



中国认可
国际互认
检测
TESTING
CNAS L3150



Access to the World

检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023 年 12 月 26 日

第 1 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 1 of 12

委托单位 : 深圳拓竹科技有限公司
Applicant : Shenzhen Tuozhu Technology Co., Ltd.
地址 : 深圳市前海深港合作区前湾一路 1 号 A 栋 201 室
Address : Room 201, Building A, No. 1 First Qianwan Road, Qianhai Shengang Cooperation Zone, Shenzhen

样品名称 : 3D 打印线材
Sample Name : Bambu ABS-GF
型号 : B50-xx (xx 代表任意后缀)
Style/Item No. : B50-xx (xx stands for any suffix)

接收日期 : 2023 年 12 月 19 日
Received Date : Dec. 19, 2023
检测日期 : 2023 年 12 月 19 日~2023 年 12 月 26 日
Test Period : Dec. 19, 2023~ Dec. 26, 2023

测试要求 : 根据客户要求, 对送测样品进行关于在电子电器产品中限制使用某些有害物质的欧盟指令 2011/65/EU 附件 II 及其修订指令 (EU) 2015/863 的符合性评估。
Test Requested : As requested by the client, to evaluate the compliance of the submitted sample with EU RoHS Directive 2011/65/EU Annex II and its amendment (EU) 2015/863 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

测试方法 : 1. 对客户所提交的样品及其相关材料清单进行检查、评估。
Test Method : Review was performed for the sample and the related Bill of Materials submitted by the Applicant.
2. a) 参照 IEC 62321-3-1:2013: X 射线荧光扫描筛选测试。
Refer to the standard IEC 62321-3-1:2013: Screening by XRF Spectroscopy.
b) 湿化学测试
Wet chemical test
1) 参照 IEC 62321-5:2013, 测试铅和镉, 分析仪器为 ICP-OES;
Refer to IEC 62321-5:2013, determine the Cadmium, Lead content by ICP-OES.
2) 参照 IEC 62321-4:2013+A1:2017, 测试汞, 分析仪器为 ICP-OES;
Refer to IEC 62321-4:2013+A1:2017, determine the Mercury content by ICP-OES.
3) 参照 IEC 62321-7-1:2015 & IEC 62321-7-2:2017, 测试六价铬, 分析仪器为 UV-VIS;
Refer to IEC 62321-7-1:2015 & IEC 62321-7-2:2017, determine the

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the tests requested by you and the results thereof based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China Http://www.emtek.com.cn E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第2页共12页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 2 of 12

Hexavalent Chromium content by UV-VIS.

- 4) 参照 IEC 62321-6:2015, 测试多溴联苯和多溴联苯醚, 分析仪器为 GC-MS:
Refer to IEC 62321-6:2015, determine the Polybrominated Biphenyls and Polybrominated Diphenyl Ethers by GC-MS.
- 5) 参照 IEC 62321-8:2017, 测试邻苯二甲酸二丁酯 (DBP), 邻苯二甲酸丁苄酯 (BBP), 邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯 (DIBP), 分析仪器为 GC-MS。
Refer to IEC 62321-8:2017, determine the Dibutyl phthalate(DBP), Benzylbutyl phthalate(BBP), Di-2-ethylhexyl phthalate(DEHP) and Diisobutyl phthalate(DIBP) by GC-MS.

测试结果 : 请参见下一页。
Test Results : Please refer to next page(s).

执行测试总结:

Executive Summary:

基于所提交样品中均质材料的测试结果, 所提交样品符合欧盟 RoHS 指令 2011/65/EU 附件 II 及其修订指令(EU) 2015/863 中的要求。

Basing on the test results obtained from the homogenous materials, the submitted sample **COMPLIES** with the EU RoHS Directive 2011/65/EU Annex II and its amendment (EU) 2015/863.

谨代表

Signed for and on behalf of
东莞市信测科技有限公司
EMTEK (Dongguan) Co., Ltd.

制作:

Prepared by:

吴嘉莉, Garli
Wu Jiali, Garli
报告工程师
Report Engineer

审核:

Reviewed by:

曾杏姬, Cindy
Zeng Xingji, Cindy
主管
Supervisor

批准:

Approved by:

李伟, Lisa
Li Wei, Lisa
授权签字人

Authorized signatory

2023年12月26日

Dec. 26, 2023

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK (Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023 年 12 月 26 日

第 3 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 3 of 12

测试结果:

Test Results:

1. Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs 测试结果:

Pb, Cd, Hg, Cr⁶⁺, PBBs, PBDEs Test Results:

序号 No.	样品描述 Sample description	受限物质 Restricted substances	分析元素 Analytical element	荧光扫描 结果 ⁽¹⁾ Results of EDXRF ⁽¹⁾	湿化学测试结 果 ⁽²⁾ (mg/kg) Results of Chemical Testing ⁽²⁾ (mg/kg)	结论 Conclusion	备注 Remark
1	黑色硬塑料 Black hard plastic	Pb	Pb	BL	NA	合格 Pass	无 No comment
		Cd	Cd	BL			
		Hg	Hg	BL			
		Cr ⁶⁺	Cr	BL			
		PBBs	Br	BL			
		PBDEs					

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中大海生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023 年 12 月 26 日

第 4 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 4 of 12

测试结果:

Test Results:

2. 邻苯二甲酸酯 (DEHP, DBP, BBP, DIBP) 测试结果:

Phthalates (DBP, BBP, DEHP, DIBP) Test Results:

测试项目	测试结果 (mg/kg)	MDL (mg/kg)	要求(mg/kg) Requirement (mg/kg)
	Test Result (mg/kg)		
	1		
邻苯二甲酸二丁酯 (DBP) Dibutyl phthalate(DBP)	ND	30	1000
邻苯二甲酸丁苄酯 (BBP) Benzylbutyl phthalate(BBP)	ND	30	1000
邻苯二甲酸二(2-乙基己基)酯 (DEHP) Di-2-ethylhexyl phthalate(DEHP)	ND	30	1000
邻苯二甲酸二异丁酯 (DIBP) Diisobutyl phthalate(DIBP)	ND	30	1000
结论 Conclusion	合格 Pass	---	---

备注: mg/kg = 百万分之一 = ppm

ND = 未检测到 (小于 MDL)

MDL = 方法检测限

Note: mg/kg = part per million = ppm

ND = Not Detected (less than MDL)

MDL = Method Detection Limit

测试材料:

Tested Materials:

序号 Item No.	样品描述 Description
1	黑色硬塑料 Black hard plastic

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物技术研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China Http://www.emtek.com.cn E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第5页共12页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 5 of 12

备注: (1) ① XRF 结果是初步筛选,如果有不确定结果(如下表中“X”)需要进一步通过 ICP-OES/AAS(针对镉,铅,汞), UV-VIS(针对六价铬)以及 GC-MS(针对多溴联苯,多溴联苯醚)做湿化学分析 (单位: 毫克/千克)。

Remark: Results are obtained by XRF for primary screening, and further wet chemical testing by ICP-OES / AAS (for Cd, Pb, Hg), UV-VIS (for Cr(VI)) and GC-MS (for PBBs, PBDEs) is recommended to be performed, if an inconclusive result was found (as “X” in below table) (unit: mg/kg).

② OL = 超出限值, BL = 低于限值, X = 不确定, NA= 不适用。

OL = Over Limit, BL = Below Limit, X = Inconclusive, NA= Not Applicable.

③ 针对元素的扫描结果-不均一材料的测试值与真实值可能存在差异。

XRF screening test for RoHS elements – The test result may be different from the actual content in the non-uniformity composition sample.

分析元素 Element	聚合物材料 Polymer	金属材料 Metal	电子元件 Composite Materials
镉 Cd	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$BL \leq (70-3\sigma) < X < (130+3\sigma) \leq OL$	$LOD < X < (150+3\sigma) \leq OL$
铅 Pb	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
汞 Hg	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (700-3\sigma) < X < (1300+3\sigma) \leq OL$	$BL \leq (500-3\sigma) < X < (1500+3\sigma) \leq OL$
溴 Br	$BL \leq (300-3\sigma) < X$	NA	$BL \leq (250-3\sigma) < X$
铬 Cr	$BL \leq (700-3\sigma) < X$	$BL \leq (700-3\sigma) < X$	$BL \leq (500-3\sigma) < X$

(2) ① mg/kg = ppm = 0.0001%, ND = 未检测到 (小于 MDL), MDL = 方法检测限。

mg/kg = ppm = 0.0001%, ND = Not Detected (less than MDL), MDL = Method Detection Limit.

② 湿化学测试中的单位和方法检测限 (MDL) 及限量要求。

Unit, Method Detection Limit (MDL) and Requirement limit in wet chemical test.

测试项目 Test items	Pb	Cd	Hg	Cr ⁶⁺ (非金属) Cr ⁶⁺ (Non-metal)	Cr ⁶⁺ (金属) Cr ⁶⁺ (metal)	PBBs(single)	PBDEs(single)
单位 Unit	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
MDL	2	2	2	8	---	5	5
限量要求 Requirement Limit	1000	100	1000	1000	阴性 Negative	1000	1000

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China Http://www.emtek.com.cn E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023 年 12 月 26 日

第 6 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 6 of 12

备注: (2) ③ 依据 IEC 62321-7-1:2015, 金属样品中 Cr⁶⁺的结果用阳性/阴性来表示。

Remark: According to IEC 62321-7-1:2015, result on Cr⁶⁺ for metal sample shall be shown as Positive/Negative.

- a) 当六价铬的浓度高于 0.13 $\mu\text{g}/\text{cm}^2$ 时, 样品为阳性, 即含有六价铬。
The Cr(VI) concentration is more than 0.13 $\mu\text{g}/\text{cm}^2$, the sample is positive for Cr(VI), the coating is considered to contain Cr(VI).
- b) 当六价铬的浓度低于 0.10 $\mu\text{g}/\text{cm}^2$ 时, 样品为阴性, 即未检测到六价铬。
The Cr(VI) concentration is less than 0.10 $\mu\text{g}/\text{cm}^2$, the sample is negative for Cr(VI), the coating is considered a non-Cr(VI) based coating.

由于未知测试样品的储存条件及生产日期, 测试结果仅代表样品在测试期间的状态。

Storage condition and production date of the tested sample are unavailable and thus results of Cr⁶⁺ represent status of the sample at the time of testing.

- ④ 根据 IEC 62321-3-1:2013 的标准要求, 这列内容代表化学测试结果, 而“NA”代表前面 XRF 扫描测试合格后不需要再做化学测试。

According to IEC 62321-3-1:2013, this column represents the results of wet chem test. And “NA” means no need to perform wet chem test, when the XRF screening results are acceptable.



检测报告

Test Report

编号: EDG2312190098C00207R
No.: EDG2312190098C00207R

日期: 2023年12月26日
Date: Dec. 26, 2023

第7页共12页
Page 7 of 12

样品照片

Sample Photo



Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



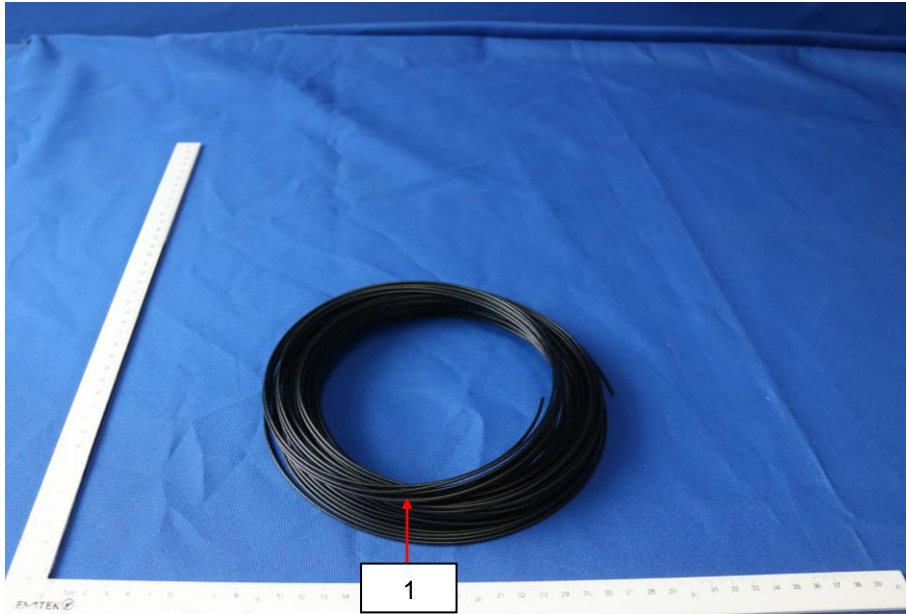
检测报告 Test Report

编号: EDG2312190098C00207R
No.: EDG2312190098C00207R

日期: 2023年12月26日
Date: Dec. 26, 2023

第 8 页 共 12 页
Page 8 of 12

样品照片 Sample Photo



*** 报告结束 ***
*** End of Report ***

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中大海洋生物技术研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn
Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第9页共12页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 9 of 12

ANNEX

EXEMPTION LIST

- 1 Mercury in single capped (compact) fluorescent lamps not exceeding (per burner):
 - 1(a) For general lighting purposes < 30W: 5mg (expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011 until 31 December 2012; 2.5mg shall be used per burner after 31 December 2012)
 - 1(b) For general lighting purposes \geq 30W and <50W: 5mg (expires on 31 December 2011; 3.5mg may be used per burner after 31 December 2011)
 - 1(c) For general lighting purposes \geq 50W and <150W: 5mg
 - 1(d) For general lighting purposes \geq 150W: 15mg
 - 1(e) For general lighting purposes with circular or square structural shape and tube diameter \leq 17mm (no limitation of use until 31 December 2011; 7mg may be used per burner after 31 December 2011)
 - 1(f) For special purposes: 5mg
 - 1(g) For general lighting purposes < 30 W with a lifetime equal or above 20 000 h: 3,5 mg (Expires on 31 December 2017)
- 2(a) Mercury in double-capped linear fluorescent lamps for general lighting purposes not exceeding (per lamp):
 - 2(a)(1) Tri-band phosphor with normal lifetime and a tube diameter < 9mm (e.g. T2): 5mg (expires on 31 December 2011; 4mg may be used per lamp after 31 December 2011)
 - 2(a)(2) Tri-band phosphor with normal lifetime and a tube diameter \geq 9mm and \leq 17mm (e.g. T5): 5mg (expires on 31 December 2011; 3mg may be used per lamp after 31 December 2011)
 - 2(a)(3) Tri-band phosphor with normal lifetime and a tube diameter > 17mm and \leq 28mm (e.g. T8): 5mg (expires on 31 December 2011; 3.5mg may be used per lamp after 31 December 2011)
 - 2(a)(4) Tri-band phosphor with normal lifetime and a tube diameter > 28mm (e.g. T12): 5mg (expires on 31 December 2012; 3.5mg may be used per lamp after 31 December 2012)
 - 2(a)(5) Tri-band phosphor with long lifetime (\geq 25000h): 8mg (expires on 31 December 2011; 5mg may be used per lamp after 31 December 2011)
- 2(b) Mercury in other fluorescent lamps not exceeding (per lamp):
 - 2(b)(2) Non-linear halophosphate lamps (all diameters): 15mg (expires on 13 April 2016)
 - 2(b)(3) Non-linear tri-band phosphor lamps with tube diameter > 17mm (e.g. T9) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 2(b)(4) Lamps for other general lighting and special purposes (e.g. induction lamps) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 3 Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes not exceeding (per lamp):
 - 3(a) Short length (\leq 500mm) (No limitation of use until 31 December 2011; 3.5mg may be used per lamp after 31 December 2011)
 - 3(b) Medium length (> 500mm and \leq 1500mm) (No limitation of use until 31 December 2011; 5mg may be used per lamp after 31 December 2011)
 - 3(c) Long length (> 1500mm) (No limitation of use until 31 December 2011; 13mg may be used per lamp after 31 December 2011)
- 4(a) Mercury in other low pressure discharge lamps (per lamp) (no limitation of use until 31 December 2011; 15mg may be used per lamp after 31 December 2011)
- 4(b) Mercury in High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner) in lamps with improved colour rendering index $R_a > 60$:
 - 4(b)-I $P \leq 155W$ (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
 - 4(b)-II $155W < P \leq 405W$ (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
 - 4(b)-III $P > 405W$ (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(c) Mercury in other High Pressure Sodium (vapour) lamps for general lighting purposes not exceeding (per burner):
 - 4(c)-I $P \leq 155W$ (no limitation of use until 31 December 2011; 25mg may be used per burner after 31 December 2011)
 - 4(c)-II $155W < P \leq 405W$ (no limitation of use until 31 December 2011; 30mg may be used per burner after 31 December 2011)
 - 4(c)-III $P > 405W$ (no limitation of use until 31 December 2011; 40mg may be used per burner after 31 December 2011)
- 4(d) Mercury in High Pressure Mercury (vapour) lamps (HPMV) (expires on 13 April 2015)
- 4(e) Mercury in metal halide lamps (MH)
- 4(f) Mercury in other discharge lamps for special purposes not specifically mentioned in this Annex
- 4(g) Mercury in hand crafted luminous discharge tubes used for signs, decorative or architectural and specialist lighting and light art work, where the mercury content shall be limited as follows: (Expires on 31 December 2018)
 - (a) 20 mg per electrode pair + 0,3 mg per tube length in cm, but not more than 80 mg, for outdoor applications and indoor applications exposed to temperatures below 20 °C;
 - (b) 15 mg per electrode pair + 0,24 mg per tube length in cm, but not more than 80 mg, for all other indoor applications.

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the tests requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物技术研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第 10 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 10 of 12

ANNEX

EXEMPTION LIST

Continued

- 5(a) Lead in glass of cathode ray tubes
- 5(b) Lead in glass of fluorescent tubes not exceeding 0.2% by weight
- 6(a) Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0.35% lead by weight
- 6(b) Lead as an alloying element in aluminium containing up to 0.4% lead by weight
- 6(c) Copper alloy containing up to 4% lead by weight.
- 7(a) Lead in high melting temperature type solders (i.e. lead based alloys containing 85% by weight or more lead)
- 7(b) Lead in solders for servers, storage and storage array systems, network infrastructure equipment for switching, signalling, transmission, and network management for telecommunications
- 7(c)-I Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectric devices, or in a glass or ceramic matrix compound
- 7(c)-II Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher
- 7(c)-III Lead in dielectric ceramic in capacitors for a rated voltage of less than 125V AC or 250V DC (expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013).
- 7(c)-IV Lead in PZT based dielectric ceramic materials for capacitors being part of integrated circuits or discrete semiconductors
- 8(a) Cadmium and its compounds in one shot pellet type thermal cut-offs (expires on 1 January 2012 and after that date may be used in spare parts for EEE placed on the market before 1 January 2012)
- 8(b) Cadmium and its compounds in electrical contacts
Applies to categories 8, 9 and 11 and expires on:
— 21 July 2021 for categories 8 and 9 other than in vitro diagnostic medical devices and industrial monitoring and control instruments;
— 21 July 2023 for category 8 in vitro diagnostic medical devices;
— 21 July 2024 for category 9 industrial monitoring and control instruments, and for category 11
- 8(b)-I Cadmium and its compounds in electrical contacts used in:
Applies to categories 1 to 7 and 10 and expires on 21 July 2021.
— circuit breakers,
— thermal sensing controls,
— thermal motor protectors (excluding hermetic thermal motor protectors),
— AC switches rated at:— 6 A and more at 250 V AC and more, or
— 12 A and more at 125 V AC and more,
— DC switches rated at 20 A and more at 18 V DC and more, and
— switches for use at voltage supply frequency \geq 200 Hz.
- 9 Hexavalent chromium as an anti-corrosion agent of the carbon steel cooling system in absorption refrigerators up to 0.75% by weight in the cooling solution
- 9(b) Lead in bearing shells and bushes for refrigerant-containing compressors for heating, ventilation, air conditioning and refrigeration (HVACR) applications
- 11(b) Lead used in other than C-press compliant pin connector systems (expires on 1 January 2013 and after that date may be used in spare parts for EEE placed on the market before 1 January 2013)
- 13(a) Lead in white glasses used for optical applications
- 13(b) Cadmium and lead in filter glasses and glasses used for reflectance standards
- 14 Lead in solders consisting of more than two elements for the connection between the pins and the package of microprocessors with a lead content of more than 80% and less than 85% by weight (expires on 1 January 2011 and after that date may be used in spare parts for EEE placed on the market before 1 January 2011)
- 15 Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit Flip Chip packages
- 17 Lead halide as radiant agent in High Intensity Discharge (HID) lamps used for professional reprography applications
- 18(b) Lead as activator in the fluorescent powder (1% lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb)
- 21 Lead and cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glass
- 24 Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors
- 25 Lead oxide in surface conduction electron emitter displays (SED) used in structural elements, notably in the seal frit and frit ring
- 29 Lead bound in crystal glass as defined in Annex 1 (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC
- 30 Cadmium alloys as electrical/mechanical solder joints to electrical conductors located directly on the voice coil in transducers used in high-powered loudspeakers with sound pressure levels of 100 dB (A) and more

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the tests requested by you and the results thereof based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK (Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第 11 页 共 12 页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 11 of 12

ANNEX

EXEMPTION LIST

Continued

- 31 Lead in soldering materials in mercury free flat fluorescent lamps (which e.g. are used for liquid crystal displays, design or industrial lighting)
- 32 Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes
- 33 Lead in solders for the soldering of thin copper wires of 100 µm diameter and less in power transformers
- 34 Lead in cermet-based trimmer potentiometer elements
- 37 Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body
- 38 Cadmium and cadmium oxide in thick film pastes used on aluminium bonded beryllium oxide
- 39 Cadmium in colour converting II-VI LEDs (< 10 µg Cd per mm² of light-emitting area) for use in solid state illumination or display systems (expires on 1 July 2014)
- 41 Lead in solders and termination finishes of electrical and electronic components and finishes of printed circuit boards used in ignition modules and other electrical and electronic engine control systems, which for technical reasons must be mounted directly on or in the crankcase or cylinder of hand-held combustion engines (classes SH:1, SH:2, SH:3 of Directive 97/68/EC of the European Parliament and of the Council (2)) (Expires on 31 December 2018)
- 43 Bis(2-ethylhexyl) phthalate in rubber components in engine systems, designed for use in equipment that is not intended solely for consumer use and provided that no plasticised material comes into contact with human mucous membranes or into prolonged contact with human skin and concentration value of bis(2-ethylhexyl) phthalate does not exceed:
- a) 30% by weight of the rubber for
- (i) gasket coatings;
- (ii) solid-rubber gaskets; or
- (iii) rubber components included in assemblies of at least three components using electrical, mechanical or hydraulic energy to do work, and attached to the engine.
- b) 10% by weight of the rubber for rubber-containing components not referred to in point (a).
- For the purposes of this entry, "prolonged contact with human skin" means continuous contact of more than 10 minutes duration or intermittent contact over a period of 30 minutes, per day.
- 44 Lead in solder of sensors, actuators, and engine control units of combustion engines within the scope of Regulation (EU) 2016/1628 of the European Parliament and of the Council, installed in equipment used at fixed positions while in operation which is designed for professionals, but also used by non-professional users.

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the tests requested by you and the results thereof based upon the information that you provided. You have 30 days from date of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中大海洋生物技术研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK (Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



检测报告

Test Report

编号: EDG2312190098C00207R

日期: 2023年12月26日

第12页共12页

No.: EDG2312190098C00207R

Date: Dec. 26, 2023

Page 12 of 12

声明 Statement

1. 本检测报告首页所列信息中除样品来源、接样日期、检测日期、检测结果和检测结论外, 均由委托方提供, 委托方对样品的代表性和资料的真实性负责, 本实验室不承担任何相关责任。
The information as listed on the first page of this test report was all provided by the client except the sample from, date received, test period, test results and test conclusion. The client shall be responsible for the representativeness of sample and authenticity of materials, for which EMTEK shall bear no responsibilities.
2. 本检测报告以实测值进行符合性判定, 未考虑不确定度所带来的风险, 特别约定、标准或规范中有明确规定的除外。此种判定方式所带来的风险由客户自行承担, 本实验室不承担任何相关责任。
The judgment method of determining the conformity in this test report is according to the measured value without considering the risk caused by uncertainty, unless otherwise clearly stipulated in special agreement, standard or specification. The client shall assume the risk caused by the judgment method, and EMTEK shall not bear related responsibilities.
3. 检测报告无批准人签字及“检验检测专用章”无效, 未经本实验室书面同意, 不得整体或部分复制本报告。
The test report is effective only with both signature and specialized stamp. Without written approval of EMTEK, this report can't be reproduced in full or in part.
4. 本检测报告的检测结果仅对送测样品负责, 未加盖资质认定标志的检测报告不对社会具有公证证明作用, 对于检测数据、结果的使用, 所产生的直接或间接损失及一切法律后果, 本实验室不承担任何经济和法律后果。
This test data is only responsible for the tested sample. The data and results provided by the report without CMA accreditation are not to prove to the society, and EMTEK is not responsible for any economic and legal responsibility for the use of the test data, the direct or indirect losses resulting from the use of the test and all legal consequences.
5. 本检测报告中检测项目标注有特殊符号则该项目不在本实验室资质认定能力范围内, 该项目检测结果仅作为客户委托、科研、教学或内部质量控制等目的使用。
The test items are marked with special symbols in the report is out of the scope of CMA accreditation. The test result only used for client's requirement, scientific researching, teaching or internal quality control.
6. 其它声明请查阅报告页脚及书面报告末页。
For other statements, please refer to the footer of the report.

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

东莞市信测科技有限公司 / 地址: 广东省东莞市松山湖高新技术产业开发区新城大道9号中海洋生物科技研发基地A区2号办公楼负一层、第二层 网址: [Http://www.emtek.com.cn](http://www.emtek.com.cn)
EMTEK(Dongguan) Co., Ltd. 邮箱: E-mail: project@emtek.com.cn

Add: -1&2/F., Building 2, Zone A, Zhongda Marine Biotechnology Research and Development Base, No.9, Xincheng Avenue, Songshanhu High-technology Industrial Development Zone, Dongguan, Guangdong, China [Http://www.emtek.com.cn](http://www.emtek.com.cn) E-mail: project@emtek.com.cn



签发测试报告条款 Conditions of Issuance of Test Reports

1. 东莞市信测科技有限公司（以下简称[本公司]）为提供符合下述条款的测试和报告，而接受有关样品和货品。本公司基于下述条款提供服务，下述条款为本公司与申请服务的个人，企业或公司（以下简称[客户]）的协议。
All samples and goods are accepted by the EMTEK(Dongguan) Co., Ltd. (the "Company") solely for testing and reporting in accordance with the following terms and conditions. The company provides its services on the basis that such terms and conditions constitute express agreement between the Company and any person, firm or company requesting its services (the "Clients").
2. 由此测试申请所发出的任何报告（以下简称[报告]），本公司会严格为客户保密。未经本公司的书面同意，报告的整体或部分不得复制，也不得用于广告或授权的其他用途。然而，客户可以将本公司印制的报告或认可的副本，向其客户、供货商或直接相关的其他人出示或提交。除非相关政府部门、法律或法规要求，否则未经客户同意，本公司不得将报告内容向任何第三方讨论或披露。
Any report issued by Company as a result of this application for testing services (the "Report") shall be issued in confidence to the Clients and the Report will be strictly treated as such by the Company. It may not be reproduced either in its entirety or in part and it may not be used for advertising or other unauthorized purposes without the written consent of the Company. The Clients to whom the Report is issued may, however, show or send it, or a certified copy thereof prepared by the Company to its customer, supplier or other persons directly concerned. The Company will not, without the consent of the Clients, enter into any discussion or correspondence with any third party concerning the contents of the Report, unless required by the relevant governmental authorities, laws or court orders.
3. 除非相关政府部门、法律或法院要求，否则未经公司预先书面同意，本公司毋庸，也并无义务到法院对有关报告作证。
The Company shall not be called or be liable to be called to give evidence or testimony on the Report in a court of law without its prior written consent, unless required by the relevant governmental authorities, laws or court orders.
4. 如果本公司确定报告被不当地使用，本公司保留撤回报告的权利，并有权要求其它适当的额外赔偿。
In the event of the improper use of the report as determined by the Company, the Company reserves the right to withdraw it, and to adopt any other additional remedies which may be appropriate.
5. 本公司接受样品进行测试的前提是，该测试报告不能作为针对本公司法律行动的依据。
Samples submitted for testing are accepted on the understanding that the Report issued cannot form the basis of, or be the instrument for, any legal action against the Company.
6. 如因使用本公司中心任何报告内的资料，或任何传播信息所描述与之有关的测试或研究导致的任何损失或损害，本公司概不负责。
The Company will not be liable for or accept responsibility for any loss or damage however arising from the use of information contained in any of its Reports or in any communication whatsoever about its said tests or investigations.
7. 若需要在法院审理程序或者仲裁过程中使用测试报告，客户必须在提交测试样品前将该意图告知本公司。
Clients wishing to use the Report in court proceedings or arbitration shall inform the Company to that effect prior to submitting the sample for testing.
8. 该测试报告的支持数据和信息本公司保存 10 年。个别评审机构有特别要求的，检测数据和报告的保存期可依情况变动。一旦超过上述提交的保存期限，数据和信息将被处理掉。任何情况下，本公司不必提供任何被处理的过期数据或信息。即使本公司事先被告知可能会发生相关的损害，本公司在任何情况下也不必承担任何损害，包括（但不限于）补偿性赔偿、利润损失、数据遗失、或任何形式的特殊损害、附带损害、间接损害、从属损害或任何违反约定、违反承诺、侵权（包括疏忽）、产品责任或其他原因的惩罚性损害。
Subject to the variable length of retention time for test data and report stored hereinto as otherwise specifically required by individual accreditation authorities, the Company will only keep the supporting test data and information of the test report for a period of ten years. The data and information will be disposed of after the aforementioned retention period has elapsed. Under no circumstances shall we provide any data and information which has been disposed of after retention period. Under no circumstances shall we be liable for damage of any kind, including (but not limited to) compensatory damages, lost profits, lost data, or any form of special, incidental, indirect, consequential or punitive damages of any kind, whether based on breach of contract of warranty, tort (including negligence), product liability or otherwise, even if we are informed in advance of the possibility of such damages.

Test results are only responsible for delivered samples. This test report is issued by the company and is intended for your exclusive use. This test report includes all of the testes requested by you and the results thereof based upon the information that you provided. You have 30 days from data of issuance of this test report to notify us of any error or omission caused by our negligence. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.

