

# 承认书

Approval Sheet

客户(Customer): /

客户料号 (Cus . P/N): /

华联威料号 (HLW P/N): DS412-1611-G2A7 品名规格 (PronameSpec): D-SUB 15/M 叉锁

送样日期 (Delivery Date):2021/12/2

承认日期 (Acknowledge Date):2021/12/2

Approved No:	客	户									
	Customer										
采 购 部	品 质 部	工程部	确认								
Purchasing Dept	QC Dept	Engineering Dept	Approved By								
深均	川市华联威电-	子科技有限公司									
SHEN ZHEN S	HI HUA LIAN WEI EI	LECTRONICS TECHNOLOG	Y CO; LTD.								
业务部	品 管 部	工 程 部	核准								
Sales Dept	QC Dept	Engineering Dept	Checked By								
陈少萍	欠必锋	魏红	唐竹君								

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Http://www.hlwconn.com

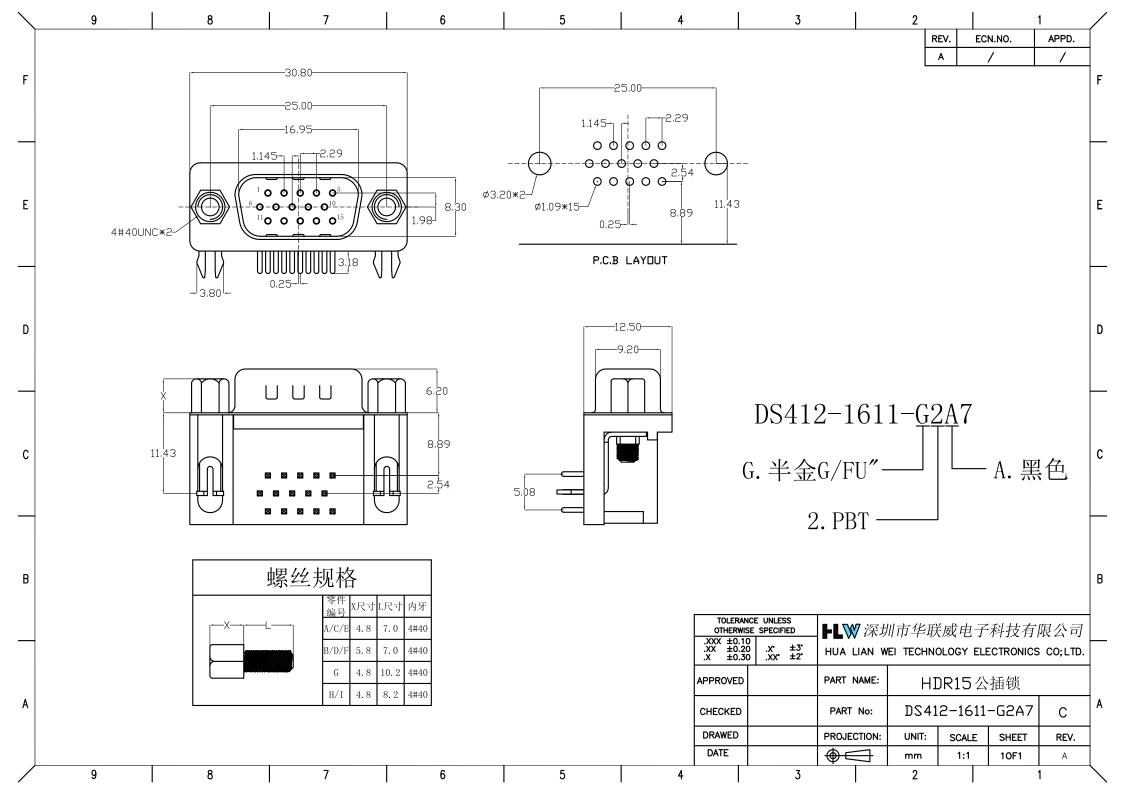


# **FLWCONN**®

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# HWCONN® 深圳市华联威电子科技有限公司

# D-SUB系列產品SPEC

	TEST ITEM	REQUIREMENT	PROCEDURE								
1	Examination of Product	Meets requirements of product drawing. No physical damage.	Visual inspection.								
2	Operating Temperature	-55°C ~+85°C									
3	Storage Temperature	-55°C ~+105°C									
	ELECTRICAL REQUIREMENT										
4	Rating Voltage	300VDC max	on any signal pin with respect to the shield								
5	Rating Current	1Ampheres DCmax	55°C, maximum ambient 85°C, maximum temperature change (ANSI/EIA 364-70, TP-70)								
6	Contact Resistance	[30] m Ohm Max(Initial) [50] m Ohm Max(Final)	Subject mated contacts assembled in housing to 20mV Max open circuit at 100mA Max. EIA-364-23.								
7	Dielectric withstanding Voltage	No flashover,No sparkover,No excess leakage,No breakdown	[500]VAC for 1minute Test between adjacent circuits of unmated connector. EIA-364-20C								
8	Insulation Resistance	[1000] M Ohm Min.	Impressed voltage 500 VDC. Test between adjacent circuits of unmated connector.  EIA-364-21C.								
9	Temperature Rising	30°C Max. Under loaded rating current	Contact series-wired, apply test current of loaded rating current to the circuit, and measure the temperature rising by probing on soldered areas of contacts, after the temperature becomes stabilized deduct ambient temperature from the measured value.								
		Mechanical Requirement									
10	Connector Mating Force	4.44kgf Max 9pin <u>7.72</u> kgf Max 15pin <u>12.71</u> kgf Max 25pin <u>17.71</u> kgf Max 37pin	Operation Speed: [25] mm/min. Measure the force required to mate connector. EIA-364-13								

11	Connector Unmating Force	0.33kgf Max         9pin         0.45kgf Max           15pin         0.79kgf Max         25pin         1.14kgf Max           37pin         1.14kgf Max         1.14kgf Max	Operation Speed: [25] mm/min.  Measure the force required to unmate connector. EIA-364-13							
12	Durability	Contact Resistance Shall be less than 40 mohms after 1000 cycles for 30 $\mu$ in gold plated,750 cycles for gold flash plated	Operation Speed: [25] mm/minute. EIA-364-09C							
13	Vibration	No discontinuity at 1 $\mu$ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46	Condition III,Method 5A,15 minute/axis ANSI/EIA-364-28							
14	Mechanical Shock	No discontinuity at 1 $\mu$ s or longer(each contact) when continuity is tested per ANSI/EIA-364-46	Subject mated connector to 50g half sine in 11 msec from shocks in the X,Y,Z axis(9 shocks total)							
15	Solder ability	At least 95% of the immersed area shall be covered with new solder	1)Temperature of fused solder: 245+5 °C. 2)Dipping time:5+0.5s EIA 364-52							
Environmental Requirements										
16	Resistance to Solder Heat	Forming resin shall not be distorted, and terminations shall not be separated.	1) Depth of dipping termination: the distance between the mounting surface and solder surface shall be 1 mm to 2mm. 2) Temperature: 260+5°C. 3) Dipping time: 5+0.5s Socket EIA 364-56							
17	Thermal Shock	No physical damage to the samples and LLCR-50 m $\Omega$ max per contact	Mated connectors exposed to 10 cycles between -55°C to 85°C, 30 minutes duration at both temperature extremes EIA 364-32							
18	Steady State Humidity	No physical damage to the samples and can pass the Dielectric Withstanding Voltage & Insulation Resistance	Expose mated connectors to a temperature of 40±2°C with relative humidity of 90-95% for 168 hours Min(seven complete cycles). Remove surface moisture and air dry for 24 hours. prior to measurement. EIA 364-31							
19	Temperature Life (Heat Aging)	Contact Resistance shall be less than 40 ohms	Mated Connector 85°C , 250 hours, EIA-364-17B.							
20	Salt Spray	Visual Inspection-No physical damageLLCR-50 m $\Omega$ max per contact	Mated connector expose to 5% salt concentration for 12 hours at temperature 35+2°C. After the test specimens shall be washed with running water and dried naturally EIA 364-26							

Product Qualification and Requalification test										
		-			Test	Group	)	_	_	_
Test or Examination	A	В	С	D	Е	F	G	Н	I	J
				Tes	t Sequ	ence	(a)			
Examination of Product	1, 7	1, 9	1, 6	1, 5	1, 5	1, 5	1, 5	1, 3	1, 3	1, 3
Contact Resistance		2, 8	2, 5	2, 4	2, 4	2, 4	2, 4			
Dielectric withstanding	3, 6									
Insulation Resistance	2, 5									
Temperature Rising								2		
Mating Force		3, 7								
Unmating Force		4, 6								
Durability		5								
Vibration			3							
Mechanical Shock			4							
Solderability										2
Resistance to Soldering									2	
Thermal Shock				3						
Humidity Temperature	4				3					
Temperature Life						3				
Salt Spray							3			
備注							古。			

核准: 唐竹君 制作人: 覃裕华



# 深圳市华联威电子科技有限公司 SHENZHENHUALIANWEIELECTRONICS CO., LTD.

# 測試報告

# TEST REPORT

產品名稱 Part Name		D-SUB15/M 叉锁	測試日期 Date of Testing	2021.12.01 2021.12.02		報告編號 Report NO		MD20211202-01			
	產品型號 Part Name	DS412-1611-G2A7	樣品數量 Qua ntity	5PCS		測試環境 ing Envir		濕度 Te	mp:18~ R.H.:499		
一.電1	生測試 ELECTRICAL	TEST									
						測試記	錄 Testin	g Result		定 dge	
序號 NO.	測試項目 Testing Item	測試條件 Tes ting Condit io ns	測試設備 Testing Equipment	規格 SPEC	1	2	3	4	5	Pass	Fail
1	Contact resis tance	Test current:100mA	DIGITAL MICROOHMMETER	30mΩ Max	16.85 m Ω	18.21 m Ω	18.36 m Ω	17.72 m Ω	19.02 m Ω	Р	
2	In sula tion resis tance	Test voltage:500VDC Operation stated:1min	ULTRA HIGH RESISTANCE METER	1000 mΩ Min	Pass	Pass	Pass	Pass	Pass	Р	
3	ICut-off current:0 5mA TBBEAKDOWN TESTERT		No discharge or flashover occur	Pass	Pass	Pass	Pass	Pass	Р		
二.機材	或特性測試 MECHANI	CAL TEST								•	
	2911 <u>2-4-7</u> 25 □	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	기나는 우수다. (#±		測試記錄 Testin		ng Result		判定 Judge		
序號 NO.	測試項目 Testing Item	測試條件 Tes ting Condit io ns	測試設備 Testing Equipment	規格 SPEC		2	3	4	5	Pass	Fail
1	Durability test	Rat e:300cycles/hour Total:750 cycles	LIFE TESTER FOR CONNECTOR	No physical damage	Pass	Pass	Pass	Pass	Pass	Р	
三.環均	竟特性測試 ENVIRON	MENTAL TEST									
序號 NO.	測試項目 Testing Item	測試條件 Tes ting Condit io ns	測試設備 Testing Equipment	規格 SPEC		測試記	錄 Testin	g Result			定 dge
NO.	Hom	res ting conditions	Equipment	01 20		2	3	4	5	Pass	Fail
1	Humidi ty- Tempera ture cycle	Temperature: 40 ± 2°C Humidity: 90~95% Duration:168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	Р	
2	Heattest	Temperature: 70 ± 2°C Duration: 168H	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	Р	
3	Cold test	Temperature: -25 ± 3°C Dura tio n: 168H	PROGRAM CONTROLLED TEMP. & HUMIDTY CHAMBER	No physical damage	Pass	Pass	Pass	Pass	Pass	Р	

4	Temperature cycling test	CONTROLLED TEMP. &I		No physical damage	Pass	Pass	Pass	Pass	Pass	Ρ		
四.物표	四.物理測試 PHYSICAL TEST											
序號 NO.	測試項目 Testing	測試條件 Tes ting Condit io ns	測試設備 Testing Equipment	規格 SPEC	測試記錄 Testing Result 判定 Judg							
	1.0	roo ting condit to he	rooting Equipment			2	3	4	5	Pass	Fail	
1	Salt spray test	Temperature: 35 ± 2°C Concentrat io n:5±1 % Duration :12H	SALT SPRAY TESTER	No Oxidation	Pass	Pass	Pass	Pass	Pass	Р		
2	Resistance to soldering heat test	Temperature: 260±5°C Duration:10±1sec	OVEN	No physical damage	Pass	Pass	Pass	Pass	Pass	Ρ		
3	Solder ability test	Temperature: 245±5°C Duration:5±0.5 sec	CONTROLLED CONSTANT-TEMP SOLDER POT	Soldering area 95%	Pass	Pass	Pass	Pass	Pass	Ρ		
	判定 Result □ 不合格(REJECT)											

核准(Approver): 欠必锋

測試(Tester): 但芬

# FLWCONN® 深圳市华联威电子科技有限公司 檢驗報告

■首件檢験	魚 口入庫檢驗 口	出貨檢	驗 口名	字退檢	驗口	退料模	魚驗 □	]其他		2021	年12月	月2日 版	次: <b>A1</b>	
料號	DS412-1611-G2	2A7	制令国	單號	,	/	送檢	單位	_	[程部	首件	製作者	裝面	I L
品名	D-SUB 15/M叉4	洲	安巨	代號		1	批	量	1		送檢時間		/	
μμ1	D 50D 10/ M/X I	火	台)	1 731/1		,	數	量	į	5PCS	確認時間 /		/	
	抽樣標準			單均	Z [	]雙次		抽样	数	AQL	CRI:0	MAJ:0.40	MIN:(	).65
M	IIL-STD-105E(II)		1	常	□加備	<b>量</b>	減量	( 5PC	CS)	ACC/REJ	0	/	/	
不良数:		CRI (	/	)	MAJ	( /	)	MIN	(	/ )	不良	早率(%)	/	
NO	檢驗項目	檢測		檢	驗 記	記錄		品管料	钊定	CDI	MAT	MDI	備注	Ē
NO.	單位:MM/G	儀器	1	2	3	4	5	AC	RE	CRI	MAJ	MIN		
	30.80±0.20	D	30.86	30.85	30.82	30.87	30.85	<b>√</b>						
	25.00±0.20	D	25.06	25.04	25.03	25.04	25.06	√						
	16.95±0.20	D	16.98	16.94	16.95	16.97	16.94	<b>√</b>						
	2.29±0.20	D	2.30	2.31	2.28	2.30	2.29	<b>√</b>						
尺	8.30±0.20	D	8.36	8.35	8.36	8.34	8.35	<b>√</b>						
寸	3.80±0.20	D	3.86	3.85	3.84	3.86	3.85	<b>√</b>						
,	6.20±0.20	D	6.23	6.25	6.26	6.25	6.24	<b>√</b>						
測	11.43±0.20	D	11.50	11.48	11.47	11.46	11.45	<b>√</b>						
<b>三</b> .	12.50±0.20	D	12.56	12.58	12.62	12.65	12.63	<b>√</b>						
量	9.20±0.20	D	9.23	9.25	9.26	9.27	9.26	<b>√</b>						
	5.08±0.20	D	5.12	5.10	5.08	5.09	5.10	<b>√</b>						
檢驗依據:	<<工程圖紙>>	□<<	檢驗規範	範>>	□<<7	承認書	>> [	樣品		其它				
檢測儀器:/	A游標卡尺 B千分尺	C厚薄	儀 D投影	ジ鏡 E	放大鏡	F顯微	g鏡 G鍇	易爐 H扌	番拔 カ	力器 I間位	文尺 J	其它		
品保判定:			合格Ac	cept	□退;	貨Reje	ect	□特須	€Wa	aive [		Sort		

审核: 刘联英

检验员: 但芬

核准: 欠必锋



# FLWCONN® 深圳市华联威电子科技有限公司

# 电镀报告表

品名:D-SUB 15/M 叉锁(端子)		版次:A.0
电镀规格:Ni40u", Sn40u", Au G/Fu"	日期:2021-08-25	页次:1/1

厂商:同华

测试设备:CMI X-射线膜厚测试仪

1、底层电镀测试(Ni)

数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	60. 5u"	OK	2021/8/25	10:20:15
2	40u″MIN	58. 3u"	OK	2021/8/25	10:20:17
3	40u"MIN	67. 5u"	OK	2021/8/25	10:20:19
4	40u″MIN	62. 4u"	OK	2021/8/25	10:20:21

### 2、表层电镀测试(Sn)

数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"MIN	115. 3u"	OK	2021/8/25	10:25:10
2	40u"MIN	124. 7u"	OK	2021/8/25	10:25:12
3	40u"MIN	118. 9u"	OK	2021/8/25	10:25:14
4	40u"MIN	112. 4u"	OK	2021/8/25	10:25:16

# 3、表层电镀测试(Au)

数据	测试标准	实测值	判定	测试日期	测试时间
1	0.5u"MIN	0.55u"	OK	2021/8/25	10:30:32
2	0.5u"MIN	0. 53u"	OK	2021/8/25	10:30:34
3	0.5u"MIN	0. 58u"	OK	2021/8/25	10:30:36
4	0.5u"MIN	0.59u"	OK	2021/8/25	10:30:38

核准: 欠必锋 审核: 刘联英 检验员: 但芬

# FLWCONN® 深圳市华联威电子科技有限公司

# 电镀报告表

品名: D-SUB 15/M叉锁外壳版次:A. 0电镀规格:Cu:40u"Ni:50u"MIN日期:2021/9/12页次:1/1

厂商:金和源

测试设备:CMI X-射线膜厚测试仪

# 1、底层电镀测试(Cu)

数据	测试标准	实测值	判定	测试日期	测试时间
1	40u"min	45. 3u"	OK	2021/9/12	19:55:05
2	40u″min	48. 5u"	OK	2021/9/12	19:55:57
3	40u"min	44. 2u"	OK	2021/9/12	19:56:48
4	40u″min	45. 6u″	OK	2021/9/12	19:57:31

### 2、表层电镀测试(Ni)

数据	测试标准	实测值	判定	测试日期	测试时间
1	50u″min	57. 3u"	OK	2021/9/12	19:58:12
2	50u″min	55.6u″	OK	2021/9/12	19:59:04
3	50u″min	56. 2u"	OK	2021/9/12	20:01:44
4	50u"min	58. 3u"	OK	2021/9/12	20:02:36

核准: 欠必锋 审核: 刘联英 检验员: 但芬



# 深圳市华联威电子科技有限公司

# 盐水喷雾实验报告

试验方法	盐水喷雾腐蚀试验法	参考资料	MIL-STD-1216
METHOD	NEUTRL SALT SPRAY CORROSION TEST	REF	MIL 01D 1210
安白	/	试验起始日期	2021年12月01日 20:00 时起
谷尸	客户 /		2021年12月02日 08:00 时止
样品名称	D-SUB 15/M 叉锁	试验数量	5PCS
P/N	DS412-1611-G2A7		

试验条件 (TEST CONDDITION)

- 1、盐水溶解(SALT SOLUTION:浓度50±10g/L,PH值6.5-7.2.
- 2、试验室温度 (TEMP. IT THE SPRAY DHAMBR):35±1℃.
- 3、盐水桶温度 (TEMP. OF SALE SOL'N TANK): 35±1℃.
- 4、 压力桶温度 (TEMP.OF SAR SUPPLIERY): 47±1℃.
- 5、 试验室相对湿度(R.H IN THE CHAMBER ) 85%.
- 6、 压缩空气压力(COMPRESSED AIR PRESSURE): 1.00±0.01Kg/cm².
- 7、 样品放置位置(SPECIMEN SUPPORTED ANGLE ): 尼龙绳吊挂70°-90°.
- <u>8、 喷雾收集量 (COLLECT RATE OF SALT SOL'N) 1-2mL/(8 cm²hr).</u>
- 9、盐雾测试时间: 12小时 (H)

判定方法(ADFUSGD METHOD )

试验后以20倍放大镜观察、无蓝、绿色腐蚀物之现象(不包含折弯处),即判定合格.(Inspext the ecimen at 20 xmagnification no blue or green corrosion products are acceptable)

00233000 000 = 0	madinization to same of discin confident pr	oddoo z dae o doo op odo a o o
样品序号	试验后现象	判定
件加力亏	PHENOMENON AFTER TEST	COMMENT
1	无蓝、绿色腐蚀物之现象	OK
2	无蓝、绿色腐蚀物之现象	OK
3	无蓝、绿色腐蚀物之现象	OK
4	无蓝、绿色腐蚀物之现象	OK
5	无蓝、绿色腐蚀物之现象	OK

核准:欠必锋 审核:刘联英 试验员:但芬

# 材质证明

兹有我司邦奇塑料科技有限公司为贵司所提供的产品不防火原料 PBT 不防火加纤 15%300C-1 蓝,由以下物质组成:

物品名称: PBT 不防火加纤 15%300C-1 蓝色

组成物质: PBT 环保树脂 65-75%

玻纤 15%

增韧剂 5%

润滑剂 0.2%

抗氧剂 0.2%-0.3%

偶联剂 0.3%

其他 0.5%

建议成型:

1. 烘干温度 120-140℃

2. 烘干时间 2-4 小时

3. 成型温度 240-260℃

特此证明!



佛山市顺德区天硕贸易有限公司 Foshan Shunde Tianshuo Trade Company Limited

2021-10-19 日期:

编号: FB2110136

		一	143	141		
i an	ROPERTIES	杯突 (mm)				
	力学性能MECHANICAL PROPERTIES	屈服强度Y.S Mpa	259	256		胡万镍
		延伸奉印 (%)	59	30		制表人:
SPCC-SD 合格	1,4	抗拉强度T.S Mpa	361	362		
	8	AI %				
<b>秦</b> 克	ITION	s %	0.24	0.22		
产品名称: 检验情况:	化学成份CHEMICAL COMPOSITION	- %	0. 22	0.21		谢和纲
a Fife	MICAL (	Si %	0.07	0.07		申 ():
	\$份CHE	Mn %	0.17	0.16		
	化學员	U %	0.031	0.032		
G 3141		ъ 8	66	66		
ION: JIS	净重 WEIGHT	KG	7835	0692		
收货单位PURCHASER: 检验标准SPECIFICATION: JIS G 3141	材质牌号 SYMBOL		SPCC-SD	SPCC-SD		
收货单位P 检验标准S	钢卷号 COIL.NO		DL45657	DL45658		
	产品规格 钢卷号 SPECIFICATION COIL. NO	MM	0.30x1250	0.30x1250		质量控制中心:

斯和钢 甲核:



# 钜鼎銅材廠檢驗報告單

公司名稱 Customer	钜鼎銅材廠檢驗報告單			重量 Weight(kg)	1078		日期 ate	2021	/11/23	
品名	2 12 12 12	標准				寸		態	銅卷	<b></b> 編號
Article		Stand	ard No		Dime	ension	Ter	nper	Co	il No
C2680	v.	JISH31	00:2017		0.18	*400	E	EH	1021	-C-08
				化學	式分Chemical Con	mpositions(%)				
元素 Element	Cu %	Zn%	Pb%	Fe%	\	\	1	\	化學成分	雜質
規範 Spec	64.0-68.0	餘量	<0.05	<0.05	\	1	\	\	合格	合格
實測 Actual	64.32	餘量	0.0036	0.0136	\	1	١	\	合格	合格
				機械性	質子Mechanical	Properties				
項目	結晶粒度	硬度	抗拉強度	伸長度	導電率	彎曲試驗	表面	粗度	彎	曲度
Item	Grain Size	Hardness	TensionStrength	Elongation	Electrical Conduc	Bending Test	Surface F	Roughness		mber
	Mm	Hv	Mpa	%	%IACS	180	Ra(u m)		m	m\n
規範MAX Spec	\	170-190	490-610	\	\	\		\	-	\
實測 Actual	\	178	574	5	\	١	\			\ - ·

品質部

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**Test Report** No. CANEC2222380716 Date: 26 Oct 2022 Page 1 of 6

SHENZHEN HUALIANWEI ELECTRONICS TECHNOLOGY CO.,LTD Client Name:

Client Address: 101, 201, PLANT 1, NO.307, GUANLAN GUIHUA ROAD, GUIXIANG COMMUNITY, GUANLAN

SUB-DISTRICT, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

Sample Name: PBT blue plastic Model No.: PBT blue plastic

Client Ref. Info.: Used for USB series, HDMI series, RJ series, 1394 series, MICRO series, MINI

series, DISPLAYPORT series, VGA series, DVI series, TYPE-C series, JACK

series

The above sample(s) and information were provided by the client.

SGS Job No.: CP22-057100 - GZ

Date of Sample Received: 20 Oct 2022

Testing Period: 20 Oct 2022 - 26 Oct 2022

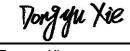
Test Requested: Selected test(s) as requested by the client.

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-	PASS
Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls	
(PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate	
(DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl	
phthalate (DIBP)	

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Dongyu Xie Approved Signatory





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**Test Report** No. CANEC2222380716 Date: 26 Oct 2022 Page 2 of 6

Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description SN1 CAN22-223807.016 Blue plastic

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>016</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	7
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (CrVI)	1000	mg/kg	8	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	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
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND



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Test Report	No. CANEC22223807	16	Date: 2	26 Oct 2022	Page 3 of 6
Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>016</u>	
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	
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

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.



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No. CANEC2222380716

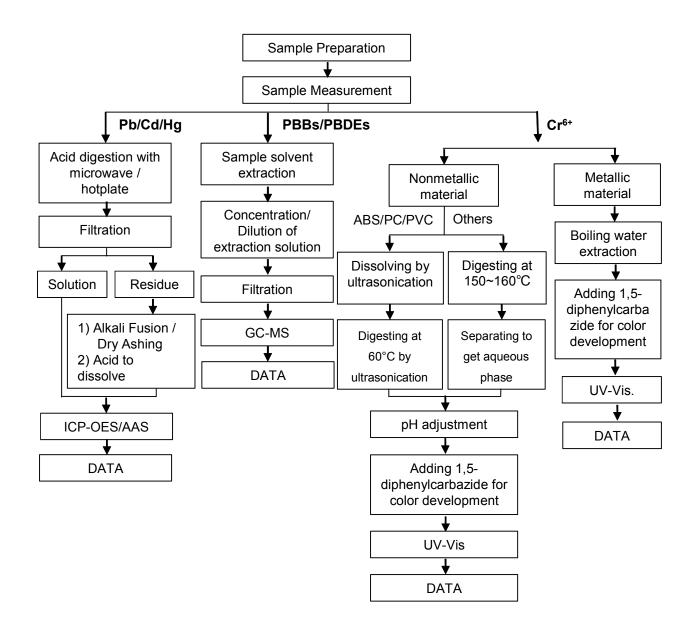
Date: 26 Oct 2022

Page 4 of 6

#### **ATTACHMENTS**

# Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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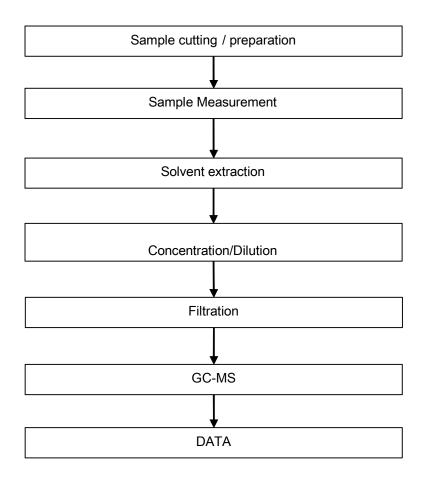


No. CANEC2222380716

Date: 26 Oct 2022 Page 5 of 6

### **ATTACHMENTS**

# **Phthalates Testing Flow Chart**





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No. CANEC2222380716

Date: 26 Oct 2022 Page 6 of 6

Sample photo:



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Test Report No. CANEC2222380704 Date: 26 Oct 2022 Page 1 of 4

Client Name: SHENZHEN HUALIANWEI ELECTRONICS TECHNOLOGY CO.,LTD

Client Address: 101, 201, PLANT 1, NO.307, GUANLAN GUIHUA ROAD, GUIXIANG COMMUNITY, GUANLAN

SUB-DISTRICT, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

Sample Name : SPCC hardware

Model No.: SPCC

Client Ref. Info.: Used for USB series, HDMI series, RJ series, 1394 series, MICRO series, MINI

series, DISPLAYPORT series, VGA series, DVI series, TYPE-C series, JACK

series

The above sample(s) and information were provided by the client.

SGS Job No. : CP22-057100 - GZ

Date of Sample Received: 20 Oct 2022

Testing Period: 20 Oct 2022 - 26 Oct 2022

Test Requested: Selected test(s) as requested by the client.

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

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-	PASS
Lead, Mercury, Cadmium and Hexavalent chromium	

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Dongyu Xie Approved Signatory





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#### **Test Report** No. CANEC2222380704 Date: 26 Oct 2022 Page 2 of 4

Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description

> SN1 CAN22-223807.004 Silver-grey/brassy metal

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

### EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

Test Method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>004</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	μg/cm²	0.10	ND

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#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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.



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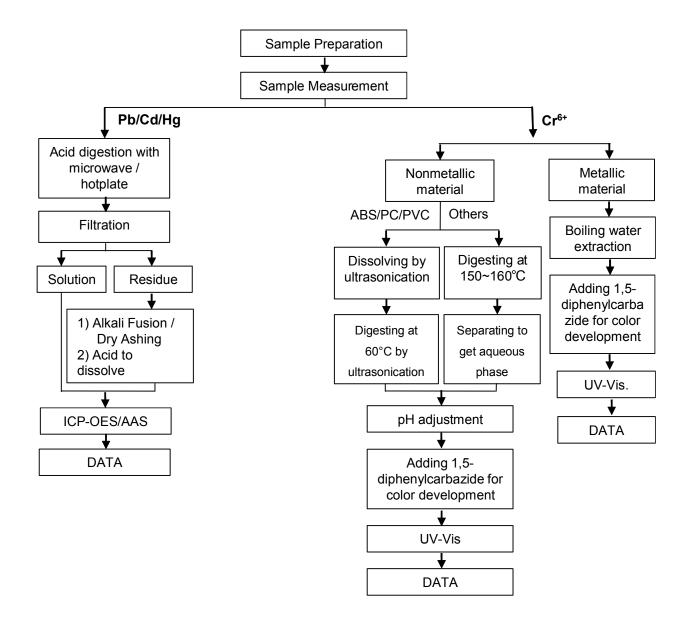
Date: 26 Oct 2022

Page 3 of 4

### **ATTACHMENTS**

### Pb/Cd/Hg/Cr6+ Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded).





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No. CANEC2222380704

Date: 26 Oct 2022 Page 4 of 4

Sample photo:



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**Test Report** No. CANEC2222380701 Date: 26 Oct 2022 Page 1 of 4

Client Name: SHENZHEN HUALIANWEI ELECTRONICS TECHNOLOGY CO.,LTD

Client Address: 101, 201, PLANT 1, NO.307, GUANLAN GUIHUA ROAD, GUIXIANG COMMUNITY, GUANLAN

SUB-DISTRICT, LONGHUA DISTRICT, SHENZHEN CITY, GUANGDONG PROVINCE, CHINA

Sample Name: C2680 Terminal

Model No.: C2680 terminal after plating

Client Ref. Info.: Used for USB series, HDMI series, RJ series, 1394 series, MICRO series, MINI

series, DISPLAYPORT series, VGA series, DVI series, TYPE-C series, JACK

series

The above sample(s) and information were provided by the client.

\_\_\_\_\_\_

SGS Job No. : CP22-057100 - GZ

Date of Sample Received: 20 Oct 2022

Testing Period: 20 Oct 2022 - 26 Oct 2022

Test Requested: Selected test(s) as requested by the client.

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

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-	PASS
Lead, Mercury, Cadmium and Hexavalent chromium	

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Dongyu Xie
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#### Test Report No. CANEC2222380701 Date: 26 Oct 2022 Page 2 of 4

Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description

SN1 CAN22-223807.001 Silver-grey/brassy metal

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

### EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and **Hexavalent chromium**

Test Method: With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, analyzed by ICP-OES and UV-Vis.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	3
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	μg/cm²	0.10	ND

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm<sup>2</sup> and 0.13 µg/cm<sup>2</sup> is considered to be inconclusive unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

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.



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No. CANEC2222380701

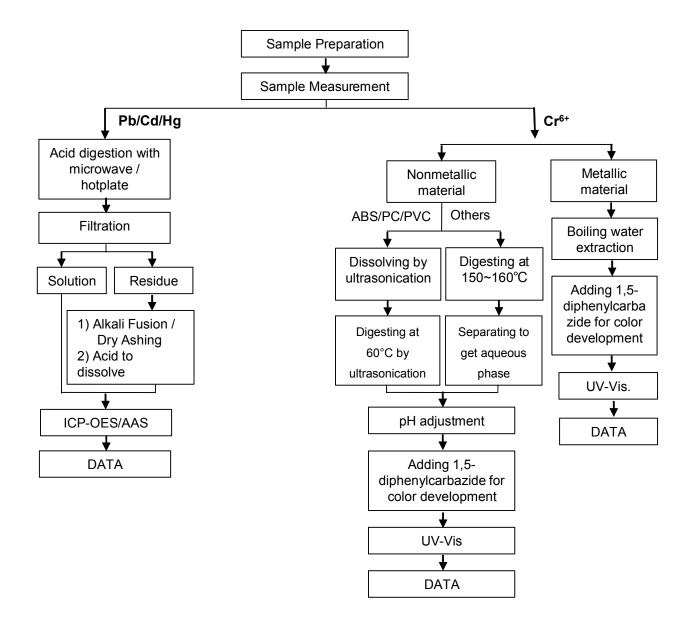
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#### **ATTACHMENTS**

### Pb/Cd/Hg/Cr6+ Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr<sup>6+</sup> test method excluded).





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No. CANEC2222380701

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Date: 26 Oct 2022

Sample photo:



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**Test Report** No. CANEC2218227002 Date: 30 Aug 2022 Page 1 of 8

Client Name: SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

Client Address: TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

Sample Name : Gold (AU)

The above sample(s) and information were provided by the client.

\_\_\_\_\_

SGS Job No. : CP22-047169 - SZ

Date of Sample Received : 25 Aug 2022

Testing Period : 25 Aug 2022 - 30 Aug 2022

Test Requested: Selected test(s) as requested by the client.

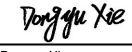
Test Method(s): Please refer to next page(s).

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS
Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives	See Results

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Dongyu Xie Approved Signatory





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No. CANEC2218227002

Date: 30 Aug 2022

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Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description SN1 CAN22-182270.002 Gold plated metal

Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC Test Method: 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	50
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	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
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND



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Test Report	No. CANEC2218227002		Date: 3	30 Aug 2022	Page 3 of 8
Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>	
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	
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

#### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method: With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

Test Item(s)	CAS NO.	<u>Unit</u>	MDL	002
•	CAO NO.	Offic	IVIDE	002
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido) -ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido) -ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND

#### Notes:



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(1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1); (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH₄ (CAS

No.: 29081-56-9), PFOS-NH(OH) $_2$  (CAS No.: 70225-14-8), PFOS-N(C $_2$ H $_5$ ) $_4$  (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)

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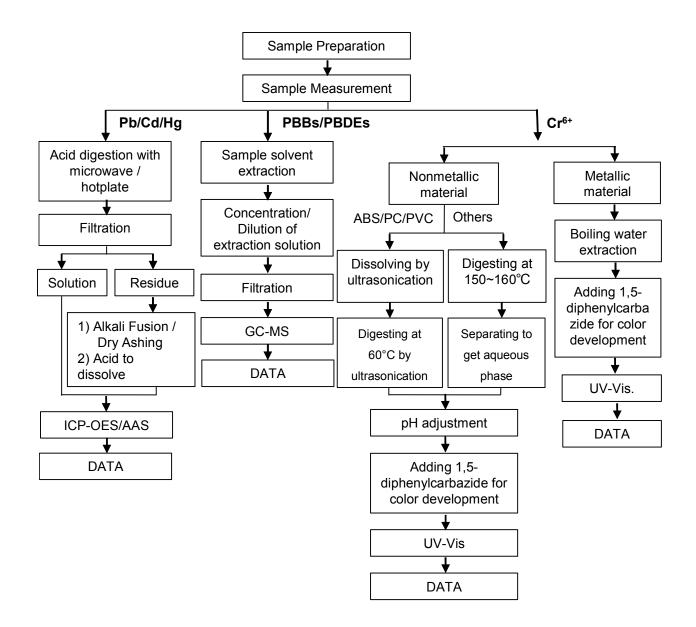
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#### **ATTACHMENTS**

### Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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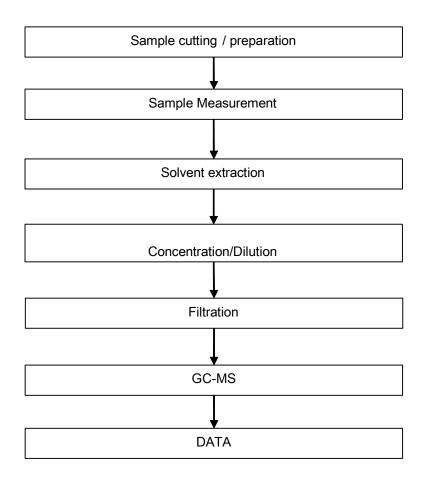
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### **ATTACHMENTS**

# **Phthalates Testing Flow Chart**





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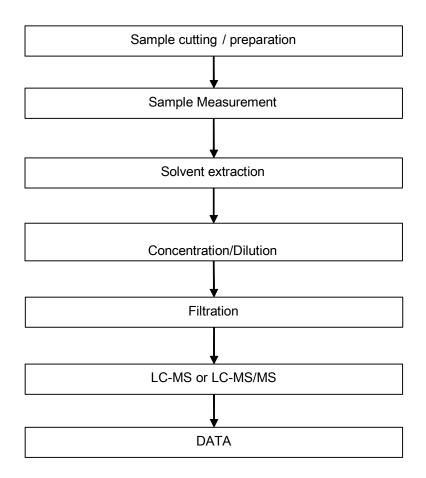


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### **ATTACHMENTS**

### PFOA / PFOS Testing Flow Chart





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No. CANEC2218227002

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Date: 30 Aug 2022

Sample photo:



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**Test Report** No. CANEC2218227001 Date: 30 Aug 2022 Page 1 of 8

Client Name: SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD

Client Address: TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

Sample Name: Nickel(Ni)

The above sample(s) and information were provided by the client.

------

SGS Job No. : CP22-047169 - SZ

Date of Sample Received: 25 Aug 2022

Testing Period : 25 Aug 2022 - 30 Aug 2022

Test Requested: Selected test(s) as requested by the client.

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

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS
Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives	See Results

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



Dongyu Xie Approved Signatory





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**Test Report** No. CANEC2218227001 Date: 30 Aug 2022 Page 2 of 8

Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description

> SN1 CAN22-182270.001 Silver-gray plated metal

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC Test Method: 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	49
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	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
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND



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Test Report	No. CANEC22182270	01	Date: 3	0 Aug 2022	Page 3 of 8
Test Item(s)	<u>Limit</u>	<u>Unit</u>	MDL	<u>001</u>	
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	
Dibutyl phthalate (DBP)	1000	mg/kg	50	ND	
Butyl benzyl phthalate (BBP)	1000	mg/kg	50	ND	
Bis (2-ethylhexyl) phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

#### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method: With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

Test Item(s)	CAS NO.	<u>Unit</u>	<u>MDL</u>	<u>001</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido) -ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido) -ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND

#### Notes:



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No. CANEC2218227001 Date: 30 Aug 2022 Page 4 of 8

(1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1); (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH<sub>4</sub> (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N( $C_2H_5$ )<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)

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.



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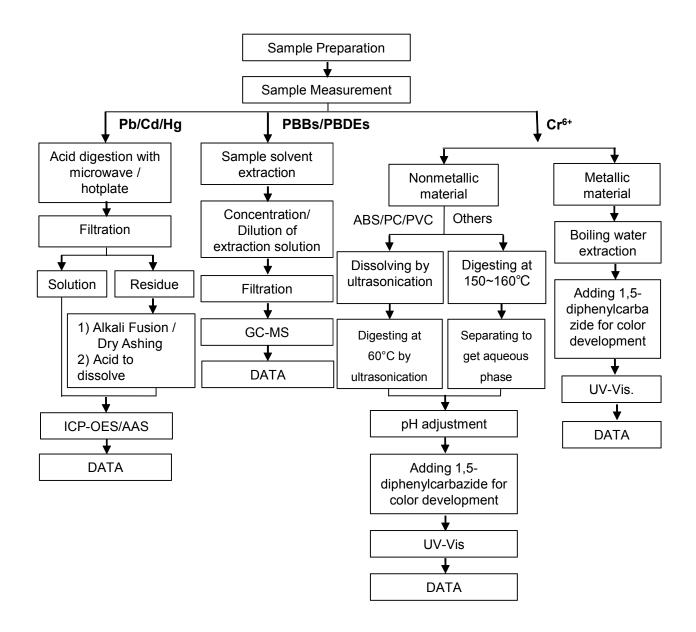
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#### **ATTACHMENTS**

### Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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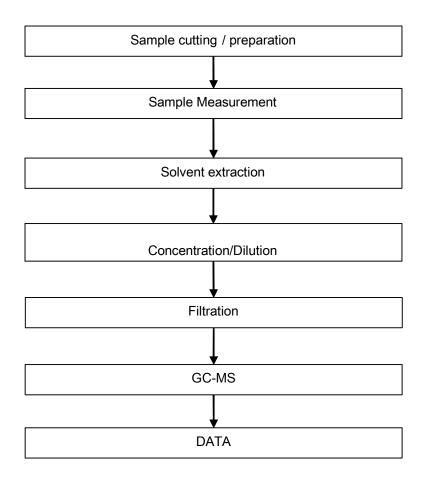
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Date: 30 Aug 2022

### **ATTACHMENTS**

# Phthalates Testing Flow Chart





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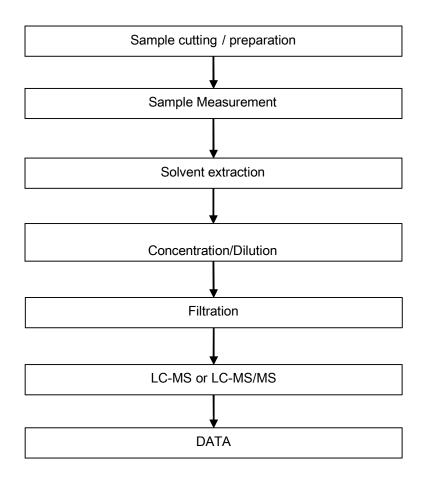
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### PFOA / PFOS Testing Flow Chart





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Sample photo:



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**Test Report** Date: 30 Aug 2022 No. CANEC2218227003 Page 1 of 8

SHENZHEN CITY TONGHUA INDUSTRY CO.,LTD Client Name:

Client Address: TONGHUA MANSIN TONGLE XINBU VILLANG TOWN SHENZHEN CITY CHINA

Sample Name: Bright Tin(SN)

The above sample(s) and information were provided by the client.

SGS Job No.: CP22-047169 - SZ

Date of Sample Received: 25 Aug 2022

Testing Period: 25 Aug 2022 - 30 Aug 2022

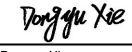
Test Requested: Selected test(s) as requested by the client.

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

Result Summary:

Test Requested	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU-Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	PASS
Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives	See Results

Signed for and on behalf of SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch



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Test Result(s):

#### Test Part Description:

Specimen No. SGS Sample ID Description

> SN1 CAN22-182270.003 Silver-gray plated metal

#### Remarks:

(1) 1 mg/kg = 0.0001%

(2) MDL = Method Detection Limit

(3) ND = Not Detected ( < MDL)

(4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

With reference to IEC 62321-4:2013+A1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC Test Method: 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	44
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	µg/cm²	0.10	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	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
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND



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No. CANEC22182270	003	Date: 3	30 Aug 2022	Page 3 of 8
<u>Limit</u>	<u>Unit</u>	MDL	<u>003</u>	
-	mg/kg	5	ND	
-	mg/kg	5	ND	
-	mg/kg	5	ND	
-	mg/kg	5	ND	
-	mg/kg	5	ND	
-	mg/kg	5	ND	
1000	mg/kg	50	ND	
1000	mg/kg	50	ND	
1000	mg/kg	50	ND	
1000	mg/kg	50	ND	
	Limit 1000 1000	- mg/kg 1000 mg/kg 1000 mg/kg	LimitUnitMDL-mg/kg5-mg/kg5-mg/kg5-mg/kg5-mg/kg5-mg/kg51000mg/kg501000mg/kg501000mg/kg501000mg/kg50	Limit Unit MDL 003  - mg/kg 5 ND  1000 mg/kg 50 ND  1000 mg/kg 50 ND  1000 mg/kg 50 ND

#### Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series
- (3) ▼= a. The sample is positive for CrVI if the CrVI concentration is greater than 0.13 μg/cm². The sample coating is considered to contain CrVI
  - b. The sample is negative for CrVI if CrVI is ND (concentration less than 0.10 µg/cm²). The coating is considered a non-CrVI based coating
  - c. The result between 0.10 µg/cm² and 0.13 µg/cm² is considered to be inconclusive unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

#### Perfluorooctanoic acid (PFOA) and its salts & Perfluorooctane sulfonates (PFOS) and its derivatives

Test Method: With reference to CEN/TS15968:2010, analysis was performed by LC-MS or LC-MS/MS.

Test Item(s)	CAS NO.	<u>Unit</u>	<u>MDL</u>	<u>003</u>
Perfluorooctanoic acid (PFOA) and its salts+	335-67-1	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) ^	1763-23-1	mg/kg	0.010	ND
Perfluorooctane Sulfonamide (PFOSA)	754-91-6	mg/kg	0.010	ND
N-methylperfluoro-1-octanesulfonamide(MeFOSA)	31506-32-8	mg/kg	0.010	ND
N-ethylperfluoro-1-octanesulfonamide (EtFOSA)	4151-50-2	mg/kg	0.010	ND
2-(N-methylperfluoro-1-octanesulfonamido) -ethanol(MeFOSE)	24448-09-7	mg/kg	0.010	ND
2-(N-ethylperfluoro-1-octanesulfonamido) -ethanol(EtFOSE)	1691-99-2	mg/kg	0.010	ND
Perfluorooctane sulfonates (PFOS) and its derivatives	-	mg/kg	-	ND

#### Notes:



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(1) + PFOA and its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1); (2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), PFOS-NH4 (CAS No.: 29081-56-9), PFOS-NH(OH)<sub>2</sub> (CAS No.: 70225-14-8), PFOS-N(C<sub>2</sub>H<sub>5</sub>)<sub>4</sub> (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)

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.



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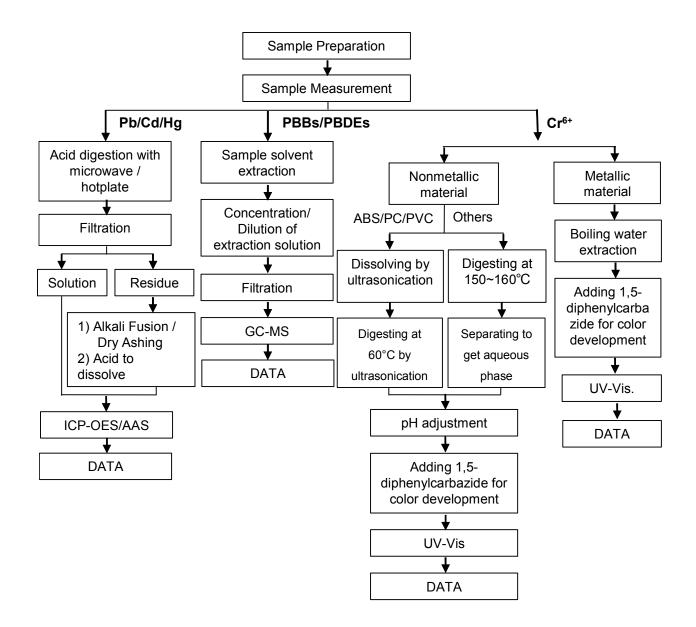
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#### **ATTACHMENTS**

### Pb/Cd/Hg/Cr6+/PBBs/PBDEs Testing Flow Chart

1) These samples were dissolved totally by pre -conditioning method according to below flow chart. (Cr<sup>6+</sup> and PBBs/PBDEs test method excluded).





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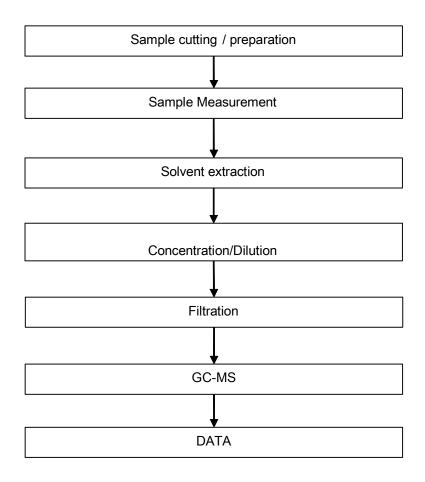
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### **ATTACHMENTS**

# Phthalates Testing Flow Chart





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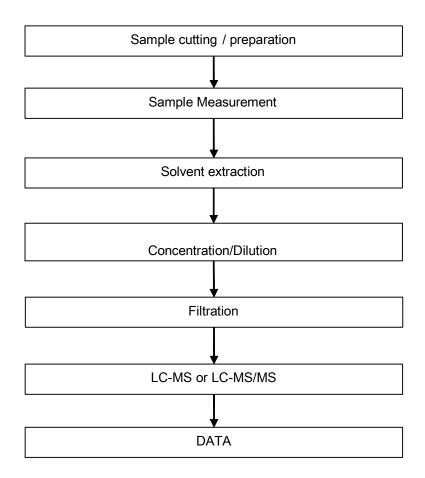
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### PFOA / PFOS Testing Flow Chart





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