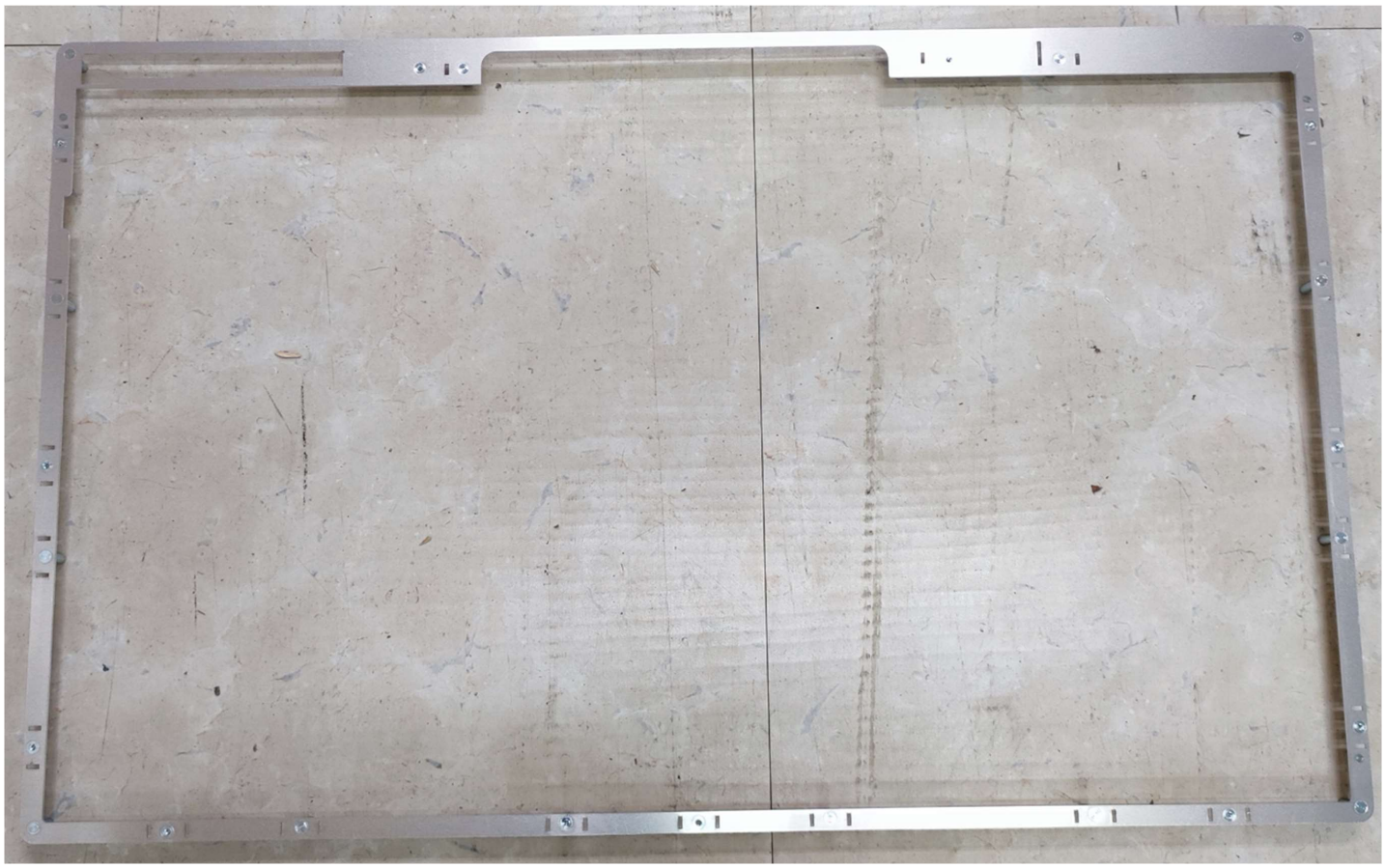
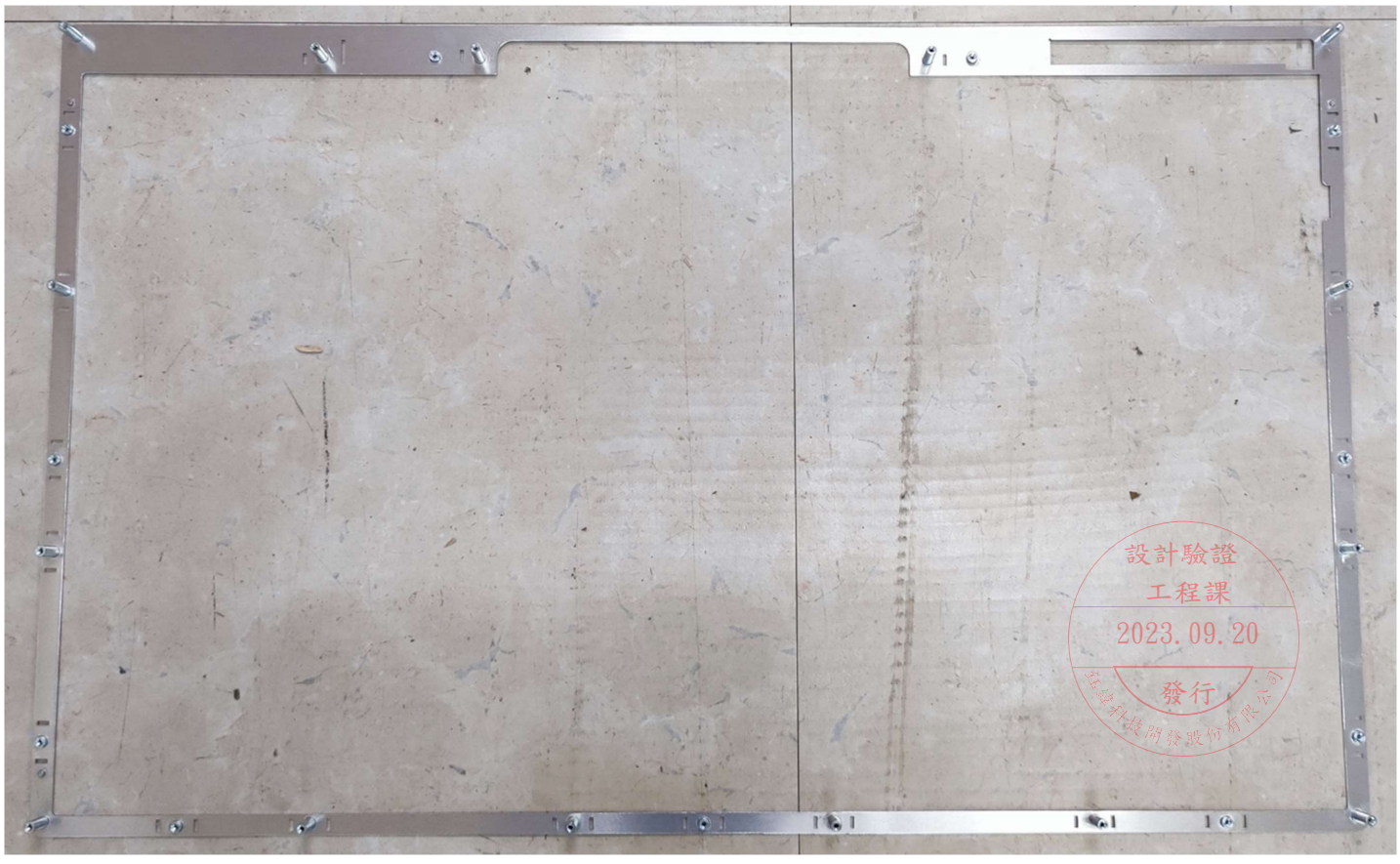



設計驗證
工程課
2023.09.20
發行

雄業實業股份有限公司

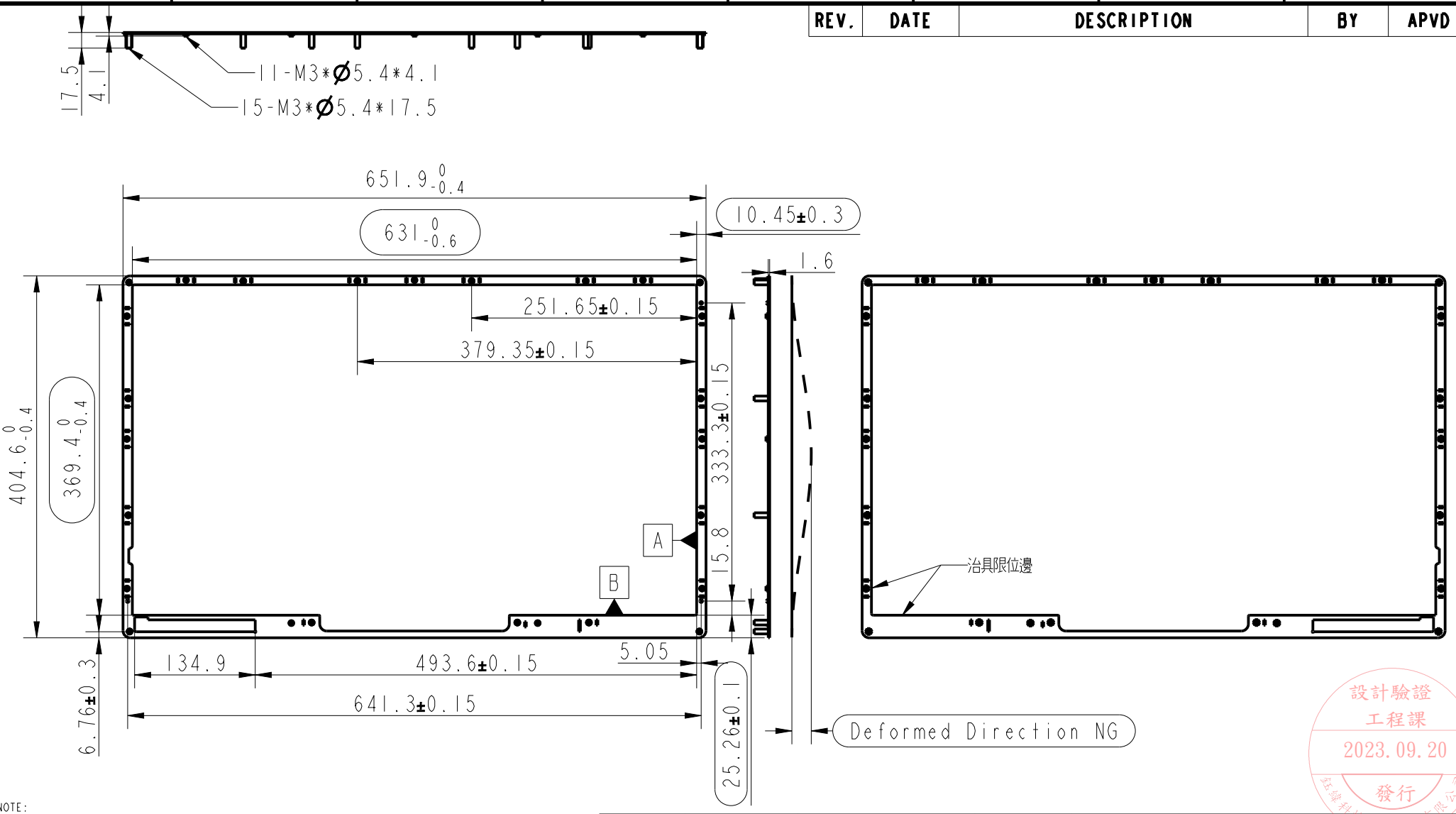
樣 品 承 認 書

雄業實業股份有限公司
TEL:2201-9999
臺北市新莊區新樹路288-10號

客　　戶：	鈺緯
料　　號：	3MD622ME020(M3475)
品　　名：	FRONT BRACKET PC270434R
日　　期：	112/9/7
送樣數量：	3　　PCS

設計驗證
工程課
2023.09.20
發行
鈺緯科技開發股份有限公司

REV.	DATE	DESCRIPTION	BY	APVD



設計驗證
工程課
2023.09.20
發行
鈺鏵科技開發股份有限公司

NOTE:
1.Material: AL 5052, t=1.6 mm.
2.Finish: Chemical Conversion Coat(Phosphate coating).
3.Flatness tolerance : ±0.5
4.RoHS Compliant.
5.All pitch dimensions without accumulated.
6.Burrs not exceed 10% Max Thickness.
7.Unspecified dimension tolerance reference tolerance table.
8.Unspecified Angle Tolerance is ±0.5°.
9.Unspecified radii to be thickness.
10.All of rust was not allowed.
11." O " is MAJOR Dimension.
12.Please refer to 3D file when dimensions can't found in drawing.
13.All surfaces without oil stain.
14.Burry Hole: Torque >=7kgf/cm Stand Off/ NUT :Pull sterength >=20kgf ;Torque >=9kgf/cm Rivet:Pull sterength >=4kgf
16.DIVA QC Inspection Document NO.:QWI-014 (Metal)

RANGE OF DIMENSION	TOLERANCE CLASS DESIGNATION f	V m	c
UP TO 30	±0.10	±0.20	±0.50
ABOVE 30~120	±0.15	±0.30	±0.80
ABOVE 120~315	±0.20	±0.50	±1.20
ABOVE 315~1000	±0.30	±0.80	±2.00
ANGLE ±1° (±1.75/100)			

THIRD ANGLE PROJECTION

UNITS:mm	SCALE: 1/1	SHEET: 1 OF 1	MODEL NO.:
MATERIAL:		TREATMENT:	
DSGD by	KimHuang	2022/12/15	PART NAME: FRONT BRACKET(PC270434R(RGD2773AM11-P))
CHK by			
APVD by	[signature]	2023/09/19	PART NO.: 3MD622ME020 REV.
APVD NO.: (M3475)	3D FILE NAME: 01_FRONT_BRACKET		DIVA Laboratories ,Ltd.

Test Result	

DIVA FAI DATA SHEET

Part Number :	3MD622ME020 (M3475)	Supplier :	雄業	Date:	2023.09.07
Part Description :	FRONT BRACKET PC270434R			Cavity / Tool # :	
Revision :	0	Material Spec:	AL5052 T=1.6	Inspector:	李宥廷

MOI-Method of inspection abbreviation: HG = Height gauge, MIC = Micrometer, DC = Dial Caliper, P = Protractor, OC = Optical Comparator, CG = Checking Gauge, CMM = Coordinate Measuring Machine, OMM = Optical Coordinate Measuring Machine, HT = Hardness Trester, TG = Thickness Gauge, VIS = ' D

OTHER:

DRAWING SPECIFICATIONS						INSPECTION RESULTS							INSPECTION ANALYSIS					
						Sample Number							% Tolerance		Alert/Rej		Supplier	RD Engineering
ITEM	LOCATION	NOMINAL	+TOL	-TOL	Method	1	2	3	1	2	3	Mean	UPPER	LOWER	HIGH	LOW	Remarks	Disposition
1	A1	17.50	0.10	0.10		17.560	17.550	17.540	0.060	0.050	0.040	17.550	60%	0%				
2	A1	4.10	0.10	0.10		4.150	4.140	4.160	0.050	0.040	0.060	4.150	60%	0%				
3	C1	404.60	0.00	0.40		404.520	404.500	404.530	-0.080	-0.100	-0.070	404.517		25%				
4	C1	369.40	0.00	0.40		369.320	369.340	369.340	-0.080	-0.060	-0.060	369.333		20%				
5	D2	134.90	0.20	0.20		134.950	134.970	134.960	0.050	0.070	0.060	134.960	35%	0%				
6	D1	6.76	0.10	0.10		6.760	6.770	6.780	0.000	0.010	0.020	6.770	20%	0%				
7	D3	493.60	0.15	0.15		493.680	493.660	493.680	0.080	0.060	0.080	493.673	53%	0%				
8	D4	5.05	0.10	0.10		5.020	5.040	5.050	-0.030	-0.010	0.000	5.037	0%	30%				
9	D5	25.26	0.10	0.10		25.320	25.280	25.300	0.060	0.020	0.040	25.300	60%	0%				
10	D4	15.80	0.10	0.10		15.820	15.850	15.840	0.020	0.050	0.040	15.837	50%	0%				
11	C4	333.30	0.15	0.15		333.390	333.380	333.350	0.090	0.080	0.050	333.373	60%	0%				
12	D3	641.30	0.15	0.15		641.350	641.360	641.380	0.050	0.060	0.080	641.363	53%	0%				
13	C3	379.35	0.15	0.15		379.420	379.400	379.430	0.070	0.050	0.080	379.417	53%	0%				
14	B4	251.65	0.15	0.15		251.720	251.740	251.720	0.070	0.090	0.070	251.727	60%	0%				
15	B5	1.60	0.10	0.10		1.590	1.580	1.580	-0.010	-0.020	-0.020	1.583	0%	20%				
16	B5	10.45	0.01	0.01		10.456	10.454	10.456	0.006	0.004	0.006	10.455	60%	0%				
17	B3	631.00	0.00	0.40		630.920	630.940	630.970	-0.080	-0.060	-0.030	630.943		20%				
18	B3	651.90	0.00	0.40		651.820	651.840	651.830	-0.080	-0.060	-0.070	651.830		20%				

Instructions:
1.Inspector mest fillout the yellow area.
2. The table will automatically calculate the data in green area.

中鋼鋁業股份有限公司
C. S. ALUMINIUM CORPORATION

品質證明書
TEST CERTIFICATE

高雄市小港區東林路17號
NO. 17, DONGLIN RD., SIAOGANG DIST., KAOHSIUNG(812), TAIWAN
TEL: 886-7-8718666-6532 FAX: 886-7-8721967

控制號碼：M0043 0070

客戶名稱 SOLD TO	七合鋁業有限公司			產品名稱 PRODUCT	AL COIL SHEET
				應收憑單號碼 AR. NO.	AR2305000000917
規格名稱 SPEC.	JIS H4000 A5052P-H32 GFQ1			客戶編號 CUSTOMER NO.	85892869
				交運日期 SHIPPING DATE	MAY.19,2023
檢驗 INSP.	CAC MILL INSPECTION	T/C	1/0	客戶訂單編號 CUST. ORDER NO.	JA2740K01

| | | | | |

測試報告
Test Report

號碼(No.): EKR23600176　　日期(Date): 09-Jun-2023　　

中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as)：

送樣廠商(Sample Submitted By)	:	中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
樣品名稱(Sample Name)	:	ALUMINIUM PLATE /SHEET (鋁板/片)
樣品型號(Style/Item No.)	:	ALUMINIUM ALLOY 5052

==========

收件日(Sample Receiving Date)	:	02-Jun-2023
測試期間(Testing Period)	:	02-Jun-2023 to 09-Jun-2023

測試需求(Test Requested) : 依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages.)

結　　論(Conclusion) : 根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。 (Based on the performed tests on submitted sample(s), the test results of Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP comply with the limits as set by RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU.)

報告簽署人/張伯睿 博士/部經理
Ray Chang, Ph.D./ Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
化學實驗室-高雄/Chemical Laboratory-Kaohsiung

CHECK REPORT
PIN CODE: B5B6BC54

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測試報告
Test Report

中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

測試部位敘述 (Test Part Description)

No.1 : 銀色金屬 (SILVER COLORED METAL)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
鎘 (Cd) (Cadmium (Cd))	參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-5: 2013, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	100
鉛 (Pb) (Lead (Pb))		mg/kg	2	10.3	1000
汞 (Hg) (Mercury (Hg))	參考IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析。(With reference to IEC 62321-4: 2013+ AMD1: 2017, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	1000
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.	-
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	n.d.	-
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	n.d.	-
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	n.d.	-
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	n.d.	-
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	n.d.	-
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	n.d.	-
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	n.d.	-
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	n.d.	-
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	n.d.	-
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	n.d.	1000

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中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result) No.1	限值 (Limit)
一溴聯苯醚 (Monobromodiphenyl ether)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	n.d.	-
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	n.d.	-
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	n.d.	-
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	n.d.	-
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	n.d.	-
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	n.d.	-
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	n.d.	-
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	n.d.	-
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	n.d.	-
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	n.d.	-
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	n.d.	1000
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	n.d.	1000

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備註(Note)：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻。(The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.)
6. 除非另有說明，參照ILAC-G8:09/2019，採用簡單二元(w=0)允收規則進行符合性判定；根據此規則，符合性結果之判定係以測試結果與限值做比較。(Unless otherwise stated , the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019. According to this rule, the judgement of conformity is based on the comparing test results with limits.)

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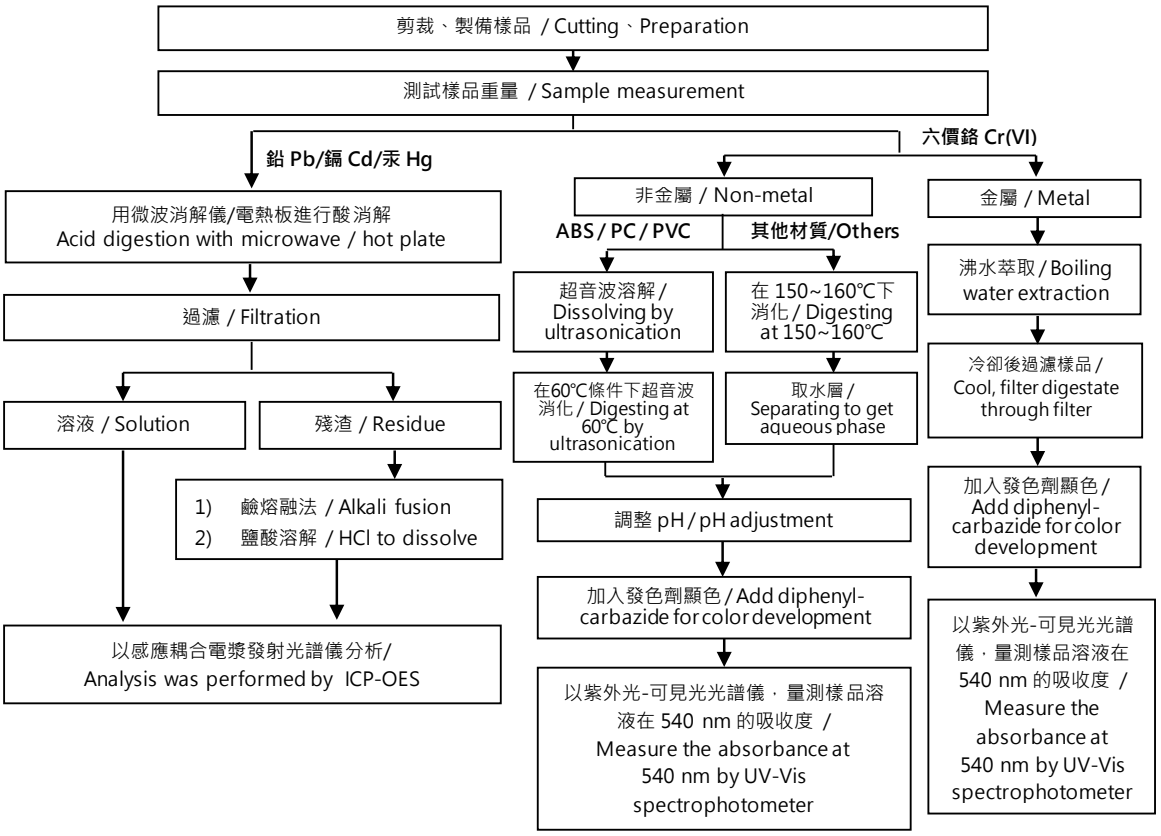
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

重金屬流程圖 / Analytical flow chart of heavy metal

根據以下的流程圖之條件，樣品已完全溶解。（六價鉻測試方法除外）
These samples were dissolved totally by pre-conditioning method according to below flow chart.
（Cr^{6+} test method excluded）



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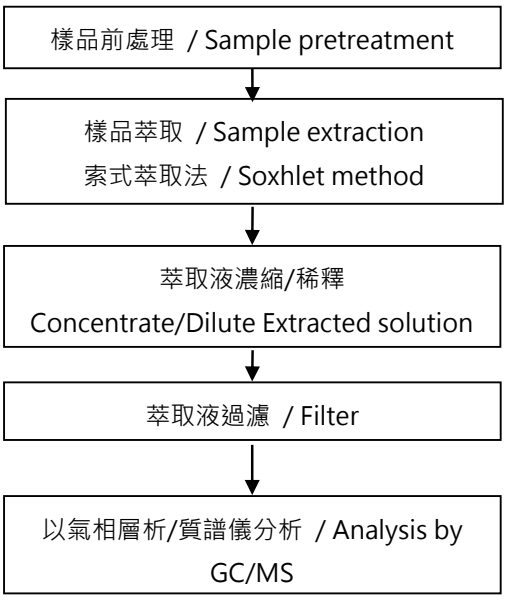
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

多溴聯苯/多溴聯苯醚 分析流程圖 / PBB/PBDE analytical FLOW CHART



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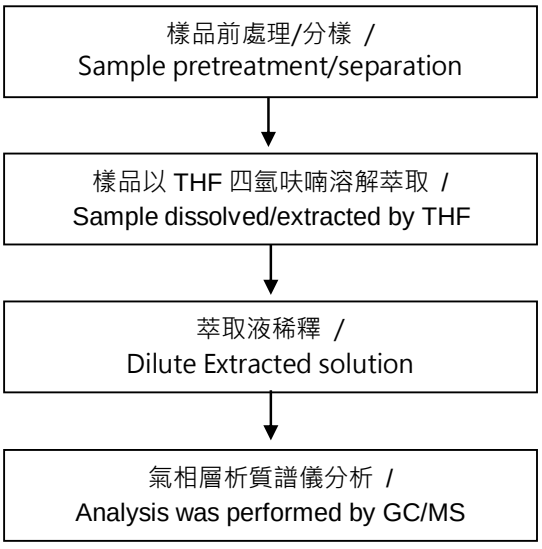
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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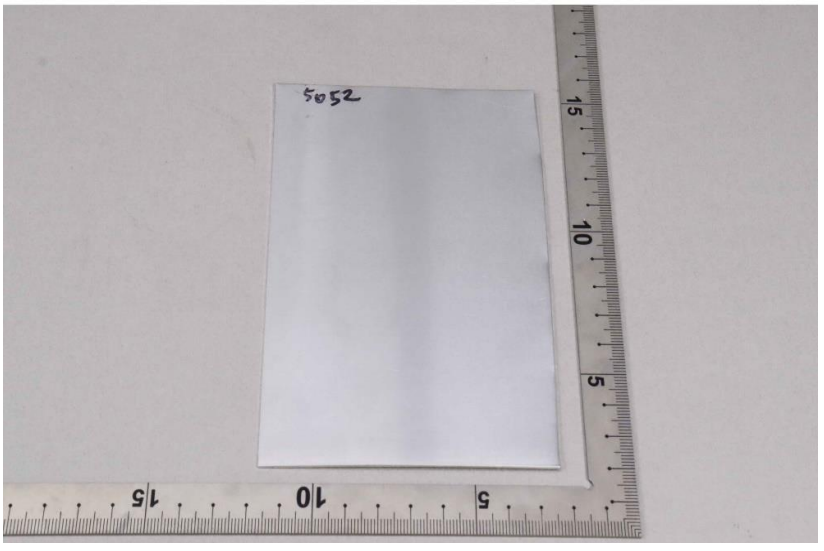
測試報告
Test Report

中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

*** 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. ***
(The tested sample / part is marked by an arrow if it's shown on the photo.)

EKR23600176



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Test Report

中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as)：

送樣廠商(Sample Submitted By)	:	中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
樣品名稱(Sample Name)	:	ALUMINIUM PLATE /SHEET (鋁板/片)
樣品型號(Style/Item No.)	:	ALUMINIUM ALLOY 5052

==========

收件日(Sample Receiving Date)	:	02-Jun-2023
測試期間(Testing Period)	:	02-Jun-2023 to 09-Jun-2023

測試需求(Test Requested) : 依據客戶指定，測試鹵素-氟、氯、溴、碘。 (As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the submitted sample.)

測試結果(Test Results) : 請參閱下一頁 (Please refer to following pages).

報告簽署人/張伯睿 博士/部經理
Ray Chang, Ph.D./ Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
化學實驗室-高雄/Chemical Laboratory-Kaohsiung

PIN CODE: 33B40F14

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測試報告
Test Report

中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

測試部位敘述 (Test Part Description)

No.1 : 銀色金屬 (SILVER COLORED METAL)

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)
				No.1
氟 (F) (Fluorine (F)) (CAS No.: 14762-94-8)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.
氯 (Cl) (Chlorine (Cl)) (CAS No.: 22537-15-1)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.
溴 (Br) (Bromine (Br)) (CAS No.: 10097-32-2)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.
碘 (I) (Iodine (I)) (CAS No.: 14362-44-8)	參考BS EN 14582: 2016，以離子層析儀分析。(With reference to BS EN 14582: 2016, analysis was performed by IC.)	mg/kg	50	n.d.

備註(Note)：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出)；小於MDL / Less than MDL

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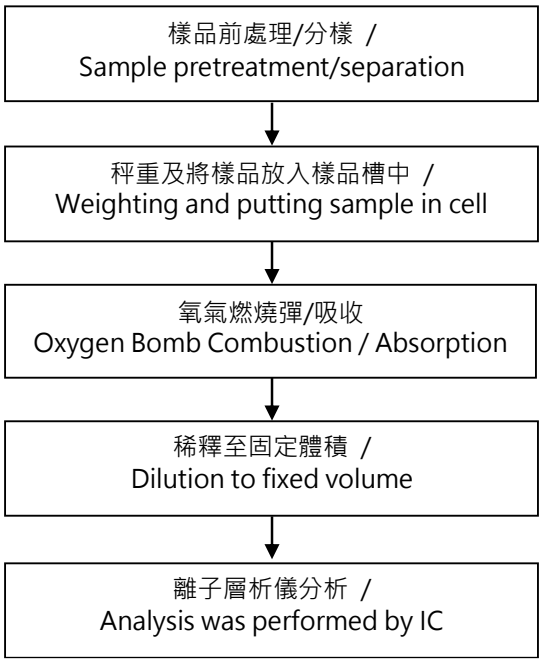
中鋼鋁業股份有限公司 (C.S. ALUMINIUM CORPORATION)
高雄市小港區東林路17號 (NO.17 TUNG LIN ROAD ,HSIAOKANG DISTRICT, KAOHSIUNG CITY)

鹵素分析流程圖 / Analytical flow chart of Halogen



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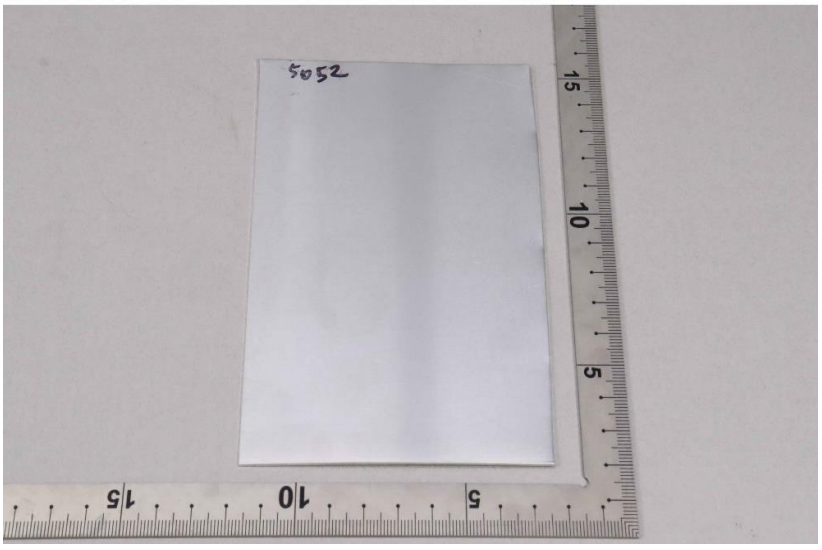

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測試報告

號碼: ETR23101433　　日期: 11-Jan-2023　　

三利金屬有限公司
新北市三重區光復路二段141號

以下測試樣品係由申請廠商所提供及確認：

送樣廠商	:	三利金屬有限公司
樣品名稱	:	1215MS/Y08MnS

==========

收件日	:	05-Jan-2023
測試期間	:	05-Jan-2023 to 11-Jan-2023

測試需求　:　依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。

測試結果　:　請參閱下一頁。

結　論　:　根據客戶所提供的樣品，其鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP的測試結果符合RoHS 2011/65/EU Annex II暨其修訂指令(EU) 2015/863之限值要求。

Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

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PIN CODE: 771DBE57

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三利金屬有限公司
新北市三重區光復路二段141號

測試部位敘述

No.1 : 銀色金屬

測試結果

測試項目	測試方法	單位	MDL	結果 No.1	限值
鎘 (Cd) (CAS No.: 7440-43-9)	參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。	mg/kg	2	n.d.	100
鉛 (Pb) (CAS No.: 7439-92-1)	參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。	mg/kg	2	n.d.	1000
汞 (Hg) (CAS No.: 7439-97-6)	參考IEC 62321-4: 2013+ AMD1: 2017，以感應耦合電漿發射光譜儀分析。	mg/kg	2	n.d.	1000
六價鉻 Cr(VI) (CAS No.: 18540-29-9) (#2)	參考IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。	μg/cm²	0.1	n.d.	-
一溴聯苯	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。	mg/kg	5	n.d.	-
二溴聯苯		mg/kg	5	n.d.	-
三溴聯苯		mg/kg	5	n.d.	-
四溴聯苯		mg/kg	5	n.d.	-
五溴聯苯		mg/kg	5	n.d.	-
六溴聯苯		mg/kg	5	n.d.	-
七溴聯苯		mg/kg	5	n.d.	-
八溴聯苯		mg/kg	5	n.d.	-
九溴聯苯		mg/kg	5	n.d.	-
十溴聯苯		mg/kg	5	n.d.	-
多溴聯苯總和		mg/kg	-	n.d.	1000
一溴聯苯醚		mg/kg	5	n.d.	-
二溴聯苯醚		mg/kg	5	n.d.	-
三溴聯苯醚		mg/kg	5	n.d.	-
四溴聯苯醚		mg/kg	5	n.d.	-
五溴聯苯醚		mg/kg	5	n.d.	-
六溴聯苯醚		mg/kg	5	n.d.	-
七溴聯苯醚		mg/kg	5	n.d.	-
八溴聯苯醚		mg/kg	5	n.d.	-
九溴聯苯醚		mg/kg	5	n.d.	-
十溴聯苯醚		mg/kg	5	n.d.	-
多溴聯苯醚總和		mg/kg	-	n.d.	1000

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三利金屬有限公司
新北市三重區光復路二段141號

測試項目	測試方法	單位	MDL	結果	限值
				No.1	
鄰苯二甲酸丁苯甲酯 (BBP) (CAS No.: 85-68-7)	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。	mg/kg	50	n.d.	1000
鄰苯二甲酸二丁酯 (DBP) (CAS No.: 84-74-2)	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。	mg/kg	50	n.d.	1000
鄰苯二甲酸二異丁酯 (DIBP) (CAS No.: 84-69-5)	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。	mg/kg	50	n.d.	1000
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (CAS No.: 117-81-7)	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。	mg/kg	50	n.d.	1000

備註：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出)；小於 MDL
4. "-" = 無規格值
5. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻.
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻.
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻.
6. 除非另有說明，參照ILAC-G8:09/2019，採用簡單二元(w=0)允收規則進行符合性判定；根據此規則，符合性結果之判定係以測試結果與限值做比較。

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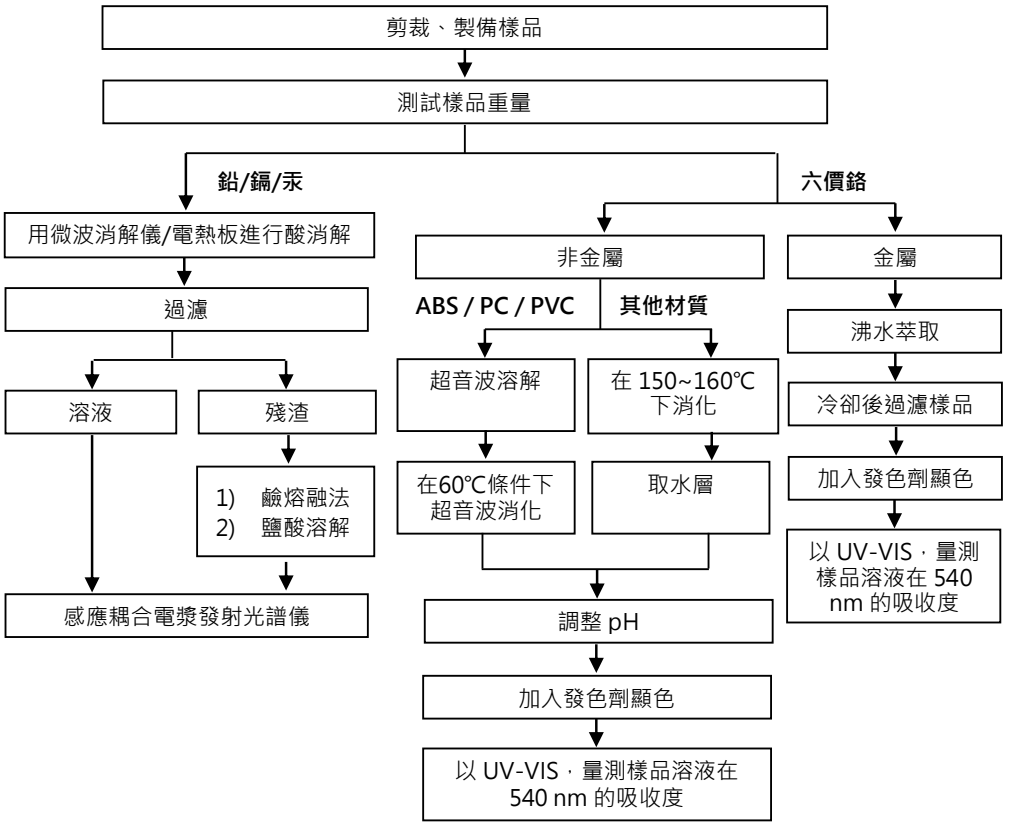
三利金屬有限公司
新北市三重區光復路二段141號

重金屬流程圖

根據以下的流程圖之條件，樣品已完全溶解。（六價鉻測試方法除外）



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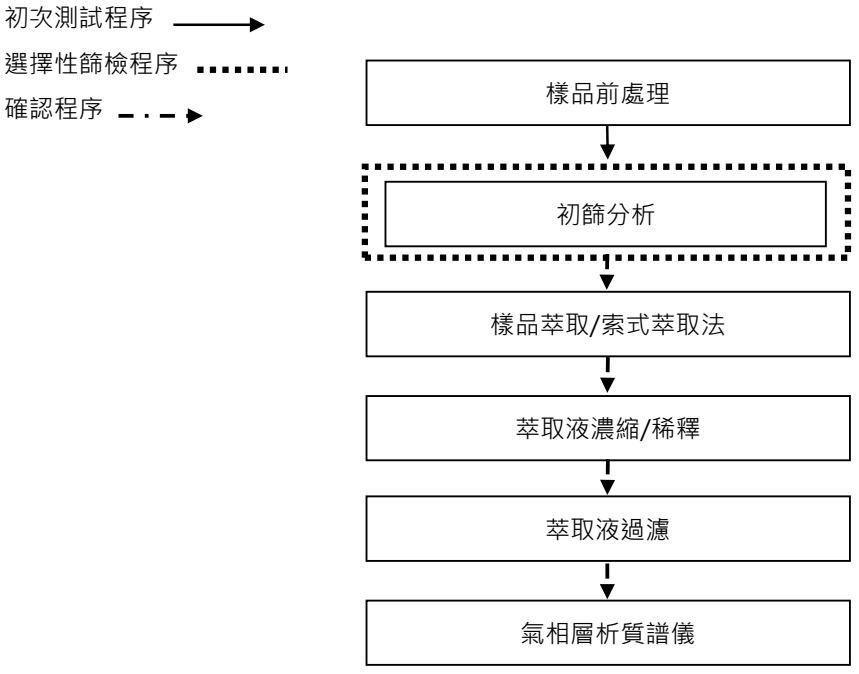
多溴聯苯/多溴聯苯醚分析流程圖



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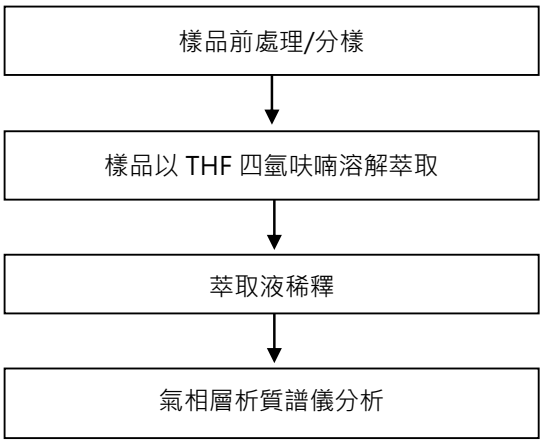
三利金屬有限公司
新北市三重區光復路二段141號

可塑劑分析流程圖

【測試方法: IEC 62321-8】



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*** 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. ***

ETR23101433



** 報告結尾 **

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物 質 安 全 資 料 表

一、物品與廠商資料

物品名稱：碳鋼（CARBON-STEEL）	
物品編號：1215MS	
供應商名稱：三利金屬有限公司	地址：新北市三重區光復路二段 141 號
緊急聯絡電話：（02）2995-9192	傳真電話：（02）2995-8864

二、成分辨識資料

純物質：鐵

中英文名稱：碳鋼（CARBON STEEL）	
物質成分（成分百分比）：	
Fe（鐵）：	98.147
C（碳）：	0.1
Si（矽）：	0.03
Mn（錳）：	1.26
P（磷）：	0.067
S（硫）：	0.37
N（氮）：	0.01
Pb（鉛）：	0.01
Al（鋁）：	0.006

混合物

化學性質		
危害物質成分之中英文名稱	濃度或濃度範圍（PPM）	危害物質分類及圖式
六價鉻 Hexavalent Chromium Cr（VI）	N/A	雜質
鎘 Cadmium（Cd）	N/A	雜質
汞 Mercury（Hg）	N/A	雜質
鉛 Lead（Pb）	N/A	雜質

三、危害辨識資料

最重要危害效應	健康危害效應： 1、常溫下不易分解，鐵在固體下對人體不會有危害，離子狀態下不會污染環境，因地表岩石幾乎都含鐵。 2、碳鋼內的雜質在固體狀態不會分解，污染環境。
	環境影響：不可隨便丟棄，無法在自然條件下分解，易生鏽氧化污染環境。
	物理性及化學性危害：固體，可溶於強酸、強鹼後污染環境。
	特殊危害：目前沒有發現有特殊危害。
主要症狀：無。	
物品危害分類：目前沒有分類。	

四、急救措施

不同暴露途徑之急救方法：

- 吸入：常溫固態不會吸入。
- 皮膚接觸：無影響，小心鐵屑劃傷皮膚。
- 眼睛接觸：燃燒狀態下才會刺激眼睛，請立即就醫。
- 食入：立即就醫。

最重要症狀及危害效應：隨便丟棄會對環境排水系統、河流及海洋造成環境污染，請務必做好回收。

對急救人員之防護：燃燒狀態下，急救人員要穿著高溫防護服裝。

對醫師之提示：受傷立即包紮手術。

五、滅火措施

適用滅火劑：泡沫、CO2、化學乾粉、沙土、噴水。

滅火時可能遭遇之特殊危害：燙傷。

特殊滅火程序：消防人員應穿著防高溫服，選用滅火劑滅火。

消防人員之特殊防護設備：防護服。

六、洩漏處理方法

個人應注意事項：常溫下不易分解，在強酸或高溫下會分解。

環境注意事項：不可隨意丟棄，應通知環保人員處理。

清理方法：回收再處理。

七、安全處置與儲存方法

處置：

1、於常溫乾燥、通風的地方保存，可重複回收使用。

2、不可隨便丟棄，無法在自然環境中被生物分解。

3、容易氧化生鏽。

儲存：於常溫乾燥、通風的地方保存，防止氧化或受強酸、強鹼腐蝕。

八、暴露預防措施

工程控制：

控制參數：八小時日時量平均容許濃度／短時間時量平均容許濃度／最高容許濃度：固體不揮發。

個人防護設備：

- 呼吸防護：常溫下不用防護。
- 手部防護：常溫下不用防護，但工作時需佩戴手套避免受金屬割傷。
- 眼睛防護：常溫下不用防護。
- 皮膚及身體防護：常溫下不用防護，但足部需穿著安全鞋避免不慎受重物壓傷。

九、物理及化學性質

物質狀態：固體	形狀：可隨意成型
顏色：銀灰色	氣味：無味
分解溫度：1,538℃	
密度：7.89g/cm^3	

十、安定性及反應性

安定性：安定
特殊狀況下可能之危害反應：燃燒時可能會產生灼熱的光。
應避免之狀況：避免高溫焚化。
應避免之物質：強酸、強鹼。
危害分解物：在強酸溶解的狀態下，有害物質才會分解。

十一、毒性資料

急毒性：沒有證據顯示有毒。
局部效應：沒有證據顯示有毒。
致敏感性：沒有證據顯示有毒，不會對人體有敏感性。
慢毒性或長期毒性：沒有證據顯示有毒。

十二、生態資料

可能之環境影響／環境流佈： ● 隨便丟棄會對環境排水系統、河流及海洋造成環境污染，請務必做好回收。 ● 愈強酸、強鹼可發生氧化或分解。 ● 鉛離子對水中生物有毒。 ● 鉛離子生物蓄積性，以貝類為顯著。

十三、廢棄處置方法

廢棄處置方法：集中回收再利用

十四、運送資料

國際運送規定： 1、包裝運輸，不可暴露在空氣中，以防氧化。 2、不可和強酸、強鹼混放在一起。
特殊運送方法及注意事項：防止包裝破損。

十五、法規資料

適用法規：勞工安全衛生設施規則

十六、其它資料

參考文獻	CHEMINFO 資料庫，CCINFO 光碟，2000-3 RETCS 資料庫，TOMES PLUS 光碟，VOL.45，2000 HSDB 資料庫，TOMES PLUS 光碟，VOL.45，2000 Material Safety Date Sheets，Genium Publishing Corporation，1997
製表單位	名稱：三利金屬有限公司
	地址：新北市三重區光復路二段 141 號
製 表 人	劉建華
製表日期	2020.01.15

測試報告
Test Report

號碼(No.): ETR23200141　　日期(Date): 07-Feb-2023　　

樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

以下測試樣品係由申請廠商所提供及確認 (The following sample(s) was/were submitted and identified by the applicant as)：

送樣廠商(Sample Submitted By)　：　樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
樣品名稱(Sample Name)　：　三價藍鋅五金扣件

==========

收件日(Sample Receiving Date)　：　01-Feb-2023
測試期間(Testing Period)　：　01-Feb-2023 to 07-Feb-2023

測試需求(Test Requested)　：　依據客戶指定，參考RoHS 2011/65/EU Annex II及其修訂指令(EU) 2015/863測試鎘、鉛、汞、六價鉻、多溴聯苯、多溴聯苯醚, DBP, BBP, DEHP, DIBP。 (As specified by client, with reference to RoHS 2011/65/EU Annex II and amending Directive (EU) 2015/863 to determine Cadmium, Lead, Mercury, Cr(VI), PBBs, PBDEs, DBP, BBP, DEHP, DIBP contents in the submitted sample(s).)

測試結果(Test Results)　：　請參閱下一頁 (Please refer to following pages.)

Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

CHECK REPORT
PIN CODE: 503FEC50

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測試報告
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新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

測試部位敘述 (Test Part Description)

No.1 : 銀藍色金屬鍍層 (PLATING LAYER OF SILVER-BLUE METAL)
No.2 : 銀藍色金屬 (含鍍層) (SILVER- BLUE METAL (INCLUDING THE PLATING LAYER))

測試結果 (Test Results)

測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	
				No.1	No.2
鎘 (Cd) (Cadmium (Cd))	酸洗脫鍍層，參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(IEC 62321-5: 2013 application of modified digestion by surface etching, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	---
鉛 (Pb) (Lead (Pb))	酸洗脫鍍層，參考IEC 62321-5: 2013，以感應耦合電漿發射光譜儀分析。(IEC 62321-5: 2013 application of modified digestion by surface etching, analysis was performed by ICP-OES.)	mg/kg	2	5.90	---
汞 (Hg) (Mercury (Hg))	酸洗脫鍍層，參考IEC 62321-4: 2013+AMD1: 2017，以感應耦合電漿發射光譜儀分析。(IEC 62321-4: 2013+AMD1: 2017 application of modified digestion by surface etching, analysis was performed by ICP-OES.)	mg/kg	2	n.d.	---
六價鉻 (Hexavalent Chromium) Cr(VI) (#2)	參考IEC 62321-7-1: 2015，以紫外光-可見光分光光度計分析。(With reference to IEC 62321-7-1: 2015, analysis was performed by UV-VIS.)	μg/cm²	0.1	n.d.	---

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測試項目 (Test Items)	測試方法 (Method)	單位 (Unit)	MDL	結果 (Result)	
				No.1	No.2
一溴聯苯 (Monobromobiphenyl)	參考IEC 62321-6: 2015，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-6: 2015, analysis was performed by GC/MS.)	mg/kg	5	---	n.d.
二溴聯苯 (Dibromobiphenyl)		mg/kg	5	---	n.d.
三溴聯苯 (Tribromobiphenyl)		mg/kg	5	---	n.d.
四溴聯苯 (Tetrabromobiphenyl)		mg/kg	5	---	n.d.
五溴聯苯 (Pentabromobiphenyl)		mg/kg	5	---	n.d.
六溴聯苯 (Hexabromobiphenyl)		mg/kg	5	---	n.d.
七溴聯苯 (Heptabromobiphenyl)		mg/kg	5	---	n.d.
八溴聯苯 (Octabromobiphenyl)		mg/kg	5	---	n.d.
九溴聯苯 (Nonabromobiphenyl)		mg/kg	5	---	n.d.
十溴聯苯 (Decabromobiphenyl)		mg/kg	5	---	n.d.
多溴聯苯總和 (Sum of PBBs)		mg/kg	-	---	n.d.
一溴聯苯醚 (Monobromodiphenyl ether)		mg/kg	5	---	n.d.
二溴聯苯醚 (Dibromodiphenyl ether)		mg/kg	5	---	n.d.
三溴聯苯醚 (Tribromodiphenyl ether)		mg/kg	5	---	n.d.
四溴聯苯醚 (Tetrabromodiphenyl ether)		mg/kg	5	---	n.d.
五溴聯苯醚 (Pentabromodiphenyl ether)		mg/kg	5	---	n.d.
六溴聯苯醚 (Hexabromodiphenyl ether)		mg/kg	5	---	n.d.
七溴聯苯醚 (Heptabromodiphenyl ether)		mg/kg	5	---	n.d.
八溴聯苯醚 (Octabromodiphenyl ether)		mg/kg	5	---	n.d.
九溴聯苯醚 (Nonabromodiphenyl ether)		mg/kg	5	---	n.d.
十溴聯苯醚 (Decabromodiphenyl ether)		mg/kg	5	---	n.d.
多溴聯苯醚總和 (Sum of PBDEs)		mg/kg	-	---	n.d.
鄰苯二甲酸丁苯甲酯 (BBP) (Butyl benzyl phthalate (BBP))	參考IEC 62321-8: 2017，以氣相層析儀/質譜儀分析。(With reference to IEC 62321-8: 2017, analysis was performed by GC/MS.)	mg/kg	50	---	n.d.
鄰苯二甲酸二丁酯 (DBP) (Dibutyl phthalate (DBP))		mg/kg	50	---	n.d.
鄰苯二甲酸二(2-乙基己基)酯 (DEHP) (Di-(2-ethylhexyl) phthalate (DEHP))		mg/kg	50	---	n.d.
鄰苯二甲酸二異丁酯 (DIBP) (Diisobutyl phthalate (DIBP))		mg/kg	50	---	n.d.

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測試報告
Test Report

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新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

備註(Note)：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出) ; 小於MDL / Less than MDL
4. "-" = Not Regulated (無規格值)
5. "---" = Not Conducted (未測試項目)
6. (#2) =
   a. 當六價鉻結果大於0.13 μg/cm²，表示樣品表層含有六價鉻。(The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm². The sample coating is considered to contain Cr(VI).)
   b. 當六價鉻結果為n.d. (濃度小於0.10 μg/cm²)，表示表層不含六價鉻。(The sample is negative for Cr(VI) if Cr(VI) is n.d. (concentration less than 0.10 μg/cm²). The coating is considered a non-Cr(VI) based coating)
   c. 當六價鉻結果介於 0.10 及 0.13 μg/cm² 時，無法確定塗層是否含有六價鉻。(The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive - unavoidable coating variations may influence the determination.)

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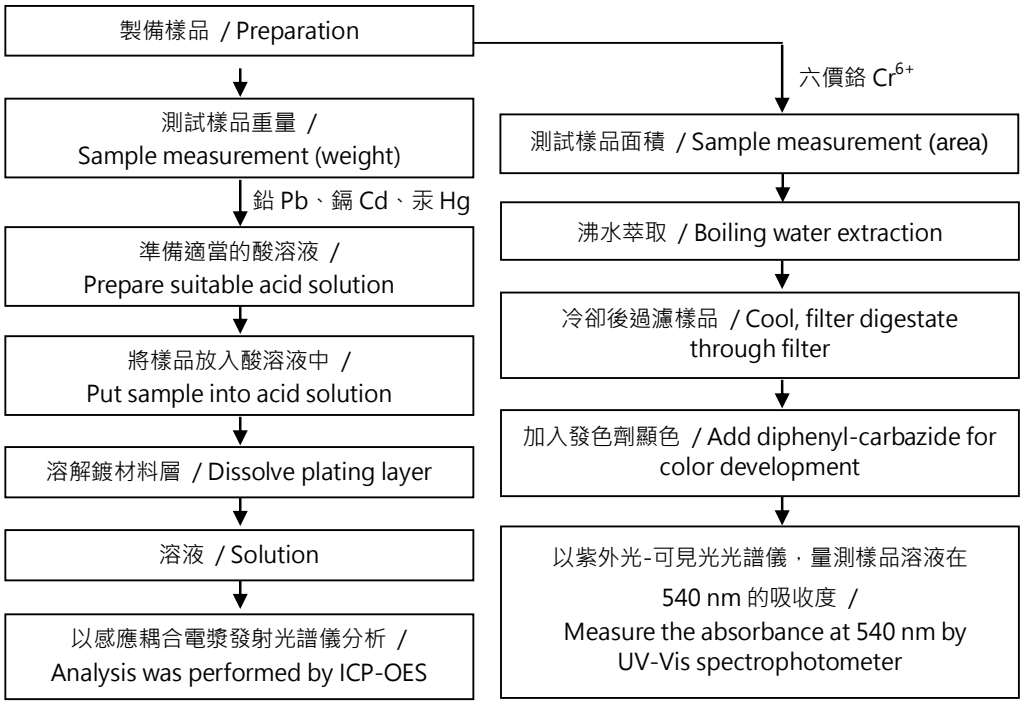
測試報告
Test Report

樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

鍍層重金屬測試流程圖 / Flow chart of stripping method for metal analysis

根據以下的流程圖之條件，樣品之外部鍍層已完全溶解。(六價鉻測試方法除外) / The plating layer of samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr^{6+} test method excluded)



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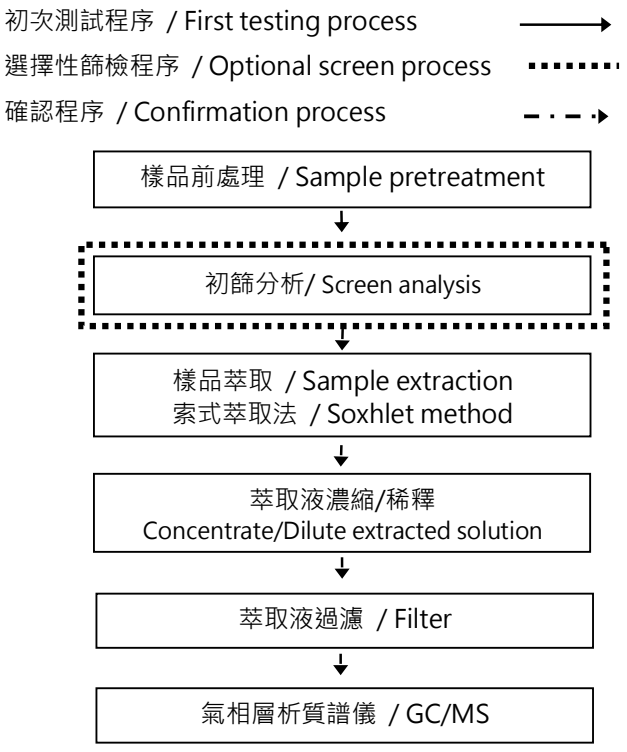
樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

多溴聯苯/多溴聯苯醚分析流程圖 / Analytical flow chart - PBBs/PBDEs



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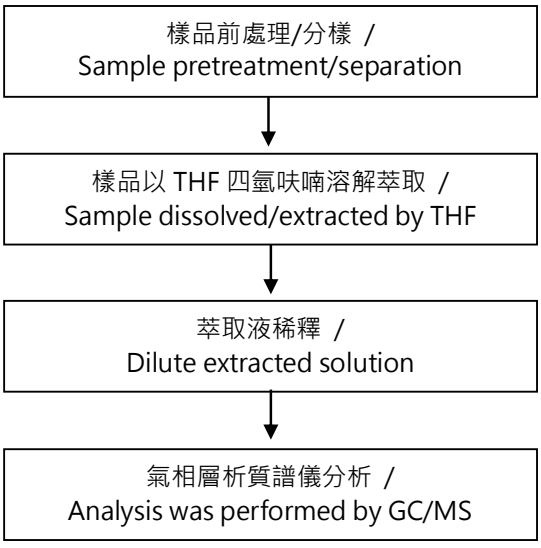
樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

可塑劑分析流程圖 / Analytical flow chart - Phthalate

【測試方法/Test method: IEC 62321-8】



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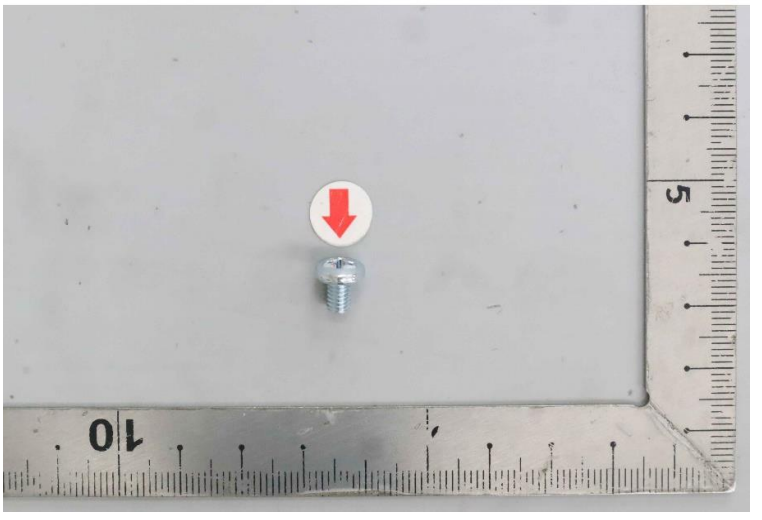
測試報告
Test Report

號碼(No.): ETR23200141　　日期(Date): 07-Feb-2023　　

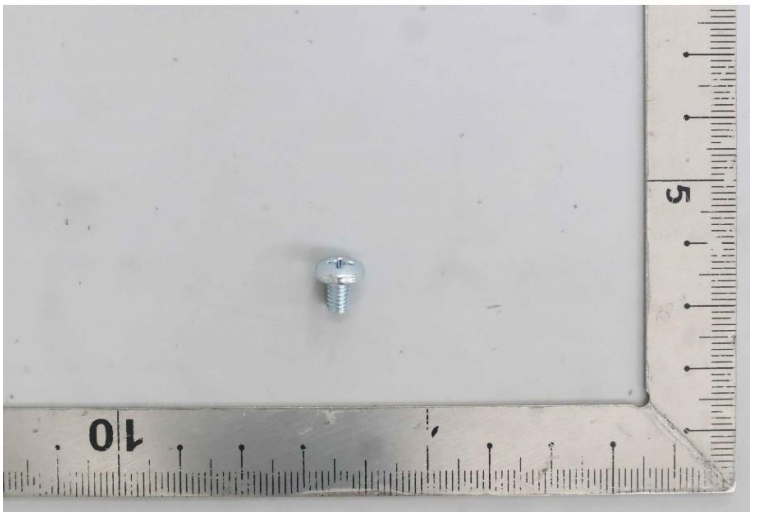
樺德鍍金有限公司 (GOLD-PLATED CO., LTD. OF HUA DE)
新北市新莊區化成路403巷34號 (NO. 34, LANE 403, HUACHENG RD., SINJHUANG DISTRICT, NEW TAIPEI CITY 24253, TAIWAN, R. O. C.)

*** 照片中如有箭頭標示，則表示為實際檢測之樣品/部位. ***
(The tested sample / part is marked by an arrow if it's shown on the photo.)

ETR23200141　NO.1



ETR23200141　NO.2



** 報告結尾 (End of Report) **

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測試報告

號碼: ETR22800117　　日期: 05-Aug-2022　　

亞億精密有限公司
新北市三重區中正北路530巷43號1樓

以下測試樣品係由申請廠商所提供及確認：

送樣廠商　：　亞億精密有限公司
樣品名稱　：　鉚釘

==========

收件日　：　01-Aug-2022
測試期間　：　01-Aug-2022 to 05-Aug-2022

測試需求　：　依據客戶指定，測試鹵素-氟、氯、溴、碘。

測試結果　：　請參閱下一頁。

Troy Chang / Department Manager
Signed for and on behalf of
SGS TAIWAN LTD.
Chemical Laboratory - Taipei

CHECK REPORT
PIN CODE: 1E76641A

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亞億精密有限公司
新北市三重區中正北路530巷43號1樓

測試部位敘述

No.1 : 銀藍色金屬

測試結果

測試項目	測試方法	單位	MDL	結果
				No.1
氟 (F) (CAS No.: 14762-94-8)	參考BS EN 14582: 2016，以離子層析儀分析。	mg/kg	50	n.d.
氯 (Cl) (CAS No.: 22537-15-1)	參考BS EN 14582: 2016，以離子層析儀分析。	mg/kg	50	n.d.
溴 (Br) (CAS No.: 10097-32-2)	參考BS EN 14582: 2016，以離子層析儀分析。	mg/kg	50	n.d.
碘 (I) (CAS No.: 14362-44-8)	參考BS EN 14582: 2016，以離子層析儀分析。	mg/kg	50	n.d.

備註：

1. mg/kg = ppm；0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit (方法偵測極限值)
3. n.d. = Not Detected (未檢出)；小於 MDL

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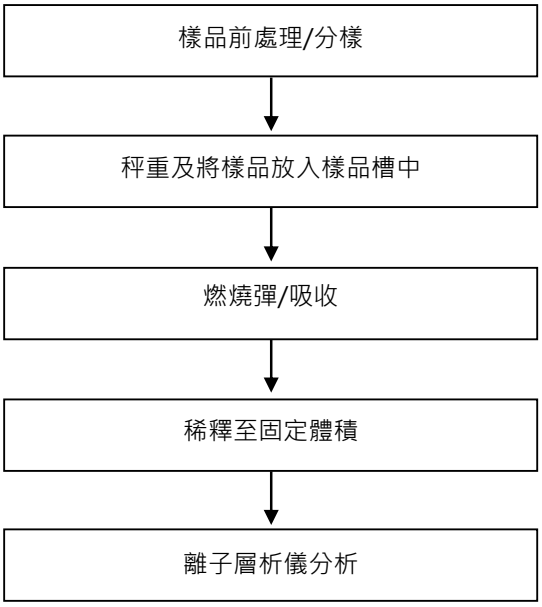
新北市三重區中正北路530巷43號1樓

鹵素分析流程圖



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測試報告

號碼: ETR22800117　　日期: 05-Aug-2022　　

亞億精密有限公司
新北市三重區中正北路530巷43號1樓

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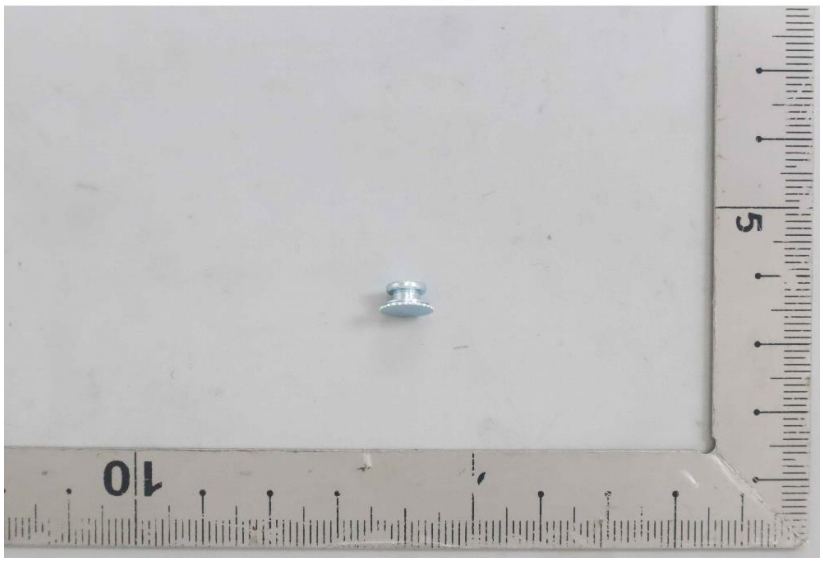
ETR22800117



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安 全 資 料 表

一，物品與廠商資料

化學品名稱：鋅
建議用途及限制使用：使用於電鍍、熔鑄…等
製造商、輸入者或供應商名稱：廣泉國際貿易有限公司 製造商或供應商地址：新北市林口區湖北里後湖 17－4 號 製造商或供應商電話：(02) 2601－5353
緊急聯絡電話／傳真電話：(02) 2601－5353／ (02) 2601－5252

二，危害辨識資料

化學品危害分類：
標示內容：  象徵符號： 警示語：警告 危害警告訊息：- 危害防範措施：置於通風良好處

三，成分辨識資料

純物質：

中英文名稱：鋅(ZINC)
同義名稱：無
化學文摘社登記號碼 (CAS No)：7440-66-6
危害成分 (成分百分比)：98.5%以上

混合物：

化學性質：		
危害物質成分之中英文名稱	化學文摘社登記號碼 (CAS No.)	濃度或濃度範圍 (成分百分比)
ZINC	7440-66-6	>99.995%

四，急救措施

不同暴露途徑之急救方法： 吸　　入：遠離鋅塵。鋅粉塵可能有刺激性 皮膚接觸：鋅邊極為銳利，處置不當易割傷 眼睛接觸：鋅粉塵可能對眼睛有刺激性 食　　入：不適用，不適合用藉由此途徑暴露
最重要症狀及危害效應：無嚴重之效應產生
對急救人員之防護：一
對醫師之提示：

五，滅火措施

適用滅火劑：一
滅火時可能遭遇之特殊危害： 可燃性不易燃。當加熱分解時可能演變氧化鋅。非易燃。無火災或爆炸危險。
特殊滅火程序： 火災和爆炸滅火不易燃。
消防人員之特殊防護裝備：

安 全 資 料 表

六，洩漏處理方法

個人應注意事項：應依建議穿著個人防護具
環境注意事項：鋅為固體狀，不需考慮洩漏溢出或釋出等因素
清理方法：可以用清掃或真空吸塵方式清理以避免粉塵

七，安全處置與儲存方法

處置：鋅之鋅邊極為銳利，處理時建議穿著防護手套。
儲存：儲存環境建議保持相對濕度 60%以下，溫度 30℃以下避免氧化，但若儲存場所不符建議條件並無影響安全之疑慮。

八，暴露預防措施

工程控制：一般排氣裝置
控制參數： 八小時日時量平均容許濃度（PEL－TWA）： 短時間時量平均容許濃度（PEL－STEL）： 最高容許濃度（PEL－Ceiling）： 生物指標（BEI）：
個人防護設備： 呼吸防護：如果有粉塵，請著符合國家標準之防護呼吸具。 手部防護：鋅邊緣相當銳利，作業時需戴綿紗或皮革手套，避免被割傷。 眼睛防護：安全護目鏡，護面罩，洗眼設備 皮膚及身體防護：乾淨衣服或著防護衣。
衛生措施： 工作場所嚴禁抽煙或飲食。維持良好之內務管理。

九，物理及化學性質

物質狀態：金屬	形狀：固體
顏色：	氣味：無味
易燃性（固體、氣體）：	沸點／沸點範圍：
分解溫度：	閃火點：不適用℉不適用℃ 測試方法：
自燃溫度：不適用	爆炸界限：
熔點：	蒸氣密度：—
密度：	溶解度：不可溶解的

十，安定性及反應性

安定性：正常狀況下具安定性。
特殊狀況下可能之危害反應：無資料
應避免之狀況：無資料
應避免之物質（或不相容物）：
危害分解物：無

十一，毒性資料

進入人體之途徑： 急毒性：一
慢毒性或長期毒性：—

十二，生態資料

生態毒性：LC50(魚類)：一
EC50(水生無脊椎動物)：一
生物濃縮係數(BCF)：一
持久性及降解性：一
生物蓄積性：一
土壤中之流動性：一
其他不良效應：防止缺染下水道

十三，廢棄處置方法

廢棄處置方法：可完全回收

十四，運送資料

聯合國編號：無
聯合國運輸名稱：無
運輸危害分類：無
包裝類別：一
海洋污染物（是／否）：無
特殊運送方法及注意事項：一

十五，法規資料

適用法規：

十六，其他資料

參考文獻	
製表者單位	名稱：廣泉國際貿易有限公司
	地址：新北市林口區湖北里後湖 17－4 號 電話：(02) 2601－5353
製表日期	108.06.01
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