# TEST REPORT
## (시험 성적서)

**Report No.**
시험성적서 번호 : **(8225)827-0010-003**

Date Issued
발행일자 : 2026. 01. 05



Company Name
신청기관 : Daeduck Electronics Co., Ltd
대덕전자 주식회사

Address
주소 : 230, Gangchon-ro, Danwon-gu, Ansan-si, Gyeonggi-do
경기도 안산시 강촌로 230

**Sample Description**

Name / Type of Product
제품명/형식 : Pd Plating

Item No. / Part No.
품번 : -

Material/Color
재질 : PCB

Manufacturer/Vendor
제품 생산자/공급자 : Daeduck Electronics Co., Ltd
대덕전자 주식회사

Date Received
시료접수일자 : 2025. 12. 24

Test Period
시험일자 : 2025. 12. 24 ~ 2026. 01. 05

Test Type : Wet chemical analysis for restricted substances.

Test Site : Fixed Test Lab (RM908~915 126, Beolmal-ro, Dongan-gu, Anyang-si)

Test Method(s)
시험방법 : For the detail, please the following page(s).
이 시험성적서의 다음 페이지 첨부

Test Results(s)
시험결과 : For the detail, please the following page(s).
이 시험성적서의 다음 페이지 첨부

Authorized by

Bureau Veritas Korea Co., Ltd.
Consumer Product Services

**JIN KIM**
Lab Manager / Bureau Veritas Korea CPS

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Bureau Veritas CPS Korea
RM409, 8F RM901~902, RM908~915
(O-Biz tower) 126, Beolmal-ro, Dongan-gu, Anyang-si, Gyeonggi-do, 14057, Republic of Korea
Tel :+82.31.688.8000 Fax: +82.31.360.0276
Website: www.bureauveritas.co.kr/cps

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Name / Type of Product (제품명/형식) : Pd Plating

## TEST RESULT

**Heavy Metals**

| Test Item (시험 항목) | Test Method (분석 방법) | Unit (단위) | MDL (검출 한계) | Result (시험 결과) |
|---|---|---|---|---|
| Lead (Pb) | With reference to International Standard IEC 62321-5: 2013, Determined by ICP-OES. | mg/kg | 5 | ND |
| Cadmium (Cd) | | mg/kg | 0.5 | ND |
| Mercury (Hg) | With reference to International Standard IEC 62321-4: 2013 +AMD1:2017CVS, Determined by ICP-OES. | mg/kg | 2 | ND |
| Chromium VI (Cr VI)* | With reference to International Standard IEC 62321-7-1 2015, Determined by UV-Vis. | $\mu g/cm^2$ | - | Negative |
| Antimony(Sb) | With reference to US EPA3052, Determined by ICP-OES. | mg/kg | 2 | ND |
| Beryllium(Be) | | mg/kg | 2 | ND |
| Arsenic (As) | | mg/kg | 2 | ND |

**Flame Retardants-PBBs/PBDEs**

| | | | | |
|---|---|---|---|---|
| Monobromobiphenyl | With reference to International Standard IEC 62321-6: 2015, Determined by GC-MS. | mg/kg | 5 | ND |
| Dibromobiphenyl | | mg/kg | 5 | ND |
| Tribromobiphenyl | | mg/kg | 5 | ND |
| Tetrabromobiphenyl | | mg/kg | 5 | ND |
| Pentabromobiphenyl | | mg/kg | 5 | ND |
| Hexabromobiphenyl | | mg/kg | 5 | ND |
| Heptabromobiphenyl | | mg/kg | 5 | ND |
| Octabromobiphenyl | | mg/kg | 5 | ND |
| Nonabromobiphenyl | | mg/kg | 5 | ND |
| Decabromobiphenyl | | mg/kg | 5 | ND |
| Monobromodiphenyl ether | With reference to International Standard IEC 62321-6: 2015, Determined by GC-MS. | mg/kg | 5 | ND |
| Dibromodiphenyl ether | | mg/kg | 5 | ND |
| Tribromodiphenyl ether | | mg/kg | 5 | ND |
| Tetrabromodiphenyl ether | | mg/kg | 5 | ND |
| Pentabromodiphenyl ether | | mg/kg | 5 | ND |
| Hexabromodiphenyl ether | | mg/kg | 5 | ND |
| Heptabromodiphenyl ether | | mg/kg | 5 | ND |
| Octabromodiphenyl ether | | mg/kg | 5 | ND |
| Nonabromodiphenyl ether | | mg/kg | 5 | ND |
| Decabromodiphenyl ether | | mg/kg | 5 | ND |

Note / Key :

mg/kg = milligram(s) per kilogram = ppm = part(s) per million
ug/$cm^2$ = Microgram per square centimeter
MDL = Method detection limit
ND = Not detected
NA = Not applicable

* a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 ug/cm2. The sample coating is considered to contain CrVI.
b. The sample is negative for CrVI if CrVI is N.D. (concentration less than 0.10ug/cm2). The coating is considered a non-CrVI based coating.
c. The result between 0.10ug/cm2 and 0.13 ug/cm2 is considered to be inconclusive – unavoidable coating variations may influence the determination.



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## TEST RESULT

**Phthalates Content**

| Test Item (시험 항목) | Test Method (분석 방법) | Unit (단위) | MDL (검출 한계) | Result (시험 결과) |
|---|---|---|---|---|
| Dibutyl phthalate (DBP) | With reference to IEC 62321-8: 2017, Determined by GC-MS & LC-MS. | mg/kg | 50 | ND |
| Bis(2-ethylhexyl) phthalate (DEHP) | | mg/kg | 50 | ND |
| Diisobutyl phthalate (DIBP) | | mg/kg | 50 | ND |
| Benzyl butyl phthalate (BBP) | | mg/kg | 50 | ND |

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ND = Not detected
NA = Not applicable

**List of Phthalates [ European Parliament and Council Directive 2011/65/EU ] :**

| No. | Name of Analyte(s) | CAS-No. |
|---|---|---|
| 1 | Dibutyl phthalate (DBP) | 84-74-2 |
| 2 | Bis(2-ethylhexyl) phthalate (DEHP) | 117-81-7 |
| 3 | Diisobutyl phthalate (DIBP) | 84-69-5 |
| 4 | Benzyl butyl phthalate (BBP) | 85-68-7 |



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## TEST RESULT

**Halogen Content**

| Test Item (시험 항목) | Test Method (분석 방법) | Unit (단위) | MDL (검출 한계) | Result (시험 결과) |
|---|---|---|---|---|
| Bromine (Br) | With reference to EN14582:2016, Determined by IC. | mg/kg | 30 | ND |
| Chlorine (Cl) | | mg/kg | 30 | 104 |
| Fluorine (F) | | mg/kg | 30 | ND |
| Iodine (I) | | mg/kg | 30 | ND |

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## TEST RESULT

**Perfluorinated Compounds (PFC)**

| Test Item (시험 항목) | Test Method (분석 방법) | Unit (단위) | MDL (검출 한계) | Result (시험 결과) |
|---|---|---|---|---|
| Perfluorooctane sulfonate (PFOS) | With reference to EPA 3550C, Determined by LC-MS&LC-MS-MS. | mg/kg | 0.01 | ND |
| Perfluorooctanoic acid (PFOA) | | mg/kg | 0.01 | ND |

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## TEST RESULT

**Other(s)**

| Test Item (시험 항목) | Test Method (분석 방법) | Unit (단위) | MDL (검출 한계) | Result (시험 결과) |
|---|---|---|---|---|
| Polychlorinated biphenyls (PCBs) | With reference to EPA 3550C, Determined by GC-MS. | mg/kg | 1 | ND |

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## Photo of the Submitted Sample
(시료 접수 시 시료 상태)






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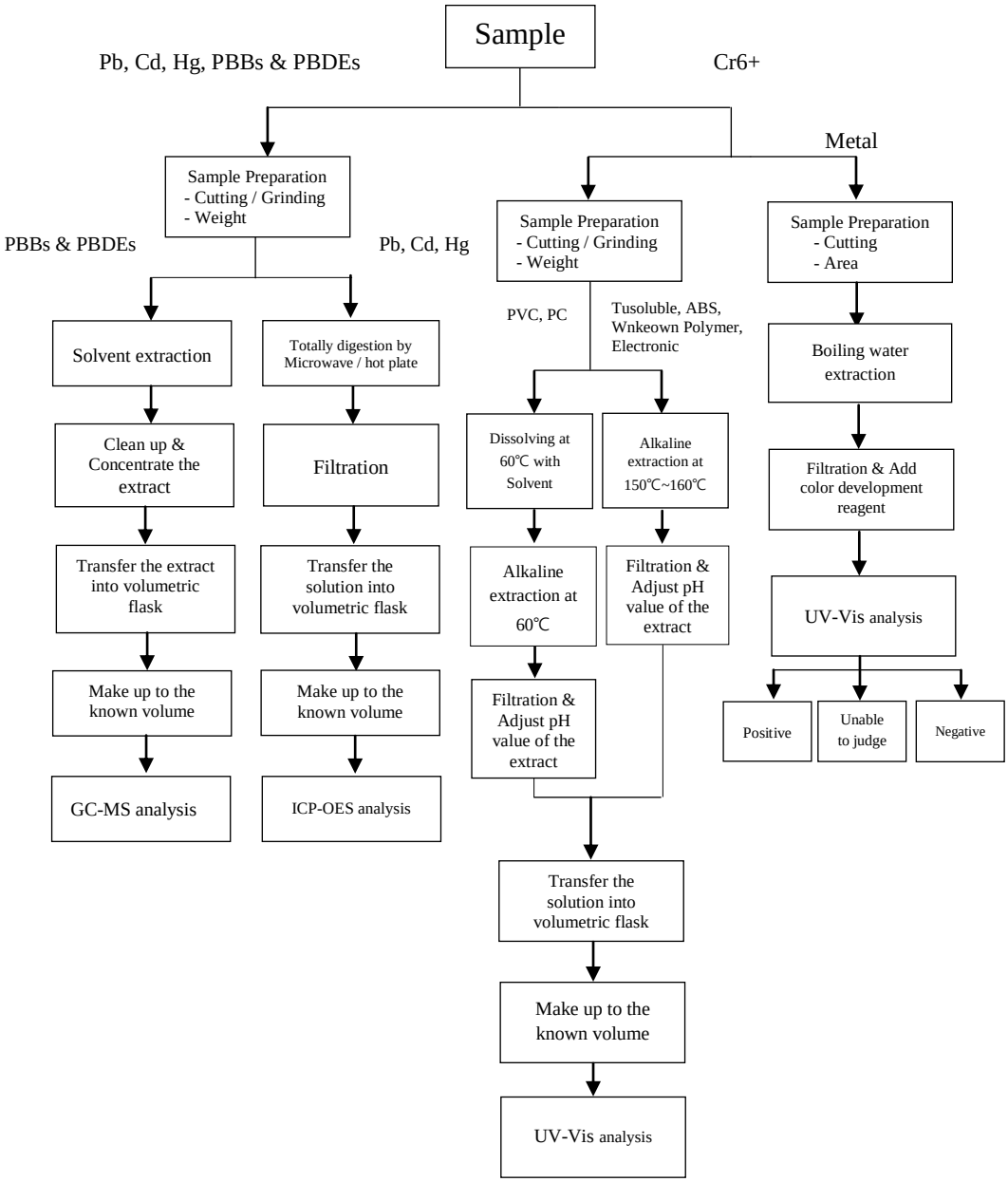
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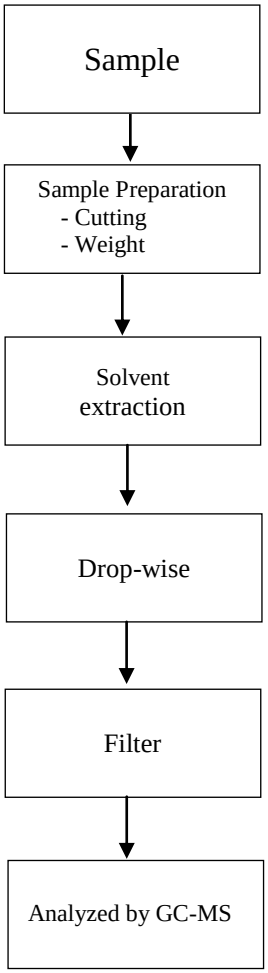
**Test Flowchart of Heavy Metals and Flame Retardants Content [ European Parliament and Council Directive 2011/65/EU ] :**






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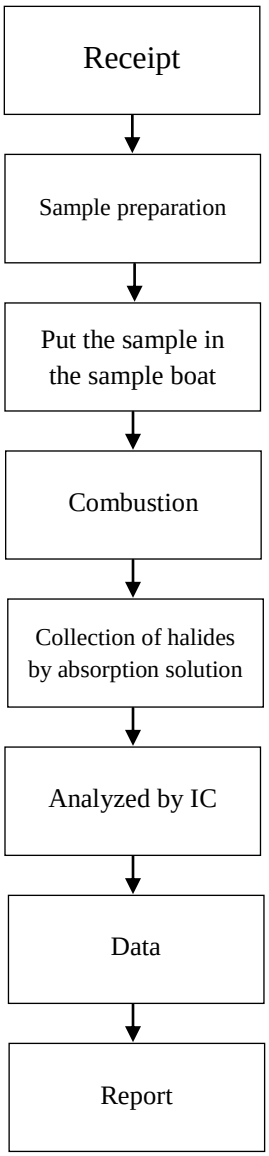
**Test Flowchart of Phthalates Content**






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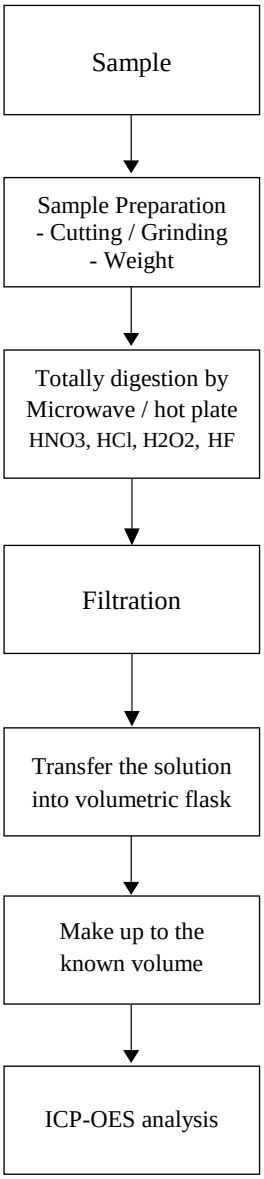
**Test Flowchart of Halogen Content**






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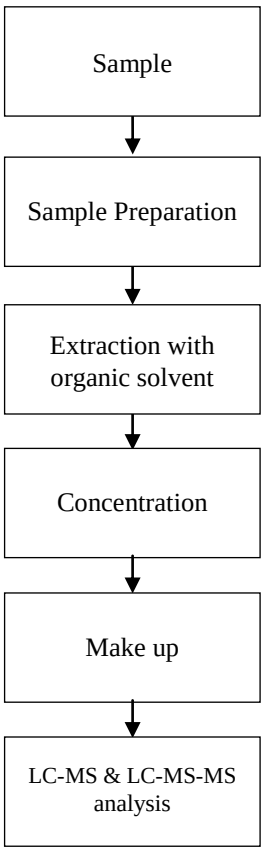
**Test Flowchart of Inorganic Element Content**






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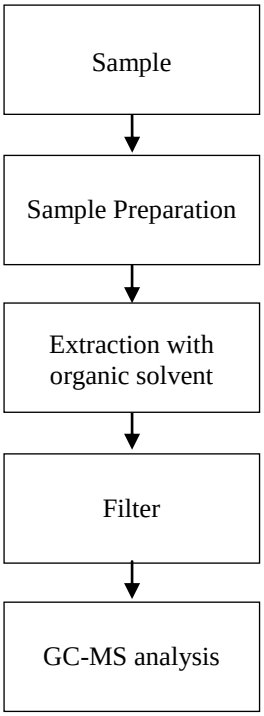
**Test Flowchart of PFOA & PFOS Content**






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**Test Flowchart of PCB Content**




- End of Report -



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