

ICP Test Report Certification Packet

Company name:	Littelfuse, Inc.					
Product Series:	327 series (Micro2 Fuses)					
Product #:	327 series (Micro2 Fuses)					
Issue Date:	December 8, 2011					
2002/95/EC)-restricted supacking/packaging materi In addition, it is hereby refor unit parts, the packing/	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=""> and unit parts yers the 327 series RoHS-Compliant series products manufactured by</global>					
Littelfuse, Inc.						
< Raw Materials U Please see Tab						
,	(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	955410	Zinc Strip	3-13
2	057880	Blue Colorant	3-13
3	425706	Hot Stamp Foil	14-20
4	057351	Body - Compound	21-27
5	057877	Tan Colorant	28-32
6	057878	Brown Colorant	33-38
7	057879	Red Colorant	39-44
9	057899	Yellow Colorant	45-49
10	057883	Green Colorant	50-54
11	057352	Body - Technyl	55-60



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:

Maria Valdez



TEST REPORT

APPLICANT

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

SAMPLE DESCRIPTION

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

Sample Description

Serie 299, / *Serie 299 y 999

- 1) PN 955410 Plated Zn strip (base)
- 2) PN 955410 Plated Zn strip (plateado)

Item No.

- PN 692536 Solder
- 4) PN 057880 Colorant Blue
- PN 057884 Colorant Orange, Colorant Red *

Country of Origin

NP

Buyer's Name

ΝP

Supplier's Name

NP Date sample received 2010-12-06

Testing period

2010-12-09 to 2010-12-14

TEST CONDUCTED

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

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

1* Revisión Junio 2005, 1* Revisión Junio 26, 2009. ILTA/003/GENS-F8



Report No.: MX10-3013

Date: 2010-12-27

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
1	PN 955410 Plated Zn strip (base)	Pass See Result summary	- · · · · · · · · · · · · · · · · · · ·	······································
2	PN 955410 Plated Zn strip (plateado)	Pass See Result summary		·
3	PN 692536 Solder	Pass See Result summary		
4	PN 057880 Colorant Blue	Pass See Result summary		
5.	PN 057884 Colorant Orange, Colorant Red *	Pass See Result summary		

TEST CONDUCTED

Samples:

- PN 955410 Plated Zn strip (base) 1)
- PN 955410 Plated Zn strip (plateado) 2)
- PN 692536 Solder

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM		Ω RESULT (ppm)			
TEOTING ITEM	c (1)	c (1) (2)		_ <u>Limit</u>	
Cadmium (Cd) content	ND	ND	ND	0,01% (100 ppm)	
Lead (Pb) content	. ND	383,2	139,4	0,1% (1000 ppm)	
Mercury (Hg) content	ND .	ND	ND	0,1% (1000 ppm)	
Chromium (VI) (Cr ⁶⁺)	ND	ND	ND	0,1% (1000 ppm)	



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1°. Emission Junio 2005, 1° Revision Junio 26, 2009.

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4) PN 057880 Colorant Blue

5) PN 057884 Colorant Orange, Colorant Red *

TESTING ITEM		ΩRE	SULT (ppm)	Limit	
1ESTING HEWI		(4)	(5)	<u> </u>	
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) Total		ND	ND	0,1% (1000 ppm)	
Monobromobiphenyl (MonoBB)		ND	ND		
Dibromobiphenyl (DiBB)		ND	ND		
Tribromobiphenyl (TriBB)	,	ND	ND		
Tetrabromobiphenyl (TetraBB)		ND	ND		
Pentabromobiphenyl (PentaBB)		ND	ND	·	
Hexabromobiphenyl (HexaBB)		ND	ND		
(Heptabromobiphenyl (HeptaBB)	-	. ND	ND		
Octabromobiphenyl (OctaBB)		ND	ND		
Nonabromobiphenyl (NonaBB)		ND .	ND -		
Decabromobiphenyl (DecaBB)		ND	ND		
POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total		ND	ND	0,1% (1000 ppm)	
Monobromodiphenyl (MonoBDE)		ND	ND	'	
Dibromodiphenyl (DiBDE)		ND	ND		
Tribromodiphenyl (TriBDE)		ND	ND		
Tetrabromodiphenyl (TetraBDE)		ND	ND		
Pentabromodiphenyl (PentaBDE)		ND	ND		
Hexabromodiphenyl (HexaBDE)		ND ND	ND		
Heptabromodiphenyl (HeptaBDE)		ND	ND	participant of	
Octabromodiphenyl (OctaBDE)		ND	ND		
Nonabromodiphenyl (NonaBDE)		ND	ND	1 -1-1-1	
Decabromodiphenyl (DecaBDE)		ND	ND		

ppm = parts per million based on dry weight of sample. μg/cm² = microgram per square centimeter. mg/kg WITH 50cm² = milligram per kilogram with 50 square centimeter. < = less than.



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1ª. Emission Junio 2005, 1° Revision Junio 26, 2009. ILTA/003/GENS-F8



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 (,).

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 MX10-3013-01 WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE <u>MX10-3013-02</u> WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE $\frac{MX10-3013-03}{MX10-3013-03}$ WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-3013-04 WERE TESTED TOGETHER.

REMARK: AS REQUESTED BY THE APPLICANT, COATING WITH BASE MATERIAL OF TESTED COMPONENTS OF THE SAMPLE MX10-3013-05 WERE TESTED TOGETHER.



Report No.: MX10-3013

Date: 2010-12-27

Test method:

Sam Num	per resung tent	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1-4	Chromium VI (Cr ⁶⁺) content	With reference to USEPA 3060, by EPA 7196	QHU2010-45p11	2010-12-14	MELA,JPR	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
4, 5	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2010-004967-PCL	2010-12-14	CONT	50,0
4, 5	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2010-004967-PCL	2010-12-14	▲ CONT	50,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
1	Lead (Pb) content	With reference to USEPA 3050 MOD, by EPA 6010	MET2010-40p38	2010-12-10	MARY,JMR	5,0
2·	Lead (Pb) content	With reference to USEPA 3050 MOD, by EPA 6010	MET2010-40p38	2010-12-10	MARY,JMR	83,33
3	Lead (Pb) content	With reference to USEPA 3050 MOD, by EPA 6010	MET2010-40p38	2010-12-10	MARY,JMR	5,0
4	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p41	2010-12-10	MARY,JMR	5,0
5	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p41	2010-12-10	MARY,JMR	5,0

Sample Number	Testing item	Ω <u>Testing method</u>	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3050 MOD, by EPA 6010	MET2010-40p38	2010-12-10	MARY,JMR	2,0
2	Cadmium (Cd) content	With reference to USEPA 3050 MOD, by EPA 6010	MET2010-40p38	2010-12-10	MARY,JMR	33,33
3	Cadmium (Cd) content	With reference to USEPA 3050 MOD, by EPA 6010.	MET2010-40p38	2010-12-10	MARY,JMR	2,0
4	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p41	2010-12-10	MARY,JMR	2,0
5	Cadmium (Cd) content	With reference to USEPA-3052, by EPA 6010	MET2010-40p41	2010-12-10	MARY,JMR	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	MET2010-22p2	2010-12-13	UBM,RNC	0,250
2	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-22p2	2010-12-13	UBM,RNC	1,667
3	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-22p2	2010-12-13	UBM,RNC	0,250
4	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p42	2010-12-13	UBM,RNC	0,250
5	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p42	2010-12-13	UBM,RNC	0,250

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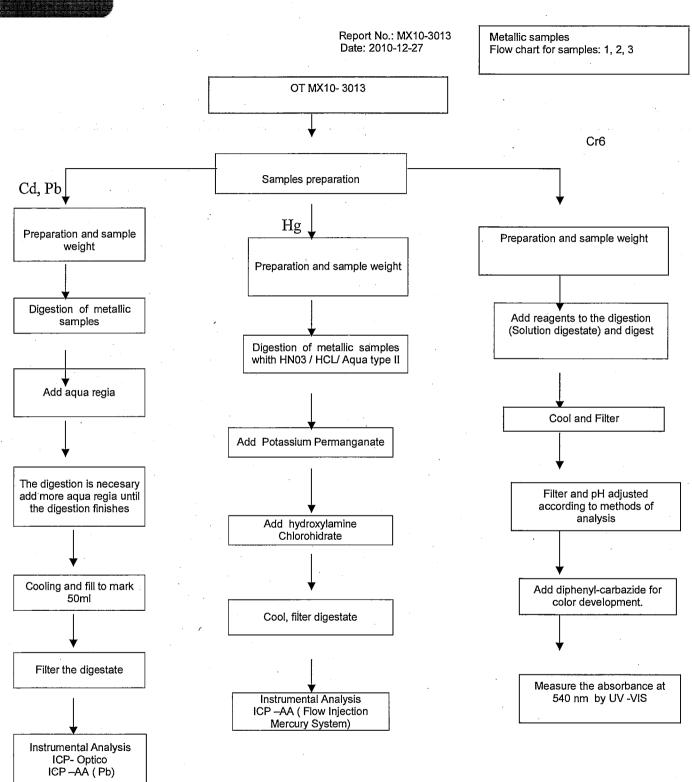
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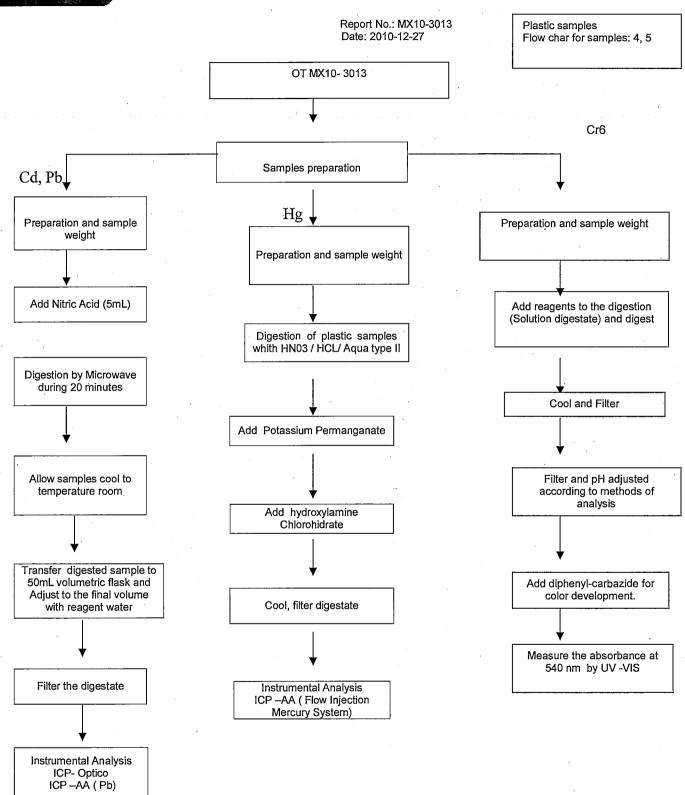


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Poniente 134 No. 660, Col. Industrial Vallejo
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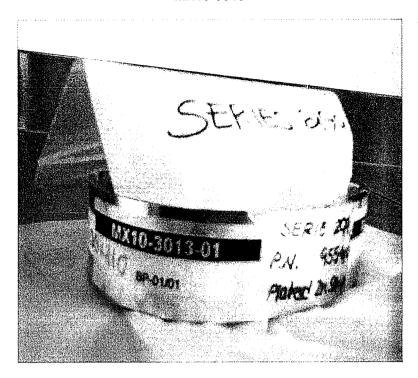
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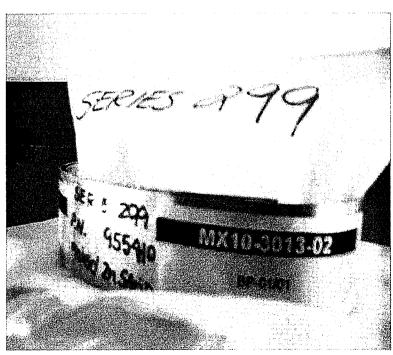
Intertek Testing Services de México, S.A. de C.V.

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



MX10-3013





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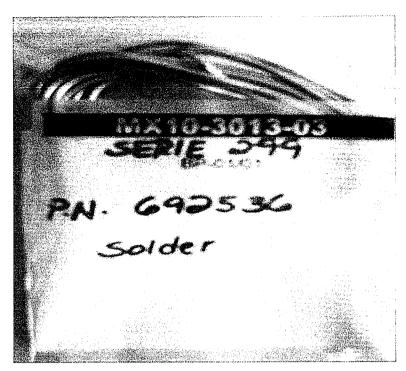
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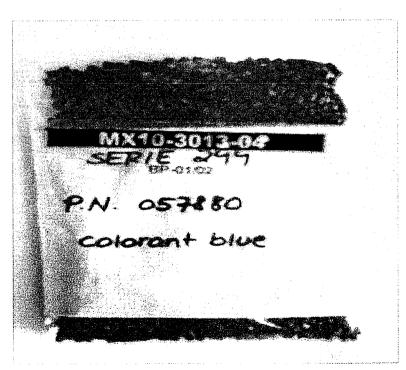
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MX10-3013





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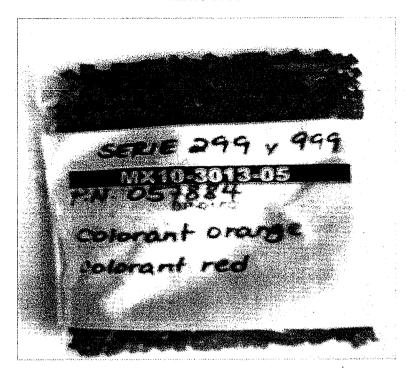
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MX10-3013



END REPORT

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

ILTA/003/GENS-F8



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

G00001



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

P.N. 425XXX

Item No.

1) P/N 425706 Foil White

Country of Origin

NP

Buyer's Name

NP

Supplier's Name

NP

Date sample received 2011-07-08

Testing period

2011-07-12 to 2011-07-27

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	P/N 425706 Foil White	Pass See Result summary		graphed fine





TEST CONDUCTED

Samples:

1) P/N 425706 Foil White

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

	Ω RESULT (ppm)	
TESTING ITEM	(1)	<u>Limit</u>
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 ⁶⁺)	ND	0,1% (1000 ppm)
A POLYBROMINATED BIPHENYLS (PBBS) Total	HE ND 2 LET I	0,1% (1000 ppvn)
Monobromobiphenyl (MonoBB)	ND	·
Dibromobiphenyl (DiBB)	ND	
Tribromobiphenyl (TriBB)	ND	
Tetrabromobiphenyl (TetraBB)	ND	·
Pentabromobiphenyl (PentaBB)	ND	
Hexabromobiphenyl (HexaBB)	ND	
Heptabromobiphenyl (HeptaBB)	. ND	
Octabromobiphenyl (OctaBB)	ND	
Nonabromobiphenyl (NonaBB)	ND	
Decabromobiphenyl (DecaBB)	ND	
A POLYBROMINATED DIPHENYL ETHERS (PBDES) Total	NOT THE REPORT OF THE PARTY OF	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	





Report No.: MX11-1519

Date	:	201	1-03	7-28

TESTING ITEM	▲ RESULT (ppm)
TESTINGTIEM	(1)
Fluor (F) content	ND
Chlorine (CI) content	14 512
Bromine (Br) content	ND
lodine (I) content	ND

▲= Contrated Test.

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

μg/cm² = microgram per square centimeter.

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

< = less than.

ND = Not detected.

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

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

Prepared and checked by:

For Intertek

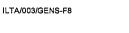
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The Official Mexican Standard NOM-008-SCFI-1993 establishes like separator decimal the comma (,).

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 $\underline{\mathsf{MX11-1519-01}}$ WERE TESTED TOGETHER.





Test method:

Sample Number	Testing item	Ω <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1		With reference to USEPA 3060, by EPA 7196	QHU2010-61p90	2011-07-15	AGM	20,0

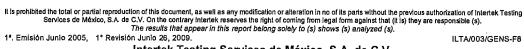
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000443-PCL	2011-07-27	▲ CONT	50,0
1	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000443-PCL	2011-07-27	CONT	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	MET2011-12p34	2011-07-13	MARY	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	MET2011-12p34	2011-07-13	MARY	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	MET2011-12p36	2011-07-14	RNC	0,25

Sample Number	Testing item	▲ <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Fluor	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000443-PCL	2011-07-27	▲ CONT	30
1	Chlorine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000443-PCL	2011-07-27	▲ CONT	30
1	Bromine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000443-PCL	2011-07-27	▲ CONT	30
1	lodine	With reference to EN 14582:2007 by calonmetric bomb method with oxygen and determined by ion chromatography	2011-000443-PCL	2011-07-27	▲ CONT	30

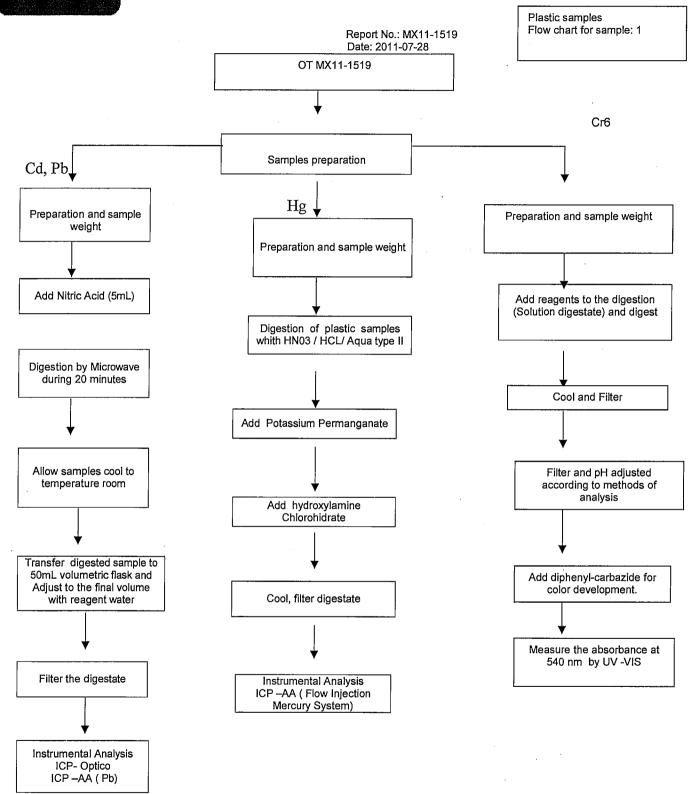








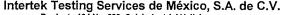




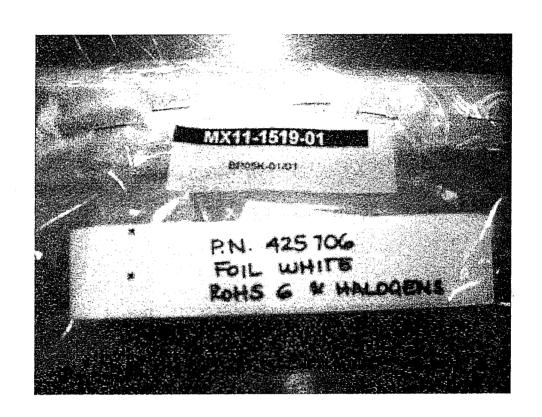
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RESULTS REPORT

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. 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

NP

Item No.

1) N/P 057351

Country of Origin

NP

Buyer's Name

NΡ

Supplier's Name

NΡ

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 057351	Pass See Result summary		

000002

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TEST CONDUCTED

Samples:

1) N/P 057351

TEST RESULT SUMMARY FOR ROHS DIRECTIVE:

TESTING ITEM	Ω RESULT (ppm)	Limit
	(1)	<u> </u>
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 ⁶⁺)	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs) Total	ND T	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	
Dibromobiphenyl (DiBB)	· ND	<u></u>
Tribromobiphenyl (TriBB)	ND	
Tetrabromobiphenyl (TetraBB)	ND	<u></u>
Pentabromobiphenyl (PentaBB)	ND	——————————————————————————————————————
Hexabromobiphenyl (HexaBB)	ND /	-
Heptabromobiphenyl (HeptaBB)	ND	-
Octabromobiphenyl (OctaBB)	ND	` -
Nonabromobiphenyl (NonaBB)	ND	
Decabromobiphenyl (DecaBB)	ND	
POLYBROMINATED DIPHENYL ETHERS [PBDEs] Total	ND ND	0,1% (1000 ppm)
Monobromodiphenyl (MonoBDE)	ND	
Dibromodiphenyl (DiBDE)	· ND	
Tribromodiphenyl (TriBDE)	ND .	
Tetrabromodiphenyl (TetraBDE)	ND	
Pentabromodiphenyl (PentaBDE)	ND	
Hexabromodiphenyl (HexaBDE)	ND	E 10 10 10 10 10 10 10 10 10 10 10 10 10
Heptabromodiphenyl (HeptaBDE)	ND	!
Octabromodiphenyl (OctaBDE)	ND	
Nonabromodiphenyl (NonaBDE)	ND	-
Decabromodiphenyl (DecaBDE)	ND	

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

μg/cm² = microgram per square centimeter.

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

< = less than.

ND = Not detected.

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

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

Prepared and checked by:

For Intertek

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 <u>MX10-2031-01</u> WERE TESTED TOGETHER.







Test method:

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

Sample Number	Testing item	Ω <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2010-004734-P CL	2010-09-16,28	▲ CONT	50,0
1 .	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

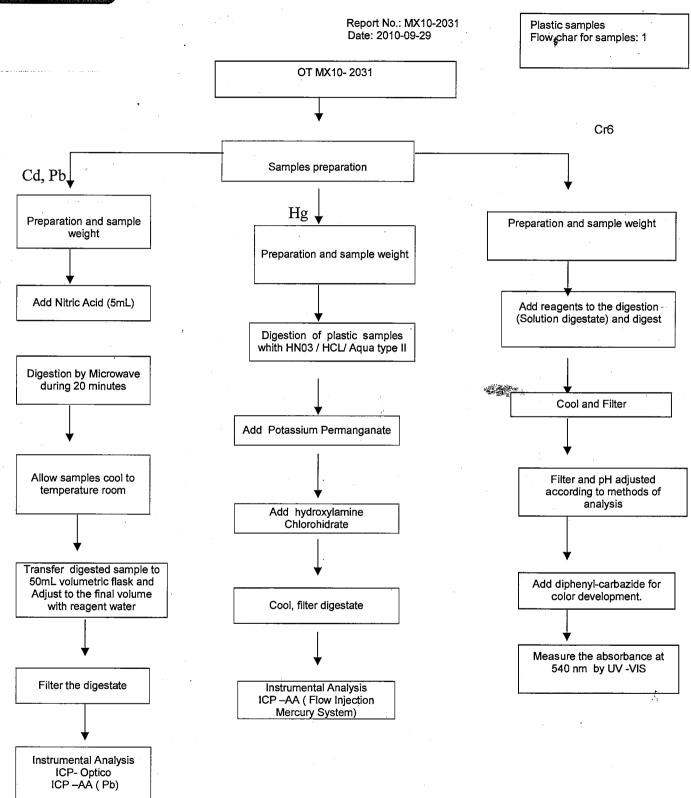
Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-32p81	2010-09-21	DCL	2,0

. [Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	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

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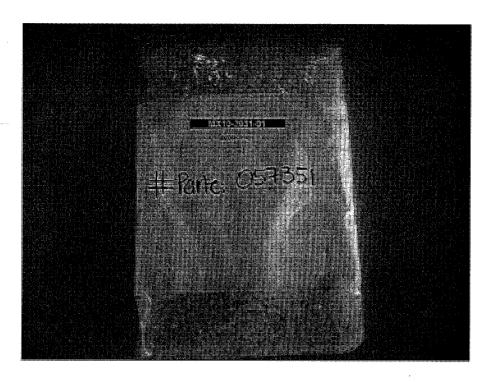
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MX10-2031





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.: MX11-1035-03

Date: 2011-06-15

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



Report No.: MX11-1035-03 Date: 2011-06-15

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 Series 287,999

Item No. 3) N/P 057877 Colorant Tan

Country of Origin NP
Buyer's Name NP
Supplier's Name NP

Date sample received 2011-05-19

Testing period 2011-05-23 to 2011-06-09

TEST CONDUCTED

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

CONCLUSION

Sample Number	Testing item	Conclusion	Failed component	Failed result
3	N/P 057877 Colorant Tan	Pass See Result summary		

TEST CONDUCTED

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

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

ILTA/003/GENS-F8



Report No.: MX11-1035-03 Date: 2011-06-15

Samples:

3) N/P 057877 Colorant Tan

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	Ω RESULT (ppm)	Limit
1231114G 11 EW	(3)	LIIIIL
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 ⁶⁺)	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs) Total	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	
Dibromobiphenyl (DiBB)	ND	
Tribromobiphenyl (TriBB)	ND	
Tetrabromobiphenyl (TetraBB)	ND	
Pentabromobiphenyl (PentaBB)	ND	
Hexabromobiphenyl (HexaBB)	ND	
Heptabromobiphenyl (HeptaBB)	ND	
Octabromobiphenyl (OctaBB)	ND	
Nonabromobiphenyl (NonaBB)	ND	
Decabromobiphenyl (DecaBB)	ND	
POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total	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	



Report No.: MX11-1035-03 Date: 2011-06-15

	▲ RESULT (ppm)
TESTING ITEM	(3)
Fluor (F) content	ND
Chlorine (CI) content	202
Bromine (Br) content	ND
Iodine (I) content	ND

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

 μ g/cm² = microgram per square centimeter.

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

< = less than.

ND = Not detected.

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

These Accreditations only apply for the methods listed in such. Not accredited under EMA $\Omega_{\!\scriptscriptstyle L}$

Prepared and checked by :

For Intertek

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 <u>MX11-1035-03</u> WERE TESTED TOGETHER.

Test method:



Report No.: MX11-1035-03

•		
Date:	2011-06-15	

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
3	,	With reference to USEPA 3060, by EPA 7196	QHU2010-61p76,78	2011-05-26	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000307-PCL	2011-03-09	▲ CONT	50,0
3	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000307-PCL	2011-03-09	▲ CONT	50,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
3	Lead (Pb) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p144	2011-05-26	MARY	5,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
3	Cadmium (Cd) content	With reference to USEPA 3052, by EPA 6010	MET2010-40p144	2011-05-26	MARY	2,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
3	Mercury (Hg) content	With reference to USEPA 7471 by USEPA 7471	MET2010-40p139	2010-05-23	RNC	0,25

Sample Number	Testing item	▲ <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
3	Fluor	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
3	Chlorine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
3	Bromine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
3	lodine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30



Test Report Number : TWNC00213359

Applicant: Littelfuse, S.A. de C.V.

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 : COLORANT BROWN

Part Number : 057878

Date Sample Received : Jun 28, 2011
Date Test Started : Jun 28, 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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Date : Jun 30, 2011

Page 1 Of 6



Number : TWNC00213359

Test Conducted

(I) Test Result Summary :

) lest Result Summary .	Result (ppm)
Togt Itom	
Test Item	Black Plastic
	<u>Pellets</u>
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

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 : Jun 28, 2011

Test Period : Jun 28, 2011 to Jun 30, 2011



Number: TWNC00213359

Test Conducted

(Ⅱ) RoHS Requirement:

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

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

$(\hspace{.05cm} \coprod \hspace{.05cm})$ 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



Number: TWNC00213359

Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
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

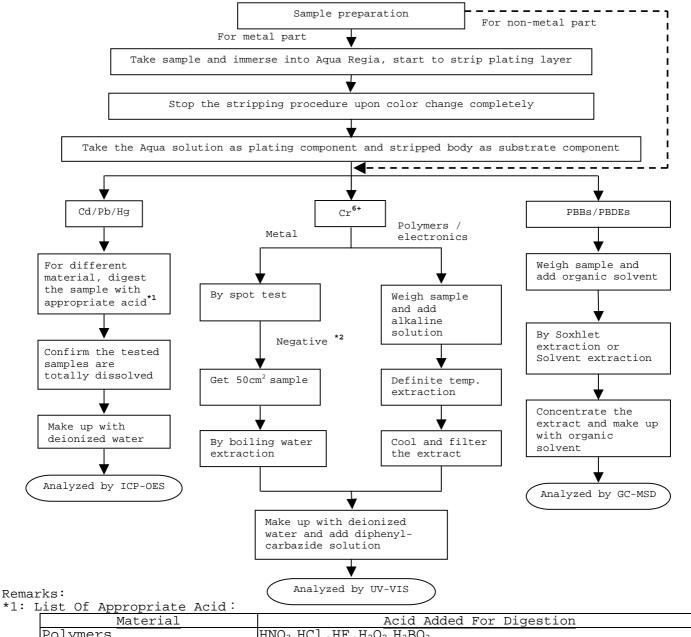
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(N) Measurement Flowchart:

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



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

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

End Of Report

Page 5 Of 6



Test Conducted

Number: TWNC00213359

Photo







Test Report Number : TWNC00213360

Applicant: Littelfuse, S.A. de C.V.

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 : COLORANT RED

Part Number : 057879

Date Sample Received : Jun 28, 2011
Date Test Started : Jun 28, 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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Date : Jun 30, 2011

Page 1 Of 6



Test Conducted

(I) Test Result Summary:

) Test Result Summary .	
	Result (ppm)
Test Item	Black Plastic
	Pellets
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

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 : Jun 28, 2011

Test Period : Jun 28, 2011 to Jun 30, 2011



Test Conducted

(Ⅱ) RoHS Requirement:

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

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

$(\hspace{.05cm} \coprod \hspace{.05cm})$ 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	2 ppm	
determined by ICP-OES. 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



Test Conducted

(Ⅲ) Test Method:

Test Item	Test Method	Reporting Limit
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

Remark: Reporting limit = Quantitation limit of analyte in sample

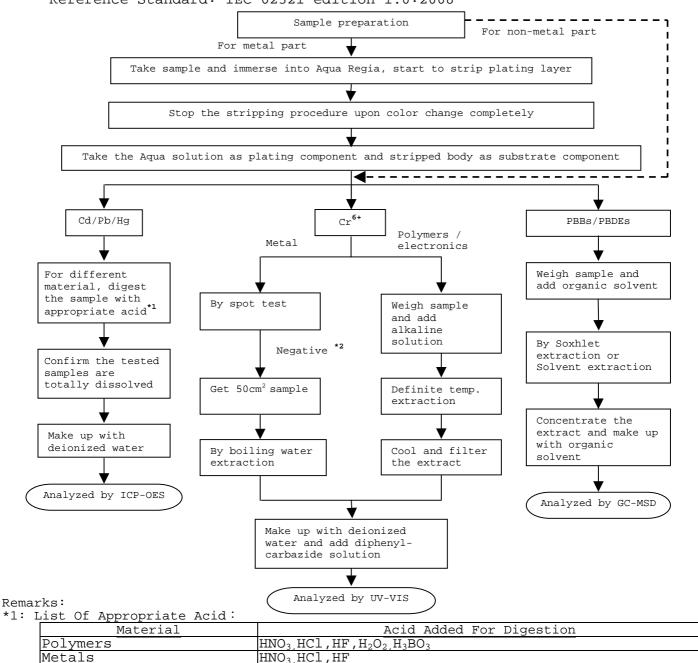


Test Conducted

(IV) Measurement Flowchart:

Electronics

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



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

HNO3 HCl, H2O2 HBF4

End Of Report

Page 5 Of 6



Test Conducted

Number: TWNC00213360

Photo







Report No.: MX11-1035-01

Date: 2011-06-15

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



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 Serie 287

Item No. 1) N/P 057899 Colorant Yellow

Country of Origin NP
Buyer's Name NP
Supplier's Name NP

Date sample received 2011-05-19

Testing period 2011-05-23 to 2011-06-09

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 057899 Colorant Yellow	Pass See Result summary		

TEST CONDUCTED

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

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

ILTA/003/GENS-F8



Samples:

1) N/P 057899 Colorant Yellow

TEST RESULT SUMMARY FOR RoHS DIRECTIVE:

TESTING ITEM	Ω RESULT (ppm)	Limit
1 ESTING 11 EW	(1)	LIIIIL
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 ⁶⁺)	ND	0,1% (1000 ppm)
POLYBROMINATED BIPHENYLS (PBBs) Total	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	
Dibromobiphenyl (DiBB)	ND	
Tribromobiphenyl (TriBB)	ND	
Tetrabromobiphenyl (TetraBB)	ND	
Pentabromobiphenyl (PentaBB)	ND	
Hexabromobiphenyl (HexaBB)	ND	
Heptabromobiphenyl (HeptaBB)	ND	
Octabromobiphenyl (OctaBB)	ND	
Nonabromobiphenyl (NonaBB)	ND	
Decabromobiphenyl (DecaBB)	ND	
POLYBROMINATED DIPHENYL ETHERS (PBDEs) Total	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	



24.0 20.1.00.0
▲ RESULT (ppm)
(1)
ND
ND
ND
ND

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

μg/cm² = microgram per square centimeter.

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

< = less than.

ND = Not detected.

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

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

Prepared and checked by :

For Intertek

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 <u>MX11-1035-01</u> WERE TESTED TOGETHER.

Test method:

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

ILTA/003/GENS-F8



Sample Number	Testing item	Ω Testing method	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1		With reference to USEPA 3060, by EPA 7196	QHU2010-61p76,78	2011-05-26	MELA	20,0

Sample Number	Testing item	Ω Testing method	Quality control Batch:	<u>Analysis</u> <u>Date:</u>	Analyzed By:	Reporting limit ppm
	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000307-PCL	2011-06-09	▲ CONT	50,0
1	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000307-PCL	2011-06-09	▲ 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	MET2010-40p144	2011-05-26	MARY	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	MET2010-40p144	2011-05-26	MARY	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	MET2010-40p139	2010-05-23	RNC	0,25

Sample Number	Testing item	▲ <u>Testing method</u>	Quality control Batch:	Analysis Date:	Analyzed By:	Reporting limit ppm
1	Fluor	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	Chlorine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	Bromine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30
1	lodine	With reference to EN 14582:2007 by calorimetric bomb method with oxygen and determined by ion chromatography	2011-000307-PCL	2011-06-09	▲ CONT	30



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



TEST REPORT

APPLICANT

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

SAMPLE DESCRIPTION

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

Sample Description

NP

1) N/P 057249

2) N/P 057357

Item No.

N/P 057883

4) N/P 057838

5) N/P 057259

Country of Origin

NP

Buyer's Name

NΡ

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	da estado	
5	N/P 057259	Pass See Result summary		

000002



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TEST CONDUCTED

Samples:

1) N/P 057249

2) N/P 057357

3) N/P 057883

TEST RESULT SUMMARY FOR ROHS DIRECTIVE:

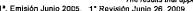
TESTING ITEM		Ω RESULT (ppm)		
7207111017271	(1)	(2)	(3)	<u>Limit</u>
Fluor (F) content	ND	ND	ND	30 ppm
Chlorine (Cl) content	ND	ND	ND	30 ppm
Bromine (Br) content	45751	ND	ND	30 ppm
lodine (I) content	ND	ND	ND	30 ppm
POLYBROMINATED BIPHENYLS (PBBs) Total	ND:	םא	ND	0,1% (1000 ppm)
Monobromobiphenyl (MonoBB)	ND	ND	ND	
Dibromobiphenyl (DiBB)	ND	ND	ND	_
Tribromobiphenyl (TnBB)	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	
Nonabromobiphenyi (NonaBB)	ND	ND	ND	_
Decabromobiphenyl (DecaBB)	ND	ND	ND	_
OLYBROMINATED DIPHENYL ETHERS PBDEs) Total	ND	ND	ND	0.1% (1000 ppm)
Monobromodipheny! (MonoBDE)	ND	ND	ND	
Dibromodiphenyl (DiBDE)	ND	ND	ND	
ribromodiphenyl (TriBDE)	ND	ND	ND	
etrabromodiphenyl (TetraBDE)	ND	ND	ND	
Pentabromodiphenyl (PentaBDE)	ND	ND	ND	
lexabromodiphenyl (HexaBDE)	ND	ND	ND	***
leptabromodiphenyl (HeptaBDE)	ND	ND	ND	
Octabromodiphenyl (OctaBDE)	ND	ND	ND	
		 	LIB	
Ionabromodiphenyl (NonaBDE)	ND	ND	ND	

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

1º Revisión Junio 2005, 1º Revisión Junio 26, 2009.

ILTA/003/GENS-F8







TEST CONDUCTED

Samples:

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

TEST RESULT SUMMARY FOR ROHS DIRECTIVE:

TESTING ITEM	Ω RESU	Limit	
	(4)		
Fluor (F) content	ND	ND	30 ppm
Chlorine (CI) content	1 777,0	ND	30 ppm
Bromine (Br) content	6 045	37 238	30 ppm
lodine (I) content	ND	ND	30 ppm

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

µg/cm² = microgram per square centimeter.

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

< = less than.

ND = Not detected.

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

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

Prepared and checked by:

Provide ase

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 MX11-0593-01 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 <u>Testing method</u>	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	A CONT	30
1-5	lodine	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:	<u>Analysis</u> Date:	Analyzed By:	Reporting limit ppm
1-3	POLYBROMINATE D BIPHENYLS (PBBs)	Determined by GC-MSD	2011-000238-PCL	2011-04-27	CONT	50,0
1-3	POLYBROMINATE D DIPHENYL ETHERS (PBDEs)	Determined by GC-MSD	2011-000238-PCL	2011-04-27	A CONT	50,0

U0000**5**





Test Report Number: TWNC00214667

Applicant: Littelfuse S.A. de C.V. Automotive Date : Jul 08, 2011

Business Unit

Blvd. Fausto Z. Martinez #1800 Col. Magisterio Seccion 38 C.P.

260170

Piedras Negras, Coahuila Mexico.

Sample Description:

One (1) group of submitted samples said to be :
Part Description : BODY (TECHNYL)

Part Number : 057352

Date Sample Received : Jul 05, 2011
Date Test Started : Jul 05, 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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Page 1 Of 6



Test Conducted

(I) Test Result Summary :

) lest Result Summary .	
	Result (ppm)
Test Item	Black Plastic
	Pellets
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)	571
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 : Jul 05, 2011

Test Period : Jul 05, 2011 To Jul 08, 2011



Test Conducted

(II) RoHS Requirement:

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

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

(Ⅲ) Test Method:

Test Method: Test Item	Test Method	Reporting Limit
<u>rest rtem</u>		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

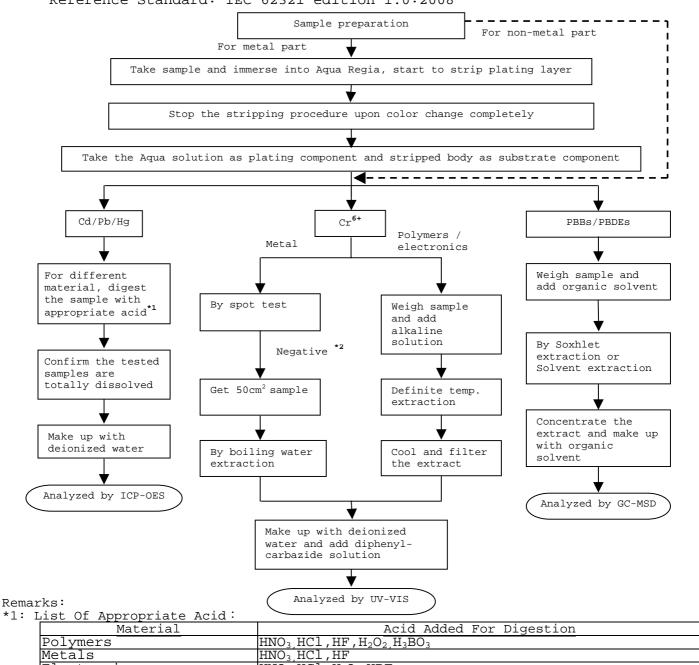
Remark: Reporting limit = Quantitation limit of analyte in sample



Test Conducted

(IV) Measurement Flowchart:

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



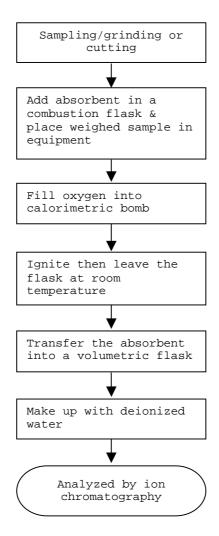
Electronics $|HNO_3,HCl,H_2O_2,HBF_4|$ *2: If the result of spot test is positive, Chromium VI would be determined as detected.



Test Conducted

(IV) Measurement Flowchart:

Test For Halogen Content Reference Standard: EN 14582



End Of Report



Test Conducted

Photo



