



ICP Test Report Certification Packet

Company name: Littelfuse, Inc.
Product Series: ACS FUSE CLIP 5 MM
Product #: 01110005MR
Issue Date: July 4, 2011

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC)-restricted substance nor such use, for materials to be used for unit parts, for packing/packaging materials, and for additives and the like in the manufacturing processes. In addition, it is hereby reported to you that the parts and sub-materials, the materials to be used for unit parts, the packing/packaging materials, and the additives and the like in the manufacturing processes, are all composed of the following components.

Issued by: 
KRISTEEN BACILA

<Global EHS Engineer >

(1) Parts, sub-materials and unit parts

This document covers the 01110005MR Clips RoHS-Compliant series products manufactured by Littelfuse, Inc.

< Raw Materials Used
Please see Table 1

(2) The ICP data on all measurable substances

Please see appropriate pages as identified in Table 1

Remarks :



Table 1: List of Raw Materials covered by this report

| Total Parts | Raw Material Part Number | Raw Material Description | Page(s) |
|--------------------|---------------------------------|---------------------------------|----------------|
| 1 | N/A | Base Metal | 3-5 |
| 2 | N/A | Tin Plating | 6-7 |



Test Report No. F690501/LF-CTSAYAU10-05161

Issued Date: November 03, 2010 Page 1 of 3

To: **POONGSAN CORPORATION**
611 Daejung-ri Onsan-eup
Ulju
ULSAN
KOREA

The following merchandise was submitted and identified by the client as :

SGS File No. : AYAU10-05161
Product Name : C5210-Tin Plated
Item No./Part No. : N/A
Received Date : Oct. 27, 2010
Test Period : Oct. 28, 2010 to Nov. 03, 2010
Test Performed : SGS Testing Korea tested the sample(s) selected by applicant with following results
Test Results : For further details, please refer to following page(s)
Conclusion : Based on the performed tests on submitted sample(s), the results **comply with the** RoHS Directive 2002/95/EC and its subsequent amendments.

SGS Testing Korea Co. Ltd. / Gimhae Laboratory

Thomas Hwang / Gimhae Lab. Mgr

Sharpless Park
Annie Lim
Jonadan Lee /Testing Person

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Sample No. : AYAU10-05161.001

Sample Description : C5210-Tin Plated

Item No./Part No. : N/A

Heavy Metals

| Test Items | Unit | Test Method | MDL | Results |
|--|-------|---------------------------------------|-----|----------|
| Cadmium (Cd) | mg/kg | With reference to IEC 62321:2008, ICP | 1 | N.D. |
| Lead (Pb) | mg/kg | With reference to IEC 62321:2008, ICP | 5 | 22.0 |
| Mercury (Hg) | mg/kg | With reference to IEC 62321:2008, ICP | 2 | N.D. |
| Hexavalent Chromium (Cr VI) By boiling water extraction* | - | With reference to IEC 62321:2008 | - | Negative |

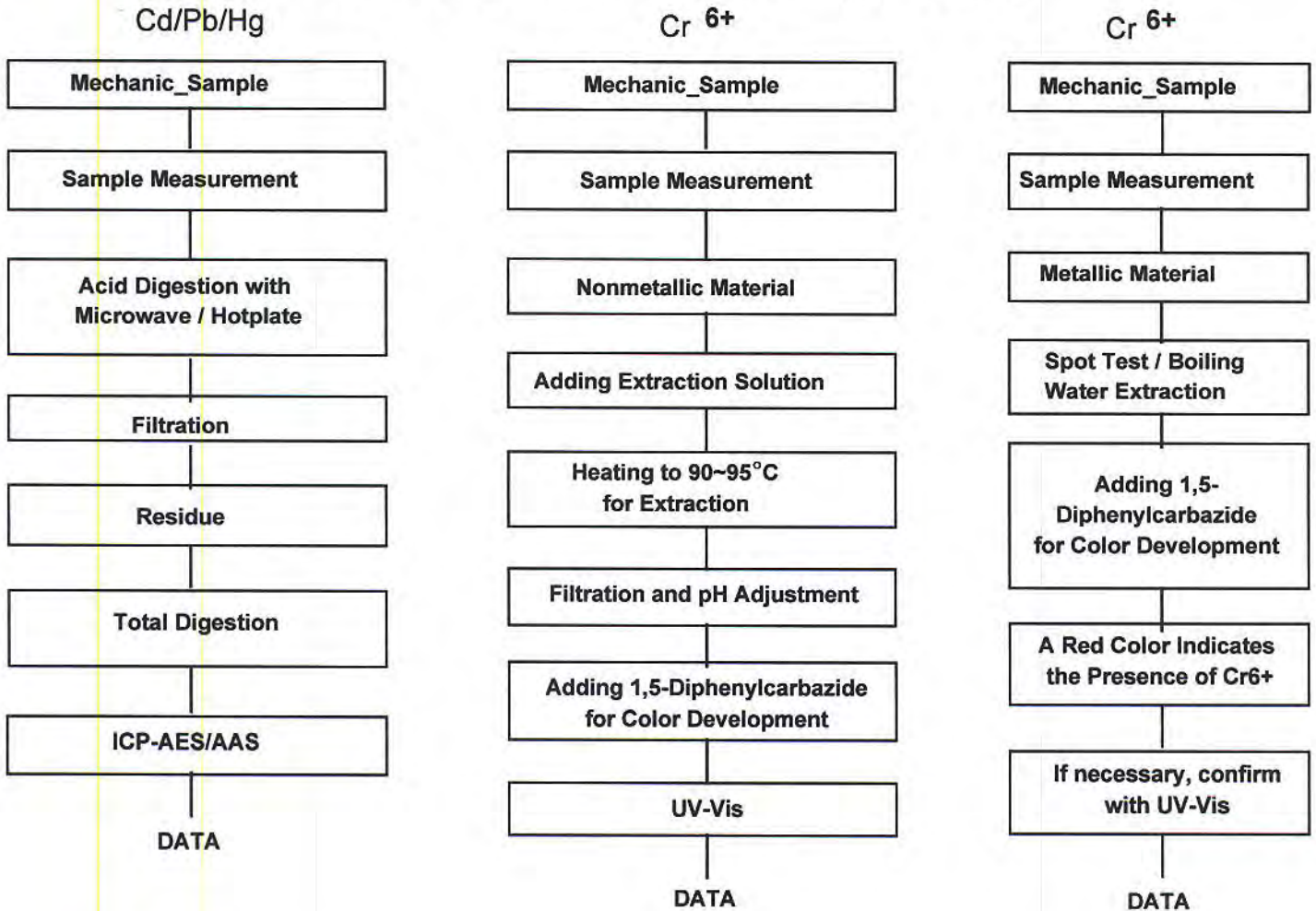
Picture of Sample as Received:



- NOTE:**
- (1) N.D. = Not detected.(<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) ** = Qualitative analysis (No Unit)
 - (6) * = Boiling-water-extraction:
 Negative = Absence of CrVI coating
 Positive = Presence of CrVI coating; the detected concentration in boiling-water-extraction solution is equal or greater than 0.02 mg/kg with 50 cm2 sample surface area.

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Testing Flow Chart for RoHS: Cd/Pb/Hg/Cr⁶⁺ Testing



The samples were dissolved totally by pre-conditioning method according to above flow chart for Cd,Pb,Hg.

Section Chief : Sharpless Park

*** End ***

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YOUR PARTNER FOR THE BEST QUALITY

TEST REPORT

우 404-817 인천광역시 서구 가좌3동 539-8

TEL (032)5709-700

FAX (032)575-5613

성적서번호 : TAS-007605

접수 일자 : 2011년 02월 24일

대표자 : 전영수

시험완료일자 : 2011년 03월 04일

업체명 : 신영금속

주소 : 경기 안산시 원시동 769-2

시료명 : Tin Plating(Sn)

시험결과

| 시험항목 | 단위 | 시료구분 | 결과치 | 시험방법 |
|-------------|-------|------|------|------------------------------------|
| Pb | mg/kg | | 검출안됨 | IEC 62321 Ed.1.0b : 2008 (AAS) |
| Cd | mg/kg | | 검출안됨 | IEC 62321 Ed.1.0b : 2008 (AAS) |
| Hg | mg/kg | | 검출안됨 | IEC 62321 Ed.1.0b : 2008 (AAS) |
| Cr(VI) | mg/kg | | 음성 | IEC 62321 Ed.1.0b : 2008 (UV/Vis) |
| Total-PBBs | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Mono-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Di-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Tri-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Tetra-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Penta-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Hexa-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Hepta-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Octa-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Nona-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Deca-BB | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Total-PBDEs | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Mono-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Di-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Tri-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Tetra-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Penta-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |

- 다음 페이지 -

Jung-Woo Park

시험원 : 박정우
Tel : 031-999-3107

Jung-Taeg Hong

기술책임자 : 홍성택
E-mail : prohong@ktr.or.kr

2011년 03월 04일



한국화학융합시험연구원장





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| 시험항목 | 단위 | 시료구분 | 결과치 | 시험방법 |
|-----------|-------|------|------|------------------------------------|
| Hexa-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Hepta-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Octa-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Nona-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |
| Deca-BDE | mg/kg | | 검출안됨 | IEC 62321 Ed. 1.0 b : 2008 (GC/MS) |

* Cr(VI): 음성 (0.02 mg/kg 미만), 양성 (0.02 mg/kg 이상)

용도 : 품질관리용

비고 : 1. 이 성적서는 의뢰자가 제시한 시료 및 시료명으로 시험한 결과로서 전체 제품에 대한 품질을 보증하지는 않습니다.
2. 이 성적서는 홍보, 선전, 광고 및 소송용 등으로 사용될 수 없으며, 용도 이외의 사용을 금합니다.

Sung-Woo Park

시험원 : 박정우
Tel : 031-999-3107

Sung-Jaeq Hong

기술책임자 : 홍성택
E-mail : prohong@ktr.or.kr

2011년 03월 04일



한국화학융합시험연구원장

