



ICP Test Report Certification Packet

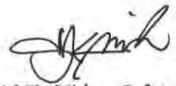
Company name: Littelfuse, Inc.

Product Series: Nano2 Fuse - SB

Product #: 454xxx Series

Issue Date: March 8, 2013

It is hereby certified by Littelfuse, Inc. that there is neither RoHS (EU Directive 2002/95/EC, 2011/65/EU)-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 Nano2 Fuse - SB 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 :

Pb (lead) contained in the high temperature melting solder > 85% and is categorized as exempt under section 7a of the RoHS Annex.

Table 1: List of Raw Materials covered by this report

| Total Parts | Raw Material Part Number | Raw Material Description | Page(s) |
|--------------------|---------------------------------|---------------------------------|----------------|
| 1 | 910-238 | Cap (Silver Plated Brass) | 3-7 |
| 2 | Frequenta C221 (909-434) | Body (Ceramic Tube) | 8-36 |
| 3 | 082xxx-001 | Element – Cu99.9MSn | 37-40 |
| 5 | 692323 | Solder | 41-46 |
| 6 | 64811x | Yarn 6481xx (GLZZXXX) | 47-53 |
| 7 | 648106-001 | Yarn | 54-61 |
| 8 | 648112-001 | Yarn | 62-69 |
| 9 | 425809 | Ink | 70-78 |



Test Report

Applicant: Littelfuse, Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Number : TWNC00300506

Date : Mar 07, 2013

Sample Description:

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

Part Description : Cap
Part Number : 910-238
Date Sample Received : Feb 26, 2013
Date Test Started : Feb 26, 2013

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



Page 1 of 5

Intertek Testing Services Taiwan Ltd.

8F., No. 423, Ruiguang Rd., Neihu District, Taipei 11492, Taiwan, R.O.C.

全國公證檢驗股份有限公司

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410



Number : TWNC00300506

Test Conducted

(I) Test Result Summary:

| Test Item | Unit | Test Method | Result | | RL |
|---|-------------------------------|--|----------|----------|------|
| | | | (1) | (2) | |
| Heavy Metal | | | | | |
| Cadmium (Cd) content | ppm | With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES. | ND | ND | 2 |
| Lead (Pb) content | ppm | With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES. | 22 | ND | 2 |
| Mercury (Hg) content | ppm | With reference to IEC 62321: 2008, by microwave digestion and determined by ICP-OES. | ND | ND | 2 |
| Chromium VI (Cr ⁶⁺) content | mg/kg with 50 cm ² | With reference to IEC 62321: 2008, by boiling water extraction and determined by UV-Vis Spectrophotometer. | Negative | Negative | 0.02 |

Remarks: ppm = parts per million based on weight of tested sample = mg/kg
ND = Not detected
RL = Reporting Limit, Quantitation limit of analyte in sample
mg/kg with 50cm² = milligram per kilogram with 50 square centimeter
Negative = A negative test result indicated positive observation was not found at the time of Test.

Tested Components

- (1) Silvery metal cap
- (2) Silvery plating layer

Responsibility of Chemist: Kevin Liu/ Irene Chiou

Date Sample Received : Feb 26, 2013

Test Period : Feb 26, 2013 to Mar 04, 2013

(II) Limit:

RoHS Limit

| <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 ⁶⁺) content | 0.1% (1000ppm) |

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



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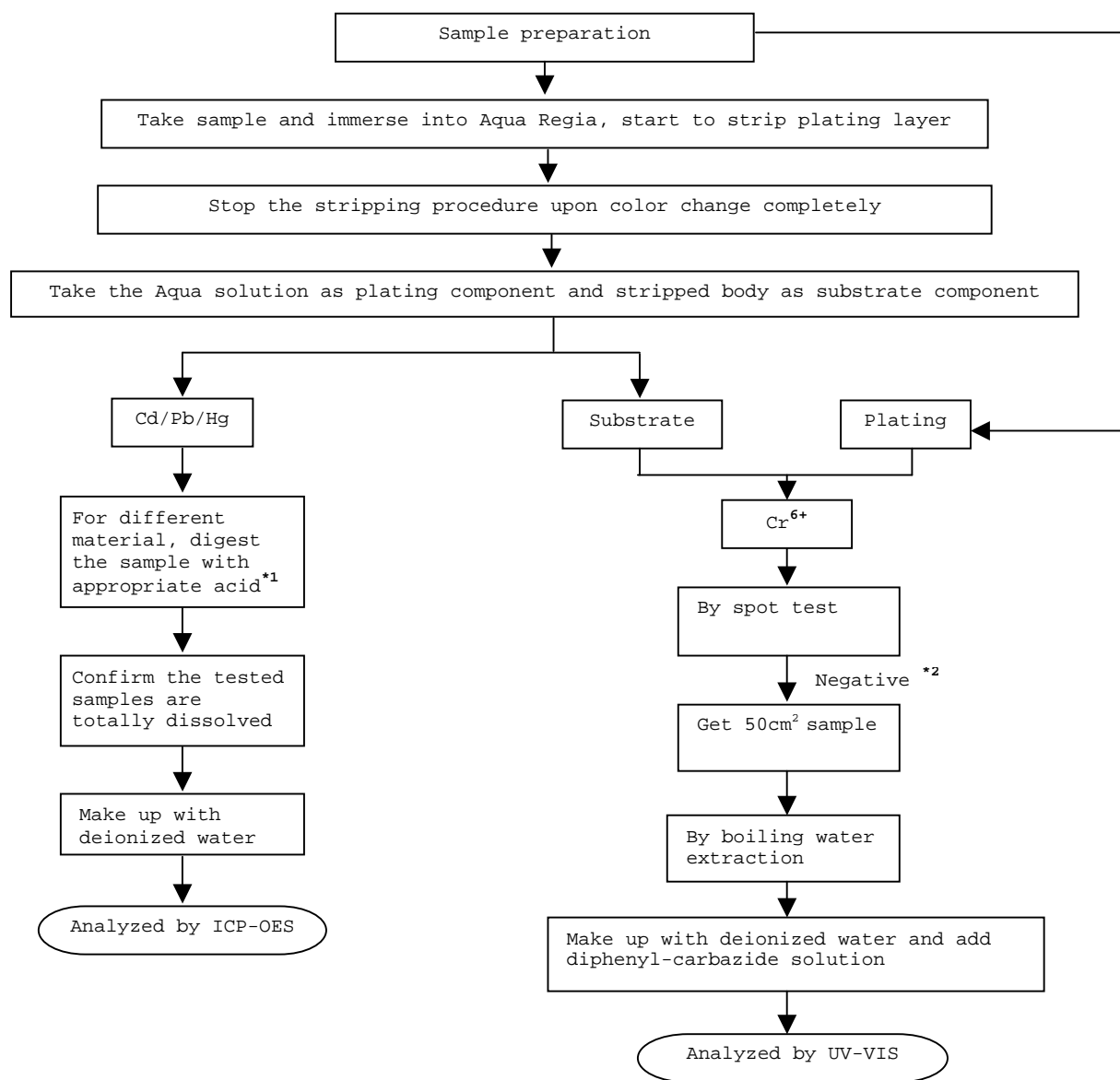
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(III) Measurement Flowchart:

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

Reference Standard: IEC 62321 edition 1.0:2008





Number : TWNC00300506

Test Conducted

Remarks:

*1: List Of Appropriate Acid:

| <u>Material</u> | <u>Acid Added For Digestion</u> |
|-----------------|--|
| 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

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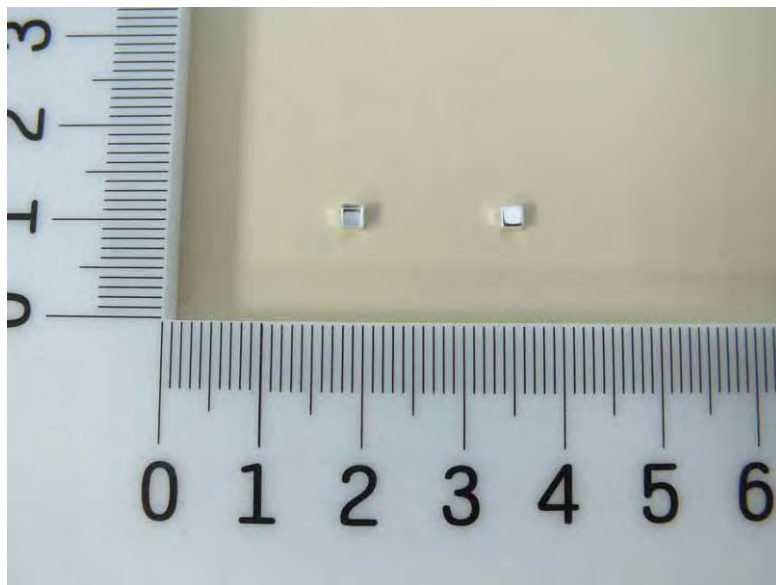
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Test Conducted

Number : TWNC00300506

Photo



Test Report

No. : CE/2013/13196 Date : 2013/01/22 Page : 1 of 29

CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRABE 15, 91207 LAUF



The following sample(s) was/were submitted and identified by/on behalf of the client as:

Sample Description : CERAMIC
Style/Item No. : FREQUENTA C221
Sample Receiving Date : 2013/1/14
Testing Period : 2013/1/14 TO 2013/01/22

Test Result(s) : Please refer to next page(s).

Conclusion : Based on the performed tests on submitted samples, the test results of Cadmium, Lead, Mercury, Hexavalent Chromium Cr(VI), PBBs and PBDEs comply with the limits as set by RoHS Directive 2011/65/EU Annex II; recasting 2002/95/EC.


Chenyu Kung / Operation Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory – Taipei

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Test Report

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Test Result(s)

PART NAME No.1 : CREAM CERAMIC

| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|---|-------|--------|-------|
| | | | | No.1 | |
| Cadmium (Cd) | mg/kg | With reference to IEC 62321: 2008 and performed by ICP-AES. | 2 | n.d. | 100 |
| Lead (Pb) | mg/kg | With reference to IEC 62321: 2008 and performed by ICP-AES. | 2 | n.d. | 1000 |
| Mercury (Hg) | mg/kg | With reference to IEC 62321: 2008 and performed by ICP-AES. | 2 | n.d. | 1000 |
| Hexavalent Chromium Cr(VI) | mg/kg | With reference to IEC 62321: 2008 and performed by UV-VIS. | 2 | n.d. | 1000 |
| BBP (Benzyl butyl phthalate) (CAS No.: 85-68-7) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. | - |
| DEHP (Di- (2-ethylhexyl) phthalate) (CAS No.: 117-81-7) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. | - |
| DIDP (Di-isodecyl phthalate) (CAS No.: 26761-40-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.01 | n.d. | - |
| DINP (Di-isononyl phthalate) (CAS No.: 28553-12-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.01 | n.d. | - |
| DNOP (Di-n-octyl phthalate) (CAS No.: 117-84-0) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. | - |
| DBP (Dibutyl phthalate) (CAS No.: 84-74-2) | % | With reference to EN 14372. Analysis was performed by GC/MS. | 0.003 | n.d. | - |
| Perfluorooctane sulfonates (PFOS-Acid, Metal Salt, Amide) | mg/kg | With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS. | 10 | n.d. | - |
| PFOA (CAS No.: 335-67-1) | mg/kg | With reference to US EPA 3550C: 2007. Analysis was performed by LC/MS. | 10 | n.d. | - |
| Polychlorinated Biphenyls (PCBs) (CAS No.: 1336-36-3) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 0.5 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|--|------|----------|-------|
| | | | | No.1 | |
| Polychlorinated Terphenyls (PCTs) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 0.5 | n.d. | - |
| Polychlorinated Naphthalene (PCNs) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 5 | n.d. | - |
| Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) (CAS No.: 85535-84-8) | mg/kg | With reference to US EPA 3540C method. Analysis was performed by GC/MS. | 100 | n.d. | - |
| PVC | ** | Analysis was performed by FTIR and FLAME Test. | - | Negative | - |
| Formaldehyde (CAS No.: 50-00-0) | mg/kg | With reference to ISO 17226-1(2008). Analysis was performed by HPLC/DAD. | 3 | n.d. | - |
| Monomethyl dibromodiphenyl methane (DBBT) | mg/kg | With reference to US EPA 8270D method. Analysis was performed by GC/MS. | 0.5 | n.d. | - |
| Monomethyl dichlorodiphenyl methane (Ugilec121) | mg/kg | With reference to US EPA 8270D method. Analysis was performed by GC/MS. | 0.5 | n.d. | - |
| Monomethyl tetrachlorodiphenyl methane (Ugilec141) | mg/kg | With reference to US EPA 8270D method. Analysis was performed by GC/MS. | 0.5 | n.d. | - |
| Halogen | | | | | |
| Halogen-Fluorine (F) (CAS No.: 14762-94-8) | mg/kg | With reference to BS EN 14582:2007. Analysis was performed by IC. | 50 | n.d. | - |
| Halogen-Chlorine (Cl) (CAS No.: 22537-15-1) | mg/kg | | 50 | n.d. | - |
| Halogen-Bromine (Br) (CAS No.: 10097-32-2) | mg/kg | | 50 | n.d. | - |
| Halogen-Iodine (I) (CAS No.: 14362-44-8) | mg/kg | | 50 | n.d. | - |
| Organic-tin compounds | | | | | |
| Tributyl Tin (TBT) | mg/kg | With reference to DIN 38407-13. | 0.03 | n.d. | - |
| Triphenyl Tin (TphT) | mg/kg | Analysis was performed by GC/FPD. | 0.03 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|--|-----|----------|-------|
| | | | | No.1 | |
| Asbestos | | | | | |
| Actinolite (CAS No.: 77536-66-4) | % | With reference to EPA 600/R-93/116 method. Analysis was performed by Stereo Microscope (SM), Dispersion Staining Polarized Light Microscope (DS-PLM) and X-ray Diffraction Spectrometer (XRD). | - | Negative | - |
| Amosite (CAS No.: 12172-73-5) | % | | - | Negative | - |
| Anthophyllite (CAS No.: 77536-67-5) | % | | - | Negative | - |
| Chrysotile (CAS No.: 12001-29-5) | % | | - | Negative | - |
| Crocidolite (CAS No.: 12001-28-4) | % | | - | Negative | - |
| Tremolite (CAS No.: 77536-68-6) | % | | - | Negative | - |
| AZO | | | | | |
| 1): 4-AMINODIPHENYL (CAS No.: 92-67-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 2): BENZIDINE (CAS No.: 92-87-5) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 3): 4-CHLORO-O-TOLUIDINE (CAS No.: 95-69-2) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 4): 2-NAPHTHYLAMINE (CAS No.: 91-59-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 5): O-AMINOAZOTOLUENE (CAS No.: 97-56-3) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 6): 2-AMINO-4-NITROTOLUENE (CAS No.: 99-55-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 7): P-CHLOROANILINE (CAS No.: 106-47-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 8): 2,4-DIAMINOANISOLE (CAS No.: 615-05-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 9): 4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 101-77-9) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 10): 3,3'-DICHLOROBENZIDINE (CAS No.: 91-94-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 11): 3,3'-DIMETHOXYBENZIDINE (CAS No.: 119-90-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 12): 3,3'-DIMETHYLBENZIDINE (CAS No.: 119-93-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |

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Test Report

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|--|-------|--|-----|--------|-------|
| | | | | No.1 | |
| 13): 3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE (CAS No.: 838-88-0) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 14): P-CRESIDINE (2-METHOXY-5-METHYLANILINE) (CAS No.: 120-71-8) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 15): 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) (CAS No.: 101-14-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 16): 4,4'-OXYDIANILINE (CAS No.: 101-80-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 17): 4,4'-THIODIANILINE (CAS No.: 139-65-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 18): O-TOLUIDINE (CAS No.: 95-53-4) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 19): 2,4-TOLUYLENEDIAMINE (CAS No.: 95-80-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 20): 2,4,5-TRIMETHYLANILINE (CAS No.: 137-17-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 21): O-ANISIDINE (CAS No.: 90-04-0) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 22): P-AMINOAZOBENZENE (CAS No.: 60-09-3) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 23): 2,4-XYLIDINE (CAS No.: 95-68-1) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| 24): 2,6-XYLIDINE (CAS No.: 87-62-7) | mg/kg | With reference to LFGB 82.02-2. Analysis was performed by GC/MS. | 3 | n.d. | - |
| CFC's (Chlorofluorocarbons) | | | | | |
| Group I | | | | | |
| Chlorofluorocarbon-11 (CAS No.: 75-69-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-12 (CAS No.: 75-71-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|--|-------|--|-----|--------|-------|
| | | | | No.1 | |
| Chlorofluorocarbon-113 (CAS No.: 76-13-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-114 (CAS No.: 76-14-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-115 (CAS No.: 76-15-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Group III | | | | | |
| Chlorofluorocarbon-13 (CAS No.: 75-72-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-111 (CAS No.: 354-56-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-112 (CAS No.: 76-12-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-211 (CAS No.: 422-78-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-212 (CAS No.: 3182-26-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-213 (CAS No.: 2354-06-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-214 (CAS No.: 29255-31-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-215 (CAS No.: 4259-43-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|--|-------|--|-----|--------|-------|
| | | | | No.1 | |
| Chlorofluorocarbon-216 (CAS No.: 661-97-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chlorofluorocarbon-217 (CAS No.: 422-86-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFCs (Hydrochlorofluorocarbons) | | | | | |
| HCFC-21 (CAS No.: 75-43-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-22 (CAS No.: 75-45-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-31 (CAS No.: 593-70-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-121 (CAS No.: 354-14-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-122 (CAS No.: 354-21-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-123 (CAS No.: 306-83-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-124 (CAS No.: 2837-89-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-131 (CAS No.: 359-28-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-132b (CAS No.: 1649-08-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|--------------------------------|-------|--|-----|--------|-------|
| | | | | No.1 | |
| HCFC-133a (CAS No.: 75-88-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-141b (CAS No.: 1717-00-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-142b (CAS No.: 75-68-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-221 (CAS No.: 422-26-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-222 (CAS No.: 422-49-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-223 (CAS No.: 422-52-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-224 (CAS No.: 422-54-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-225ca (CAS No.: 422-56-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-225cb (CAS No.: 507-55-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-226 (CAS No.: 431-87-8) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-231 (CAS No.: 421-94-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-232 (CAS No.: 460-89-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRABE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|-------------------------------|-------|--|-----|--------|-------|
| | | | | No.1 | |
| HCFC-233 (CAS No.: 7125-84-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-234 (CAS No.: 425-94-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-235 (CAS No.: 460-92-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-241 (CAS No.: 666-27-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-242 (CAS No.: 460-63-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-243 (CAS No.: 460-69-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-244 | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-251 (CAS No.: 421-41-0) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-252 (CAS No.: 819-00-1) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-253 (CAS No.: 460-35-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-261 (CAS No.: 420-97-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| HCFC-262 (CAS No.: 421-02-03) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|--|-----|--------|-------|
| | | | | No.1 | |
| HCFC-271 (CAS No.: 430-55-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Halons | | | | | |
| Halon-1211 (CAS No.: 353-59-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Halon-1301 (CAS No.: 75-63-8) | mg/kg | | 1 | n.d. | - |
| Halon-2402 (CAS No.: 124-73-2) | mg/kg | | 1 | n.d. | - |
| CHCs (Chlorinate hydrocarbon) | | | | | |
| 1,1,1,2-Tetrachloroethane (CAS No.: 630-20-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1,1-Trichloroethane (CAS No.: 71-55-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1,2,2-Tetrachloroethane (CAS No.: 79-34-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1,2-Trichloroethane (CAS No.: 79-00-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1-Dichloroethane (CAS No.: 75-34-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1-Dichloroethene (CAS No.: 75-35-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,1-Dichloropropene (CAS No.: 563-58-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,2,3-Trichloropropane (CAS No.: 96-18-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,2-Dichloroethane (CAS No.: 107-06-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|--|-----|--------|-------|
| | | | | No.1 | |
| 1,2-Dichloropropane (CAS No.: 78-87-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 1,3-Dichloropropane (CAS No.: 142-28-9) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| 2,2-Dichloropropane (CAS No.: 594-20-7) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Carbon tetrachloride (CAS No.: 56-23-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chloroethane (CAS No.: 75-00-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chloroform (CAS No.: 67-66-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Chloromethane (CAS No.: 74-87-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| cis-1,2-Dichloroethene (CAS No.: 156-59-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| cis-1,3-Dichloropropene (CAS No.: 10061-01-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Hexachlorobutadiene (CAS No.: 87-68-3) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Methylene Chloride (CAS No.: 75-09-2) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Tetrachloroethene (CAS No.: 127-18-4) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



| Test Item(s) | Unit | Method | MDL | Result | Limit |
|---|-------|--|-----|--------|-------|
| | | | | No.1 | |
| trans-1,2-Dichloroethene (CAS No.: 156-60-5) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| trans-1,3-Dichloropropene (CAS No.: 10061-02-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Trichloroethylene (CAS No.: 79-01-6) | mg/kg | With reference to US EPA 5021 method. Analysis was performed by GC/MS. | 1 | n.d. | - |
| Sum of PBBs | mg/kg | With reference to IEC 62321: 2008 and performed by GC/MS. | - | n.d. | 1000 |
| Monobromobiphenyl | mg/kg | | 5 | n.d. | - |
| Dibromobiphenyl | mg/kg | | 5 | n.d. | - |
| Tribromobiphenyl | mg/kg | | 5 | n.d. | - |
| Tetrabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Pentabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Hexabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Heptabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Octabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Nonabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Decabromobiphenyl | mg/kg | | 5 | n.d. | - |
| Sum of PBDEs | mg/kg | | - | n.d. | 1000 |
| Monobromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Dibromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Tribromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Tetrabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Pentabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Hexabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Heptabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Octabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Nonabromodiphenyl ether | mg/kg | | 5 | n.d. | - |
| Decabromodiphenyl ether | mg/kg | | 5 | n.d. | - |

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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Note :

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated
5. ** = Qualitative analysis (No Unit)
6. Negative = Undetectable / Positive = Detectable
7. Testing range of asbestos qualitative analysis is from less than 0.1% to 100%. The judgment criterion: asbestos fibers being found is shown as "Positive"; asbestos fibers not being found is shown as "Negative".

PFOS Reference Information : POPs - (EU) 757/2010

Outlawing PFOS as substances or preparations in concentrations above 0.001% (10ppm), in semi-finished products or articles or parts at a level above 0.1%(1000ppm), in textiles or other coated materials above 1µg/m².

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Test Report

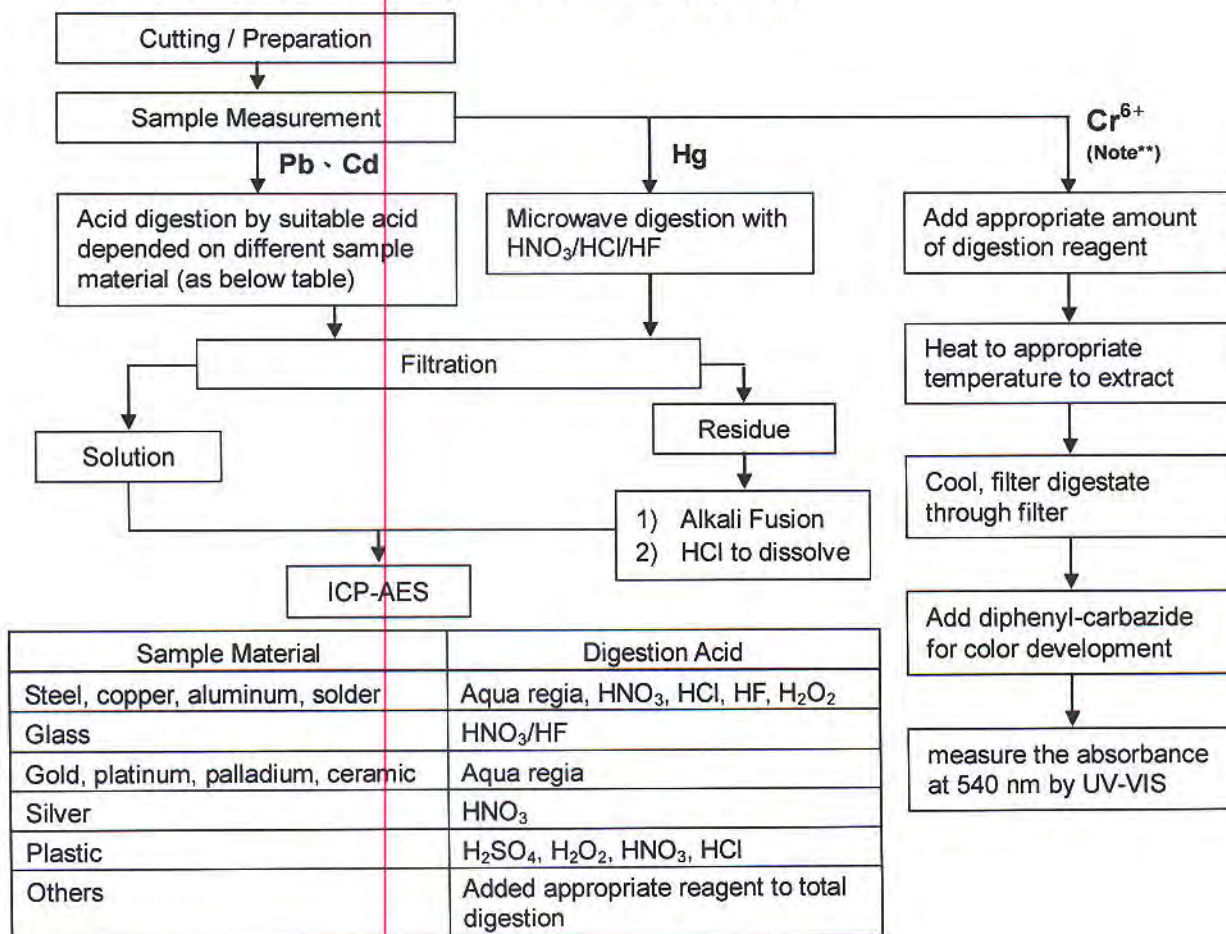
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CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.
(Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



Note :** (1) For non-metallic material, add alkaline digestion reagent and heat to 90~95 °C.
(2) For metallic material, add pure water and heat to boiling.

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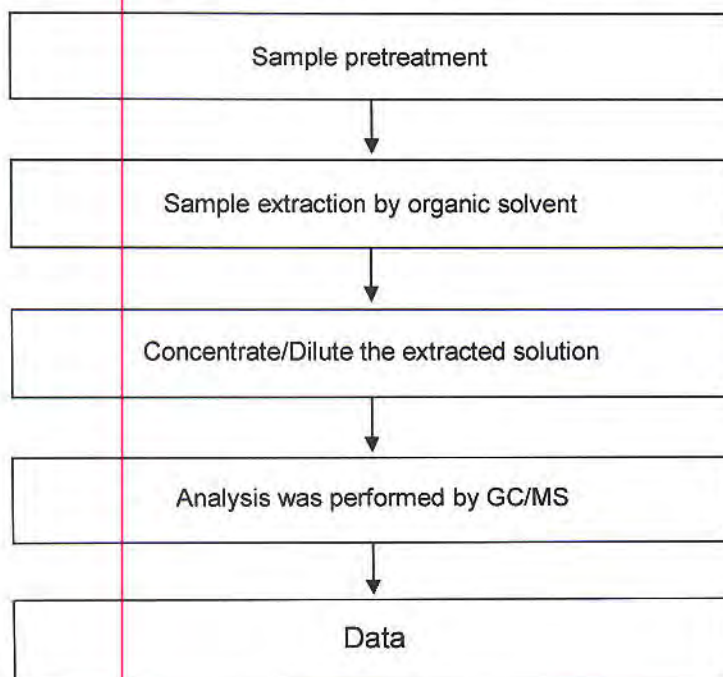
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



PCTs analytical flow chart

- Name of the person who made measurement: Barry Tseng
- Name of the person in charge of measurement: Troy Chang



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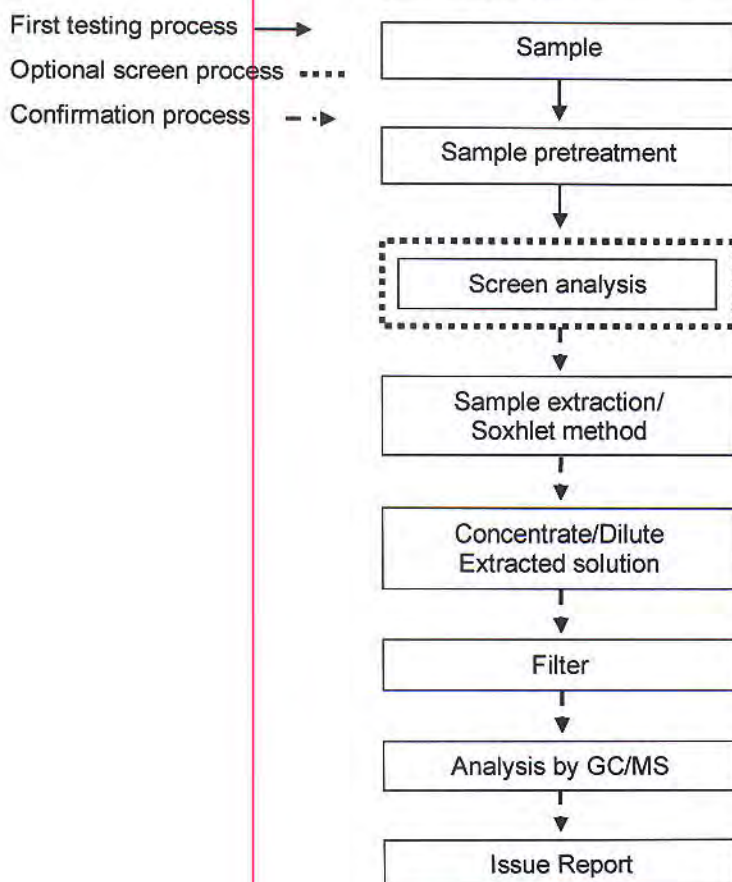
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRABE 15, 91207 LAUF



PBB/PBDE analytical FLOW CHART

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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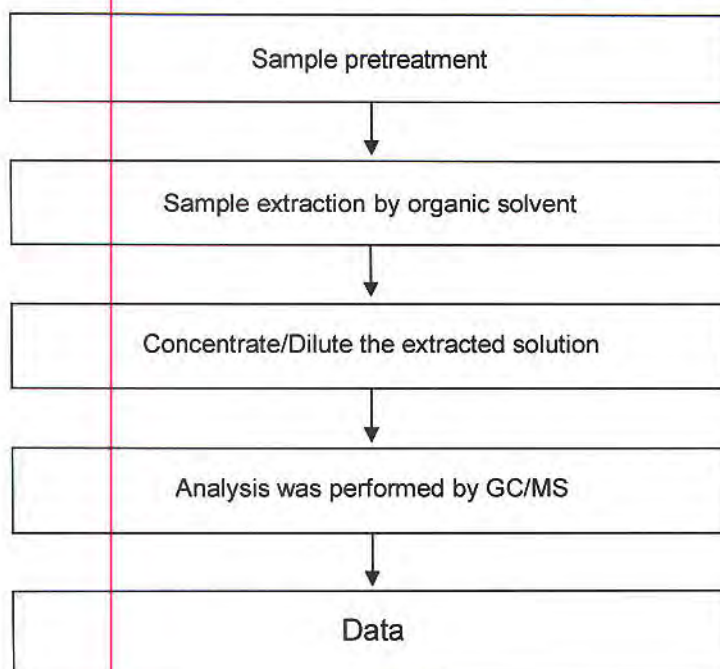
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



PCBs analytical flow chart

- Name of the person who made measurement: Barry Tseng
- Name of the person in charge of measurement: Troy Chang



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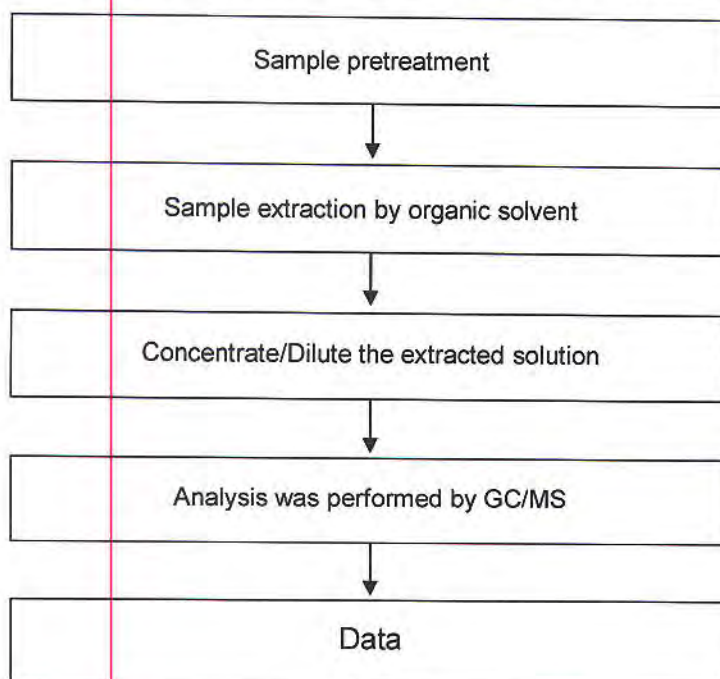
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Chlorinated Paraffins analytical flow chart

- Name of the person who made measurement: Barry Tseng
- Name of the person in charge of measurement: Troy Chang



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CERAMTEC GMBH

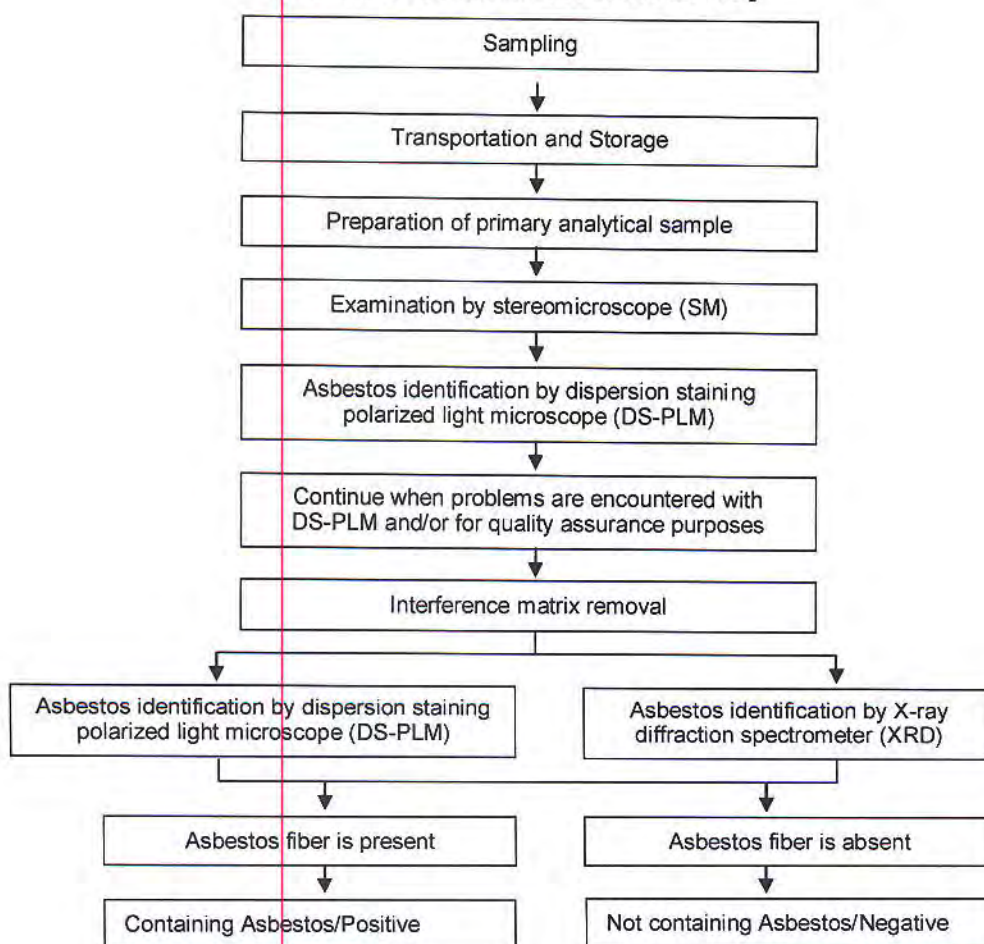
GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Analysis flow chart for determination of Asbestos

- Name of the person who made measurement: Victor Kao
- Name of the person in charge of measurement: Wendy Wei

[Reference method: EPA 600/R-93/116]



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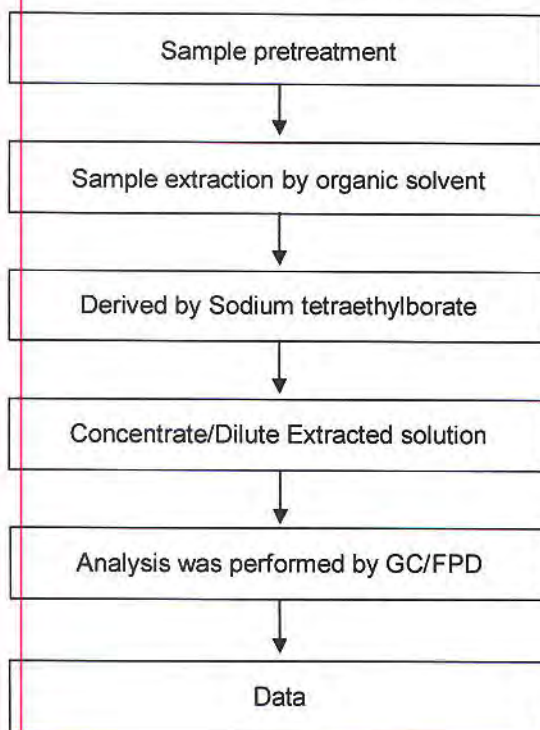
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRABE 15, 91207 LAUF



Analytical flow chart of Organic-Tin content

- Name of the person who made measurement: Ginny Chen
- Name of the person in charge of measurement: Troy Chang



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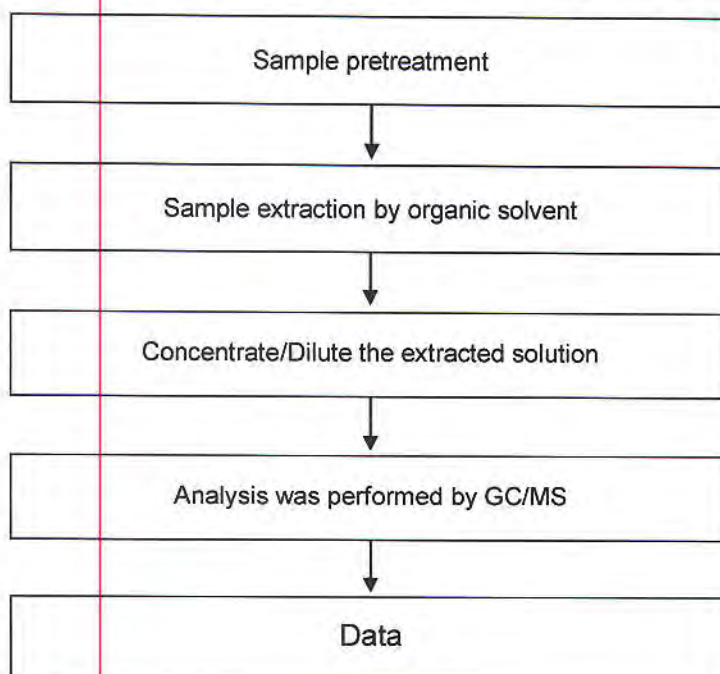
CERAMTEC GMBH

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PCNs analytical flow chart

- Name of the person who made measurement: Barry Tseng
- Name of the person in charge of measurement: Troy Chang



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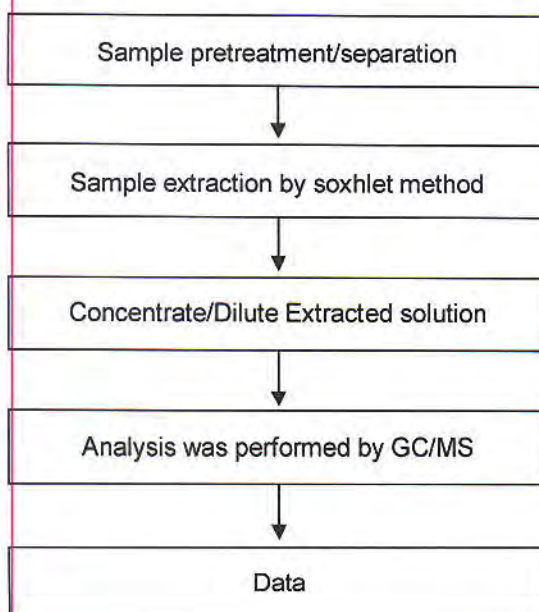
CERAMTEC GMBH

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Analytical flow chart of phthalate content

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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CERAMTEC GMBH

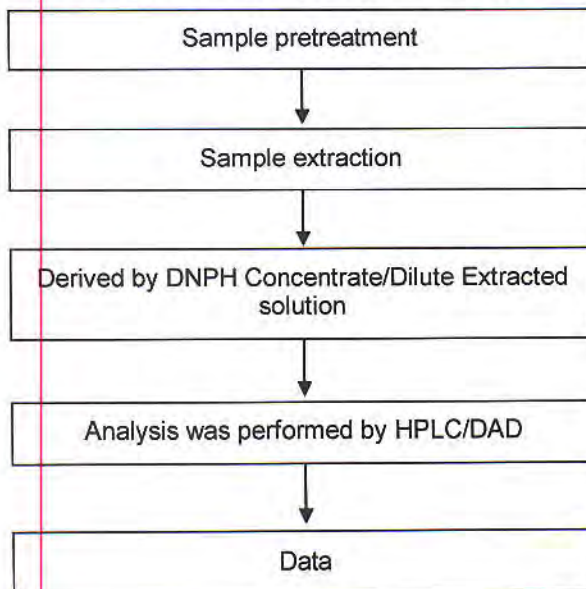
GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Formaldehyde analytical flow chart

- Name of the person who made measurement: Scott Ku
- Name of the person in charge of measurement: Troy Chang

[Test Method : US EPA 8315A - ISO 17226-1]



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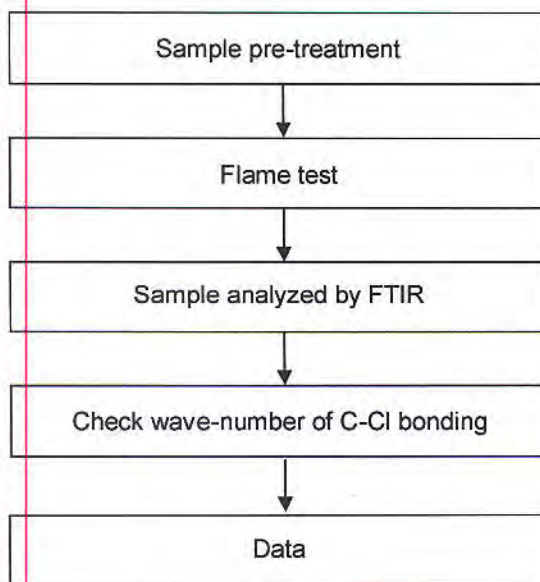
CERAMTEC GMBH

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Analysis flow chart for determination of PVC in material

- Name of the person who made measurement: Ginny Chen
- Name of the person in charge of measurement: Troy Chang



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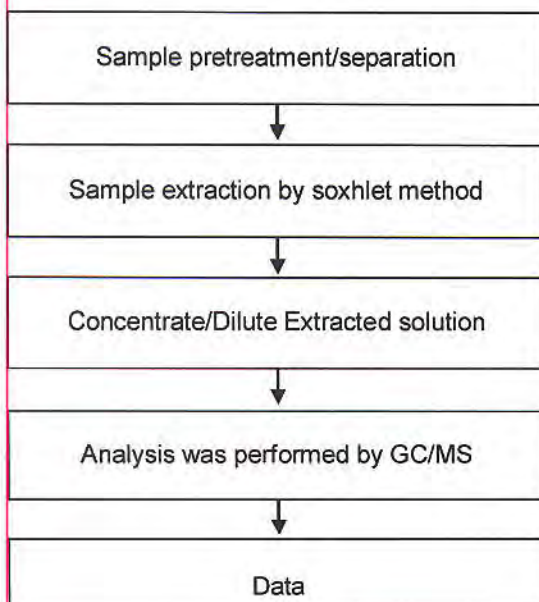
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



DBBT analytical flow chart

- Name of the person who made measurement: Roman Wong
- Name of the person in charge of measurement: Troy Chang



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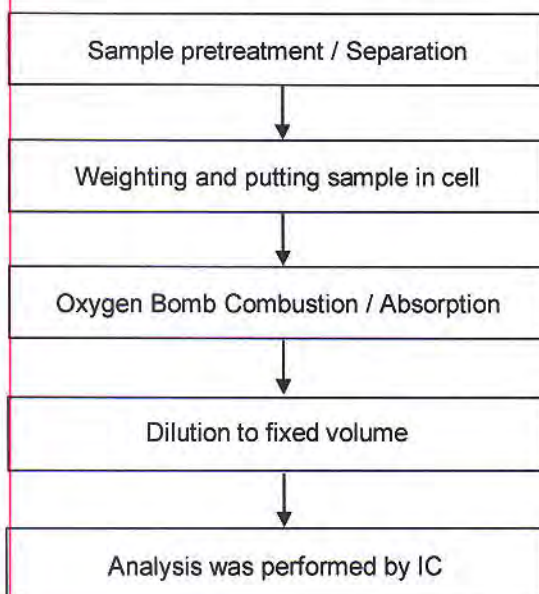
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRABE 15, 91207 LAUF



Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Rita Chen
- 2) Name of the person in charge of measurement: Troy Chang



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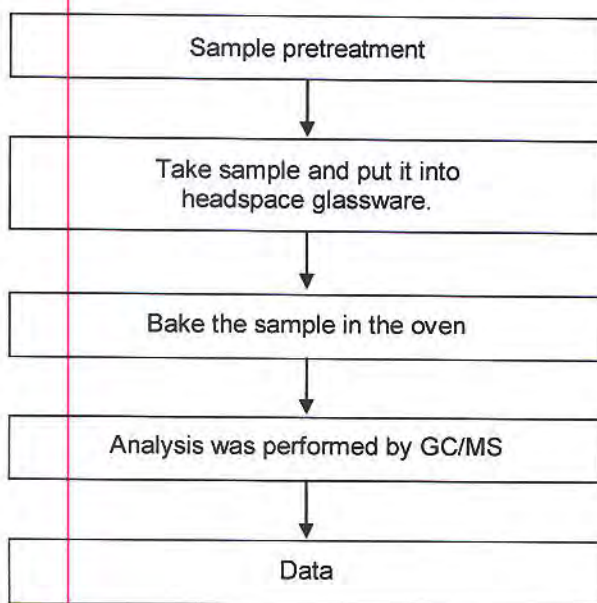
CERAMTEC GMBH

GESCHAFTSBEREICH MULTIFUNKTIONSKERAMIK, LUITPOLDSTRASSE 15, 91207 LAUF



Analytical flow chart of volatile organic compounds (VOCs)

- Name of the person who made measurement : Chun Wu
- Name of the person in charge of measurement : Shinjyh Chen
【Reference method : US EPA 5021】



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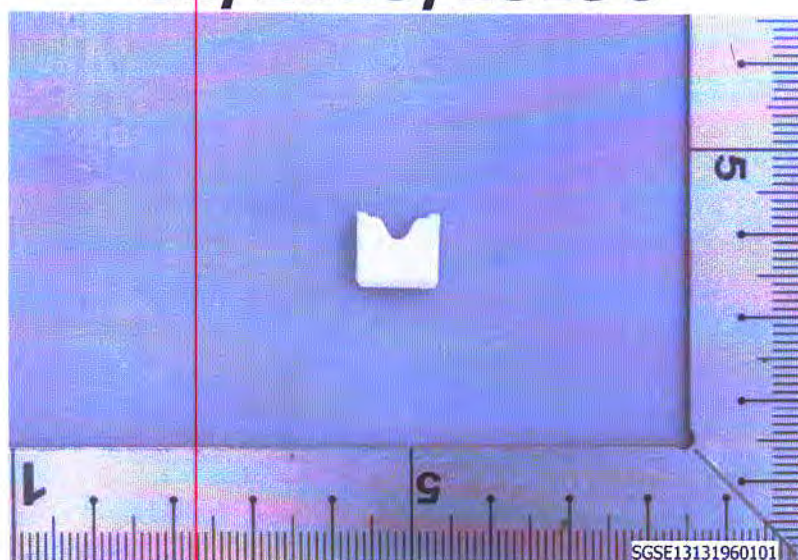
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

CE/2013/13196



** End of Report **

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Test Report

Number: SHAH00361401

Applicant: LITTELFUSE,INC.
800 E. NORTHWEST HWY
Attn: A.DIVIETRO/D.UNTIEDT

Date: JAN 16, 2013

Sample Description:

One (1) submitted sample said to be **Grey Wire**.

Item Name : Wire Tin Plated Cu.

Part No. : Element.

Tests Conducted:

As requested by the applicant, for details refer to attached page(s).

To be continued

Authorized by:
For intertek testing services Ltd., Shanghai

Jacob Lin
General Manager



Tests Conducted
(I) Test Result Summary:

| Testing Item | Result (ppm) |
|---|-------------------|
| | (1) |
| Heavy Metal | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | ND |
| Mercury (Hg) content | ND |
| Chromium VI (Cr ⁶⁺) content (mg/kg With 50cm ²) | Negative (< 0.02) |

| Testing Item | Result (ppm) |
|---|-------------------|
| | (2) |
| Heavy Metal | |
| Cadmium (Cd) content / Plating | ND |
| Lead (Pb) content / Plating | 60 |
| Mercury (Hg) content / Plating | ND |
| Chromium VI (Cr ⁶⁺) content (mg/kg With 50cm ²) / Plating | Negative (< 0.02) |

Remarks: ppm = parts per million = mg/kg
ND = not detected

@ = Due to the insufficient sample area, reduced total sample surface of 10 cm² was used and the dilution factor was adjusted accordingly.
mg/kg with 50cm² = milligram per kilogram with 50 square centimetre

Tested components:

- (1) Substrate.
- (2) Plating.

Responsibility of Chemist: Dent Fang / Ken He

(II) RoHS Requirement:

| Restricted substances | Limits |
|---|----------------|
| Cadmium (Cd) Content | 0.01% (100ppm) |
| Lead (Pb) Content | 0.1% (1000ppm) |
| Mercury (Hg) Content | 0.1% (1000ppm) |
| Chromium VI (Cr ⁶⁺) Content | 0.1% (1000ppm) |
| Polybrominated Biphenyls (PBBs) | 0.1% (1000ppm) |
| Polybrominated Diphenyl Ethers (PBDEs) | 0.1% (1000ppm) |

The above limits were quoted from RoHS Directive 2011/65/EU for homogeneous material.

(III) Test Method:

| Testing item | Testing method | Reporting limit |
|---|---|-----------------------------------|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI (Cr ⁶⁺) content | With reference to IEC 62321 edition 1.0:2008 in Annex B, by boiling water extraction and determined by UV-VIS Spectrophotometer. | 0.02 mg/kg with 50cm ² |

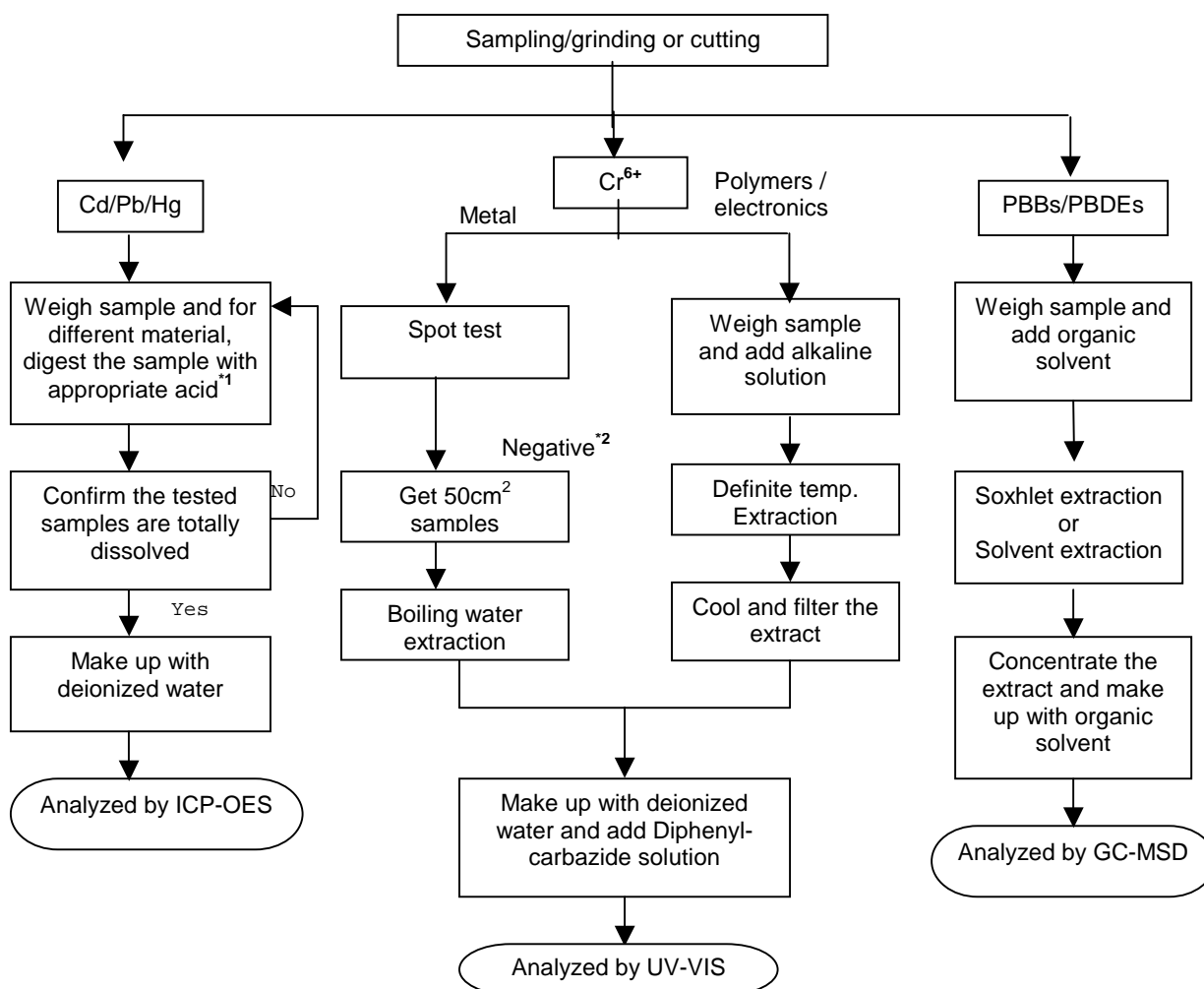
Remark: Reporting limit = Quantitation limit of analyze in sample

Date Sample Received: Jan.9, 2013

Testing Period: Jan.9, 2013 to Jan.14, 2013

To be continued

Tests Conducted
(IV) MEASUREMENT FLOWCHART:
Test for Cd/ Pb/ Hg/Cr (VI)/ PBBs/PBDEs contents
Reference standard: IEC 62321 edition 1.0:2008


REMARKS:

*1: LIST OF APPROPRIATE ACID:

| MATERIAL | ACID ADDED FOR DIGESTION |
|-------------|--|
| Polymers | HNO ₃ , HCl, HF, H 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.

To be continued

Tests Conducted



End of report

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Test Report

Number : TWNC00285770

Applicant: Littelfuse Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Nov 19, 2012

Sample Description:

One (1) group of submitted samples said to be :
Part Description : Solder (Pb is $\geq 90\%$)
Part Number : 692323
Date Sample Received : Nov 12, 2012
Date Test Started : Nov 13, 2012

Test Conducted :

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director



Page 1 of 6

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Number : TWNC00285770

Test Conducted

(I) Test Result Summary :

| <u>Test Item</u> | <u>Result (ppm)</u> |
|---|----------------------|
| | <u>Silvery Metal</u> |
| Heavy Metal | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | 910679 |
| Mercury (Hg) content | ND |
| Chromium VI (Cr ⁶⁺) content (mg/kg with 50cm ²) | Negative (< 0.02) |

Remarks: ppm = Parts per million based on weight of tested sample = mg/kg
ND = Not detected
< = Less than
mg/kg with 50cm² = milligram per kilogram with 50 square centimetre
Negative = A negative test result indicated positive observation
was not found at the time of Test.

Responsibility of Chemist : Irene Chiou / Kevin Liu

Date Sample Received : Nov 12, 2012

Test Period : Nov 13, 2012 To Nov 15, 2012

(II) RoHS Limits:

| <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 ⁶⁺) Content | 0.1% (1000ppm) |

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



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Number : TWNC00285770

Test Conducted

(III) Test Method:

| Test Item | Test Method | Reporting Limit |
|--|---|-----------------------------------|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI (Cr^{6+}) content | With reference to IEC 62321 edition 1.0:2008 in annex B, by boiling water extraction and determined by UV-Vis Spectrophotometer. | 0.02 mg/kg with 50cm ² |

Remark: Reporting limit = Quantitation limit of analyte in sample



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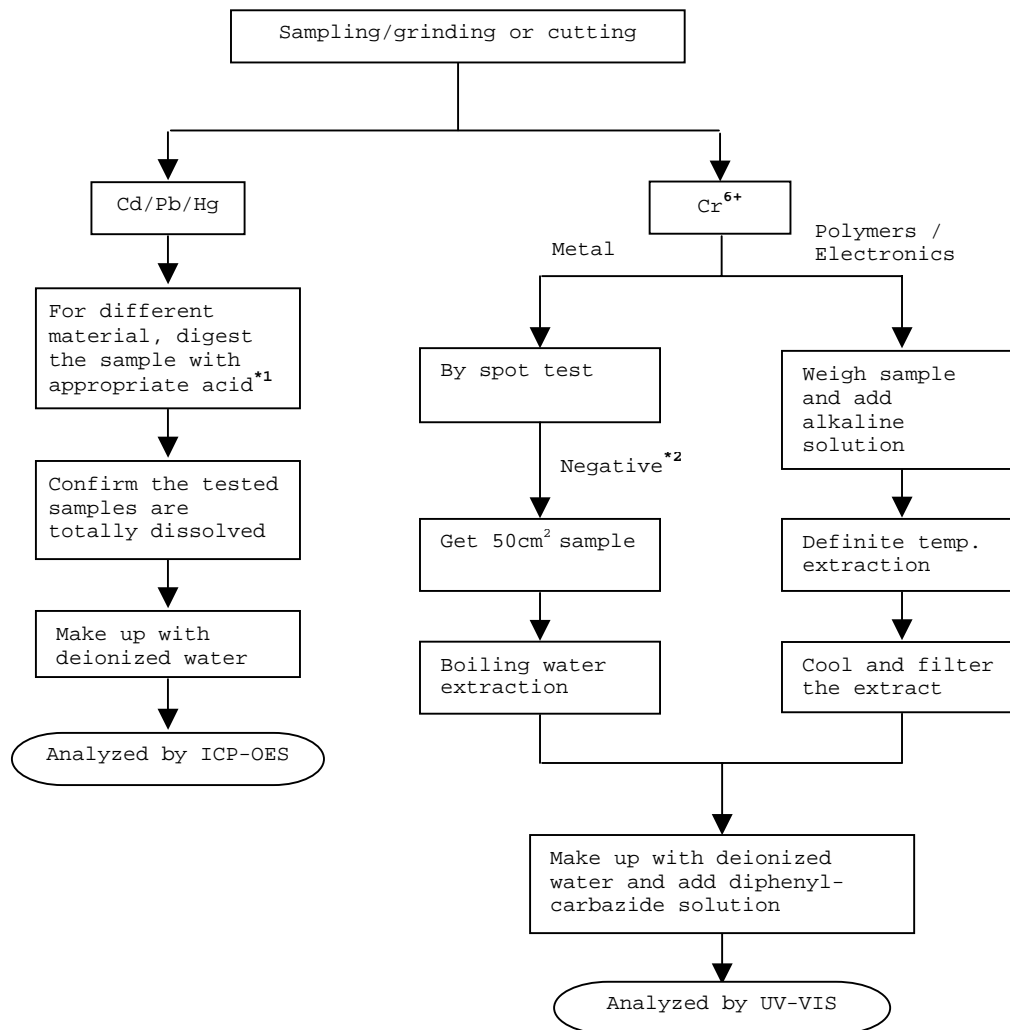
Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410

Test Conducted

(IV) Measurement Flowchart:

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

Reference Standard: IEC 62321 edition 1.0:2008





Number : TWNC00285770

Test Conducted

(IV) Measurement Flowchart:

Remarks:

*1: 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.

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Number : TWNC00285770

Test Conducted

Photo



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Test Report

Number : TWNC00286464

Applicant: Littelfuse Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Nov 22, 2012

Sample Description:

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

Part Description : Yarn

Part Number : 648118_648119_648120 (6481xxx_GLZZxxx)

Date Sample Received : Nov 15, 2012

Date Test Started : Nov 16, 2012

Test Conducted :

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

Authorized By:

On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director



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Number : TWNC00286464

Test Conducted

(I) Test Result Summary :

| Test Item | Result (ppm) |
|---|--------------|
| | White Yarn |
| Heavy Metal | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | 14 |
| Mercury (Hg) content | ND |
| Chromium VI (Cr ⁶⁺) content | ND |
| Polybrominated Biphenyls (PBBs) | |
| Monobrominated Biphenyls (MonoBB) | ND |
| Dibrominated Biphenyls (DiBB) | ND |
| Tribrominated Biphenyls (TriBB) | ND |
| Tetrabrominated Biphenyls (TetraBB) | ND |
| Pentabrominated Biphenyls (PentaBB) | ND |
| Hexabrominated Biphenyls (HexaBB) | ND |
| Heptabrominated Biphenyls (HeptaBB) | ND |
| Octabrominated Biphenyls (OctaBB) | ND |
| Nonabrominated Biphenyls (NonaBB) | ND |
| Decabrominated Biphenyl (DecaBB) | ND |
| Polybrominated Diphenyl Ethers (PBDEs) | |
| Monobrominated Diphenyl Ethers (MonoBDE) | ND |
| Dibrominated Diphenyl Ethers (DiBDE) | ND |
| Tribrominated Diphenyl Ethers (TriBDE) | ND |
| Tetrabrominated Diphenyl Ethers (TetraBDE) | ND |
| Pentabrominated Diphenyl Ethers (PentaBDE) | ND |
| Hexabrominated Diphenyl Ethers (HexaBDE) | ND |
| Heptabrominated Diphenyl Ethers (HeptaBDE) | ND |
| Octabrominated Diphenyl Ethers (OctaBDE) | ND |
| Nonabrominated Diphenyl Ethers (NonaBDE) | ND |
| Decabrominated Diphenyl Ether (DecaBDE) | ND |
| Halogen Content | |
| Fluorine (F) | ND |
| Chlorine (Cl) | ND |
| Bromine (Br) | ND |
| Iodine (I) | ND |

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

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

Date Sample Received : Nov 15, 2012
Test Period : Nov 16, 2012 To Nov 21, 2012



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Test Conducted

(II) RoHS Limits:

| <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 ⁶⁺) Content | 0.1% (1000ppm) |
| Polybrominated Biphenyls (PBBs) | 0.1% (1000ppm) |
| Polybrominated Diphenyl Ehters (PBDEs) | 0.1% (1000ppm) |

The above limits were quoted from Annex II of 2011/65/EU 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 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 : TWNC00286464

Test Conducted

(III) Test Method:

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

Remark: Reporting limit = Quantitation limit of analyte in sample



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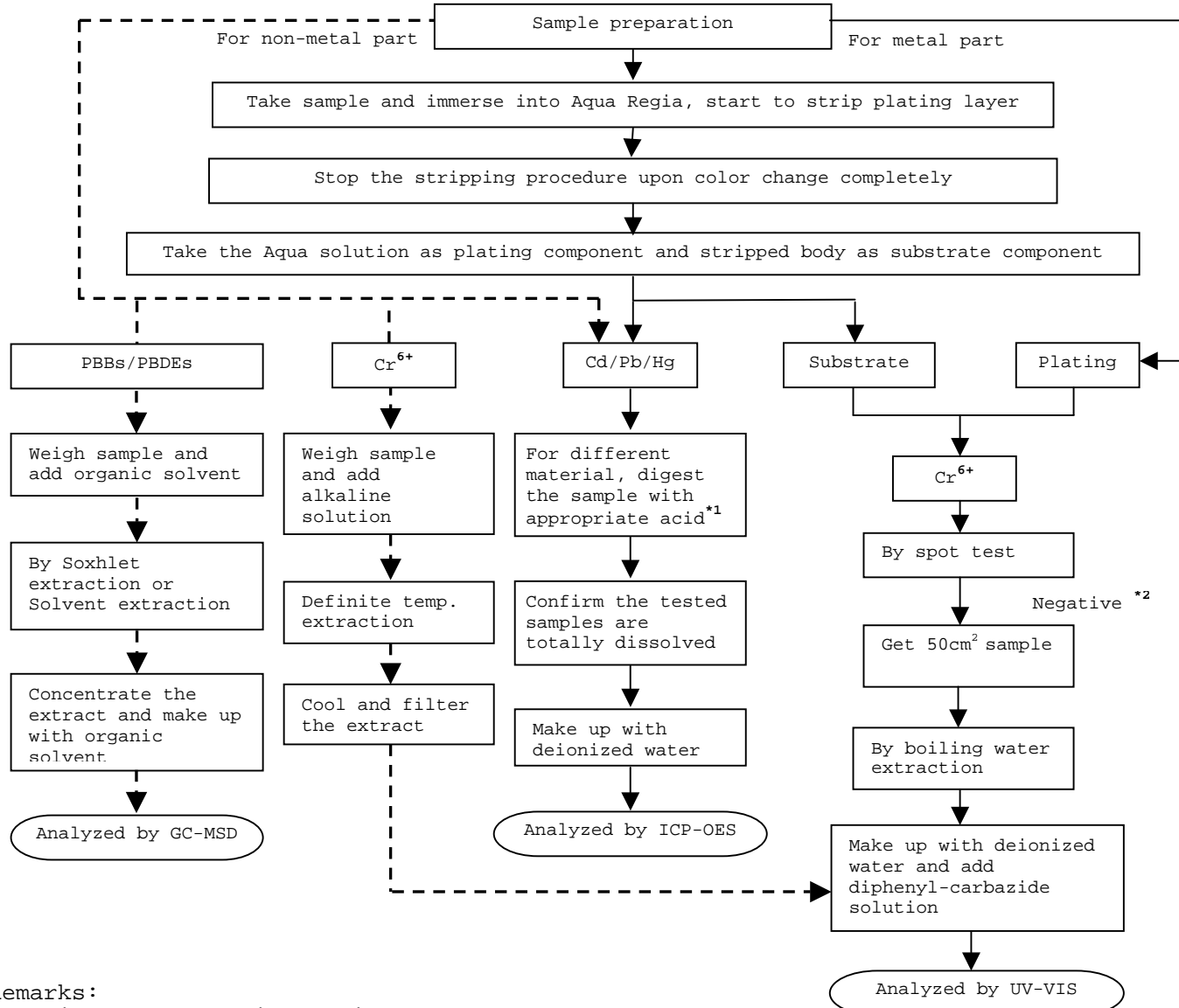
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Test Conducted

(IV) Measurement Flowchart:

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



Remarks:

*1: List of Appropriate Acid:

| Material | Acid Added for Digestion |
|-------------|--|
| Polymers | HNO ₃ , HCl, HF, H 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.

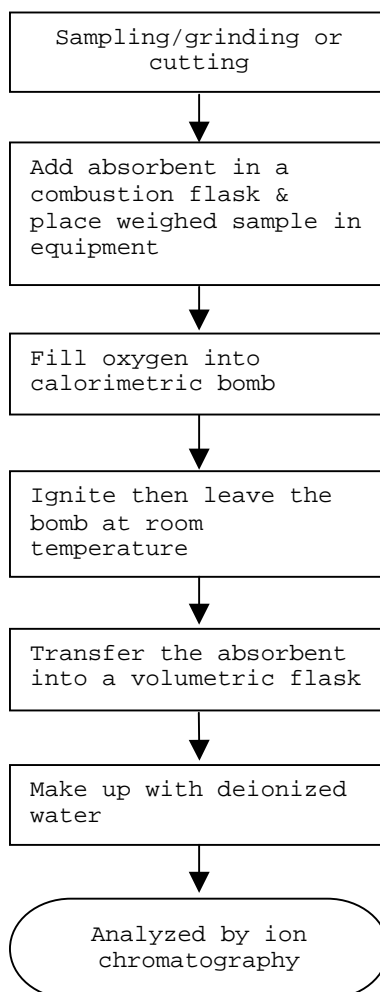


Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content

Reference Standard: EN 14582



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Test Conducted

Number : TWNC00286464

Photo



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Test Report

Number : TWNC00285760

Applicant: Littelfuse Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Nov 19, 2012

Sample Description:

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

Part Description : Yarn
Part Number : 648106-001
Date Sample Received : Nov 12, 2012
Date Test Started : Nov 13, 2012

Test Conducted :

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director



Page 1 of 8

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Number : TWNC00285760

Test Conducted

(I) Test Result Summary :

| Test Item | Result (ppm) |
|---|--------------|
| | White Yarn |
| 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 |



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Number : TWNC00285760

Test Conducted

(I) Test Result Summary :

| <u>Test Item</u> | <u>Result (ppm)</u> |
|------------------------|---------------------|
| | <u>White Yarn</u> |
| Halogen Content | |
| Fluorine (F) | ND |
| Chlorine (Cl) | ND |
| Bromine (Br) | ND |
| Iodine (I) | ND |

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

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

Date Sample Received : Nov 12, 2012

Test Period : Nov 13, 2012 To Nov 15, 2012

(II) RoHS Limits:

| <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 ⁶⁺) Content | 0.1% (1000ppm) |
| Polybrominated Biphenyls (PBBs) | 0.1% (1000ppm) |
| Polybrominated Diphenyl Ehters (PBDEs) | 0.1% (1000ppm) |

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



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Test Conducted

(III) Test Method:

| Test Item | Test Method | Reporting Limit |
|--|---|-----------------|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI (Cr^{6+}) content | With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer. | 1 ppm |
| Polybrominated Biphenyls (PBBs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Polybrominated Diphenyl Ethers (PBDEs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph. | 50 ppm |

Remark: Reporting limit = Quantitation limit of analyte in sample

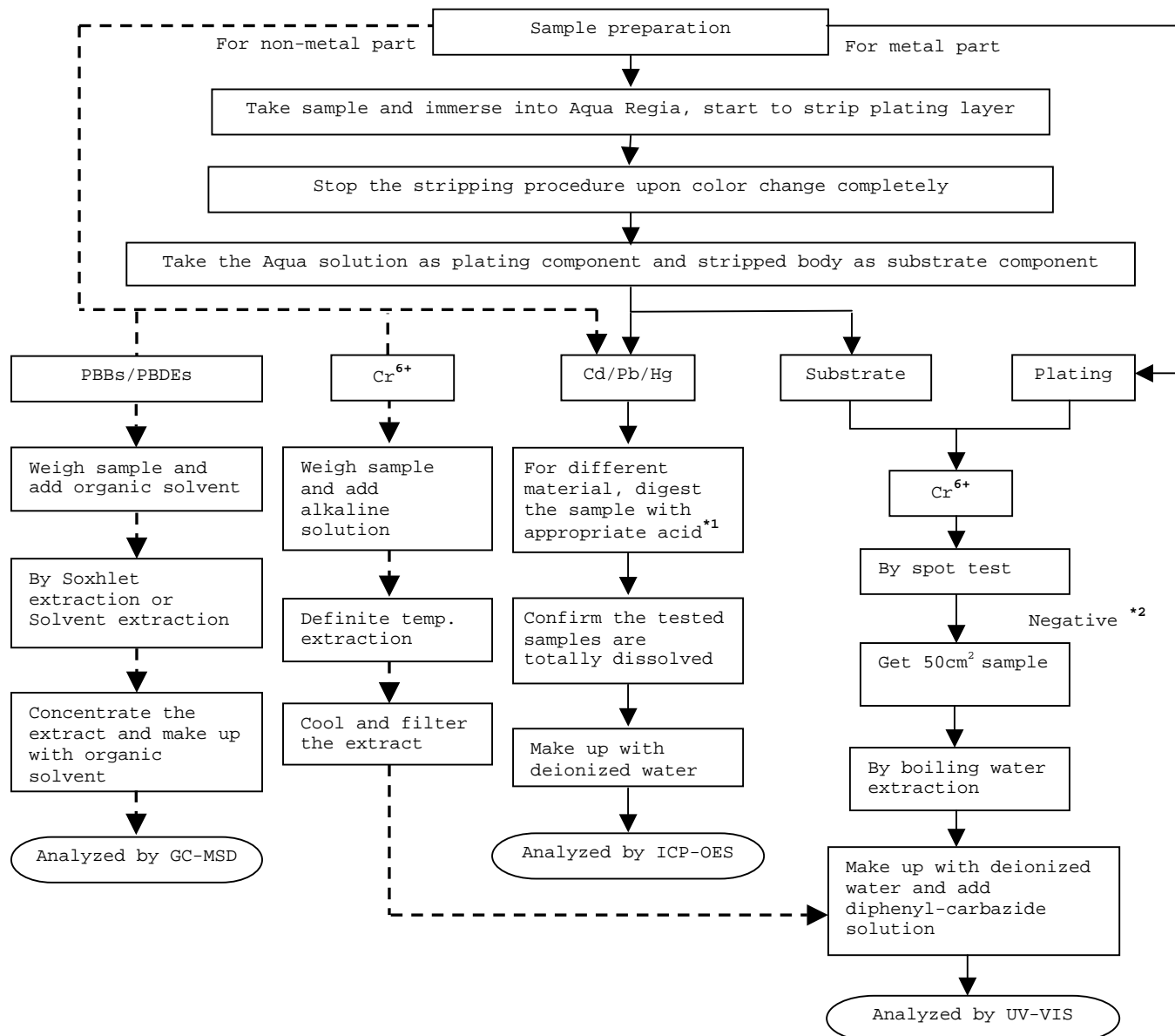


Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



Number : TWNC00285760

Test Conducted

(IV) Measurement Flowchart:

Remarks:

*1: 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.



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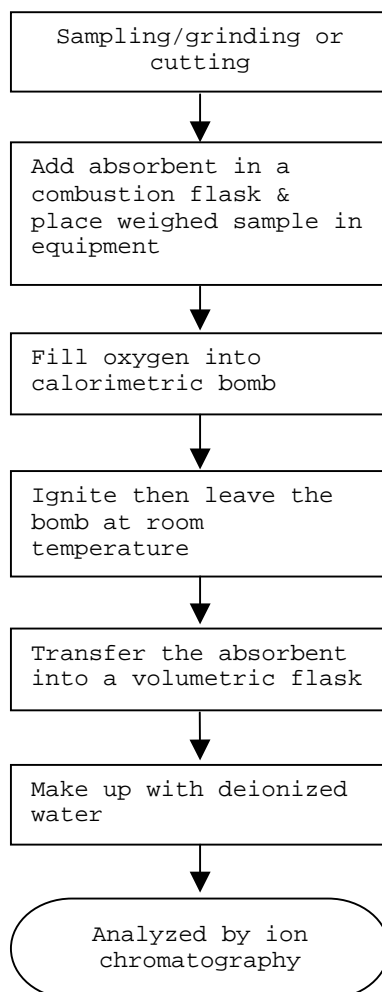
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Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content

Reference Standard : EN 14582



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Number : TWNC00285760

Test Conducted

Photo



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Intertek Testing Services Taiwan Ltd.

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

全國公證檢驗股份有限公司

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Tel: (+886-2) 6602-2888 · 2797-8885 Fax: (+886-2) 6602-2410



Test Report

Number : TWNC00285761

Applicant: Littelfuse Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Nov 19, 2012

Sample Description:

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

Part Description : Yarn
Part Number : 648112-001
Date Sample Received : Nov 12, 2012
Date Test Started : Nov 13, 2012

Test Conducted :

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

Authorized By:
On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director



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Number : TWNC00285761

Test Conducted

(I) Test Result Summary :

| Test Item | Result (ppm) |
|---|-------------------|
| | Submitted Samples |
| 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 |



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Number : TWNC00285761

Test Conducted

(I) Test Result Summary :

| <u>Test Item</u> | <u>Result (ppm)</u> |
|------------------------|--------------------------|
| | <u>Submitted Samples</u> |
| Halogen Content | |
| Fluorine (F) | ND |
| Chlorine (Cl) | ND |
| Bromine (Br) | ND |
| Iodine (I) | ND |

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

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

Date Sample Received : Nov 12, 2012

Test Period : Nov 13, 2012 To Nov 15, 2012

(II) RoHS Limits:

| <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 ⁶⁺) Content | 0.1% (1000ppm) |
| Polybrominated Biphenyls (PBBs) | 0.1% (1000ppm) |
| Polybrominated Diphenyl Ehters (PBDEs) | 0.1% (1000ppm) |

The above limits were quoted from Annex II of 2011/65/EU for homogeneous material.



Test Conducted

(III) Test Method:

| Test Item | Test Method | Reporting Limit |
|--|---|-----------------|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI (Cr^{6+}) content | With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer. | 1 ppm |
| Polybrominated Biphenyls (PBBs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Polybrominated Diphenyl Ethers (PBDEs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph. | 50 ppm |

Remark: Reporting limit = Quantitation limit of analyte in sample

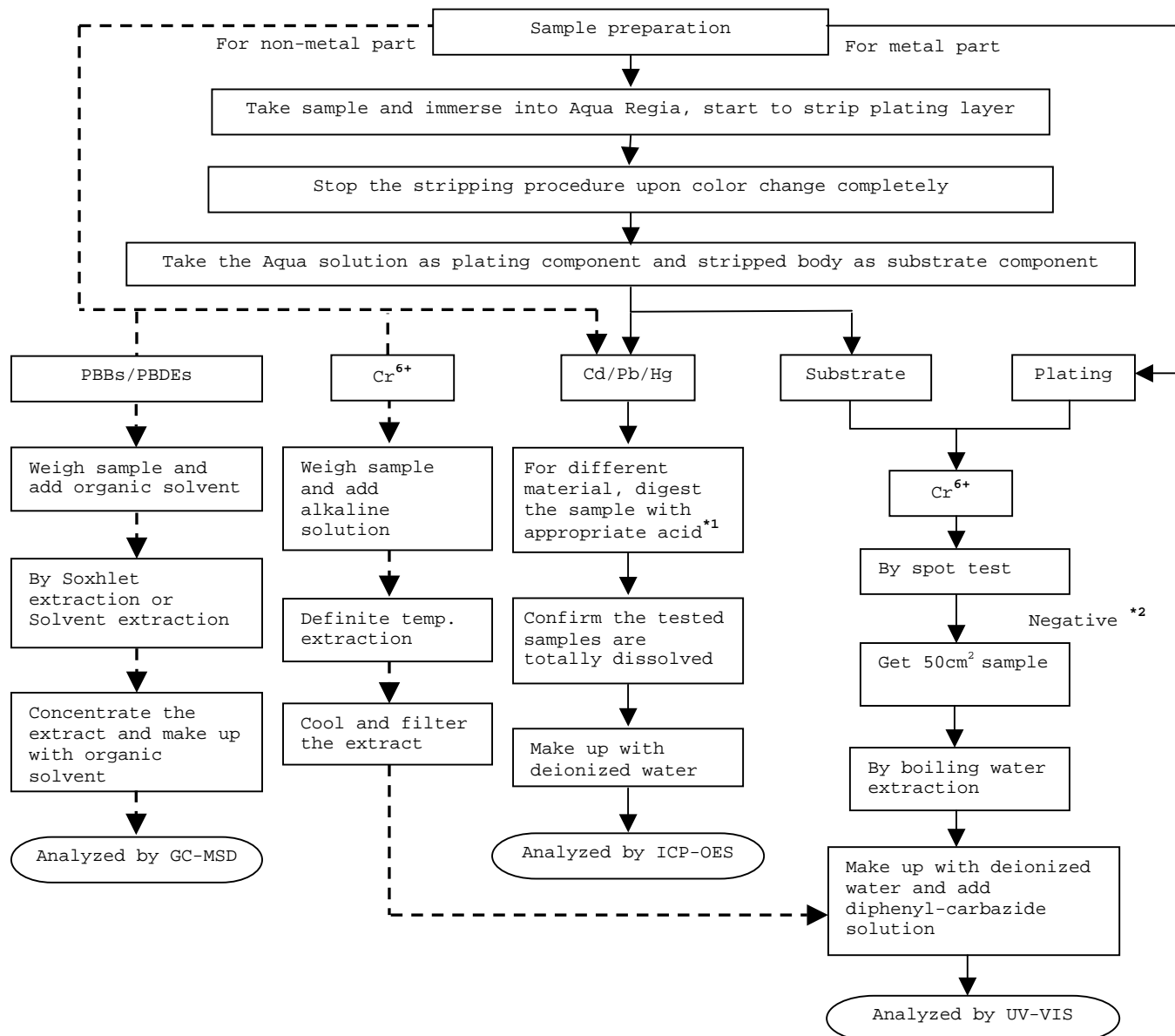


Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008





Number : TWNC00285761

Test Conducted

(IV) Measurement Flowchart:

Remarks:

*1: 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.



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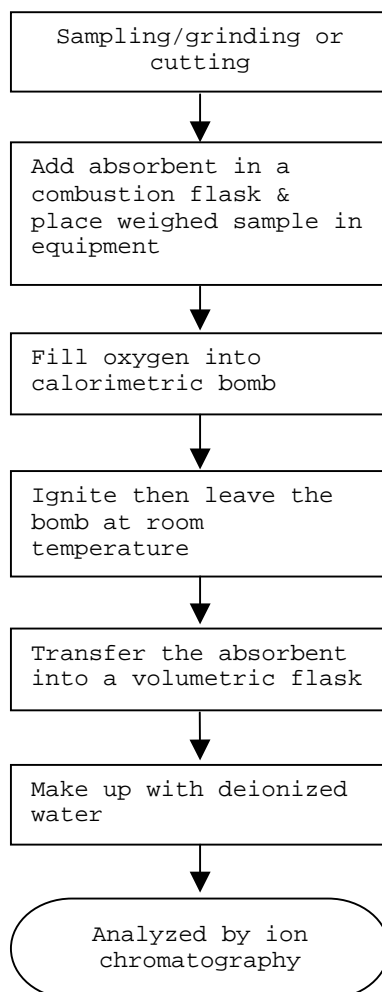
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Test Conducted

(IV) Measurement Flowchart:

Test for Halogen Content

Reference Standard : EN 14582



End of Report

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Number : TWNC00285761

Test Conducted

Photo



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Test Report

Number : TWNC00253636

Applicant: Littelfuse Philippines Inc.
LIMA Technology Center, Lipa City,
Malvar, Batangas

Date : Apr 24, 2012

Sample Description:

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

Part Description : Black Ink

Part Number : 425809

Date Sample Received : Apr 19, 2012

Date Test Started : Apr 19, 2012

Test Conducted :

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

Authorized By:

On Behalf Of Intertek Testing Services
Taiwan Limited



K. Y. Liang
Director

This report shall not be reproduced
except in full, without the written
approval of the laboratory.

Test Conducted

(I) Test Result Summary :

| Test Item | Result (ppm) |
|---|--------------|
| | Black Paste |
| Heavy Metal | |
| Cadmium (Cd) content | ND |
| Lead (Pb) content | ND |
| Mercury (Hg) content | ND |
| Chromium VI (Cr ⁶⁺) content | ND |
| Polybrominated Biphenyls (PBBs) | |
| Monobrominated Biphenyls (MonoBB) | ND |
| Dibrominated Biphenyls (DiBB) | ND |
| Tribrominated Biphenyls (TriBB) | ND |
| Tetrabrominated Biphenyls (TetraBB) | ND |
| Pentabrominated Biphenyls (PentaBB) | ND |
| Hexabrominated Biphenyls (HexaBB) | ND |
| Heptabrominated Biphenyls (HeptaBB) | ND |
| Octabrominated Biphenyls (OctaBB) | ND |
| Nonabrominated Biphenyls (NonaBB) | ND |
| Decabrominated Biphenyl (DecaBB) | ND |
| Polybrominated Diphenyl Ethers (PBDEs) | |
| Monobrominated Diphenyl Ethers (MonoBDE) | ND |
| Dibrominated Diphenyl Ethers (DiBDE) | ND |
| Tribrominated Diphenyl Ethers (TriBDE) | ND |
| Tetrabrominated Diphenyl Ethers (TetraBDE) | ND |
| Pentabrominated Diphenyl Ethers (PentaBDE) | ND |
| Hexabrominated Diphenyl Ethers (HexaBDE) | ND |
| Heptabrominated Diphenyl Ethers (HeptaBDE) | ND |
| Octabrominated Diphenyl Ethers (OctaBDE) | ND |
| Nonabrominated Diphenyl Ethers (NonaBDE) | ND |
| Decabrominated Diphenyl Ether (DecaBDE) | ND |

Number : TWNC00253636

Test Conducted

(I) Test Result Summary :

| <u>Test Item</u> | <u>Result (ppm)</u> |
|-----------------------------------|---------------------|
| | <u>Black Paste</u> |
| Halogen Content | |
| Fluorine (F) | ND |
| Chlorine (Cl) | 610 |
| Bromine (Br) | ND |
| Iodine (I) | ND |
| Phthalates | |
| Di(2-ethylhexyl) Phthalate (DEHP) | ND |
| Dibutyl Phthalate (DBP) | ND |
| Benzyl Butyl Phthalate (BBP) | ND |
| Others | |
| Hexabromocyclododecane (HBCDD) | ND |

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

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

Date Sample Received : Apr 19, 2012

Test Period : Apr 19, 2012 To Apr 24, 2012

(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 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.

Test Conducted

(III) Test Method:

| Test Item | Test Method | Reporting Limit |
|--|---|-----------------|
| Cadmium (Cd) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Lead (Pb) content | With reference to IEC 62321 edition 1.0:2008 in clause 8/9/10, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Mercury (Hg) content | With reference to IEC 62321 edition 1.0:2008 in clause 7, by microwave digestion until the tested samples are totally dissolved and determined by ICP-OES. | 2 ppm |
| Chromium VI (Cr^{6+}) content | With reference to IEC 62321 edition 1.0:2008 in annex C, by alkaline digestion and determined by UV-Vis spectrophotometer. | 1 ppm |
| Polybrominated Biphenyls (PBBs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Polybrominated Diphenyl Ethers (PBDEs) | With reference to IEC 62321 edition 1.0:2008 in annex A, by solvent extraction and determined by GC-MS and further HPLC-DAD confirmation when necessary. | 5 ppm |
| Halogen Content | With reference to EN 14582:2007 by calorimetric bomb with oxygen and determined by Ion Chromatograph. | 50 ppm |
| Phthalates | With reference to EN 14372: 2004, by solvent extraction and determined by GC-MS. | 10 ppm |
| Hexabromocyclododecane (HBCDD) | With reference to USEPA 3540C, by solvent extraction and determined by GC-MSD. | 10 ppm |

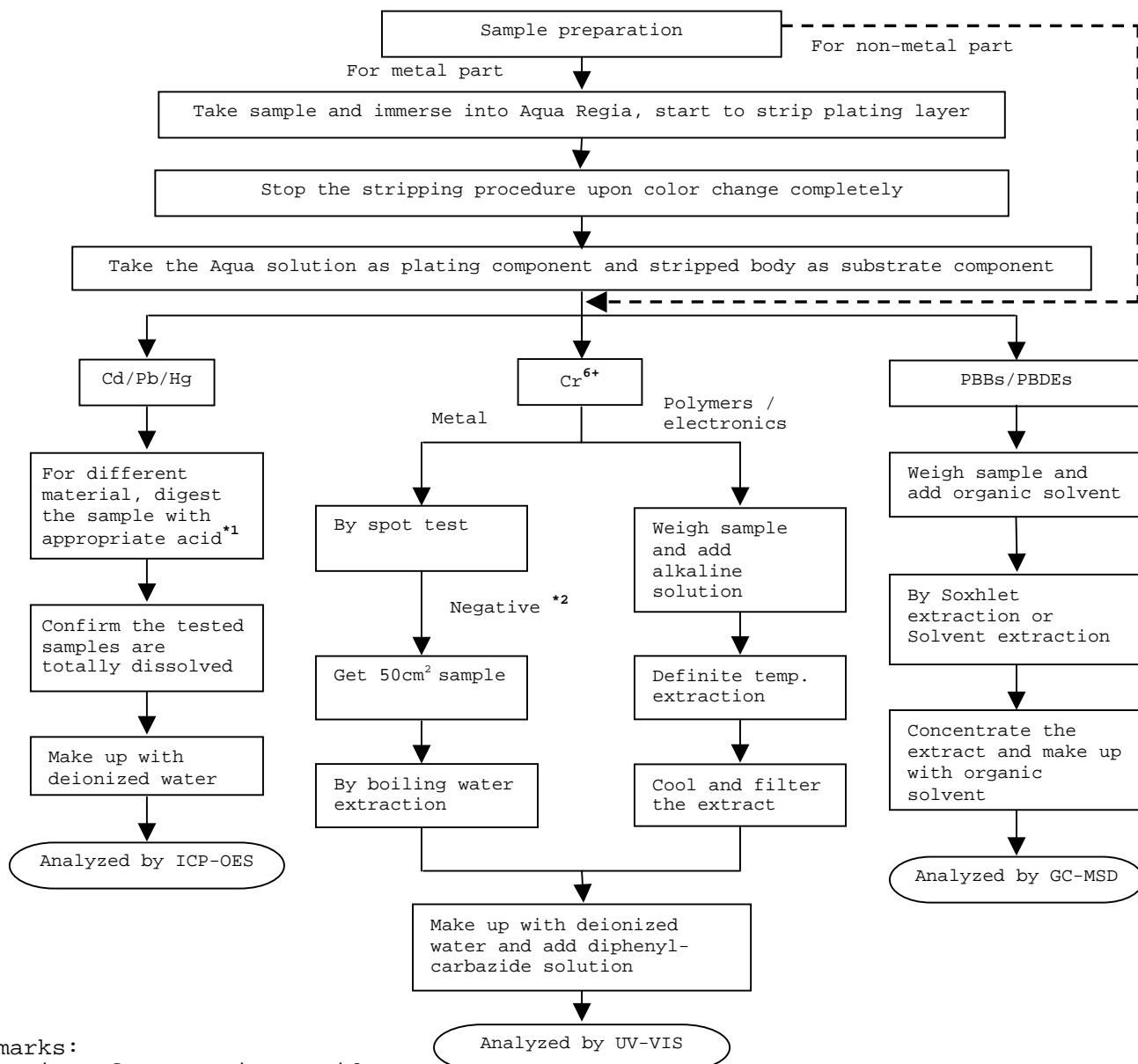
Remark: Reporting limit = Quantitation limit of analyte in sample

Test Conducted

(IV) Measurement Flowchart:

Test for Cd/Pb/Hg/Chromium (VI)/PBBS/PBDES Contents

Reference Standard: IEC 62321 edition 1.0:2008



Remarks:

*1: List of Appropriate Acid :

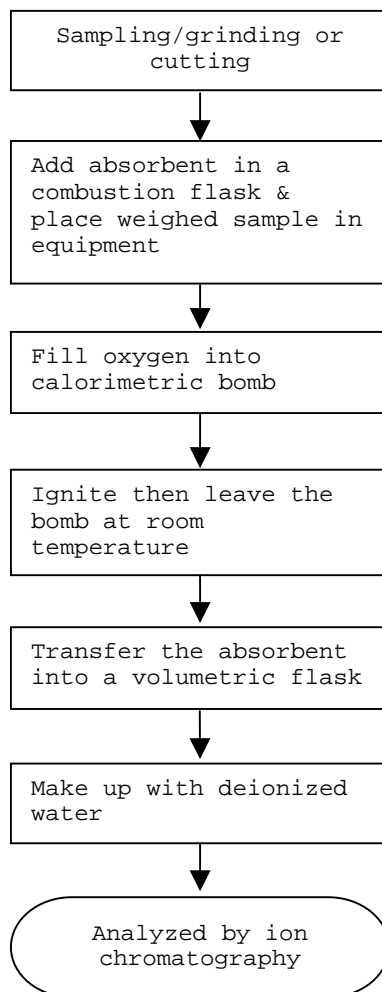
| Material | Acid Added for Digestion |
|-------------|--|
| Polymers | HNO ₃ , HCl, HF, H ₂ O ₂ , H ₃ BO ₃ |
| Metals | HNO ₃ , HCl, HF |
| Electronics | HNO ₃ , HCl, H ₂ O ₂ , HBF ₄ |

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

Test Conducted

(IV) Measurement Flowchart:

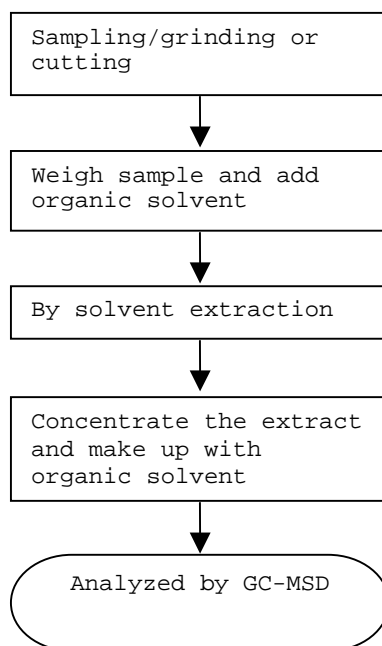
Test for Halogen Content
Reference Standard: EN 14582



Test Conducted

(IV) Measurement Flowchart:

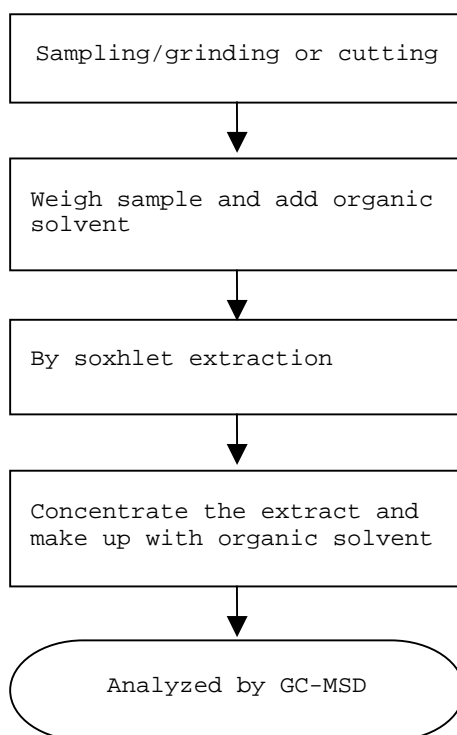
Test For Phthalates Contents
Reference Method: EN 14372: 2004



Test Conducted

(IV) Measurement Flowchart:

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



End of Report

Number : TWNC00253636

Test Conducted

Photo

