

578-BATT LITHIUM-ION BATTERY PACK TEST SUMMARY  
 IN ACCORDANCE WITH SUB-SECTION 38.3 OF  
 MANUAL OF TESTS AND CRITERIA

**BATTERY TRANSPORTATION INFORMATION**

<b>Name of Model and Product manufacturer.</b>  Item Number: <b>578-BATT</b>  Item Description: Lithium Ion Battery Pack.  Bayco Products Inc. 1640 Sanden Blvd. Wylie Tx, 75098		<b>Battery contract manufacturer's contact information.</b>  Electrochem Automation (Shanghai) Co., LTD. No. 5788 Huaxia (W) Rd. Pudong, Shanghai, P.R. China 201204	
<b>Name of Test Laboratory.</b>  Shanghai Research Institute of Chemical Industry Testing Centre No.345 East Yun Ling Road, Shanghai, China		<b>Test Report Identification</b> No. 1119120238	<b>Date of Test Report</b>  12/15/2019
Description:  Battery Pack for Flash\Work Light  Cell Type: 1ICR18/65  V/Capacity/W/H rating: 3.7V / 2600mAh /9.6Wh  Battery Weight: 0.047 Kgm		List of tests conducted and results (ie: pass/fail).  Test T.1: <b>Altitude Simulation</b> : <b>P</b>  Test T.2: <b>Thermal Test</b> : <b>P</b>  Test T.3: <b>Vibration</b> : <b>P</b>  Test T.4: <b>Shock</b> : <b>P</b>  Test T.5: <b>External Short Circuit</b> : <b>P</b>  Test T.6: <b>Impact/Crush</b> : <b>P/na</b>  Test T7: <b>Overcharge</b> : <b>P</b>  Test T.8: <b>Forced Discharge</b> : <b>P</b>  <b>Comments: N/A</b>	
<b>Testing Requirements:</b> The Rechargeable lithium Batteries supplied by BAYCO PRODUCTS INC are tested according to Section 38.3 of the Sixth Revised Edition of the Recommendations on the Transport of Dangerous Goods, manual of Test and Criteria (ST/SG/AC.10/11/Rev.6/Section 38.3). The results comply with the relevant requirements of the standard.			
<b>Reference to assembled battery testing:</b> Section 38.3	<b>Reference to the revised edition of the manual of Tests and Criteria:</b> Section 38.3 of the Sixth Revised Edition of the Recommendations on the Transport of Dangerous Goods, manual of Test and Criteria (ST/SG/AC.10/11/Rev.6/Section 38.3).	<b>For air transport only does the battery comply with the 30% State of Charge:</b> Y	
PRODUCT CLASSIFICATION FOR TRANSPORT (According to UN – DGP)			
UN Classification: <b>UN 3481</b>		Proper Shipping Name: <b>Lithium Ion Batteries</b> (Contained in equipment)	
<b>Signature &amp; Title:</b> James Conner Engineer <i>James Conner</i>		This document remains valid as long as no changes, modifications or additions are made to the model(s) described in this document, after being transported from the manufacturing facility. The model(s) has (have) been classified according to the applicable transport regulations and the UN Manual of Tests and Criteria as of the date of the certification. The model(s) must be packaged, labelled, and documented according to the country and other international regulations for transportation.	
<b>Date:</b> 2/27/2020			



中国认可  
检测  
TESTING  
CNAS L0748



170014233963



NO.1121040720

# 检测报告

## Test Report

样品名称: 充电锂电池组 578-BATT 3.7V 2.6Ah 9.6Wh

Name of Sample: Lithium Battery Pack 578-BATT 3.7V 2.6Ah 9.6Wh

委托单位: 全能电池(上海)有限公司

Consignor: ELECTROCHEM AUTOMATION(SHANGHAI)CO., LTD



上海化工院检测有限公司

Shanghai Institute of Chemical Industry Testing Co., Ltd.



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# 上海化工院检测有限公司 检测报告

Shanghai Institute of Chemical Industry  
Testing Co., Ltd. Test Report

NO. 1121040720

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样品名称 Name of Sample	中文 Chinese	充电锂电池组 578-BATT 3.7V 2.6Ah 9.6Wh		
	英文 English	Lithium Battery Pack 578-BATT 3.7V 2.6Ah 9.6Wh		
样品编号 Sample No.	1121040720			
委托单位 Consignor	全能电池(上海)有限公司 ELECTROCHEM AUTOMATION(SHANGHAI)CO.,LTD			
生产单位 Manufacturer	全能电池(上海)有限公司 ELECTROCHEM AUTOMATION(SHANGHAI)CO.,LTD			
检测方法 Test method	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6 Amend.1 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3			
判定标准 Criterion	联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6 Amend.1 38.3 UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3			
样品外观 Appearance	橙色 圆柱型塑料薄膜外壳 Orange Cylinder plastics film shell			
样品接受日期 Accepted Date	2021-04-30	检测起迄日期 Test Date	2021-06-02 ~ 2021-06-22	
检测项目 Test Items	高度模拟;热测试;振动;冲击;外短路;撞击;过充电;强制放电 Altitude simulation,Thermal test,Vibration Shock,External short circuit,Impact,Overcharge,Forced discharge			
检测结论 Conclusion	经检测,该样品符合联合国《关于危险货物运输的建议书 试验和标准手册》 ST/SG/AC.10/11/Rev.6 Amend.1 38.3标准要求。 The sample has passed the test items of UNITED NATIONS "Recommendations on the TRANSPORT OF DANGEROUS GOODS" Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 38.3 <div style="text-align: right; margin-top: 10px;">生效日期(Date): 2021-06-23</div>			
备注 Comment	可充电单电芯电池Rechargeable Single Cell Battery./			
委托单位地址 Consignor Address	/		邮政编码 Post Code	/



批准  
Approver:  
职务  
Title:

王宗  
副总工程师(Vice chief engineer)

审核  
Checker:

陆建峰

编制  
Compiler:

傅佳



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# 上海化工院检测有限公司 检测报告

Shanghai Institute of Chemical Industry  
Testing Co., Ltd. Test Report

NO. 1121040720

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序号 No.	检测项目名称 Name of Test Items	标准要求或标准条款号 Standard requirement or The Clause Number of Standard	检测结果 Test Result	本项结论 Conclusion	备注 Remark	
1	高度模拟 Altitude simulation	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.1 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.1	见附表 1 See Appendix 1	合格 Passed	/	
2	热测试 Thermal test	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.2 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.2	见附表 2 See Appendix 2	合格 Passed	/	
3	振动 Vibration	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.3 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.3	见附表 3 See Appendix 3	合格 Passed	/	
4	冲击 Shock	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.4 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.4	见附表 4 See Appendix 4	合格 Passed	/	
5	外短路 External short circuit	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.5 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.5	见附表 5 See Appendix 5	合格 Passed	/	
6	撞击 Impact	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.6 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.6	见附表 6 See Appendix 6	合格 Passed	/	
7	过充电 Overcharge	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.7 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.7	见附表 7 See Appendix 7	合格 Passed	/	
8	强制放电 Forced discharge	联合国《关于危险货物运输的建议书 试验和标准手册》ST/SG/AC.10/11/Rev.6 Amend.1 38.3 试验T.8 UN Manual of Tests and Criteria ST/SG/AC.10/11/Rev.6 Amend.1 Section 38.3 Test T.8	见附表 8 See Appendix 8	合格 Passed	/	
检测环境条件 Test Environment Condition		环境温度:23℃;环境湿度:/% Ambient temperature:23℃, Ambient humidity:/%				
分包检验情况 Subcontracted Test Condition		检测项目 Test Item	/			
		分包实验室 Subcontracted Laboratory	名称 Name	/	邮编 Post Code	/
			地址 Address	/	电话 Tel	/



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**上海化工院检测有限公司**  
**检测报告 - 附表1**

Shanghai Institute of Chemical Industry  
Testing Co., Ltd. Test Report - Appendix 1

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序号 No.	1	检测项目名称 Name of Test Items		高度模拟 Altitude simulation				
样品 编号 Sample No.	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss /%	剩余电压 Residual OCV /%	其他 现象 Other Event
		质量 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V			
001	1CYC完全充电 1CYC Fully charged	48.0210	4.16	48.0168	4.16	0.01	100.00	O
002	1CYC完全充电 1CYC Fully charged	48.0581	4.16	48.0552	4.16	0.01	100.00	O
003	1CYC完全充电 1CYC Fully charged	47.9790	4.16	47.9771	4.16	0.00	100.00	O
004	1CYC完全充电 1CYC Fully charged	48.1770	4.16	48.1743	4.16	0.01	100.00	O
005	1CYC完全充电 1CYC Fully charged	48.0347	4.17	48.0322	4.17	0.01	100.00	O
006	25CYC完全充电 25CYC Fully charged	47.8620	4.16	47.8594	4.16	0.01	100.00	O
007	25CYC完全充电 25CYC Fully charged	48.0634	4.16	48.0596	4.16	0.01	100.00	O
008	25CYC完全充电 25CYC Fully charged	47.9982	4.16	47.9963	4.16	0.00	100.00	O
009	25CYC完全充电 25CYC Fully charged	47.9294	4.16	47.9278	4.16	0.00	100.00	O
010	25CYC完全充电 25CYC Fully charged	48.0455	4.17	48.0422	4.17	0.01	100.00	O
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备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、无解体、无破裂、无起火。 Note: L-Leakage V-Venting D-Disassembly R-Rupture F-Fire O-No Leakage, No Venting, No Disassembly, No Rupture & No Fire.								



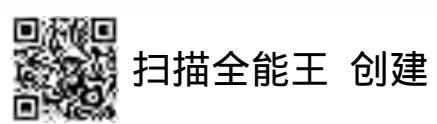
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**上海化工院检测有限公司**  
**检测报告-附表2**  
 Shanghai Institute of Chemical Industry  
 Testing Co., Ltd. Test Report—Appendix 2

NO. 1121040720

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序号 No.	2	检测项目名称 Name of Test Items		热测试 Thermal test				
样品 编号 Sample No.	样品状态 Sample Status	试验前 Before		试验后 After		质量损失 Mass Loss /%	剩余电压 Residual OCV /%	其他 现象 Other Event
		质量 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V			
001	ICYC完全充电 ICYC Fully charged	48.0168	4.16	48.0051	4.11	0.02	98.80	O
002	ICYC完全充电 ICYC Fully charged	48.0552	4.16	48.0430	4.11	0.03	98.80	O
003	ICYC完全充电 ICYC Fully charged	47.9771	4.16	47.9633	4.11	0.03	98.80	O
004	ICYC完全充电 ICYC Fully charged	48.1743	4.16	48.1610	4.11	0.03	98.80	O
005	ICYC完全充电 ICYC Fully charged	48.0322	4.17	48.0198	4.11	0.03	98.56	O
006	25CYC完全充电 25CYC Fully charged	47.8594	4.16	47.8458	4.11	0.03	98.80	O
007	25CYC完全充电 25CYC Fully charged	48.0596	4.16	48.0457	4.10	0.03	98.56	O
008	25CYC完全充电 25CYC Fully charged	47.9963	4.16	47.9832	4.11	0.03	98.80	O
009	25CYC完全充电 25CYC Fully charged	47.9278	4.16	47.9124	4.11	0.03	98.80	O
010	25CYC完全充电 25CYC Fully charged	48.0422	4.17	48.0288	4.11	0.03	98.56	O
以下空白	This space intentionally left blank							
备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、无解体、无破裂、无起火。 Note: L-Leakage V-Venting D-Disassembly R-Rupture F-Fire O-No Leakage, No Venting, No Disassembly, No Rupture & No Fire.								



# 上海化工院检测有限公司

## 检测报告-附表3

Shanghai Institute of Chemical Industry  
Testing Co., Ltd. Test Report—Appendix 3

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序号 No.	3	检测项目名称 Name of Test Items		振动 Vibration				
		样品状态 Sample Status		试验前 Before		试验后 After		质量损失 Mass Loss
样品编号 Sample No.		质量 Mass /g	开路电压 OCV /V	质量 Mass /g	开路电压 OCV /V	%	%	
001	1CYC完全充电 1CYC Fully charged	48.0051	4.11	48.0177	4.11	0.00	100.00	O
002	1CYC完全充电 1CYC Fully charged	48.0430	4.11	48.0555	4.11	0.00	100.00	O
003	1CYC完全充电 1CYC Fully charged	47.9633	4.11	47.9748	4.11	0.00	100.00	O
004	1CYC完全充电 1CYC Fully charged	48.1610	4.11	48.1736	4.11	0.00	100.00	O
005	1CYC完全充电 1CYC Fully charged	48.0198	4.11	48.0317	4.11	0.00	100.00	O
006	25CYC完全充电 25CYC Fully charged	47.8458	4.11	47.8588	4.11	0.00	100.00	O
007	25CYC完全充电 25CYC Fully charged	48.0457	4.10	48.0583	4.10	0.00	100.00	O
008	25CYC完全充电 25CYC Fully charged	47.9832	4.11	47.9954	4.11	0.00	100.00	O
009	25CYC完全充电 25CYC Fully charged	47.9124	4.11	47.9257	4.11	0.00	100.00	O
010	25CYC完全充电 25CYC Fully charged	48.0288	4.11	48.0409	4.11	0.00	100.00	O
以下空白	This space intentionally left blank							
备注: L-泄漏 V-漏气 D-解体 R-破裂 F-起火 O-无泄漏、无漏气、无解体、无破裂、无起火。 Note: L-Leakage V-Venting D-Disassembly R-Rupture F-Fire O-No Leakage,No Venting, No Disassembly,No Rupture & No Fire.								



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上海化工院检测有限公司  
 检测报告-附表5  
 Shanghai Institute of Chemical Industry  
 Testing Co., Ltd. Test Report—Appendix 5

NO. 1121040720

序号 No.	5	检测项目名称 Name of Test Items	外短路 External short circuit
样品编号 Sample No.	样品状态 Sample Status	样品表面最高温度 Max. External Temperature /℃	其他现象 Other Event
001	1CYC完全充电 1CYC Fully charged	57.9	0
002	1CYC完全充电 1CYC Fully charged	55.8	0
003	1CYC完全充电 1CYC Fully charged	57.7	0
004	1CYC完全充电 1CYC Fully charged	56.8	0
005	1CYC完全充电 1CYC Fully charged	56.5	0
006	25CYC完全充电 25CYC Fully charged	56.8	0
007	25CYC完全充电 25CYC Fully charged	55.8	0
008	25CYC完全充电 25CYC Fully charged	56.9	0
009	25CYC完全充电 25CYC Fully charged	57.0	0
010	25CYC完全充电 25CYC Fully charged	56.8	0
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备注: D-解体 R-破裂 F-起火 0-无解体、无起火、无破裂。 Note: D-Disassembly R-Ruptur F-Fire O-No Disassembly,No Fire & No Rupture.			



上海化工院检测有限公司  
 检测报告-附表6  
 Shanghai Institute of Chemical Industry  
 Testing Co., Ltd. Test Report—Appendix 6

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序号 No.	6	检测项目名称 Name of Test Items	撞击 Impact
样品编号 Sample No.	样品状态 Sample Status	样品表面最高温度 Max. External Temperature /°C	其他现象 Other Event
011	1CYC 50%容量 1CYC 50% Capacity	120.4	0
012	1CYC 50%容量 1CYC 50% Capacity	125.1	0
013	1CYC 50%容量 1CYC 50% Capacity	126.5	0
014	1CYC 50%容量 1CYC 50% Capacity	123.4	0
015	1CYC 50%容量 1CYC 50% Capacity	122.0	0
016	25CYC 50%容量 25CYC 50% Capacity	131.0	0
017	25CYC 50%容量 25CYC 50% Capacity	126.9	0
018	25CYC 50%容量 25CYC 50% Capacity	132.1	0
019	25CYC 50%容量 25CYC 50% Capacity	131.2	0
020	25CYC 50%容量 25CYC 50% Capacity	112.9	0
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备注: D-解体 F-起火 0-无解体、无起火。 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.			



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检测报告-附表7

Shanghai Institute of Chemical Industry  
Testing Co., Ltd. Test Report—Appendix 7

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序号 No.	7	检测项目名称 Name of Test Items	过充电 Overcharge
样品编号 Sample No.	样品状态 Sample Status	其他现象 Other Event	
021	1CYC完全充电 1CYC Fully charged		O
022	1CYC完全充电 1CYC Fully charged		O
023	1CYC完全充电 1CYC Fully charged		O
024	1CYC完全充电 1CYC Fully charged		O
025	25CYC完全充电 25CYC Fully charged		O
026	25CYC完全充电 25CYC Fully charged		O
027	25CYC完全充电 25CYC Fully charged		O
028	25CYC完全充电 25CYC Fully charged		O
以下空白	This space intentionally left blank		
备注: D-解体 F-起火 O-无解体、无起火。 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.			



上海化工院检测有限公司  
 检测报告-附表8  
 Shanghai Institute of Chemical Industry  
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序号 No.	8	检测项目名称 Name of Test Items	强制放电 Forced discharge
样品编号 Sample No.	样品状态 Sample Status	其他现象 Other Event	
029	1CYC完全放电 1CYC Fully discharged		0
030	1CYC完全放电 1CYC Fully discharged		0
031	1CYC完全放电 1CYC Fully discharged		0
032	1CYC完全放电 1CYC Fully discharged		0
033	1CYC完全放电 1CYC Fully discharged		0
034	1CYC完全放电 1CYC Fully discharged		0
035	1CYC完全放电 1CYC Fully discharged		0
036	1CYC完全放电 1CYC Fully discharged		0
037	1CYC完全放电 1CYC Fully discharged		0
038	1CYC完全放电 1CYC Fully discharged		0
039	25CYC完全放电 25CYC Fully discharged		0
040	25CYC完全放电 25CYC Fully discharged		0
041	25CYC完全放电 25CYC Fully discharged		0
042	25CYC完全放电 25CYC Fully discharged		0
043	25CYC完全放电 25CYC Fully discharged		0
044	25CYC完全放电 25CYC Fully discharged		0
045	25CYC完全放电 25CYC Fully discharged		0
046	25CYC完全放电 25CYC Fully discharged		0
047	25CYC完全放电 25CYC Fully discharged		0
048	25CYC完全放电 25CYC Fully discharged		0

备注: D-解体 F-起火 0-无解体、无起火。  
 Note: D-Disassembly F-Fire O-No Disassembly & No Fire.



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Rechargeable Li-Ion Battery: 11CR18/65  
Voltage: (Nominal), 3.7V  
Rated Capacity, (Ah/Wh): 2.6 / 9.6  
Manufacturer's Maximum Recommended Ambient: 0 to 45°C  
(Charge) -20 to 60°C (Discharge)  
For use only with Nightstick battery charger.  
Made in China

**NIGHTSTICK.** Manufactured by Electromech.  
Automation (Shanghai) Co., Ltd. for  
Bayco Products, Inc., Wylie, TX USA 800-233-2955  
Model: 578-BATT  
MFG: 04/29/2021

\*\*\*报告结束\*\*\*

