



东莞市兆科电子材料科技有限公司

承认书

APPROVE SHEET

客户名称：FOXCONN
CUSTOMER
客户料号：480.01350.005
CUSTOMER P/N
供应商料号
PROVIDER P/N
物料名称：TIF180 50-11S
PROSUN P/N
规格：2.0mmT*14mm*14mm
SPECIFICATION
品名：thermal pad
PART NAME
日期：12-Nov-20
DATE

供样单位签名（盖章）	收样单位签名（盖章）
	

地址：广东省东莞市横沥镇西城工业区2区B8栋

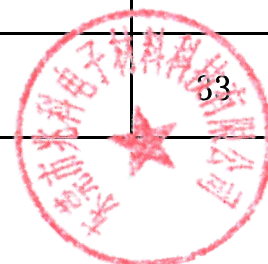
电话：0769-38801208

传真：0769-83791290

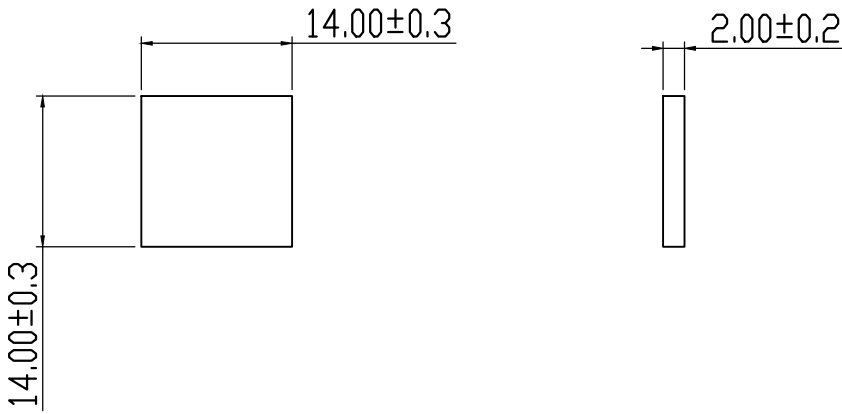
E-mail:angus@ziitek.com

备注：请在14个工作日将此承认书整套签回。否则，兆科公司在收到正式客户P.O.或超过规定期限没有收到签回的承认书时视为样板及其承认书已被完全承认.谢谢!

目 錄		
No. (序號)	Contents (內容)	Page (頁次)
1	封面 (Cover)	1
2	目錄 (LIST)	2
3	工程图 (Engineering drawing)	3-4
4	測量記錄 (FAI)	5
5	重要尺寸製程能力分析報告 (CPK)	6
6	制程检验规范 (SIP)	7
7	可靠性测试报告 (Reliability test report)	8-9
8	材質證明 (Material Certificate)	10
9	物质安全资料 (MSDS)	11-14
10	环保报告 (Environmental Report)	15-29
11	ROHS保证书 (ROHS guarantee)	30
12	质量保证书 (Quality assurance)	31
13	UL报告	32
14	包装规格与产品单重照片	33
備註:		



VER.	MARK.	DCR/ECN NO.	DATE	UPDATE DESCRIPTION	SIGNATURE.



1	Thermal conductivity k (W/mK)	≥5.0 @ 10 psi, (ASTM D5470 1 x 1 inch ² test area)
2	Thermal Resistance R(°C/W)	≤0.9986@ 10 psi, Th=60°C (ASTM D5470 1 x 1 inch ² test area)
3	Hardness (Shore 00)	40±5 (ASTM 2240)
4	Color	Gray
5	With Boron nitride filler	No
6	ESD release film (10 ⁷ ~ 10 ¹¹ Ω)	No
7	UL flammability rating	UL 94V0
8	Supplier Part No.	N/A
9	Supplier Product Name (Series)	TIF180 50-11S UL model name: TIF180



SCALE 1:1	 Foxconn Industrial Internet 富士康工业互联网		
SHEET 1/1			
UNIT mm	PART NAME PAD 14*14*2mm K5 S00 40 REV.00		
SIZE A4	MODEL	PART NO. 480.01350.005	DESIGNED
	CUSTOMER MODEL	CUSTOMER PART NO.	APPROVED

123456

A

B

C

D

123456

版本

修订内容

修订日期

00

linal Release

2020.11.12

GP

14.00±0.3

14.00±0.3

2.0±0.2

透明PET

透明PET印字膜

TIF180 50-11S

文件编号

核准

审核

制图

刘小军

杜依

单位

比例

版本

日期

mm

1:1

00

2020/11/12

未注尺寸公差

X.±0.5

X°.±1°

.X±0.3

.X°±0.5°

.XX±0.25

.XX°±

品名

客户料号

规格

页码

导热片

480.01350.005

2.0mmT*14mm*14mm

1 OF 1

东莞市兆科电子科技有限公司

⊙

▢

123456

1

2

3

4

5

6

FIRST ARTICLE INSPECTION REPORT

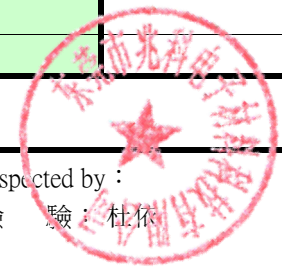
FAI 検測報告

[illegible]

Approved by :
核 準： 刘小军

Checked by :
 审 查： 杜依

Inspected by :
檢驗：杜依



东莞市兆科电子材料科技有限公司

制程能力分析表

CPK PEPORT

Cp/CpK Data on QC Inspection Dimensions								
Part Number:480.01350.005				Report Number:			ZKQC201112	
DIMENSION	Drawing Location Number	A	B	C				
	NOMINAL	14.00	14.00	2.00				
TOLERANCE	UPPER	0.30	0.30	0.20				
	LOWER	-0.3	-0.3	-0.2				
	#1	13.94	13.98	1.98				
	#2	13.98	14.02	1.98				
	#3	14.02	14.02	1.95				
	#4	14.03	14.03	1.94				
	#5	14.02	13.97	1.98				
	#6	13.98	13.98	1.98				
	#7	13.97	14.02	1.96				
	#8	13.96	14.05	1.97				
	#9	14.02	14.03	1.95				
	#10	14.03	14.02	1.95				
	#11	14.05	14.05	2.02				
	#12	14.03	13.97	2.02				
	#13	14.02	13.97	2.03				
	#14	13.97	14.02	2.02				
	#15	13.98	14.03	1.98				
	#16	13.97	13.98	1.97				
	#17	14.02	14.05	1.96				
	#18	13.97	13.97	2.05				
	#19	14.05	13.98	2.02				
	#20	14.06	14.02	2.02				
	#21	13.98	14.03	2.03				
	#22	13.97	14.05	2.04				
	#23	14.05	13.97	2.05				
	#24	14.06	13.98	2.03				
	#25	14.05	14.05	2.03				
	#26	13.97	14.03	2.02				
	#27	13.98	14.05	2.06				
	#28	13.97	13.97	1.98				
	#29	14.05	13.98	1.97				
	#30	14.06	14.05	1.98				
	#31	14.02	14.03	2.05				
	#32	14.05	14.05	2.02				
MAX		14.06	14.05	2.06				
MIN		13.94	13.97	1.94				
AVG		14.01	14.01	2.00				
σ		0.04	0.03	0.04				
CP		2.72	3.18	1.88				
CPK		2.64	3.05	1.88				





适用范围	导热材料原料进料&制程&出货检验规范					文件编号	H-WI-020	2018年9月18日
校验项目	检验内容	检验规格	缺陷等级			允收水准	检验工具	检验方法/条件
			CRI	MAJ	MIN			
包装	包装方式	无潮湿, 破损			V	外观 ANSI/ASQ Z1.4- 2008 LEVERL II. 抽样水准 MAJ: 0 MIN: 0.65	目视	目视检查
	数量, 混装	无混装, 短装			V			
	标示	标示准确无误与实物一致, 环保标示贴附正确	V					
外观	1	脏污、离形膜颜色不一致			V		目视	自然光目视检查
	2	条纹, 凹凸不平, 折皱, 缺料			V			
	3	产品存在色差			V			
	4	表面不光滑, 刮花, 毛边			V			
	5	TAB印字模糊, 离型纸用错			V			
	6	平面切斜, 切面切斜, 未切断			V			
	7	余料未清理干净			V			
	8	背胶材料背胶脱胶, 胶拉丝			V			
	9	离型纸多出或短于产品要求规格			V			
尺寸	1	长度尺寸超公差			V	5PCS/LOT 0收1退	卡尺. 钢尺	依产品跟踪纸
	2	宽度尺寸超公差			V			
	3	厚度尺寸超公差		V				
功能	1	离型膜不易撕起, 无法撕起或撕起后产品变形		V		5PCS/LOT 0收1退	实际操作	参考《导热材料检验规范》H-WI-033
	2	离型膜撕起时会胶撕起		V				
	3	产品粘性不够, 无法与散热器粘合		V				
	4	产品导热率, 硬度值与标准值不符		V			目视	每个月进行抽检一批第一个月抽检 (TIF100. 200. 300系列) 第二个月抽检 (TIF400. 500. 600系列) 第三个月抽检 (TIF700. 800. 900系列) 循环测试。
检验确认项目	1	材料HSF测试 (镉Cd. 铅Pb. 汞Hg. 铬Cr. 氯Cl. 溴Br)	V			参照<XRF RoHS测试判定标准>	XRF测试仪	根据测试记录每季度对各系列内部测试一次 (客户有特殊要求的依客户要求进行测试), 每年送外检测一次

参考文件:

1. ZK-COP-012 《来料检验运作程序》
2. H-WI-015 《抽样管理说明》
3. 依《第三方报告管理流程》对来料MSDS ICP报告进行确认。



一、目的:

测试热导体、固体电绝缘材料、导热树脂、氧化铍瓷、氧化铝瓷等材料的导热系数。

二、测试条件及主要参数:

试样尺寸: $\Phi 30\text{mm}$ 。

热极控温范围: 室温-99.99℃。

2.3 冷极控温范围: 0-99.0℃。

导热系数测试范围: 0.05-45W/mK。

热极控温范围: 室温-99.99℃。

2.6 热阻测试范围: $0.05-0.000005\text{m}^2 \times \text{K/W}$

压力测试范围: 0-1000N。

位移测量范围: 0-30mm。

测试精度: 优于3%。

三、儀器設備:

DRL-III导热系数测试仪

四、参考标准:

GB-5598-85/ASTM-D5470

五、测试方法:

在保温桶中加入3/4的冰和1/4的水, 组成冰水混合物, 然后把热电偶的冷端插入冰水混合物中
打开恒温水槽电源开关, 设置好所需温度, 一般设置室温, 其他温度也可以。打开循环开关, 建立仪器测试冷端第二恒温场, 再打开制冷开关, 水槽进入恒温状态。

打开仪器主机电源开关。

启动计算机。运行DRL导热系数测试系统程序, 点击所需试验方式, 进入相应试验界面。

制样, 【样品直径一般等于30mm, 高小于10mm】。如果是很薄的试样, 可采用多层叠加的办法。粉状或胶状试样测试时要用围框围起来测试。

装样, 主机上手动/自动开关拨向手动位置, 按“卸载”按钮, 让下测试杆下降到底, 将样品放在下热极上, 然后按“加载”按钮, 使下测试杆上升, 离接触上测试杆1mm-3mm位置处, 按“停止”按钮, 将手动拨为自动, 调节速度10mm/min。

热极温控设置温度中输入热极温度, 一般高于恒温水槽40℃按“确认设置”键, 按“加热启动”键。

输入试样传热截面积, 选择自动测厚或手动测厚, 按“确认”键。

选择自动加压方式, 输入加压值, 按“确认”键。

5.10按“开始测试”键, 仪器进入自动测试状态, 直至测试完成。

5.11按“生成报告”键, 实验数据传到Excel档保存, 测试完成



导热系数测试结果报告

送检单位	业务部	样品名称	TIF180 50-11S	样品类别	导热片
检测单位	兆科实验室	检测仪器	DRL-III导热系数测试仪	检测日期	2020.11.12
试样厚度 (mm)	2.00	试样面积 (mm ²)	706.858	测试压力 (kPa)	44.52
平均温度 (℃)	42.95	热面温度 (℃)	52.15	冷面温度 (℃)	33.75
热流量 (W)	33.25	测试热阻 (m ² K/W)	0.000391	导热系数 (W/mK)	5.113

制表/日期: 何庆友/2020.11.12

测试/日期: 何庆友/2020.11.12

批准/日期: 刘建平/2020.11.12

導熱硅膠片 | 相變化材料 | 導熱矽膠布 | 導熱膏 | 導熱雙面膠 | 導塑料 | 導熱灌封膠 | RTV硅膠 | 陶瓷散熱片 | 石墨片 | 導熱粘著劑

加拿大 Canada:

TEL: +001-604-2998559

E-mail: sales@thermazig.com

Http://www.thermazig.com

東莞 Dongguan:

TEL: +86-769-38801208

E-mail: angus@ziitek.com

Http://www.ziitek.com

台灣 Taiwan:

TEL: +886-2-22771007

E-mail: frances@ziitek.com.tw

Http://www.ziitek.com.tw

昆山 Kunshan:

TEL: +86-512-57816297

E-mail: kelvin@ziitek.com

成都 Chengdu:

TEL: +86-28-62379168

E-mail: service-cd@ziitek.com

长沙 Changsha:

TEL: +86-731-86949836

E-mail: jor@ziitek.com

1. 目的:

产品硬度测试

2. 测试仪器:

Shore 00硬度计

3. 测试条件:

测试材料厚度: 实物厚度

4. 操作步骤:

准备好试验样品,规格尺寸: 25mmx25mm

将材料叠加, 总厚度约8mm.

将材料表面保护膜撕去, 放在硬度测试仪托盘上, 即压头下方.

材料放好后, 压下手柄进行测试, 时间停留约5秒, 开始读数并记录数据.

测试材料三个不同部位, 记录所测数值.

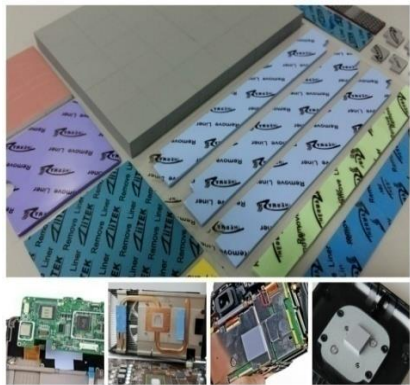
测试完成, 保存数据.

5. 结果:

测试结果			
编号	编号	标准	实测硬度 (单位: Shore 00)
TIF180 50-11S	1#	40±5	41°
	2#		39°
	3#		41°

6.附图:





特性

- 》良好的热传导率
- 》带自粘而无需额外表面粘合剂
- 》高可压缩性, 柔软兼有弹性, 适合于低压力应用环境
- 》可提供多种厚度选择

应用

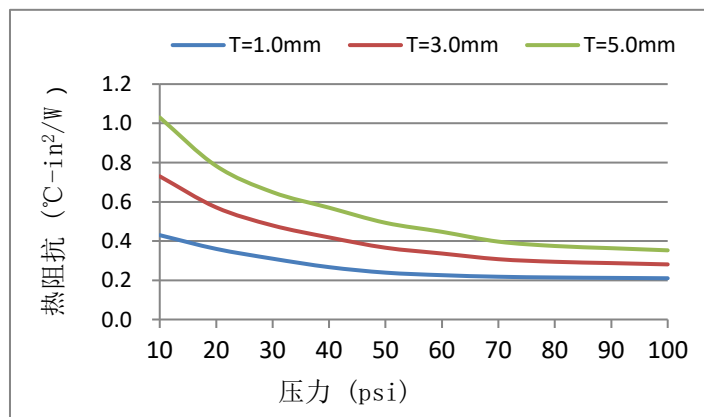
- 》散热器底部或框架
- 》机顶盒
- 》电源与车用蓄电池
- 》充电桩
- 》LED电视、灯具
- 》显卡模组

TIF™100 50-11S是一种填充发热器件和散热片或金属底座二者之间的空气间隙。它们的柔性、弹性特征使其能够用于覆盖非常不平整的表面。其优异的效能使热量从发热器件或整个PCB传导到金属外壳或扩散板上, 从而提高发热电子组件的效率和使用寿命。

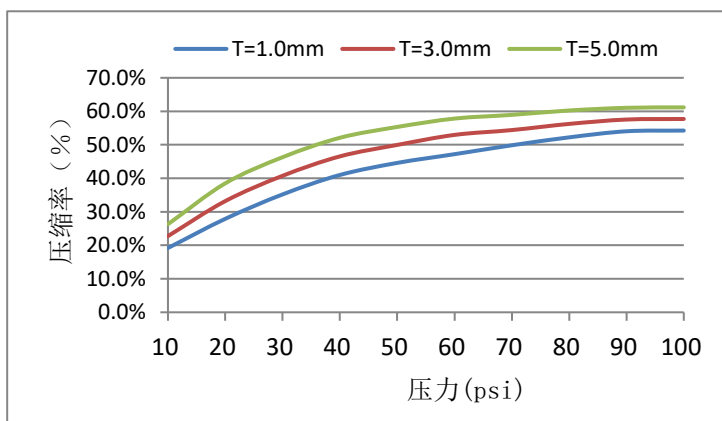
TIF™100 50-11S 系列特性表

产品特性	典型值	测试方法
颜色	灰色	Visual
结构&成份	陶瓷填充硅橡胶	*****
厚度范围	0.020"(0.5mm)~0.200" (5.0mm)	ASTM D374
硬度 (Shore 00)	45	ASTM 2240
密度 (g/cm ³)	3.15	ASTM D792
使用温度范围	-40~160°C	*****
击穿电压 (T=1.0mm, Vac)	≥5500	ASTM D149
介电常数 @1MHz	6.0	ASTM D150
体积电阻率	≥1X10 ¹² Ohm-cm	ASTM D257
导热系数 (W/mK)	5.0	ASTM D5470
	5.0	ISO22007-2
防火等级	94 -V0	UL E331100

热阻抗



压缩率



标准厚度:0.020"(0.5mm)~0.200" (5.0mm)

标准尺寸:8"×16" (203mm×406mm)

TIF系列可模切成不同形状提供。安全处置方法无需特别防护, 存储方法低温干燥, 远离明火, 避免阳光直射即可, 详细方法可参考产品物质安全资料表。

如需不同厚度或想了解更多导热材料的产品信息, 请与本公司联系。

导热材料

导热工程塑料

发热材料

屏蔽材料

发泡硅胶

模切制品

加拿大:
Tel: +001-604-2998559
E-mail: sales@thermazig.com

中国:
Tel: +86-769-38801208
E-mail: frances@ziitek.com.tw

台湾:
Tel: +886-2-22771007
E-mail: frances@ziitek.com.tw

以上资料与说明是兆科实验室测试所得, 结果准确有效, 但不作为法律的解释或保证, 用户须进行充分的测试与确认上述讯息适合用户所提出任何特殊的产品与应用。



2020/11/02



專業導熱材料生產廠
Professional TIM Manufacturer
<http://www.ziitek.com>

Material Safety Date Sheet

物質安全資料表

1. Identification Of The Substance / Preparation And Company.

Product Information: TIF100 Series Thermally Conductive Gap Fillers

Product Number: TIF100 Series

Manufacturer/Supplier: Ziitek Electronic Materials & Technology Ltd.

Address:

Building B8, Industry District II, Xicheng, Hengli Township, Dongguan City, Guangdong Province

TEL: +86-769-38801208

<http://www.ziitek.com>

Emergency Phone: **Tel:** +86-769-38801208 **Fax:** +86-769-38801209

2. Composition/Information On Ingredients:

Components Name	Synonyms	Gravity (%)	Percentage for Chemical Ingredient (%)	Chemical Abstracts Number(CAS No)
Silicone	Silicone	30% ~ 50%	---	63148-62-9
Alumina	Alumina	50% ~ 70%	---	1344-28-1
Carbon black	Carbon black	0.05%		1333-86-4
Down is blank				

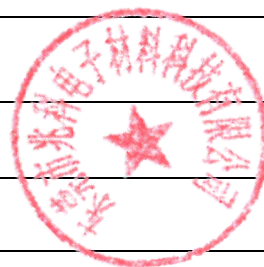
Mixture

Chemical Characteristics:

Hazardous Components Name	Concentration/Percentage	Hazard Symbols
Down is blank		

3. Hazard Identification:

Major Hazard Effect	Hazard warnings for Health: NO
	Hazard warnings for Environment: NO
	Physical and Chemical Dangerous: NO
	Special Harm: NO
Major State	NO





專業導熱材料生產廠
Professional TIM Manufacturer
<http://www.ziitek.com>

Material Safety Data Sheet

物質安全資料表

Hazard classification	NO
-----------------------	----

4. First Aid Measures:

Skin Contact	NO
Eye Contact	NO
Ingestion	Call a physician immediately

5. Fire Fighting Measure:

Suitable extinguishing media: Foam, dry chemical, carbon dioxide
Special exposure hazards: NO
Special Extinguishing Procedure: Remove away from the heat, extinguish by water or other media
Special protection equipment: NO

6. Accidental Release Measures:

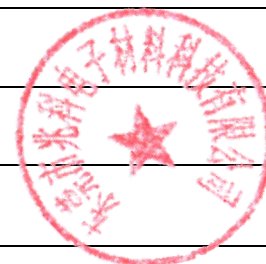
Personal protection: The product exists solid state, no leakage will happen.
Environment protection: NO
Methods for Cleaning up: Wipe by alcohol

7. Handling and Storage:

Handling: No need
Storage: Store in a cool place, Keep away from heat and flame

8. Exposure Control/Personal Protection:

Engineering Control: Don't expose under sunshine directly
Hygienic procedures: N/A
Personal Protective Equipment: No need



9. Physical and Chemical Properties / Characteristics:

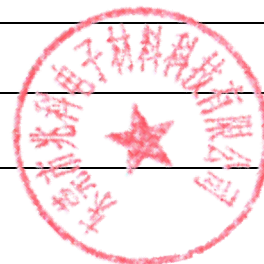
Appearance: Solid	Form: In piece
Color : Various	Odor: Odorless
PH Value: 5~7	Boiling Point/Boiling Range: >700℃
Decomposition temperature: N/A	Flash Point: N/A Test Method: N/A
Spontaneous Temperature: N/A	Explosion Limits: N/A
Vapor Pressure: N/A	Vapor Density: N/A
Specific Gravity: 2.1 g/cc	Solubility in water: N/A

10. Stability and Reactivity:

Stability: Stable
Special Conditions of Hazardous Reaction: N/A
Some rusty metal: N/A
Conditions to Avoid: N/A
Incompatibility: Strong alkalis and strong acids

11. Toxicological information:

Acute toxicity: No
Local Effects: No
Sensitive: No
Chronic toxicity: No
Especial effect: No



12. Ecological Information:

Possibility of Environmental Impact/move: No harmful effect to environment

13. Disposal Information:

Disposal Information: Can be recycled

14. Transport Information:

International Transport Regulation: Container

The United Nations Number(UN-No): No

Internal Transport regulation: Can be packed in box: $\leq 8\text{kg}$ 、 $\leq 22\text{kg}$ 、 $\leq 13\text{kg}$ 、 $\leq 20\text{kg}$

Special Transport Way and Note: Can be delivered as non-dangerous product

15. Regulation Information:

Rules on Workers Health and Safety Facilities.

Regulation of Labeling and Hazard Communication of Dangerous and Harmful Materials.

Traffic Safety Rules.

Standards for the Storage, Cleanup, Handling and disposal of Industrial Waste.

16. Other information:

Legend: This information is offered in good faith as typical values and not as a product specification. No warranty, expressed or implied, is hereby made. The recommended industrial hygiene and safe handling procedures are believed to be generally applicable. However, each user should review these recommendations in the specific context of the intended use and determine whether they are appropriate.





检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 1 页 共 15 页
Page 1 of 15

申请单位 东莞市兆科电子材料科技有限公司
Applicant DONGGUAN ZIITEK ELECTRONICAL MATERIAL AND TECHNOLOGY,LTD.
地址 东莞市横沥镇西城工业二区 B8 栋
Address BUILDING B8,INDUSTRY DISTRICTII,XICHENG,HENGLI TOWN,DONGGUAN CITY,GUANGDONG PROVINCE

以下测试之样品及样品信息由申请者提供并确认

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

样品名称 Sample Name 导热材料
样品型号 Part No. TIF100
样品颜色 Color 灰色
样品接收日期 2020.06.08
Sample Received Date Jun. 8, 2020
样品检测日期 2020.06.08-2020.06.15
Testing Period Jun. 8, 2020 to Jun. 15, 2020

检测依据/检测结果/检测要求

请参见下页。

Test Method/Test Result(s)/ Test Requested Please refer to the following page(s).

主 检
Tested by 刘前生

审 核
Reviewed by 黄艳

批 准
Approved by 郑晴涛

日 期
Date 2020.06.15

郑晴涛

技术经理 Technical Manager

华测检测认证集团股份有限公司

Centre Testing International Group Co.,Ltd.

CTI Building, Xing Dong Community, Xin'an Sub-district, Bao'an District, Shenzhen City, Guangdong Province, P.R. China

No. R411771285

广东省深圳市宝安区新安街道兴东社区华测检测大楼

检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 2 页 共 15 页
Page 2 of 15

检测要求

1.根据客户要求, 对所提交样品中的铅(Pb), 镉(Cd), 汞(Hg), 六价铬(Cr(VI)), 多溴联苯(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP), 锑(Sb), 氟(F), 氯(Cl), 溴(Br), 碘(I), 全氟辛烷磺酸(PFOS), 全氟辛酸(PFOA), 邻苯二甲酸酯, 聚氯乙烯(PVC), 红磷进行测试。
2.根据客户要求, 对所提交样品中的硫(S)进行筛选测试。

Test Requested

1.As specified by client, to test Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr(VI)), Polybrominated Biphenyls(PBBs), Polybrominated Diphenyl Ethers (PBDEs), Phthalates (DBP, BBP, DEHP, DIBP), Antimony(Sb), Fluorine (F), Chlorine (Cl), Bromine (Br), Iodine (I), Perfluorooctane Sulfonates (PFOS), Perfluorooctanoic Acid (PFOA), Phthalates, Polyvinyl Chloride (PVC), Red phosphorus in the submitted sample(s).
2. As specified by client, to screen Sulfur (S) in the submitted sample(s).



检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 3 页 共 15 页
Page 3 of 15

检测依据 Test Method

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
铅 Lead(Pb)	IEC 62321-5:2013	ICP-OES
镉 Cadmium(Cd)	IEC 62321-5:2013	ICP-OES
汞 Mercury(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬 Hexavalent Chromium(Cr(VI))	IEC 62321-7-2:2017 和/或 IEC 62321-5:2013 测试总 铬含量 IEC 62321-7-2:2017 and/or determination of Total Chromium by IEC 62321-5:2013	UV-Vis/ICP-OES
多溴联苯 Polybrominated Biphenyls(PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS
锑 Antimony(Sb)	参考 US EPA 3052:1996 & US EPA 6010D:2018 Refer to US EPA 3052:1996 & US EPA 6010D:2018	ICP-OES
氟 Fluorine (F)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
氯 Chlorine (Cl)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
溴 Bromine (Br)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
碘 Iodine (I)	参考 EN 14582:2016 Refer to EN 14582:2016	IC
硫 Sulfur(S)*	参考 EN 14582:2016 Refer to EN 14582:2016	IC
全氟辛酸磺酸 Perfluorooctane Sulfonates (PFOS)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS
全氟辛酸 Perfluorooctanoic Acid (PFOA)	参考 US EPA 3550C:2007 & US EPA 8321B:2007 Refer to US EPA 3550C:2007 & US EPA 8321B:2007	LC-MS-MS

检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 4 页 共 15 页
Page 4 of 15

测试项目 Tested Item(s)	测试方法 Test Method	测试仪器 Measured Equipment(s)
邻苯二甲酸酯 Phthalates	参考 EN 14372:2004(E) Refer to EN 14372:2004(E)	GC-MS
聚氯乙烯 Polyvinyl Chloride (PVC)	参考 JY/T 001-1996 Refer to JY/T 001-1996	FT-IR
红磷 Red phosphorus	参考 GB/T 9722-2006 Refer to GB/T 9722-2006	PY-GC-MS



检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

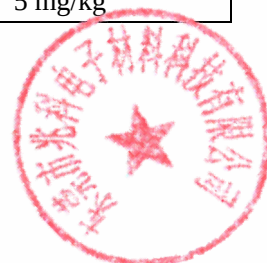
第 5 页 共 15 页
Page 5 of 15

检测结果 Test Result(s)

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
铅 Lead (Pb)	N.D.	2 mg/kg
镉 Cadmium (Cd)	N.D.	2 mg/kg
汞 Mercury (Hg)	N.D.	2 mg/kg
六价铬 Hexavalent Chromium (Cr(VI))	N.D.	8 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
多溴联苯 Polybrominated Biphenyls(PBBs)		
一溴联苯 Monobromobiphenyl	N.D.	5 mg/kg
二溴联苯 Dibromobiphenyl	N.D.	5 mg/kg
三溴联苯 Tribromobiphenyl	N.D.	5 mg/kg
四溴联苯 Tetrabromobiphenyl	N.D.	5 mg/kg
五溴联苯 Pentabromobiphenyl	N.D.	5 mg/kg
六溴联苯 Hexabromobiphenyl	N.D.	5 mg/kg
七溴联苯 Heptabromobiphenyl	N.D.	5 mg/kg
八溴联苯 Octabromobiphenyl	N.D.	5 mg/kg
九溴联苯 Nonabromobiphenyl	N.D.	5 mg/kg
十溴联苯 Decabromobiphenyl	N.D.	5 mg/kg

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)		
一溴二苯醚 Monobromodiphenyl ether	N.D.	5 mg/kg
二溴二苯醚 Dibromodiphenyl ether	N.D.	5 mg/kg
三溴二苯醚 Tribromodiphenyl ether	N.D.	5 mg/kg
四溴二苯醚 Tetrabromodiphenyl ether	N.D.	5 mg/kg
五溴二苯醚 Pentabromodiphenyl ether	N.D.	5 mg/kg
六溴二苯醚 Hexabromodiphenyl ether	N.D.	5 mg/kg
七溴二苯醚 Heptabromodiphenyl ether	N.D.	5 mg/kg
八溴二苯醚 Octabromodiphenyl ether	N.D.	5 mg/kg
九溴二苯醚 Nonabromodiphenyl ether	N.D.	5 mg/kg
十溴二苯醚 Decabromodiphenyl ether	N.D.	5 mg/kg



检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 6 页 共 15 页
Page 6 of 15

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)		
邻苯二甲酸二丁酯 Dibutyl phthalate (DBP) CAS#:84-74-2	N.D.	50 mg/kg
邻苯二甲酸丁基苄基酯 Butyl benzyl phthalate (BBP) CAS#:85-68-7	N.D.	50 mg/kg
邻苯二甲酸二(2-乙基)己酯 Di-(2-ethylhexyl) phthalate (DEHP) CAS#:117-81-7	N.D.	50 mg/kg
邻苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP) CAS#:84-69-5	N.D.	50 mg/kg
测试项目 Tested Item(s)		
锑 Antimony (Sb)	N.D.	5 mg/kg
测试项目 Tested Item(s)		
氟 Fluorine (F)	N.D.	10 mg/kg
氯 Chlorine (Cl)	N.D.	10 mg/kg
溴 Bromine (Br)	N.D.	10 mg/kg
碘 Iodine (I)	N.D.	10 mg/kg
测试项目 Tested Item(s)		
硫 Sulfur (S)*	N.D.	50 mg/kg
测试项目 Tested Item(s)		
全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS)	N.D.	0.01 mg/kg
测试项目 Tested Item(s)		
全氟辛酸 Perfluorooctanoic Acid (PFOA)	N.D.	0.01 mg/kg



检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 7 页 共 15 页
Page 7 of 15

测试项目 Tested Item(s)	结果 Result	方法检出限 MDL
邻苯二甲酸酯 Phthalates		
邻苯二甲酸二正辛酯 Di-n-octyl phthalate (DNOP) CAS#:117-84-0	N.D.	30 mg/kg
邻苯二甲酸二异壬酯 Di-isononyl phthalate (DINP) CAS#:28553-12-0,68515-48-0	N.D.	50 mg/kg
邻苯二甲酸二异癸酯 Di-iso-decyl phthalate (DIDP) CAS#:26761-40-0,68515-49-1	N.D.	50 mg/kg
邻苯二甲酸二甲酯 Dimethyl phthalate (DMP) CAS#:131-11-3	N.D.	30 mg/kg
邻苯二甲酸二乙酯 Diethyl phthalate (DEP) CAS#:84-66-2	N.D.	30 mg/kg
邻苯二甲酸二丙酯 Dipropyl phthalate (DPrP) CAS#:131-16-8	N.D.	30 mg/kg
邻苯二甲酸二戊酯 Dipentyl phthalate (DPP) CAS#:131-18-0	N.D.	30 mg/kg
邻苯二甲酸二庚酯 Diheptyl phthalate (DHP) CAS#:3648-21-3	N.D.	30 mg/kg
邻苯二甲酸二环己酯 Dicyclohexyl phthalate (DCHP) CAS#:84-61-7	N.D.	30 mg/kg
邻苯二甲酸二异辛酯 Diisooctyl phthalate (DIOP) CAS#:27554-26-3	N.D.	50 mg/kg
邻苯二甲酸二壬酯 Dinonyl phthalate (DNP) CAS#:84-76-4	N.D.	30 mg/kg
己二酸二异壬酯 Diisononyl adipate (DINA) CAS#:33703-08-1	N.D.	50 mg/kg
测试项目 Tested Item(s)		
聚氯乙烯 Polyvinyl Chloride (PVC)	阴性 Negative ^{#1}	/
测试项目 Tested Item(s)		
红磷 Red phosphorus	阴性 Negative ^{#/*1}	500 mg/kg



检测报告

Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 8 页 共 15 页
Page 8 of 15

样品/部位描述 灰色固体
Sample/Part Description Gray solid

备注: 对于检测铅, 镉, 汞, 锑之样品已完全溶解。

-N.D. = 未检出 (小于方法检出限)

-mg/kg = ppm = 百万分之一

-*¹ 阴性 = 不含有

-采用 PY-GC-MS 方法以测定样品裂解过程中裂解产物 P₄ 的定性红磷, 在磷酸盐和磷酸酯与部分强氧化或还原剂共存时, 可能会因裂解过程发生反应产生 P₄, 出现假阳性风险。

-#结果仅供参考。

-* = 该项目的检测结果由硫酸根离子(SO₄²⁻)的测试结果换算而来。

-#¹ 阴性表示不含有聚氯乙烯(PVC)

-根据客户声明, 本报告中的样品和报告 A2200172123101001E 中的样品为同材质, 本报告中样品的结果引自报告 A2200172123101001E 中样品的结果。

Remark: The sample(s) had been dissolved totally tested for Lead, Cadmium, Mercury, Antimony.

-MDL = Method Detection Limit

-N.D. = Not Detected (<MDL)

-mg/kg = ppm = parts per million

-*¹Negative = Not Contained

-The red phosphorus is qualified by PY-GC-MS method which detect pyrolysis products P₄ of red phosphorus. But there is a false positive risk by performing this method, since P₄ could also generate while the phosphate and organic phosphate coexist with some strong oxidizing or reductant agent in pyrolysis process.

-#Result for reference only.

-* = The test result of the item is converted from the test result of Sulfate ion (SO₄²⁻).

-#¹Negative = Not Contained Polyvinyl Chloride(PVC)

- According to the client's statement, the material of sample is the same as the sample in Report No. A2200172123101001E, so the test result(s) is presented in reference to that one.

注释: 本报告中的数据结果供科研、教学、企业内部质量控制、企业产品研发等目的用。

Note: The testing data and result(s) in this report is(are) just for scientific research, education, internal quality control and product development etc.



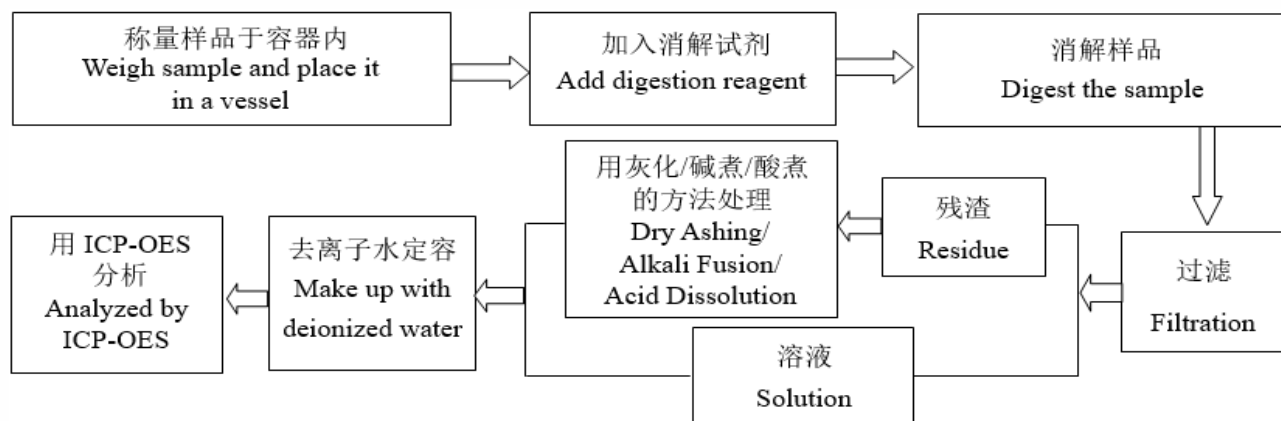
检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

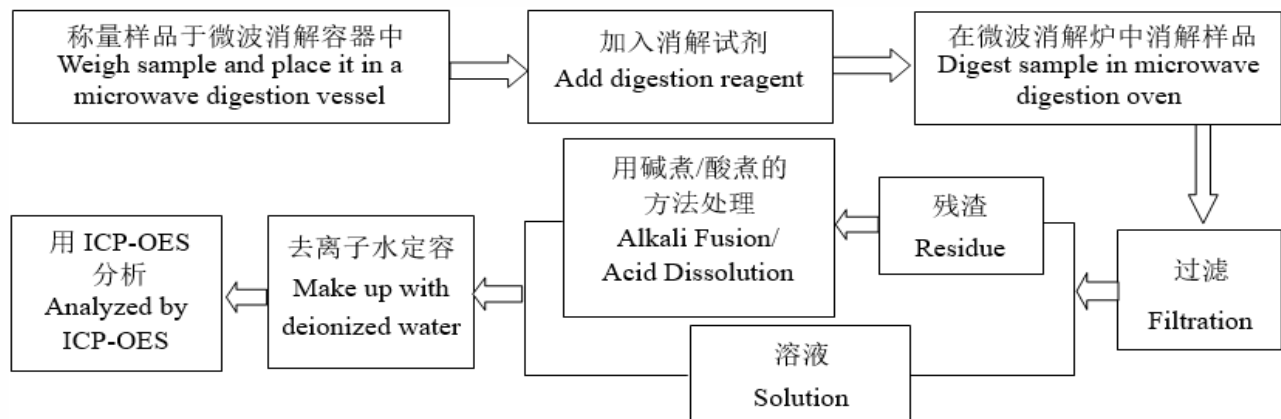
第 9 页 共 15 页
Page 9 of 15

检测流程 Test Process

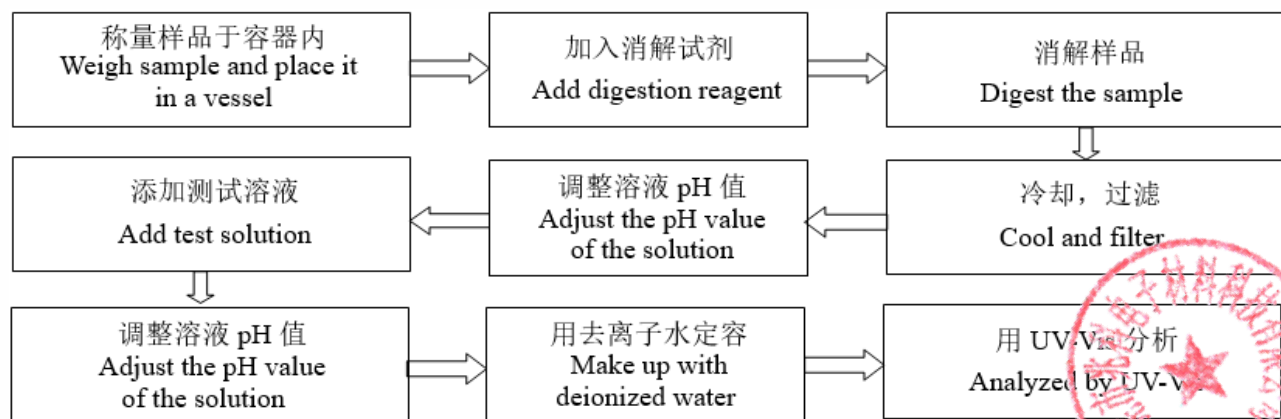
1. 铅 Lead(Pb), 镉 Cadmium(Cd), 铬 Chromium(Cr)



2. 汞 Mercury(Hg)



3. 六价铬 Hexavalent Chromium(Cr(VI))

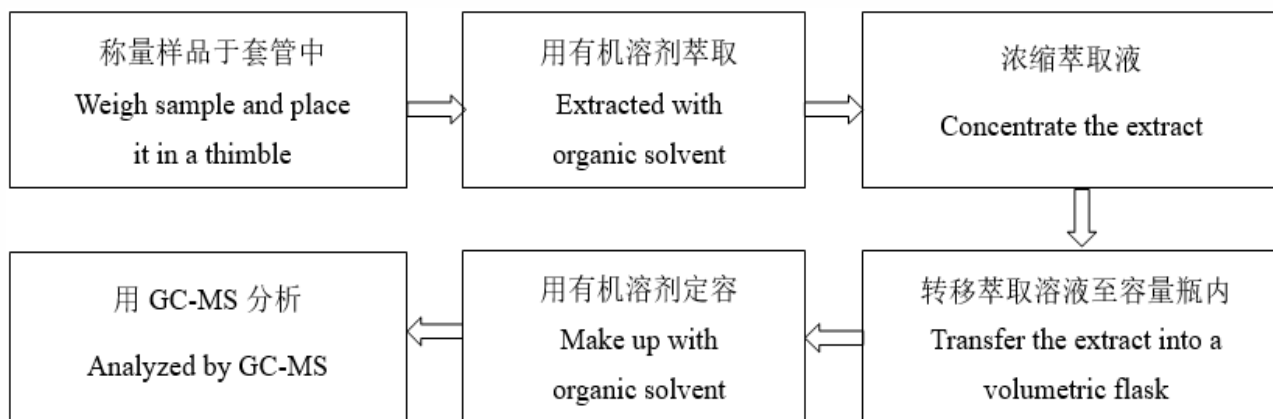


检测报告 Test Report

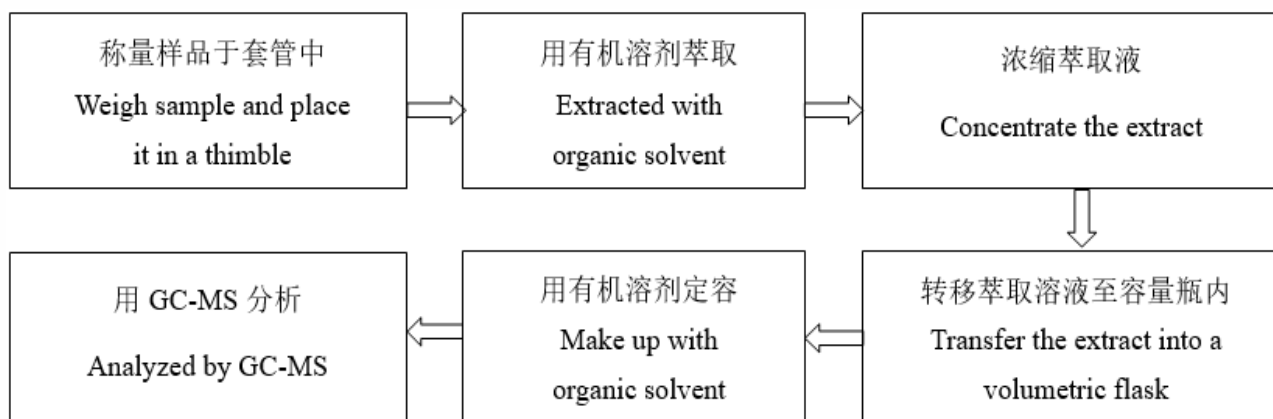
报告编号 A220017212310100101E
Report No. A220017212310100101E

第 10 页 共 15 页
Page 10 of 15

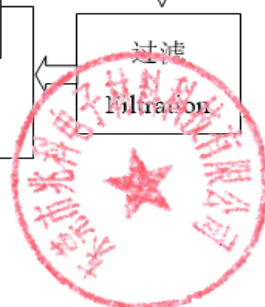
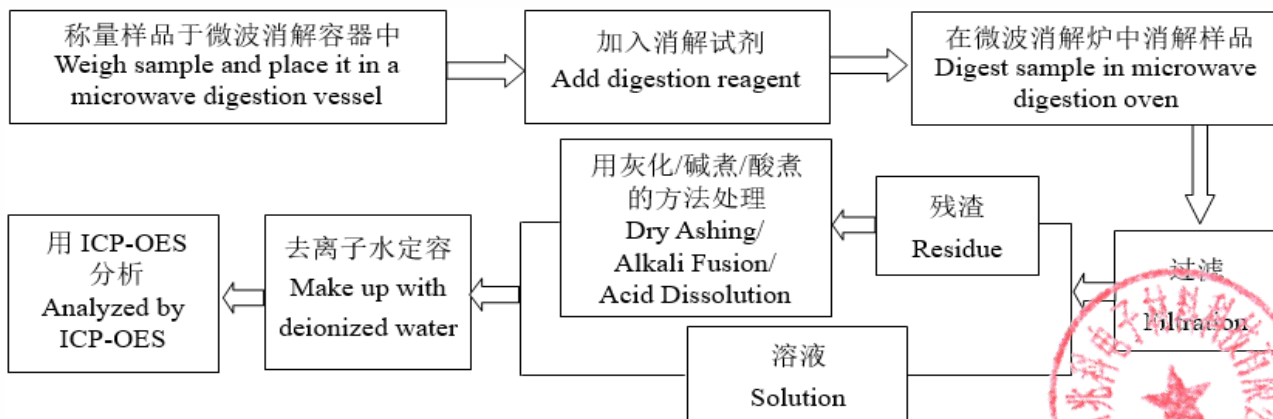
4. 多溴联苯 Polybrominated Biphenyls(PBBs), 多溴二苯醚 Polybrominated Diphenyl Ethers (PBDEs)



5. 邻苯二甲酸酯 Phthalates (DBP, BBP, DEHP, DIBP)



6. 锑 Antimony(Sb)

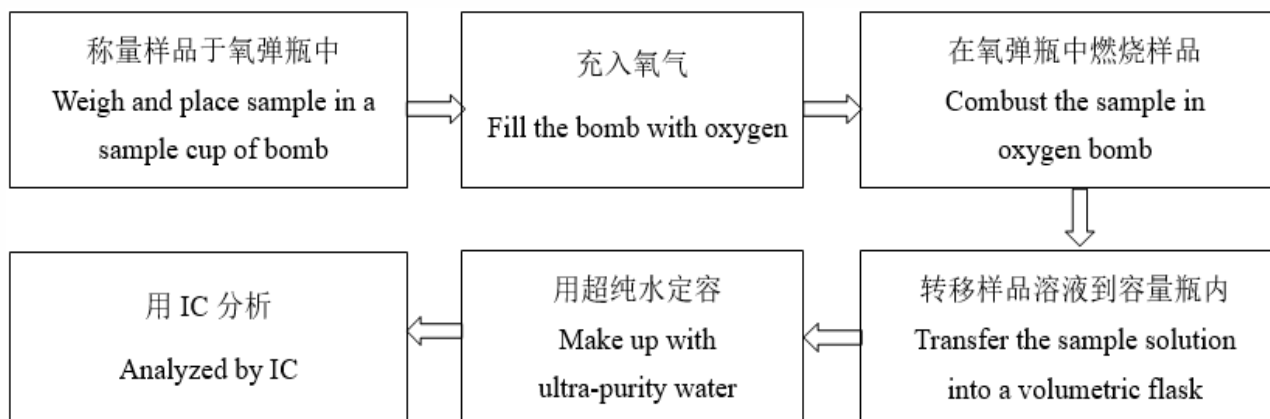


检测报告 Test Report

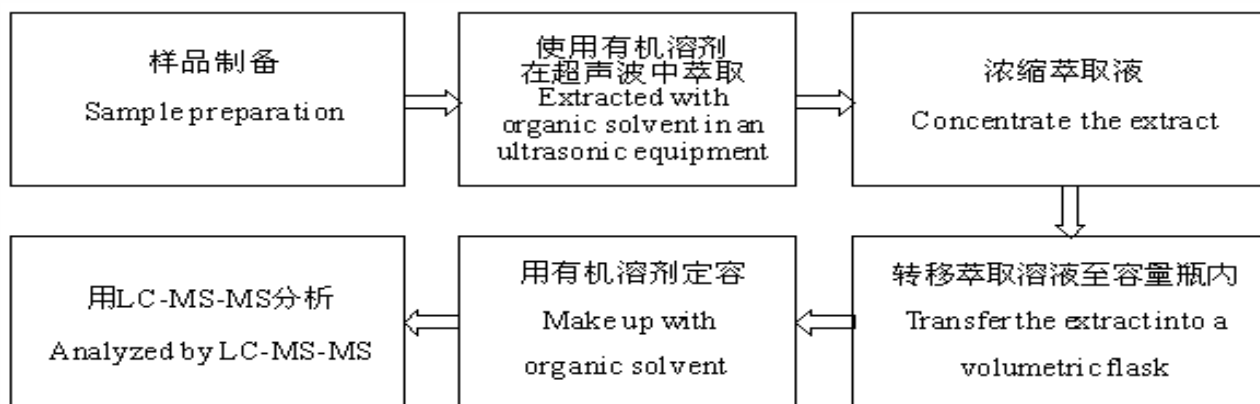
报告编号 A220017212310100101E
Report No. A220017212310100101E

第 11 页 共 15 页
Page 11 of 15

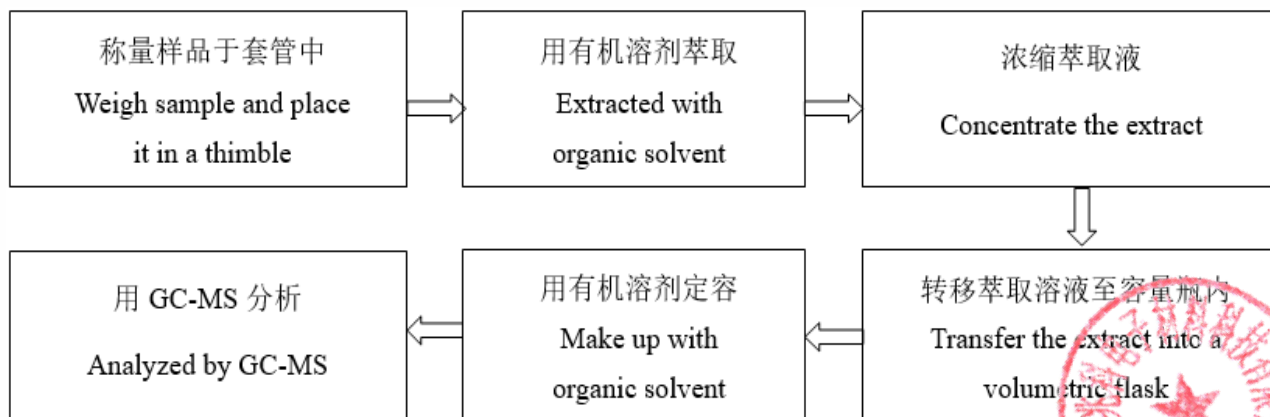
7. 氟 Fluorine (F), 氯 Chlorine (Cl), 溴 Bromine (Br), 碘 Iodine (I), 硫 Sulfur(S)



8. 全氟辛烷磺酸 Perfluorooctane Sulfonates (PFOS), 全氟辛烷酸 Perfluorooctanoic Acid (PFOA)



9. 邻苯二甲酸酯 Phthalates

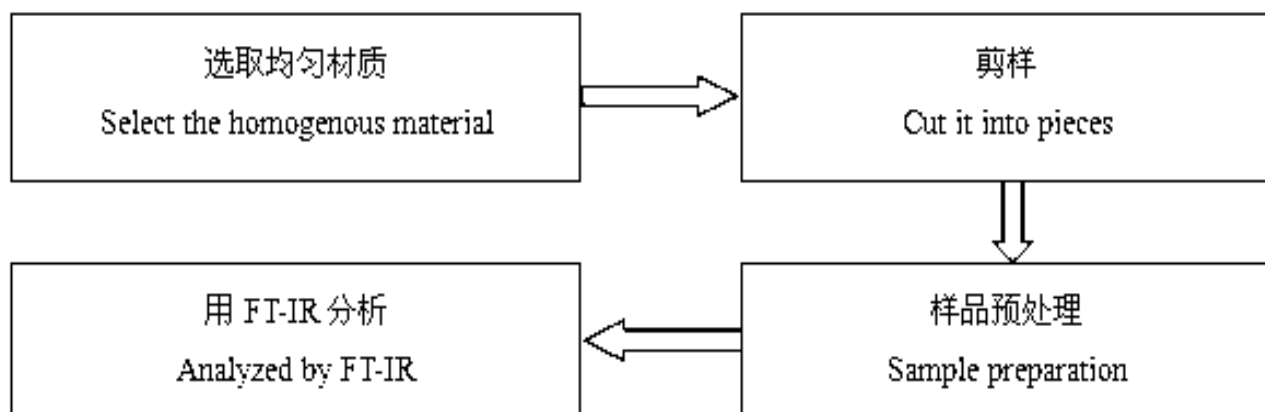


检测报告 Test Report

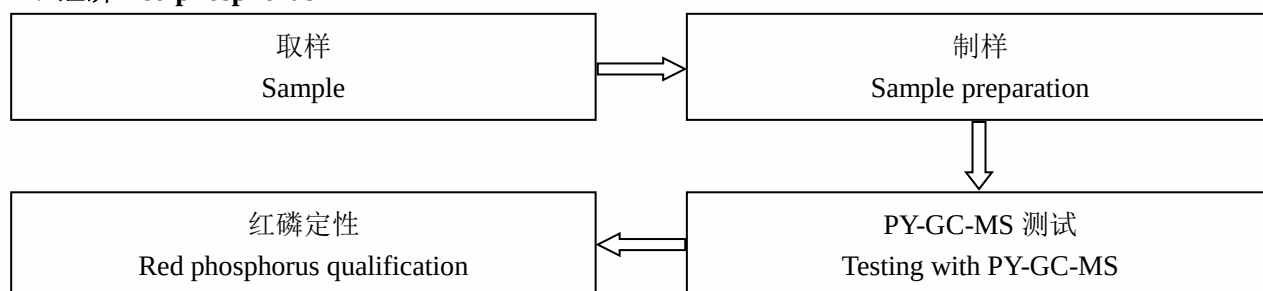
报告编号 A220017212310100101E
Report No. A220017212310100101E

第 12 页 共 15 页
Page 12 of 15

10. 聚氯乙烯 Polyvinyl Chloride (PVC)



11. 红磷 Red phosphorus



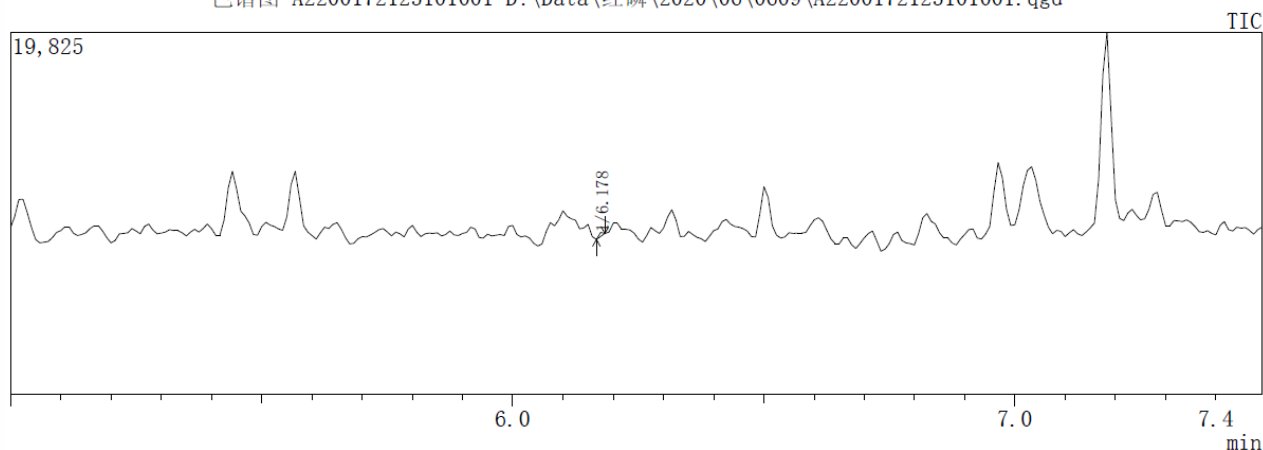
检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 13 页 共 15 页
Page 13 of 15

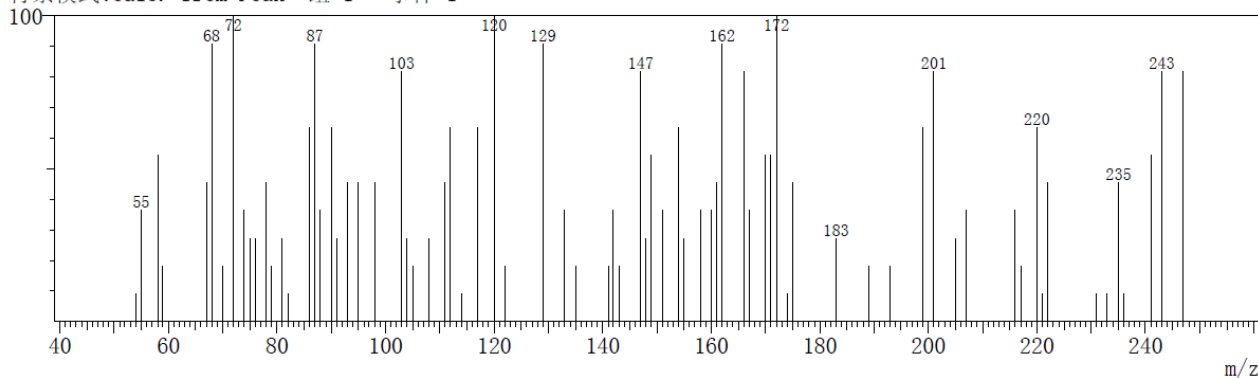
红磷测试谱图 Red phosphorus Test Spectra

色谱图 A2200172123101001 D:\Data\红磷\2020\06\0609\A2200172123101001.qgd



质谱

ID#:1 保留时间:6.167(扫描数:141)
质量峰:75
原始模式:Averaged 6.167-6.175(141-142)
背景模式:Calc. from Peak 组 1 - 事件 1



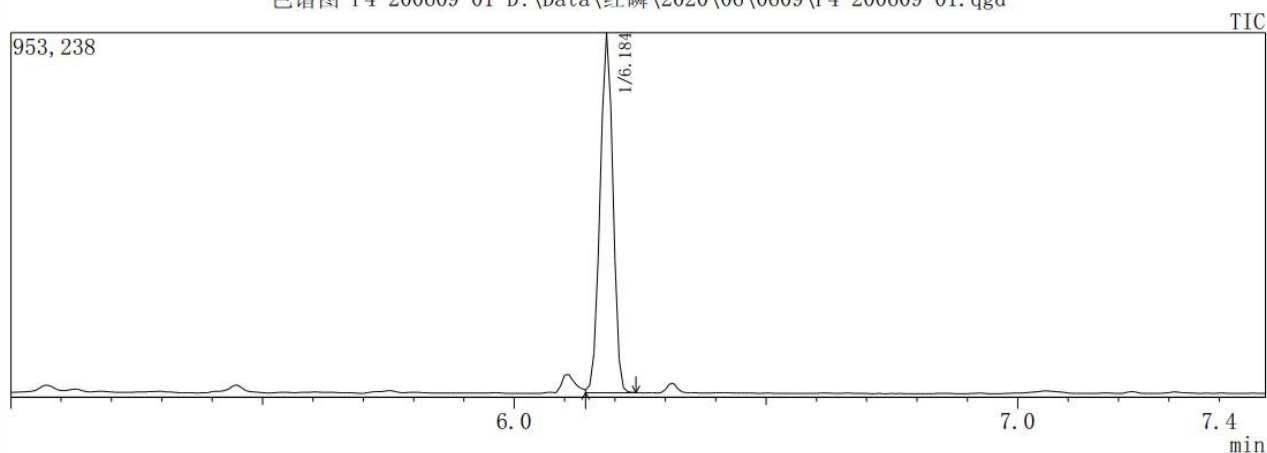
检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 14 页 共 15 页
Page 14 of 15

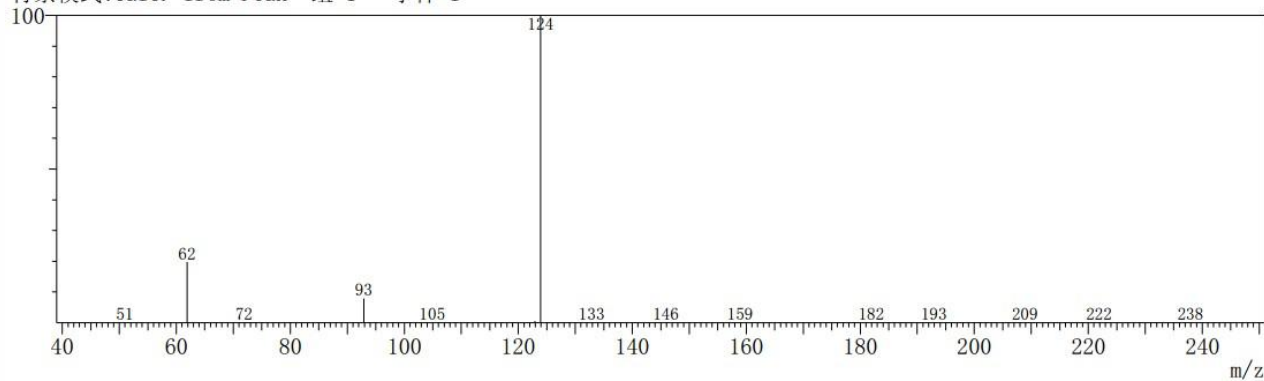
标准物质谱图 Standard Material Test Spectra

色谱图 P4-200609-01 D:\Data\红磷\2020\06\0609\P4-200609-01. qgd



质谱

ID#:1 保留时间:6.183(扫描数:143)
质量峰:109
原始模式:Averaged 6.175-6.192(142-144)
背景模式:Calc. from Peak 组 1 - 事件 1



检测报告 Test Report

报告编号 A220017212310100101E
Report No. A220017212310100101E

第 15 页 共 15 页
Page 15 of 15

样品图片

Photo(s) of the sample(s)



声明 Statement:

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效;
This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. 样品及样品信息由申请者提供, 申请者应对其真实性负责, CTI 未核实其真实性;
The sample(s) and sample information was/were provided by the client who should be responsible for the authenticity which CTI hasn't verified;
3. 本报告检测结果仅对受测样品负责;
The result(s) shown in this report refer(s) only to the sample(s) tested;
4. 未经 CTI 书面同意, 不得部分复制本报告;
Without written approval of CTI, this report can't be reproduced except in full;
5. 如检测报告中的英文内容与中文内容有差异, 以中文为准。
In case of any discrepancy between the English version and Chinese version of the testing reports (if generated), the Chinese version shall prevail.

*** 报告结束 ***

*** End of Report ***



CERTIFICATE OF ROHS

Customer: Foxconn CPE1

Submission Date: 12/11/2020

Part Name: Thermal pad 14x14x2.0mm

Part NO/Drawing NO: 480.01350.005 Rev.A0

Quantity of Submission:20

PO Number:

We hereby certify that the above specified parts were produced according to standard of ROHS

Issued By: Zhoudehua

Approved By: LiuJianPing

Date: 12/11/2020

Notes: TIF180 50-11S



CERTIFICATE OF COMPLIANCE

Customer: Foxconn CPE1

Submission Date: 12/11/2020

Part Name: Thermal pad 14x14x2.0mm

Part NO/Drawing NO: 480.01350.005 Rev.A0

Quantity of Submission:20

PO Number:

We hereby certify that the above specified parts were produced according to Customer's Drawing Requirements and comply with Customer Drawing Requirements

Issued By: Zhoudehua

Approved By: LiuJianPing

Date: 12/11/2020

Notes: TIF180 50-11S



Plastics Certified for Canada - Component

See General Information for Plastics Certified for Canada - Component

ZHITTEK ELECTRONICAL MATERIAL & TECHNOLOGY LTD

E331100

7F 62 XINGFU E RD

XINZHUANG DISTRICT

NEW TAIPEI, 24252 TAIWAN

		Min.		H	H	H	RTI			C
		Thk	Flame	W	A	V	Elec	Mech		T
Mtl Dsg	Color	mm	Class	I	I	A		Imp	Str	I
Polyamide 6 (PA6), furnished as pellets.										
TCP200-(Y)-(Y)	WT, BK	1.0-1.1	V-0	-	-	-	65	65	65	-
Polyphenylene Sulfide (PPS), furnished as pellets.										
TCP300PS-(Y)PA	NC, WT	1.0	V-0	3	0	-	130	130	130	4
		3.0	V-0	2	0	-	130	130	130	
Silicone Rubber (SIR), heat cured, furnished as sheets.										
TIF(X), TIS(X), TIG-780-(Y) (a) (b)										
	ALL	0.1	V-0	-	-	-	150	150	150	-
		0.15	V-0	-	-	-	150	150	150	
	NC, BL	0.2	V-1	-	-	-	150	150	150	
	BK, RD	0.2	V-0	-	-	-	150	150	150	
	ALL	3.0	V-0	-	-	-	150	150	150	
		6.0	V-0	-	-	-	150	150	150	

(a) - Flame rating at 0.1 mm thickness only valid under the build-up construction with 0.5mm Aluminum plate/foil at both side of silicone material and the total build-up thickness is 1.1mm.

(b) - Flame rating at 0.15 mm thickness only valid under the build-up construction with 0.02 mm Aluminum plate/foil at both side of silicone material and the total build-up thickness is 0.19mm.

(X) - Replaced by 3-4 digits denoting thickness.

(Y) - Replaced by two digitals from 00 to 99 to denote color.

Marking: Company name, material designation, Recognized Component Mark for

Canada, , generic polymer identification, color number where appropriate and batch or lot number or date of manufacture on container, wrapper or molded on finished part.

Last Updated on 2020-11-26



实体照片

客户Customer	Foxconn	规格Dimension	14*14*2.0mm
品名Description	Thermal pad	包装Packing of	392/bag
料号Part NO	480.01350.005	日期：Date:	2020.11.12
图示 graphical representation	单重(piece weight): 1.35g		

