p116	2011-04-26	UBM,RNC	2,5

The samples MX11-0834-1 (base), 2 (base) ; 3 (base) for Lead were analyzed for EPA 7420, the method EPA 6010 presented spectral interference.

000005

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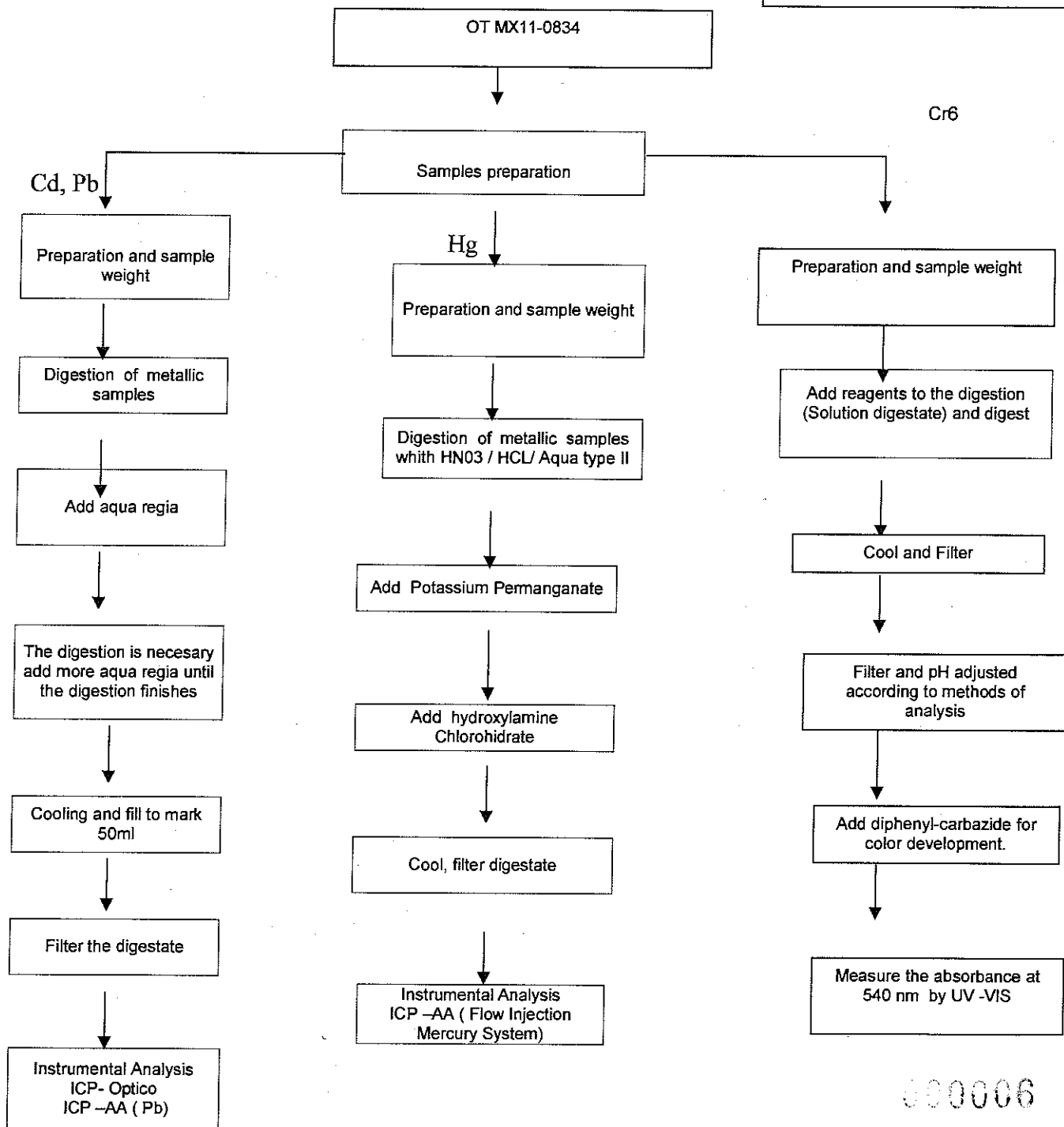
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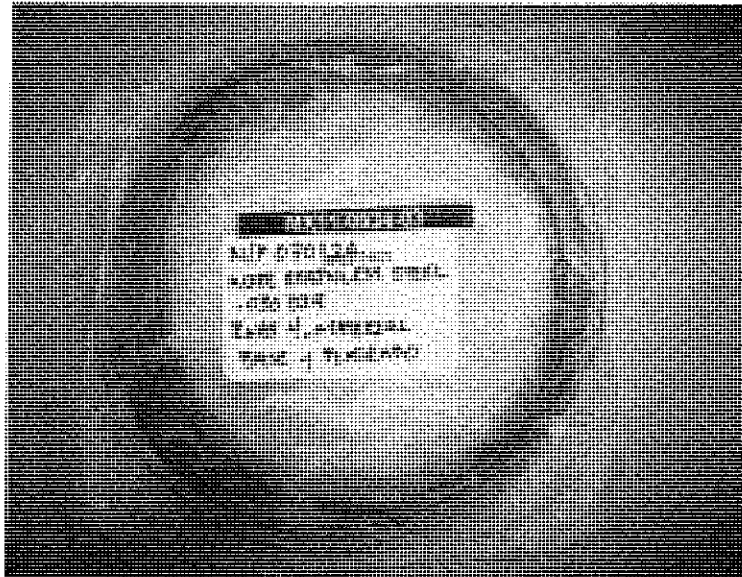
END REPORT

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000008

**RESULTS REPORT**

**INTERTEK TESTING SERVICES**

**DE MEXICO SA DE CV**

**LABORATORIO CD. DE MEXICO**

DELIVER TO:

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

ATTENTION: Ing. Maria Valdez

## 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 Serie 875  
Item No. 1) N/P 875-521 base y plateo  
2) N/P 875-522 base y plateo  
3) N/P 875-524 base y plateo  
4) N/P 875-525 base y plateo

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

### 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 (a)	N/P 875-521 plateo	Pass See Result summary	---	---
1 (b)	N/P 875-521 base	Pass See Result summary	---	---
2(a)	N/P 875-522 plateo	Pass See Result summary	---	---
2(b)	N/P 875-522 base	Pass See Result summary	---	---
3(a)	N/P 875-524 plateo	Pass See Result summary	---	---
3(b)	N/P 875-524 base	Pass See Result summary	---	---
4(a)	N/P 875-525 plateo	Pass See Result summary	---	---
4(b)	N/P 875-525 base	Pass See Result summary	---	---

000002



# TEST CONDUCTED

Samples:

- 1) N/P 875-521 base y plateo
- 2) N/P 875-522 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	62,81	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	144,7	50,16	ND	83,13	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

# TEST CONDUCTED

Samples:

- 3) N/P 875-524 base y plateo
- 4) N/P 875-525 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	8,771	ND	55,88	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)

000003



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 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  $\Omega$ .

Prepared and checked by :

For Intertek

*Irma Lopez*  
*[Signature]*  
*COORD. DE AREA*

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 MX11-0368-01 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0368-02 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0368-03 WERE TESTED SEPARATED.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF  
TESTED COMPONENTS OF THE SAMPLE MX11-0368-04 WERE TESTED SEPARATED.

000004

*[Signature]*

## Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-4	Chromium VI (Cr <sup>6+</sup> ) 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	250,0
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

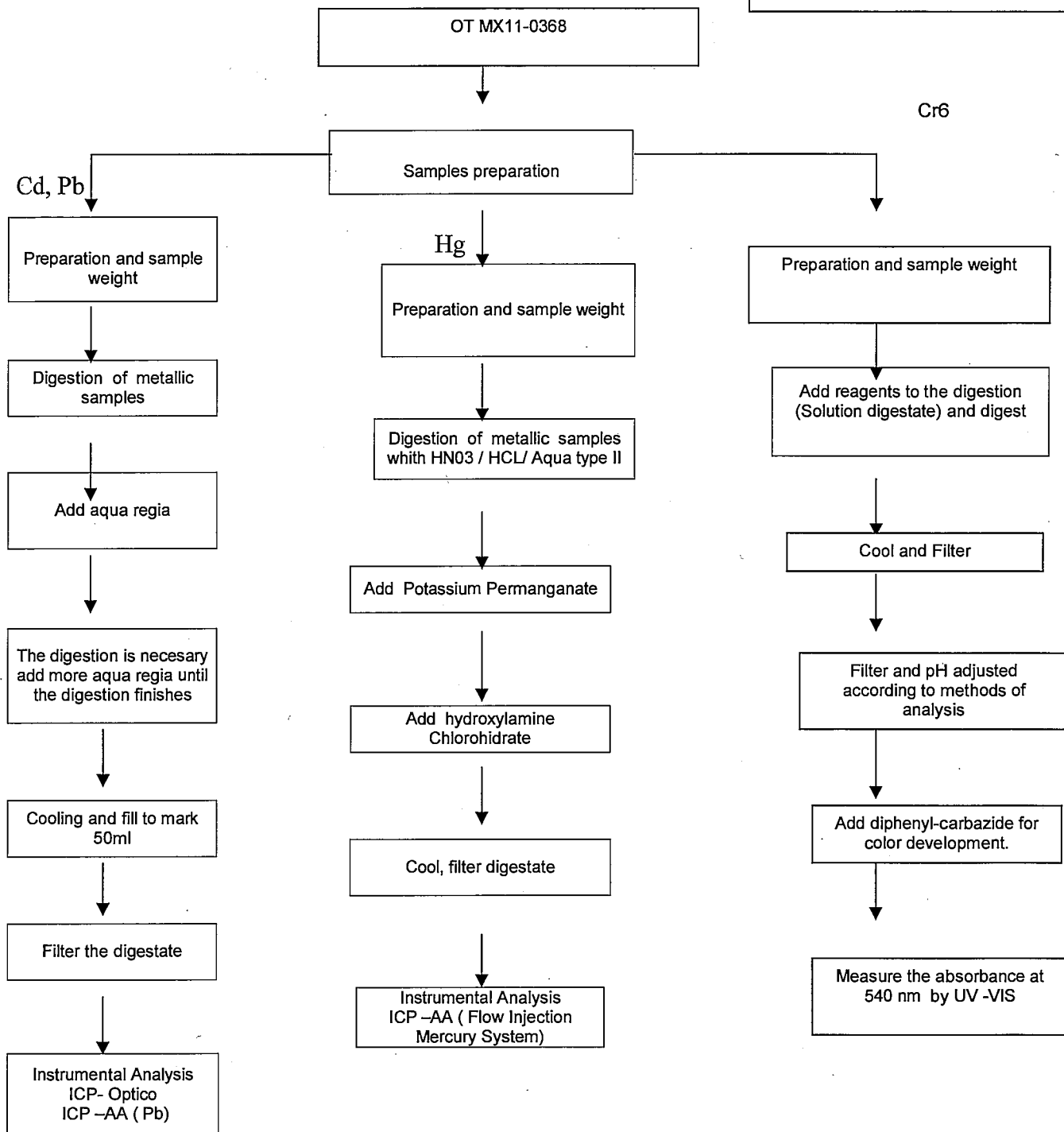
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1 (a)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5	2011-03-02	MARY,JMR	50,0
1 (b)	Cadmium (Cd) content	With reference to USEPA 3050MOD, by EPA 6010	MET2010-21p5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

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	625,0
4 (b)	Mercury (Hg) content	With reference to USEPA 7471, by EPA 7471	MET2010-22p4	2011-02-28	UBM,RNC	0,25

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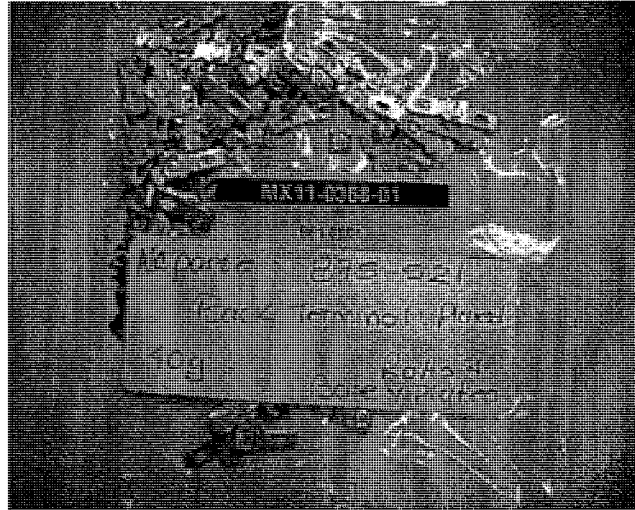
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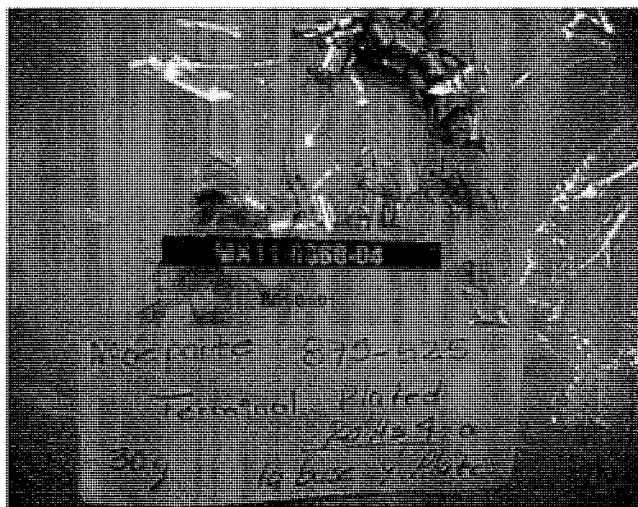
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000007



000008





**Test Report**

Number : TWNC00235725

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 09, 2011

**Sample Description:**

One (1) group of submitted samples said to be :  
Part Description : VALOX CK 48 BK(RESIN)  
Part Number : 057259  
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

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approval of the laboratory.



Number : TWNC00235725

Test Conducted

( I ) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic Pellet
<b>Heavy Metal</b>	
Cadmium (Cd) content	ND
Lead (Pb) content	14
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) content	ND
<b>Polybrominated Biphenyls (PBBs)</b>	
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
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>	
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
<b>Halogen Content</b>	
Fluorine (F)	1897
Chlorine (Cl)	ND
Bromine (Br)	31855
Iodine (I)	ND
<b>Phthalates</b>	
Di(2-ethylhexyl) Phthalate (DEHP)	ND
Dibutyl Phthalate (DBP)	ND
Benzyl Butyl Phthalate (BBP)	ND
<b>Others</b>	
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 09, 2011

## Test Conducted

## ( II ) RoHS Requirement:

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

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

## ( III ) Test Method:

<u>Test Item</u>	<u>Test Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr <sup>6+</sup> ) 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



Number : TWNC00235725

Test Conducted

( III ) Test Method:

<u>Test Item</u>	<u>Test Method</u>	<u>Reporting Limit</u>
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

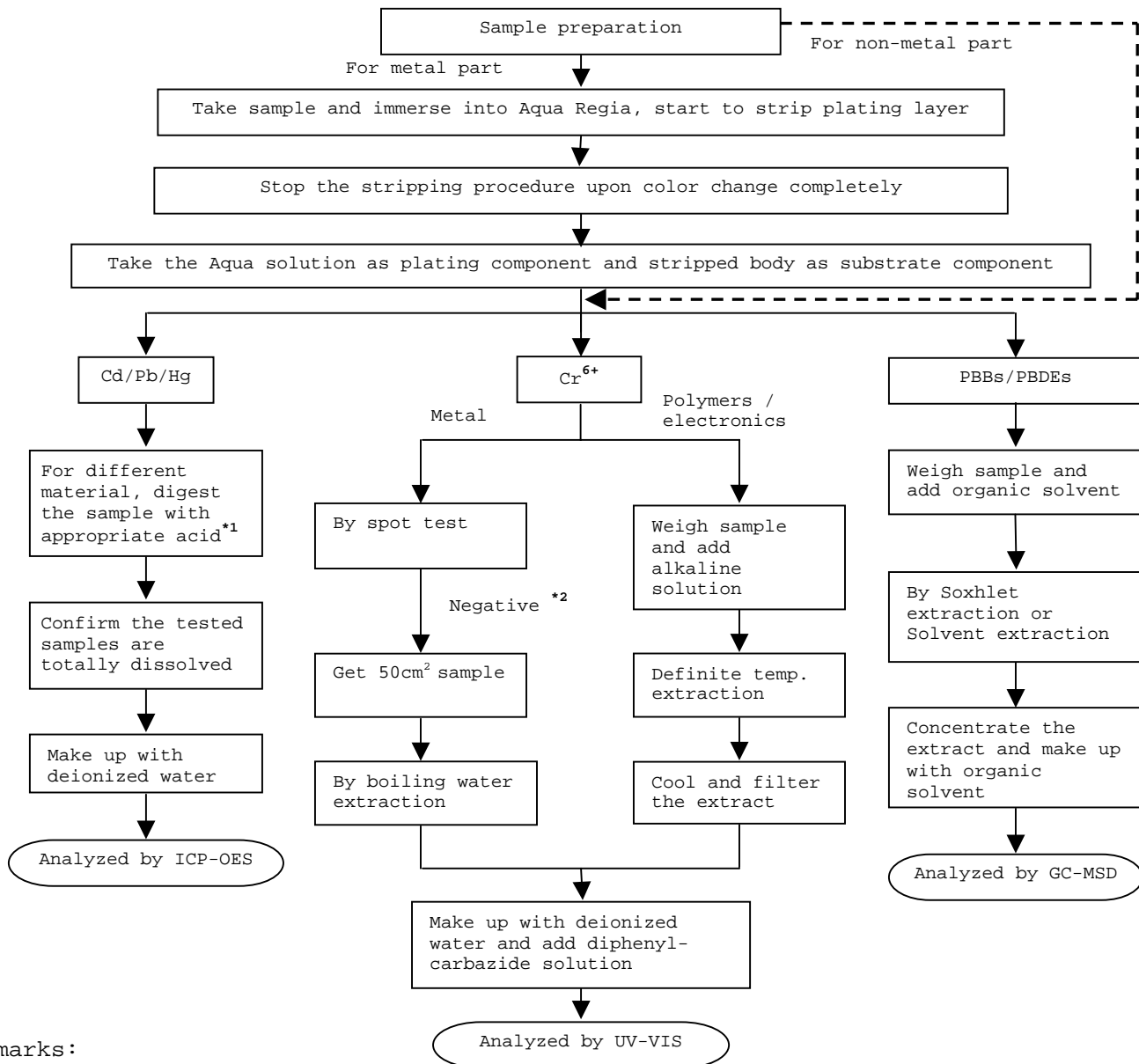
---

## 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 <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>

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

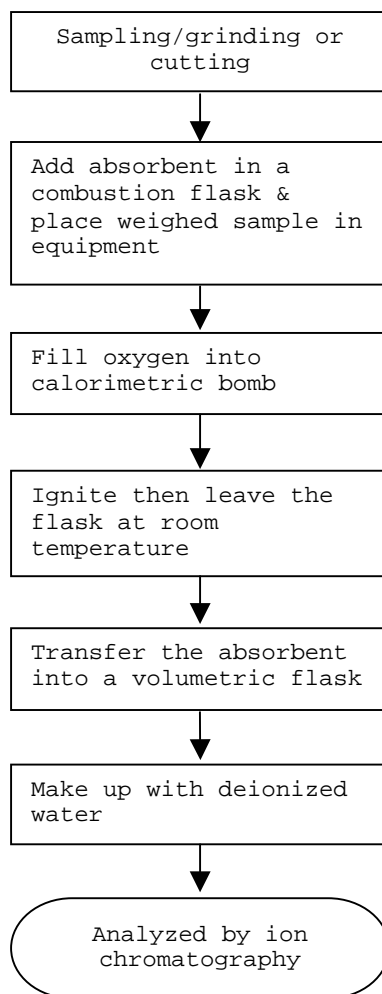


Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content

Reference Standard : EN 14582

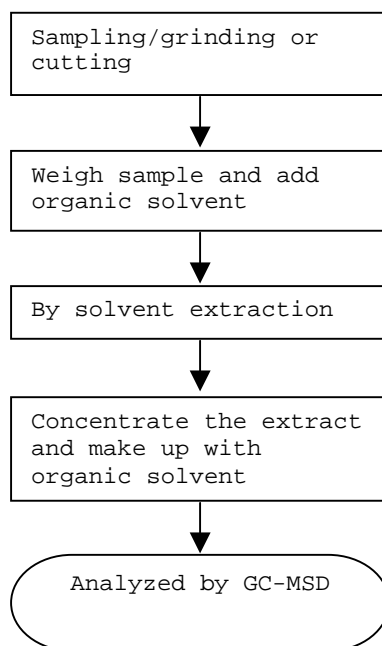


Test Conducted

(IV) Measurement Flowchart:

Test For Phthalates Contents

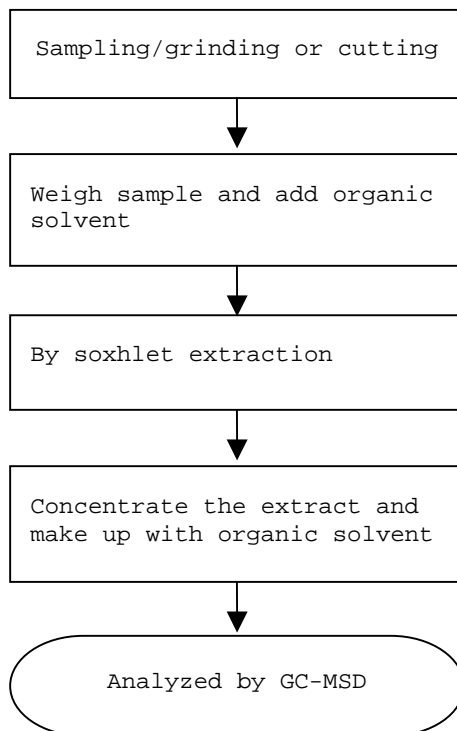
Reference Method: EN 14372: 2004



Test Conducted  
(IV) Measurement Flowchart:

Test For Hexabromocyclododecane (HBCDD)

Reference Standard : USEPA 3540C



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End of Report

Test Conducted

Number : TWNC00235725

Photo





**RESULTS REPORT**  
**INTERTEK TESTING SERVICES**  
**DE MEXICO SA DE CV**  
**LABORATORIO CD. DE MEXICO**

DELIVER TO:

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

ATTENTION: Ing. Mario Falcón

## TEST REPORT

### APPLICANT

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

### SAMPLE DESCRIPTION

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

Sample Description      Hardware Sold W/Fuse holders

Item No.

- 1) N/P 901-260
- 2) N/P 901-148
- 3) N/P 901-108
- 4) N/P 901-124
- 5) N/P 901-184
- 6) N/P 901-248
- 7) N/P 903-114
- 8) N/P 904-126
- 9) N/P 905-041

Country of Origin      NP  
Buyer's Name      NP  
Supplier's Name      NP  
Date sample received      2010-09-13  
Testing period      2010-09-16 to 2010-09-28

### 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 901-260	Pass See Result summary	---	---
2	N/P 901-148	Pass See Result summary	---	---
3	N/P 901-108	Pass See Result summary	---	---
4	N/P 901-124	Pass See Result summary	---	---
5	N/P 901-184	Pass See Result summary	---	---
6	N/P 901-248	Pass See Result summary	---	---
7	N/P 903-114	Pass See Result summary	---	---
8	N/P 904-126	Pass See Result summary	---	---
9	N/P 905-041	Pass See Result summary	---	---

\*\*\*\*\*

## TEST CONDUCTED

Samples:

- 1) N/P 901-260
- 2) N/P 901-148
- 3) N/P 901-108
- 4) N/P 901-124

## 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	17,06	22,44	ND	7,814	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)
<b>POLYBROMINATED BIPHENYLS (PBBs) Total</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>0,1% (1000 ppm)</b>
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	---
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>ND</b>	<b>0,1% (1000 ppm)</b>
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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1ª. Emisión Junio 2005, 1ª Revisión Junio 26, 2009.

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ILTA/003/GENS-F8

000004



## TEST CONDUCTED

Samples:

- 5) N/P 901-184
- 6) N/P 901-248
- 7) N/P 903-114
- 8) N/P 904-126

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)				Limit
	(5)	(6)	(7)	(8)	
Cadmium (Cd) content	ND	ND	ND	ND	0,01% (100 ppm)
Lead (Pb) content	12,20	14,97	49,10	9,912	0,1% (1000 ppm)
Mercury (Hg) content	ND	ND	ND	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	ND	ND	ND	0,1% (1000 ppm)
<b>POLYBROMINATED BIPHENYLS (PBBs) Total</b>	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	---	---
<b>POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total</b>	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	---	---

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1\*. Emisión Junio 2005, 1\* Revisión Junio 26, 2009.

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ILTA/003/GENS-F8

000005



## TEST CONDUCTED

Samples:

9) N/P 905-041

## TEST RESULT SUMMARY FOR RoHS DIRECTIVE :

TESTING ITEM	Ω RESULT (ppm)	Limit
	(9)	
Cadmium (Cd) content	ND	0,01% (100 ppm)
Lead (Pb) content	ND	0,1% (1000 ppm)
Mercury (Hg) content	ND	0,1% (1000 ppm)
Chromium (VI) (Cr <sup>6+</sup> )	ND	0,1% (1000 ppm)

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

µg/cm<sup>2</sup> = 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 Ω.

Prepared and checked by :

For Intertek

*Irma Lopez del*  
*[Signature]*  
*Co. de la area*

Laboratory Manager

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

000006

*[Signature]*

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 MX10-2024-01 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-02 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-03 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-04 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-05 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-06 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-07 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-08 WERE TESTED TOGETHER.

REMARK : AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-2024-09 WERE TESTED TOGETHER.

## Test method :

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-9	Chromium VI (Cr <sup>6+</sup> ) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p3	2010-09-21	MELA	20,0

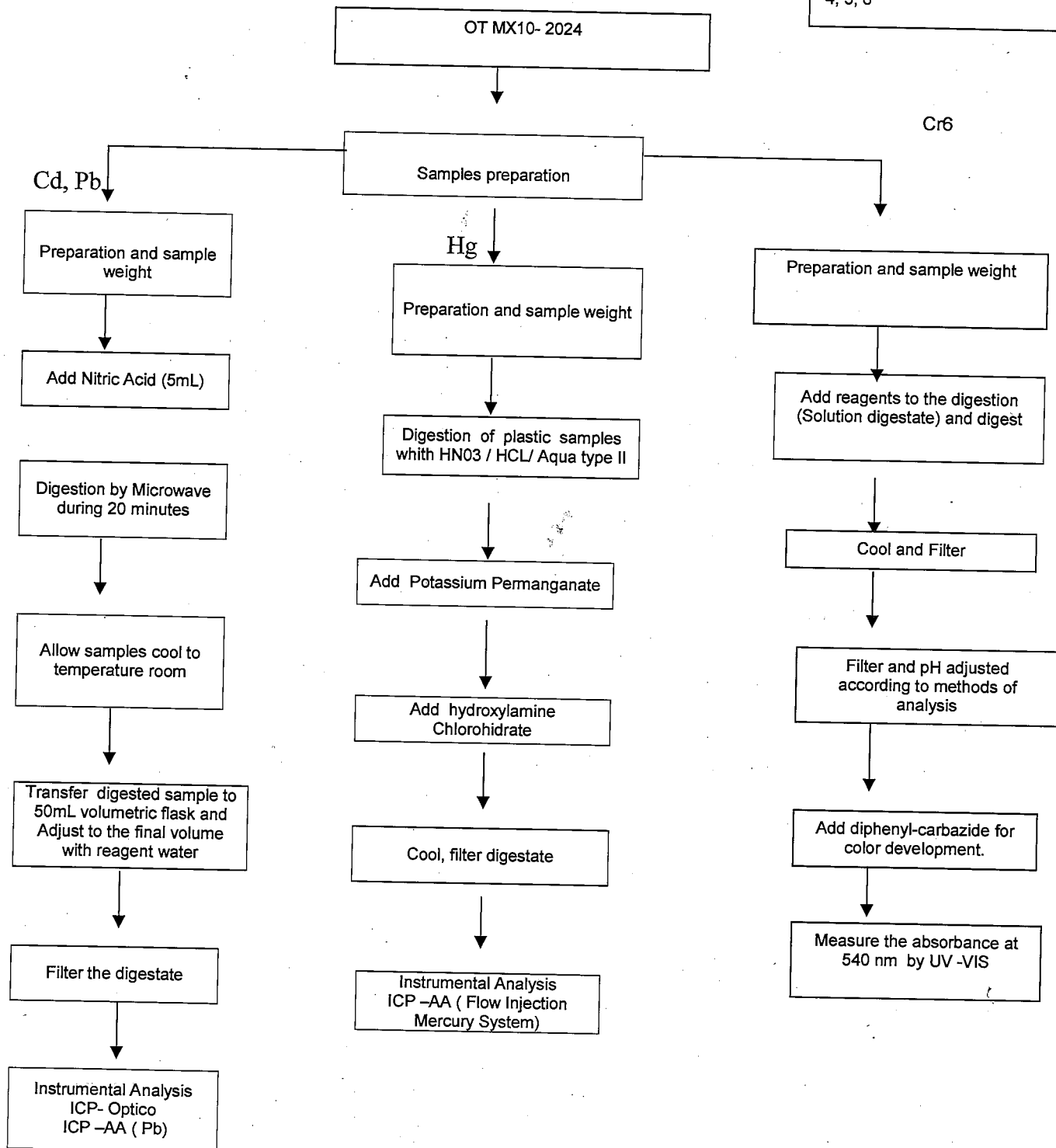
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1, 2, 3, 4, 5, 6, 7	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2010-004734-P CL	2010-09-16,28	▲ CONT	50,0
1, 2, 3, 4, 5, 6, 7	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2010-004734-P CL	2010-09-16,28	▲ CONT	50,0

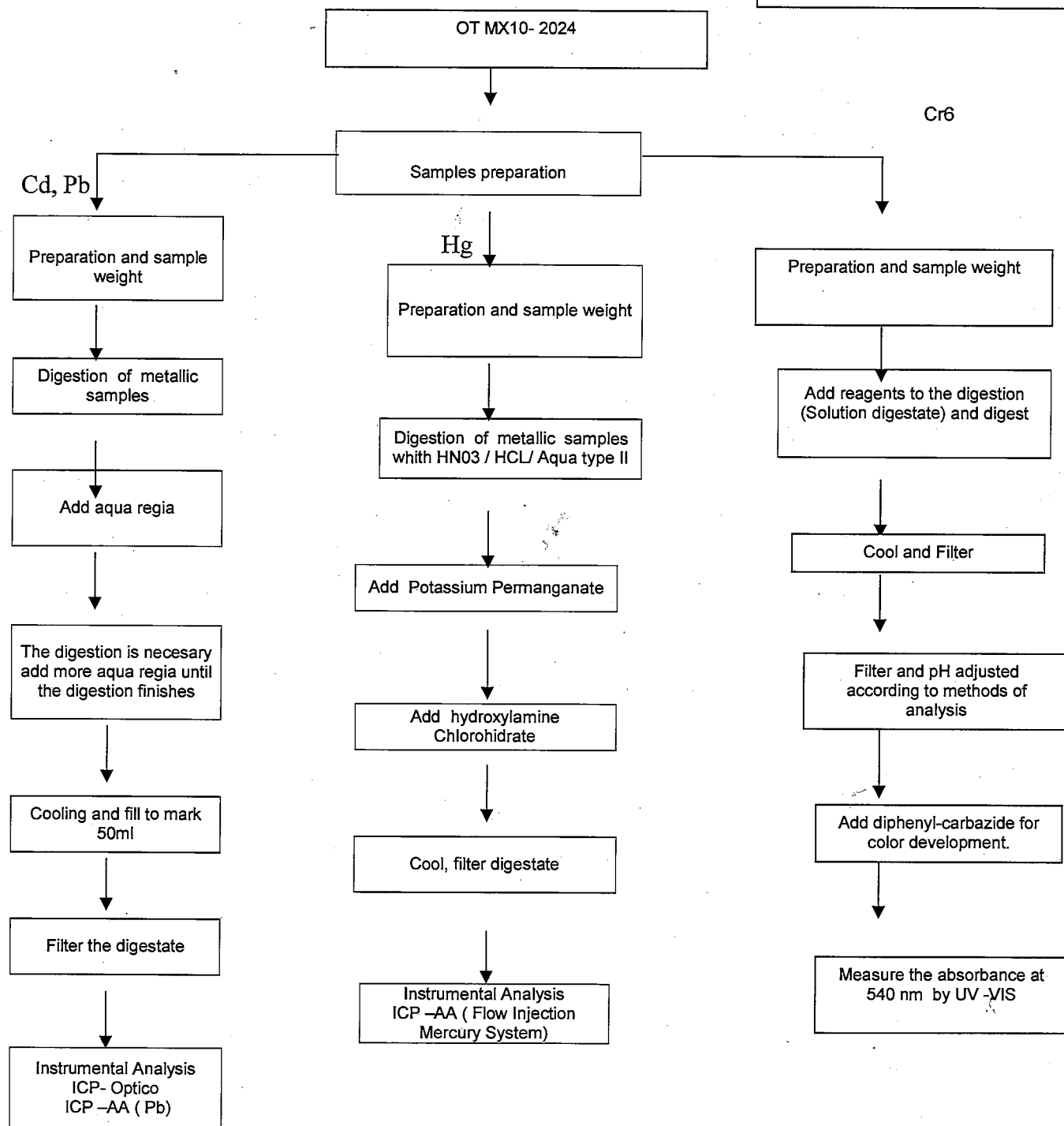


Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
2	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
3	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
4	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
5	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
6	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	5,0
7	Lead (Pb) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	5,0
8	Lead (Pb) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	5,0
9	Lead (Pb) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	5,0

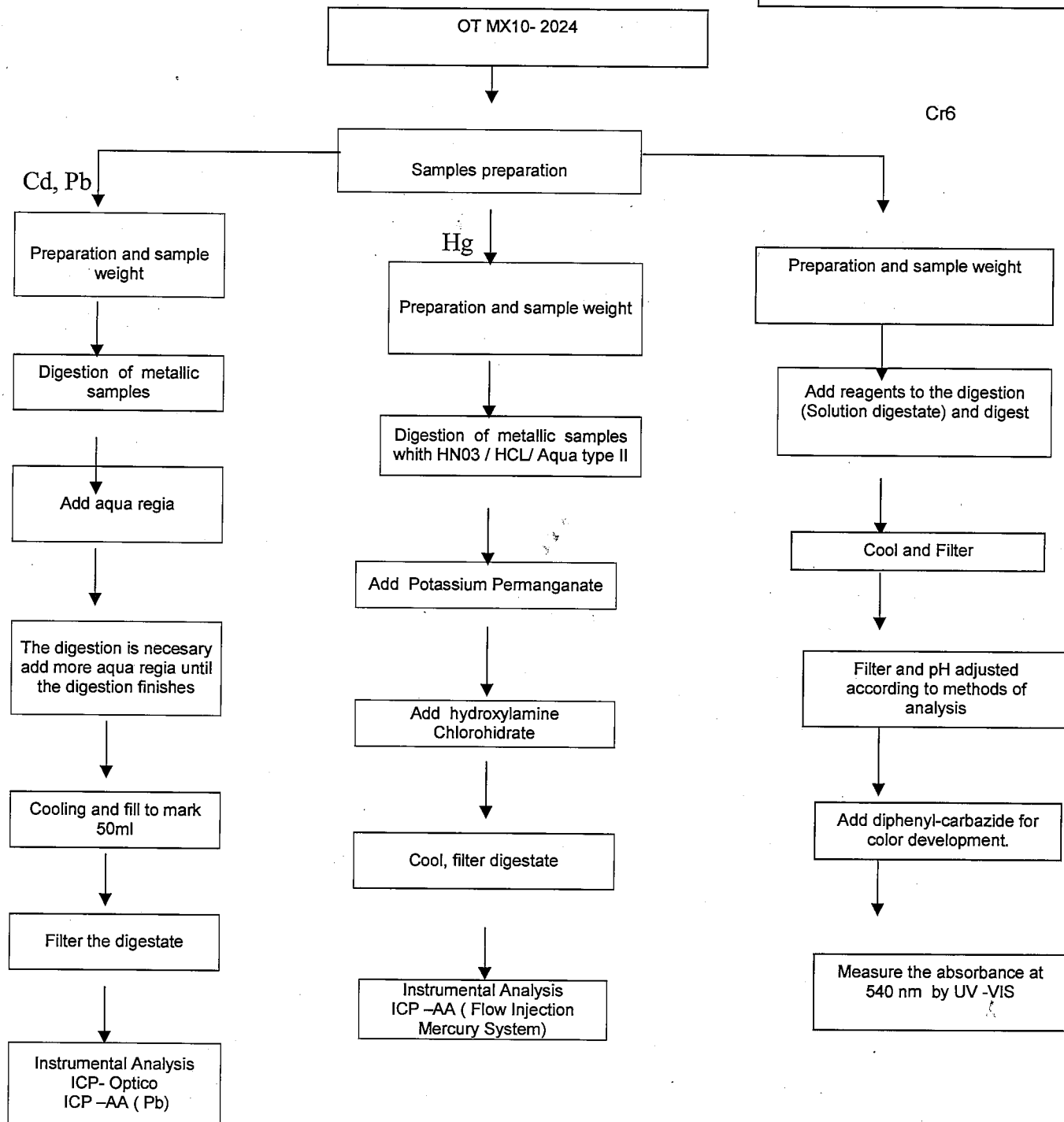
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
2	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
3	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
4	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
5	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
6	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0
7	Cadmium (Cd) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	2,0
8	Cadmium (Cd) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	2,0
9	Cadmium (Cd) content	With reference to USEPA 3050-MOD, by EPA 6010	MET2010-32p87	2010-09-21	DCL	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
2	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
3	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
4	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
5	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
6	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p84	2010-09-20	RNC,UBM	0,250
7	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p85	2010-09-20	RNC,UBM	0,250
8	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p85	2010-09-20	RNC,UBM	0,250
9	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-32p85	2010-09-20	RNC,UBM	0,250





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

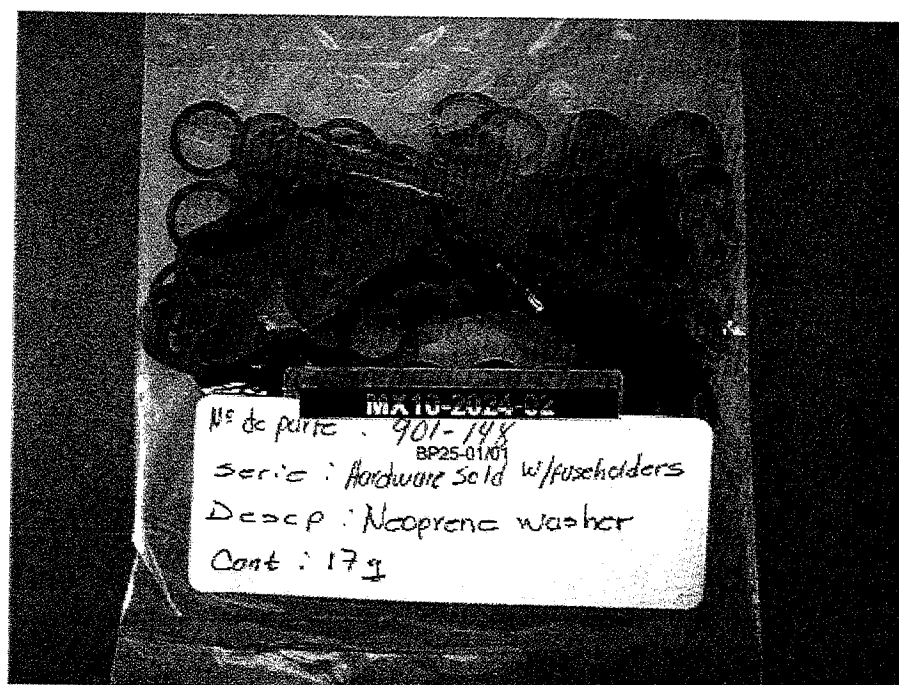
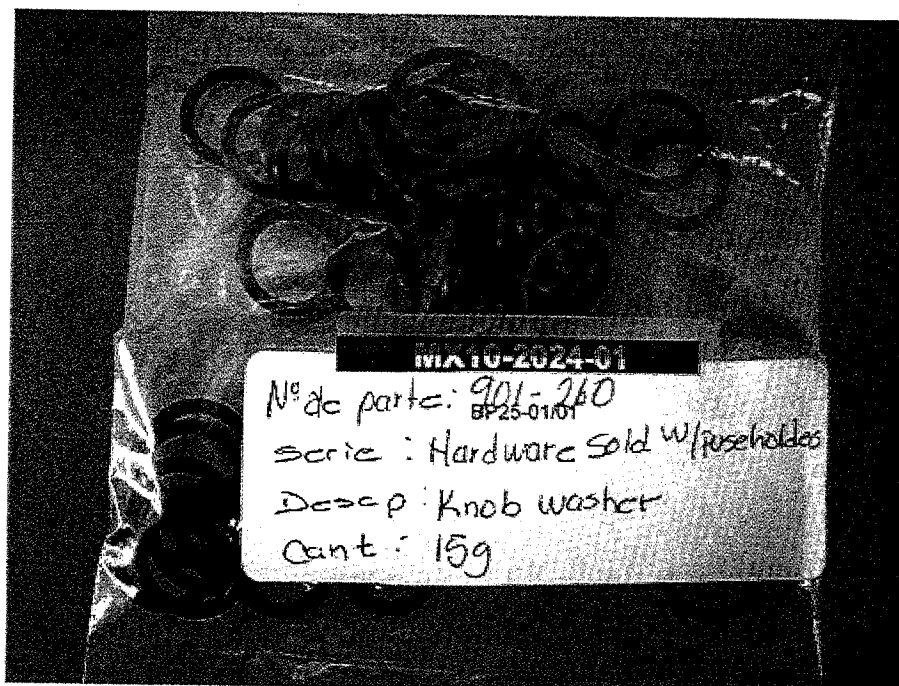


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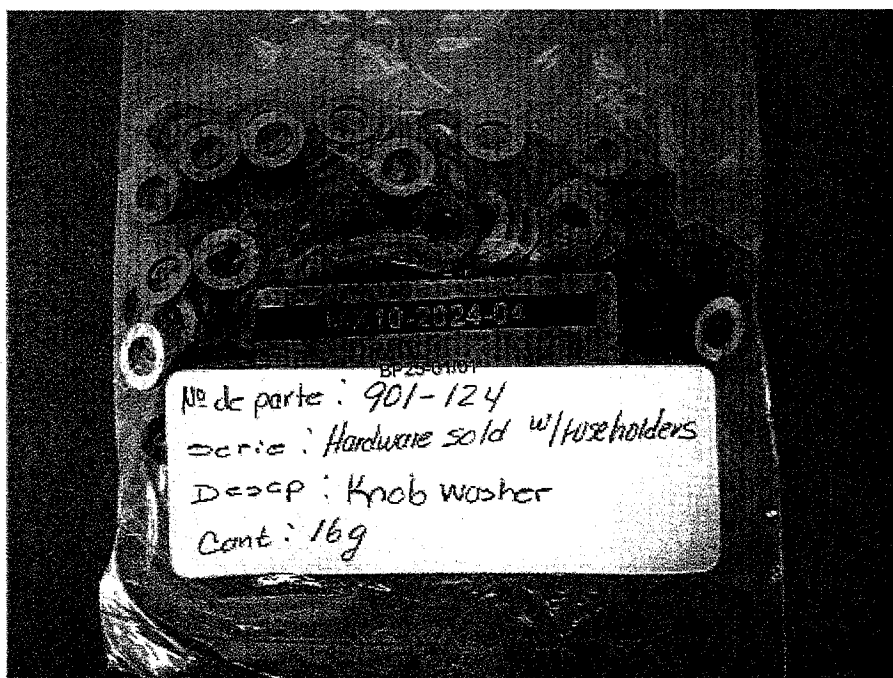
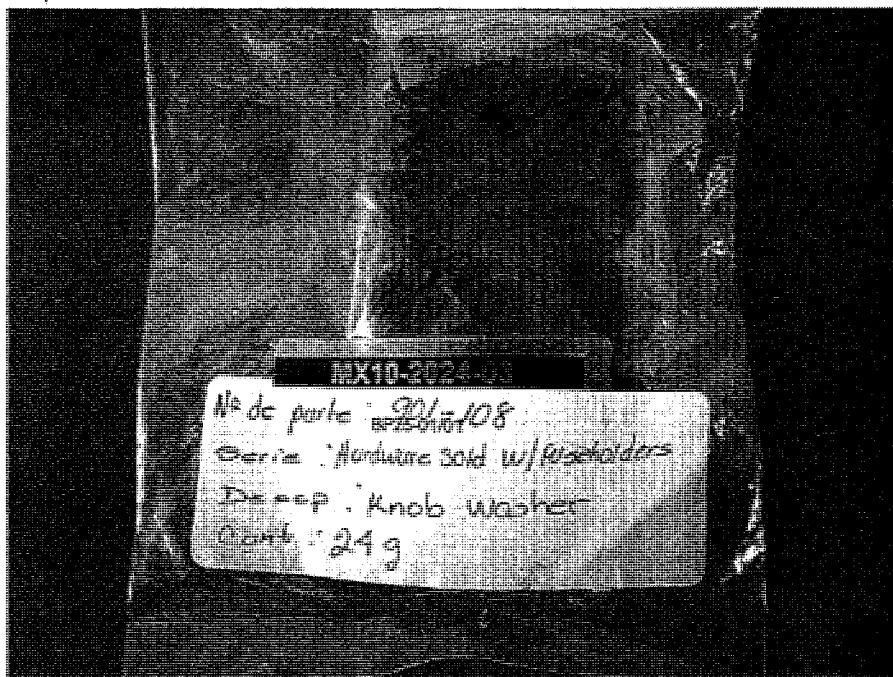
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C.P. 02300, Del. Azcapotzalco, México, D.F. Tel.: 50912150  
[www.intertek.com](http://www.intertek.com)

**MX10-2024**

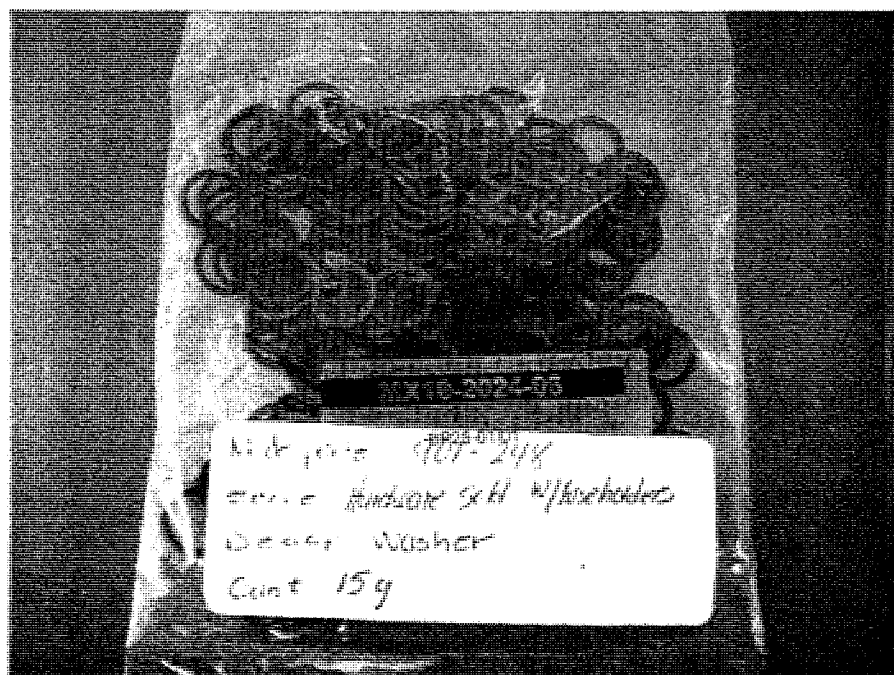
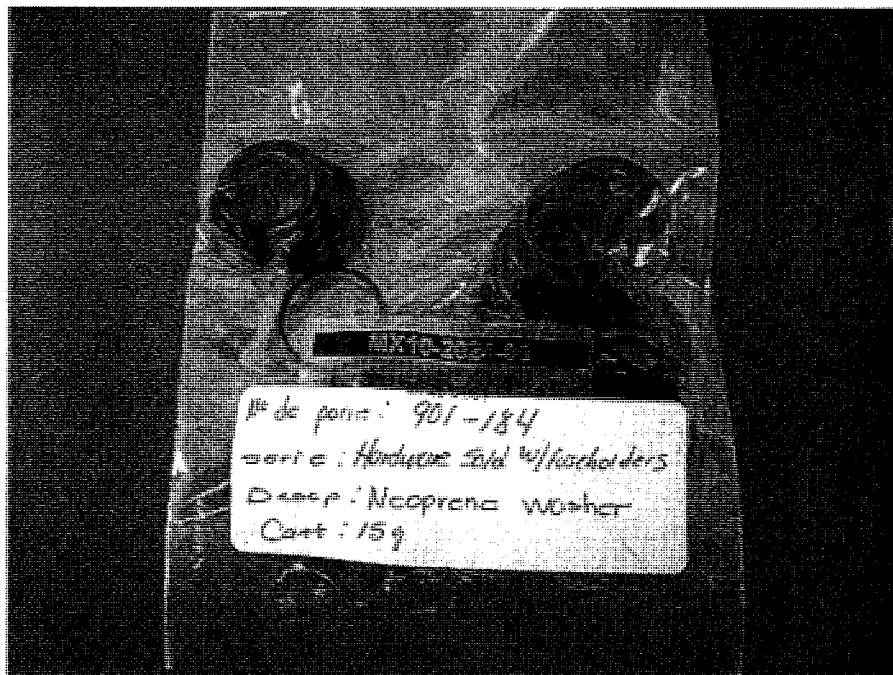




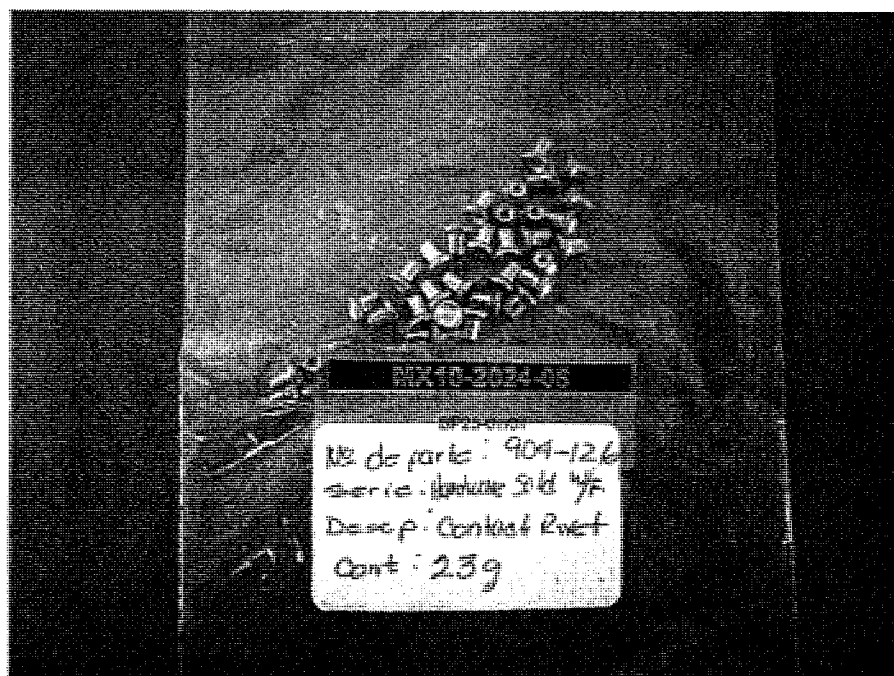
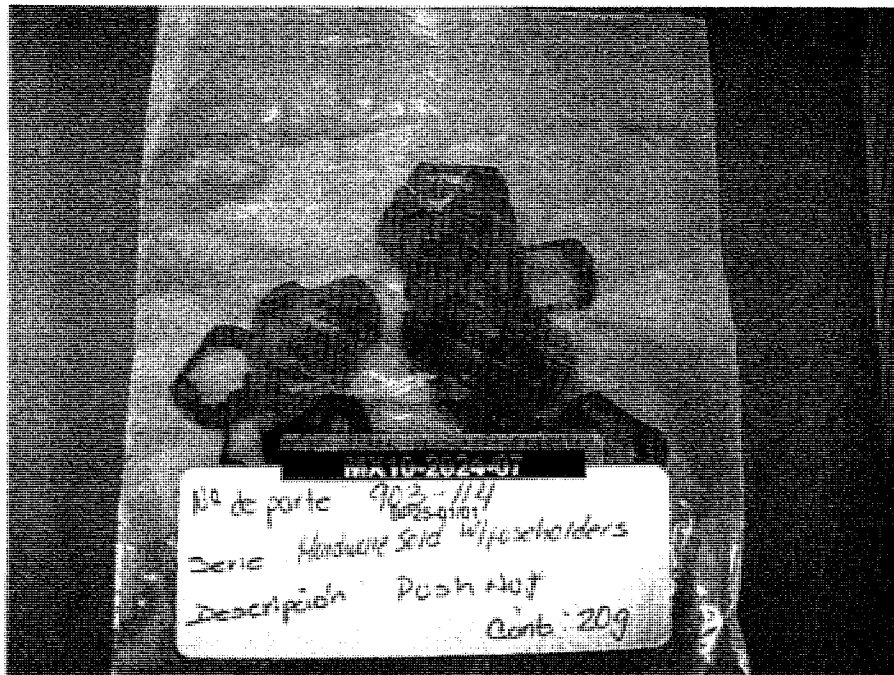
MX10-2024



MX10-2024



MX10-2024



MX10-2024





**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

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**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.

## Test Conducted

## (I) Test Result Summary :

Test Item	Result (ppm)
	Black Plastic
<b>Heavy Metal</b>	
Cadmium (Cd) content	ND
Lead (Pb) content	ND
Mercury (Hg) content	ND
Chromium VI (Cr <sup>6+</sup> ) content	ND
<b>Polybrominated Biphenyls (PBBs)</b>	
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
<b>Polybrominated Diphenyl Ethers (PBDEs)</b>	
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
<b>Halogen Content</b>	
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

## Test Conducted

## ( II ) RoHS Requirement:

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

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

## ( III ) Test Method:

<u>Test Item</u>	<u>Test Method</u>	<u>Reporting Limit</u>
Cadmium (Cd) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Lead (Pb) content	With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Mercury (Hg) content	With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES.	2 ppm
Chromium VI (Cr <sup>6+</sup> ) content	With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer.	1 ppm

Number : TWNC00225550

Test Conducted

( III ) Test Method:

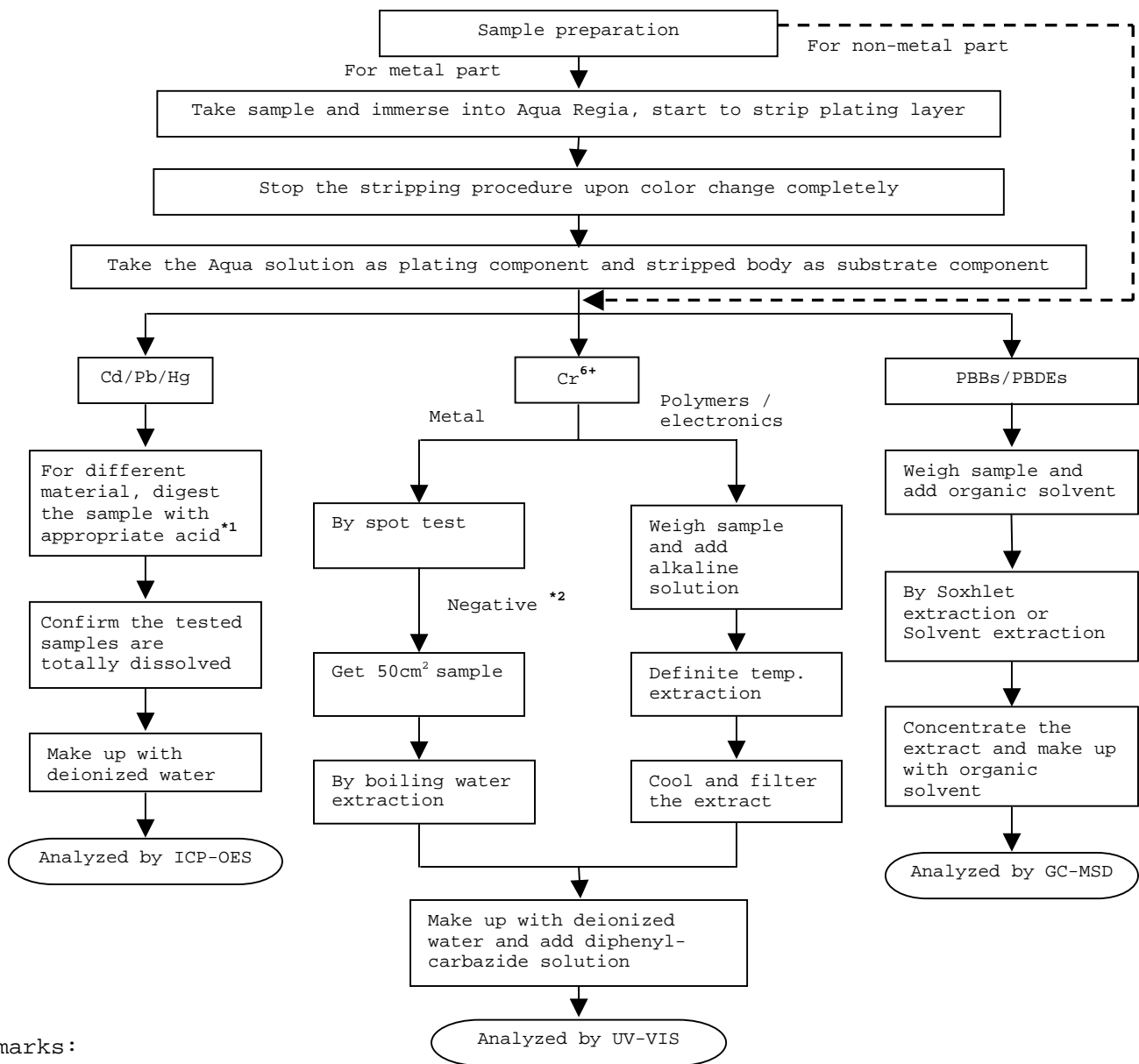
<u>Test Item</u>	<u>Test Method</u>	<u>Reporting Limit</u>
Polybrominated Biphenyls (PBBs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Polybrominated Diphenyl Ethers (PBDEs)	With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MSD and further HPLC confirmation when necessary.	5 ppm
Halogen Content	With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by ion chromatography	50 ppm

Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:  
 Test For Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents  
 Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

\*1: List Of Appropriate Acid:

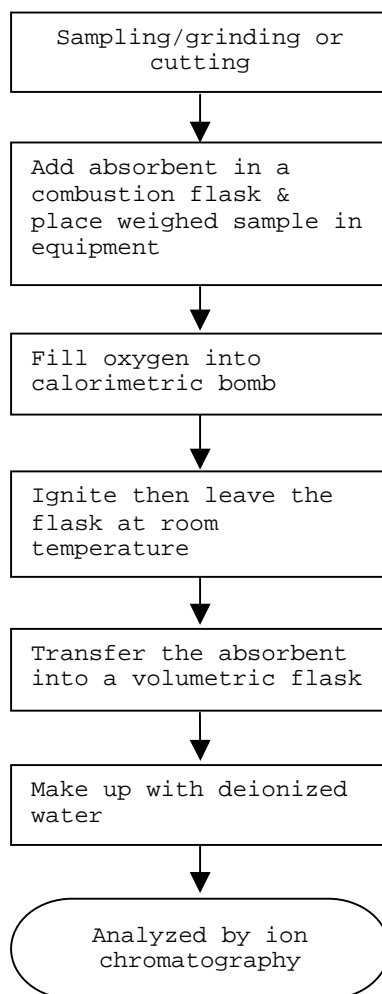
Material	Acid Added For Digestion
Polymers	HNO <sub>3</sub> , HCl, HF, H <sub>2</sub> O <sub>2</sub> , H <sub>3</sub> BO <sub>3</sub>
Metals	HNO <sub>3</sub> , HCl, HF
Electronics	HNO <sub>3</sub> , HCl, H <sub>2</sub> O <sub>2</sub> , HBF <sub>4</sub>

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

## Test Conducted

## (IV) Measurement Flowchart:

Test For Halogen Content  
Reference Standard : EN 14582



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End of Report

Number : TWNC00225550

Test Conducted

Photo

