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检测报告 UN38.3

Name	of sample:	Li-Ion Cell
	产品名称:	東瀬 アルロンジ 理离子电芯 大湖 系
	Client:	Anhui WOO-POWER Technology Co., Ltd.
	委托单位:	安徽沃博源科技有限公司
Cla	ssification:	Commission Test
	检测类别:	************************************

Shenzhen Tiansu Calibration and Testing Co.,Ltd 深圳天溯计量检测股份有限公司

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Rep. No.:1C11J2U2U11U12U9ZB-BR01	Page 27 14 Pages
Name of samples: Li-Ion Cell 样品名称: 锂离子电芯	Trade mark: - 市标: -
Commissioned by: Anhui WOO-POWER Technology Co., Ltd. 委托单位: 安徽沃博源科技有限公司	Commissioner address: Nanju Industrial Park, Hangbu Town, Shucheng County, Luan City, Anhui Province 委托单位地址: 安徽省六安市舒城县杭埠镇南聚产业园
Manufacturer by: Anhui WOO-POWER Technology Co., Ltd. 制造单位: 安徽沃博源科技有限公司	Manufacturer address: Nanju Industrial Park, Hangbu Town, Shucheng County, Luan City, Anhui Province 制造单位地址: 安徽省六安市舒城县杭埠镇南聚产业园
Manufacturer's Contact Information 制造商联系信息: Phone:0564-8030058 Email:ahwby@woopower.com.cn	Manufacturer's Web Site 制造商网址:
Type/Model	shape: Cylindrical
型号规格: 18650	样品形状: 圆柱形
Appearance color: Blue	Sample size
样品颜色: 蓝色	样品尺寸: D(18.33mm)*H(64.82mm)
Rated info.	Cell quantity
额定信息: 3.2V\1500mAh\4.8Wh	组成电芯数量: N/A
Quantity of sample: 40cells	Cell model
样品数量: 40 个电芯	电芯型号: N/A
Limited charge voltage	Cut-off voltage
充电限制电压: 3.65V	放电截止电压: 2.0V
Standard charge current	Max continuous charge current
标准充电电流: 300mA	最大持续充电电流: 1500mA
Standard discharge current	Max continuous discharge current
标准放电电流: 300mA	最大持续放电电流: 1500mA
Receiving date	Sample identification
接样日期: 2020 年 11 月 3 日	样品标识序号: 1#-40#
Completing date	Test item: 7 items
完成日期: 2020 年 11 月 12 日	测试项目: 7 项
Test conclusion:	CIVIL TO THE TOTAL TOTAL CONTRACTOR OF THE TOTAL CONTR

Test conclusion:

检测结论:

The Li-Ion Cell submitted by Anhui WOO-POWER Technology Co., Ltd. are tested according to Section 38.3 of the Sixth Revised Edition Amendment 1 of the Recommendations on the Transport of Danger us Goods, Wen val of Test and Criteria (ST/SG/AC.10/11/Rev.6/Amend.1/Section38.3). The test results comply vitin the relevant requirements of the standard.

由安徽沃博源科技有限公司送检的锂离子电芯、依据《关于危险品货物运输的效义》。 试量和标准等从基本修订版修正1第38.3节进行检测,测试结果符合标准相关要求。

Date of issue No Jembe 16, 2020 发日期:2020 年 11 月 16 日

批准\Approved by

技术负责人\ 一Technology Supervisor

审核\Reviewed by 项目工程师\ Project Engineer

和西

主检\Tested by

测试工程师\ Test Engineer

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Description and illustration of the sample:

样品说明及描述:

٠,	四元八八四五		E MR	
	Test item 测试项目	Sample No. 样品编号	State 状态	Remark 备注
8.	MT4 T5	5 1#~5#	at first cycle in fully charged states; 在第一个循环完全充电;	Cell
70.	T.1~T.5	6#~10#	after 25 cycles ending in fully charged states; 在第二十五个循环完全充电;	电芯
	Tian Su	11#~15#	at first cycle at 50% of the design rated capacity; 在第一个循环充电 50%的额定容量;	Cell
	T.6 ** WA **71.00 54	16#~20#	after 25 cycles ending in fully charged at 50% of the design rated capacity; 在第二十五个循环充电 50%的额定容量;	电芯
	T.7	潮 /	天瀬 Tean Su 天湖 Tean Su	N/A
* 7	ar Su	人 溯	7ian Su 7ian Su	不适用
	T.8	21#~30#	at first cycle in fully discharged states; 在第一个循环完全放电;	Cell
	1.0	31#~40#	after 25 cycles ending in fully discharged states; 在第二十五个循环完全放电;	电芯

D	c (i)	349	
Description	or the	sampling	procedure

取样程序的说明:

N/A

Description of report revision:

报告修订的说明:

Remarks:

备注:

The Li-Ion Cell submitted by Anhui WOO-POWER Technology Co., Ltd. are single cell. 由安徽沃博源科技有限公司所送的锂离子电芯是单电芯。



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Photos of Cell\电芯图片





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38.3.4	Procedure/测记	式步骤 70005	#. 5.94Ω	美洲 Tian Sii		天湖	rian >"-	
天湖	Test 1: Altitude simulation/测试 1: 高度模拟							
7 in 54 38.3.4.1 7 in 54	Test cells and batteries shall be stored at a pressure of 11.6kPa or less for at least six hour at ambient temperature (20±5℃). 将电芯和电池在温度为 20±5℃,大气压力为不大于 11.6kpa 的环境中贮存不少于 6 个小时。							
	将电芯和电池在温度为 20±5 C,大气压力为不大于 11.6kpa 的环境中贮存不少于 6 不小时。 Requirement/标准要求: 1.Cells and batteries Mass loss limit: ≤0.2% . 样品质量损失≤0.2%。 2.Open circuit voltage not less than 90%, The requirement relating to voltage is not applicable to test cells and batteries at full discharged states. 样品试验后开路电压应不低于试验前开路电压的 90%,此要求不适用于完全放完电的电池和电芯。 3.No leakage, no venting, no disassembly, no rupture and no fire.							
系 烈 Sia	Result 测试结果	* Vi Tian :	71.04) 5.4	天湖 5:m5"	着火现象的发生。	支潮	夫例 7ian Su	
Sample No.		Before test 测试前		After Test 测试后		Residual OCV	Test result	
样品编号	Mass 样品质量 (g)	Voltage 开路电压(V)	Mass 样品质量(g)	Voltage 开路电压(V)	质量损失(%)	剩余电压(%)	测试结果	
1#	43.496	3.512	43.496	3.510	0.00	99.94	Р	
2#	43.499	3.516	43.499	3.514	0.00	99.94	Р	
3#	43.492	3.512	43.492	3.510	0.00	99.94	Tian Su P	
4#	43.497	3.514	43.497	3.512	0.00	99.94	Р	
5#	43.495	3.512	43.495	3.510	0.00	99.94	Р	
6#	43.498	3.511	43.498	3.509	0.00	99.94	P	
7#	43.494	3.514	43.494	3.512	0.00	99.94	Р	
8#	43.496	3.516	43.496	3.514	0.00	99.94	X P	
9#	43.493	3.517	43.493	3.515	0.00	99.94	Р	
10#	43.498	3.514	43.498	3.512	0.00	99.94	Р	

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测	试步骤					_
天湖	Test 2: Thern	nal test/测试 2	: 温度测试	.2	玉ლ	Tream -	7
	Test cells and batteries are to be stored for at least six hours at a test temperature equal to 72±2°C, followed by storage for at least six hours at a test temperature equal to -40±2°C, The maximum time interval between test temperature extremes in 30 minutes, This procedure is to be repeated until 10 total cycles are complete, after which all test cells and batteries are to be stored for 24 hours at ambient temperature (20±5°C). 将电芯和电池在温度为 72±2°C的条件下贮存不少于 6 个小时,然后,在温度-40±2°C条件下贮存不少于 6 个小时,两个温度间的间隔最长为 30min,重复操作上述步骤直到 10 次,然后,将其在环境温度为 20±5°C的条件下放置 24 个小时。						
38.3.4.2 Sh	样品质量损 2.Open circuit applicable t 样品试验后 和电芯。 3.No leakage	atteries Mass lo 失≤0.2%. t voltage not les to test cells and 开路电压应不值 , no venting, no	I batteries at fu 氐于试验前开路 o disassembly, l	he requirement Il discharged st 电压的 90%,此 no rupture and	要求不适用于完 no fire.	全放完电的电池	平 河can Su 平 河can Su
	样品(电池 Result 测试结果)应无漏液、无	E排气、无解体 	、无破裂以及无 人 Mill 介細 5 ^m	着火现象的发生	M M MS	N 不明
Sample No.	Before test 测试前		After Test 测试后		Mass loss	Residual OCV	Test result
样品编号	Mass 样品质量 (g)	Voltage 开路电压(V)	Mass 样品质量(g)	Voltage 开路电压(V)	质量损失(%)	剩余电压(%)	测试结果
			Luf A				
1#	43.496	3.510	43.493	3.500	0.01	99.72	Р
2#	43.496	3.510 3.514	43.493 43.496	3.500 3.503	0.01	99.72 99.69	P P
		* X4	7ian 5"		K VIII	e i	(A)
2#	43.499	3.514	43.496	3.503	0.01	99.69	P
2#	43.499 43.492	3.514 3.510	43.496 43.489	3.503 3.500	0.01	99.69	P P
2# 3# 4#	43.499 43.492 43.497	3.514 3.510 3.512	43.496 43.489 43.494	3.503 3.500 3.501	0.01 0.01 0.01	99.69 99.72 99.69	P P P
2# 3# 4# 5#	43.499 43.492 43.497 43.495	3.514 3.510 3.512 3.510	43.496 43.489 43.494 43.492	3.503 3.500 3.501 3.500	0.01 0.01 0.01 0.01	99.69 99.72 99.69 99.72	P P P
2# 3# 4# 5#	43.499 43.492 43.497 43.495 43.498	3.514 3.510 3.512 3.510 3.509	43.496 43.489 43.494 43.492 43.495	3.503 3.500 3.501 3.500 3.498	0.01 0.01 0.01 0.01	99.69 99.72 99.69 99.72 99.69	P P P
2# 3# 4# 5# 6# 7#	43.499 43.492 43.497 43.495 43.498 43.494	3.514 3.510 3.512 3.510 3.509 3.512	43.496 43.489 43.494 43.492 43.495 43.491	3.503 3.500 3.501 3.500 3.498 3.501	0.01 0.01 0.01 0.01 0.01	99.69 99.72 99.69 99.69 99.69	P P P P

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测	试步骤					_	
天湖	Test 3: Vibra	tion/测试 3: 振	动 Tim Su		天洲	- isa	7	
	distorting the be a sinusoid. Hz traversed each of three 将电芯和电池加至 200Hz,	cells in such a land wave form wind 15 minutes, mutually perpe 中固地安装在振然后再减少回到	manner as to fa th a logarithmic This cycle shall ndicular mount 表动台的台面上, 到 7Hz 为一个循	withfully transmit sweep between be repeated 12 ing position of the 然后开始振动 环,一个循环打	e vibration maching the vibration, Then 7 Hz and 200 If 2 times for a total the cell. a. 振动以正弦波涛续 15 分钟的对象	ne vibration shall Hz and back to 7 of 3 hours for 形式,以 7Hz 增	美渊 Tian Su Tian Su	
	芯和电池从二 Requirement/	个互相垂直的方	可 上 循	了, 3 个小时。	美型	**************************************	Р	
38.3.4.3	1.Cells and ba 样品质量打 2.Open circuit applicable t 样品试验后 和电芯。	atteries Mass lo 员失≤0.2%. t voltage not les to test cells and 开路电压应不作	ss than 90%, Th l batteries at ful 氐于试验前开路	ne requirement I discharged st 电压的 90%,此	要求不适用于完全		天湖 Tian Si 天湖 Tian Su	
	3.No leakage, no venting, no disassembly, no rupture and no fire. 样品(电池)应无漏液、无排气、无解体、无破裂以及无着火现象的发生。							
	Result 测试结果		天湖 Pian Su	7:a45"	天 河ia	VIII 2 Se	X Tians	
Sample No.		Before test 测试前		After Test 测试后		Residual OCV	Test result	
样品编号	Mass 样品质量 (g)	Voltage 开路电压(V)	Mass 样品质量(g)	Voltage 开路电压(V)	质量损失(%)	剩余电压(%)	测试结果	
1#	43.493	3.500	43.490	3.498	0.01	99.94	Р	
2#	43.496	3.503	43.493	3.501	0.01	99.94	Р	
3#	43.489	3.500	43.486	3.498	0.01	99.94	Pia	
4#	43.494	3.501	43.491	3.499	0.01	99.94	Р	
5#	43.492	3.500	43.489	3.498	0.01	99.94	P	
		1000		B.,5*	0.04	99.94	Р	
6#	43.495	3.498	43.492	3.496	0.01	99.94		
6# 7#	43.495 43.491	3.498	43.492 43.488	3.496 3.499	0.01	99.94	Р	
- 1			7,00 50		- 		P P	
7# 7:00	43.491	3.501	43.488	3.499	0.01	99.94	5#	

Other supplements: Test result "P" decides that the test item passes.

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38.3.4	Procedure/测	试步骤					_
天潮	Test 4: Shoc	k/测试 4: 冲击	7ian Su		毛潮	Trans	70
7 ian 54 7 ian 54 7 ian 54 38.3.4.4	to a half-sine smaller) and p subjected to a smaller) and p three shocks three mutually 以稳固的托架(或与《100850 / mass)须经受最大加每个电池或电	shock of peak a pulse duration of a half-sine of pe pulse duration of in the positive of y perpendicular 固定住每个电芯 中的较小值)的 速度 50gn(或	acceleration of of 6 milliseconds ak acceleration of 11 millisecond direction follower mounting posits 和电池样品的 半正弦的加速度与 News 中的较近相垂直的电池等	150gn (or Access, large cells are of 50gn (or Access, Each cell or ed by three short ions of the cell 全部配件表面。及實達击,脉冲持线	eleration(gn)= \frac{100}{20} and large batteries celeration(gn)= battery shall be cks in the negation or battery for a to	shall be (a) (a) (a) (a) (a) (b) (a) (a) (a) (a) (a) (a) (a) (a) (a) (a	天湖 7tan Su ian Su P 天湖Su
	样品质量损 2.Open circuit applicable t	atteries Mass lo 失≤0.2%. t voltage not les to test cells and	ss than 90%, Th batteries at ful	ne requirement I discharged sta			美 (開 71an 5a :
	和电芯。 3.No leakage 样品(电池		disassembly, r	no rupture and			is the state of th
A MA	和电芯。 3.No leakage 样品(电池 Result/测试结	, no venting, no)应无漏液、无 生果 re test	disassembly, r 排气、无解体、 Aftel	no rupture and l 无破裂以及无	no fire. 着火现象的发生。	天道 Tian S E 湖 Tian S**	Test
Sample No. 样品编号	和电芯。 3.No leakage 样品(电池 Result/测试结	, no venting, no)应无漏液、无 结果	disassembly, r 排气、无解体、 Aftel	no rupture and 无破裂以及无	no fire.		Test result 测试结果
No.	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测证	,no venting, no)应无漏液、无 生果 re test 式前 Voltage	disassembly, r 上排气、无解体、 Aftel 测i	no rupture and i 无破裂以及无 r Test 式后 Voltage	no fire. 着火现象的发生。 Mass loss	Residual OCV	result
No. 样品编号	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测试 Mass 样品质量 (g)	,no venting, no)应无漏液、无 生果 re test 式前 Voltage 开路电压(V)	disassembly, r 上排气、无解体、 After 测i Mass 样品质量(g)	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V)	no fire. 着火现象的发生。 Mass loss 质量损失(%)	Residual OCV 剩余电压(%)	result 测试结果
No. 样品编号 1#	和电芯。 3.No leakage 样品(电池 Result/测试组 Befor 测记 Mass 样品质量(g) 43.490	,no venting, no)应无漏液、无 与果 re test 式前 Voltage 开路电压(V) 3.498	disassembly, r 上排气、无解体、 After 测i Mass 样品质量(g) 43.490	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496	no fire. 着火现象的发生。 Mass loss 质量损失(%)	Residual OCV 剩余电压(%) 99.94	result 测试结果 P
No. 样品编号 1# 2#	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测试 Mass 样品质量(g) 43.490 43.493	,no venting, no)应无漏液、无 生果 re test 式前 Voltage 开路电压(V) 3.498 3.501	disassembly, r 上排气、无解体、 After 测i Mass 样品质量(g) 43.490 43.493	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496 3.499	mo fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00	Residual OCV 剩余电压(%) 99.94 99.94	result 测试结果 P P
No. 样品编号 1# 2# 3#	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测试 Mass 样品质量(g) 43.490 43.493 43.486	,no venting, no)应无漏液、无 生果 re test 式前 Voltage 开路电压(V) 3.498 3.501 3.498	disassembly, r 上排气、无解体、 After 测i Mass 样品质量(g) 43.490 43.493 43.486	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496 3.499	mo fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00 0.00	Residual OCV 剩余电压(%) 99.94 99.94 99.94	result 测试结果 P P
No. 样品编号 1# 2# 3# 4#	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测i Mass 样品质量(g) 43.490 43.493 43.486 43.491	,no venting, no)应无漏液、无 结果 re test 式前 Voltage 开路电压(V) 3.498 3.501 3.498 3.499	disassembly, r 上排气、无解体、 After 测i Mass 样品质量(g) 43.490 43.493 43.486 43.491	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496 3.499 3.496 3.497	mo fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.94 99.94 99.94	result 测试结果 P P P
No. 样品编号 1# 2# 3# 4# 5#	和电芯。 3.No leakage 样品(电池 Result/测试氧 Befor 测证 Mass 样品质量(g) 43.490 43.493 43.486 43.491 43.489	,no venting, no)应无漏液、无 生果 re test 式前 Voltage 开路电压(V) 3.498 3.501 3.498 3.499 3.498	disassembly, r 上排气、无解体、 After 测 Mass 样品质量(g) 43.490 43.493 43.486 43.491 43.489	r Test 式后 Voltage 开路电压(V) 3.496 3.499 3.496 3.497 3.496	mo fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.94 99.94 99.94 99.94	P P P
No. 样品编号 1# 2# 3# 4# 5# 6#	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测计 Mass 样品质量 (g) 43.490 43.493 43.486 43.491 43.489 43.492	,no venting, no)应无漏液、无 生果 re test 式前 Voltage 开路电压(V) 3.498 3.501 3.498 3.499 3.498 3.498	disassembly, r 上排气、无解体、 After 测 Mass 样品质量(g) 43.490 43.493 43.486 43.491 43.489 43.492	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496 3.499 3.496 3.497 3.496 3.496	no fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.94 99.94 99.94 99.94 99.94	P P P P
No. 样品编号 1# 2# 3# 4# 5# 6# 7#	和电芯。 3.No leakage 样品(电池 Result/测试结 Befor 测证 Mass 样品质量 (g) 43.490 43.493 43.486 43.491 43.489 43.488	,no venting, no) 应无漏液、无 生果 re test 式前 Voltage 开路电压(V) 3.498 3.501 3.498 3.499 3.498 3.499	disassembly, r 上排气、无解体、 After 测 Mass 样品质量(g) 43.490 43.493 43.486 43.491 43.489 43.489	no rupture and in 无破裂以及无 r Test 式后 Voltage 开路电压(V) 3.496 3.499 3.496 3.497 3.496 3.497	mo fire. 着火现象的发生。 Mass loss 质量损失(%) 0.00 0.00 0.00 0.00 0.00	Residual OCV 剩余电压(%) 99.94 99.94 99.94 99.94 99.94 99.94	P P P P P

Other supplements: Test result "P" decides that the test item passes.

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88.3.4	Procedure/测试步骤	_
	Test 5: External short circuit/测试 5: 外部短路	X.
	The cell or battery to be tested shall be temperature stabilized so that its external case temperature reaches $57\pm4^{\circ}\mathrm{C}$ and then the cell or battery shall be subjected to a short circuit condition with a total external resistance of less than 0.1 ohm at $57\pm4^{\circ}\mathrm{C}$, This short circuit condition is continued for at least one hour after the cell or battery external case temperature has returned to $57\pm4^{\circ}\mathrm{C}$, the cell or battery must be observed for a further six hour for the test to be concluded.	Fian S
8.3.4.5	保持试验环境温度稳定在 57±4℃,以使电芯或电池样品外表温度达到 57±4℃,然后,在此温度下,将其正负极用小于 0.1 欧姆的线路短接,待电芯或电池的外表温度恢复到 57±4℃之后再持续 1 小时以上,对电芯或电池必须进一步观察 6 个小时才能下结论。	Р
	Requirement/标准要求:	
	 1.Cells and batteries meet this requirement if their external temperature does not exceed 170℃; 电芯或电池的外壳温度应不超过 170℃; No disassembly, no rupture and no fire during the test and within six hours after this test. 试验后 6 小时内无解体、无破裂、无起火。 	天谱 Tian S
- M1	Result	· 46
Sample No. 样品编号	Max External Temp 样品表面最高温度(℃)	Test result 测试结身
1#	7100 St 134.7 大湖 天湖	P
2#	7 112.6	Р
3#	7 ian 5" 7 ian 5" 7 ian 5"	Tian P
4#	0 7 112.6 7 1 1 1 1 2.6 7 1 1 1 2 1 1 1 1 2 1 1 1 1 1 1 1 1 1 1	Р
5#	113.6 7 in Su	Р
6#	八湖 115.2.54	Р
7#	7 114.9 KM	Pian
8#	71015" 116.7	Р
9#	7 113.4 7 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	₹ P
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38.3.4	Procedure/测试步骤	_
天潮 Tian Su	Test 6: Crush\Impact/ 测试 6: 挤压(不适用) 撞击(适用)	
	Crush 挤压	Tian
	A cell or component cell is to be crushed between two flat surfaces. The crushing is to be gradual with a speed of approximately 1.5 cm/s at the first point of contact. The crushing is to be continued until the first of the three options below is reached.	ian Su
	(a) The applied force reaches 13kN±0.78kN;	
	(b) The voltage of the cell drops by at least 100 mV;	9
	(c) The cell is deformed by 50% or more of its original thickness.	6
	Once the maximum pressure has been obtained, the voltage drops by 100mV or more, or the cell is deformed by at least 50% of its original thickness, the pressure shall be released. 电池芯或组成电池芯在两个平面间挤压。挤压在第一个接触点以约 1.5cm/s 的速度慢慢进行,直到下面三个选项之一达到为止:	* 7ian
	(a)作用力达到 13kN±0.78kN;	天训
	(b)电池芯电压降至少达到 100mV;	7 can 5"
	(c)电池厚度和最初比较变形至少 50%。	
	一旦达到最大压力,电压降超过 100 mV 或者电池芯变形超过 50%,压力应该解除。	Ì
	Impact 撞击	**************************************
3.3.4.6	(applicable to cylindrical cells not less than 18mm in diameter)	P
。 Pias S	The sample cell or component cell is to be placed on a flat smooth surface. A 15.8 mm \pm 0.1 mm diameter, at least 6 cm long, or the longest dimension of the cell, whichever is greater, Type 316 stainless steel bar is to be placed across the centre of the sample. A 9.1 kg \pm 0.1 kg mass is to be dropped from a height of 61 \pm 2.5 cm at the intersection of the bar and sample in a controlled manner using a near frictionless, vertical sliding track or channel with minimal drag on the falling mass. The vertical track or channel used to guide the falling mass shall be oriented 90 degrees from the horizontal supporting surface.	天湖 7ian Su A Su
	The test sample is to be impacted with its longitudinal axis parallel to the flat surface and perpendicular to the longitudinal axis of the 15.8 mm ± 0.1 mm diameter curved surface lying across the centre of the test sample. Each sample is to be subjected to only a single impact.	F 71
	Cells and component cells meet this requirement if their external temperature does not exceed 170°C and there is no disassembly and no fire during the test and within six hours after this test.	天 MA Tian Su
	(适用于直径不小于 18 毫米的圆柱形电池)将电池或元件电池样品平放在一个平面上,其纵轴平行于测试台面年,将一直径为 15.8 mm ± 0.1 mm 的 316 型不锈钢棒横放在电池中心位置。然后,将一质量为 9.1 kg ± 0.1 kg 的物体从 61±2.5 cm 的高度落向样品。样品在进行试验时,其外表温度应不超过 170℃。且试验结束后 6 个小时之内,样品应无解体、无起火现象发生。	M 5"
	Requirements/标准要求:	
	1.Cells and component cells meet this requirement if their external temperature does not exceed 170℃; 电芯的外壳温度应不超过 170℃;	天湖 Tian Sa
	2. No disassembly, no fire during the test and within six hours after this test.	
	试验后6小时内无解体、无起火。	(6-

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u 	Result 测试结果	天湖 Tian Su Fian Su	7ian 2" \$
Sample No. 样品编号	OCV prior to test 试验前电压(V)	Max External Temp 样品表面最高温度(℃)	Test result 测试结果
11#	3.257 Film Su	115.6 Tun Sa	Pian Su
12#	3.234	113.4 3 WR 7140 St	Р
13#	3.254	112.8	P
14#	3.271	7100 Su 116.9 Fun Su	Р
15#	3.256	115.6	Р
16#	3.241	112.3 KM	P
17#	3.258	116.7	P ian Su
18#	3.229	113.4	Р
19#	3.273	112.6	7 m P
20#	3.264 £ 10 Su	115.4	Р

Other supplements: Test result "P" decides that the test item passes.



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38.3.4	Procedure/测试步骤	_			
天鄉	Test 7: Overcharge/测试 7: 过度充电				
	When the manufacturer's recommended charge voltage is not more than 18V, the minimum voltage of the test shall be the lesser of two times the maximum charge voltage of the or 22V, whichever is less. When the manufacturer's recommended charge voltage is more than 18V, the charging voltage of the test shall be 1.2 times maximum charge voltage. The				
	charging current is 2 times of the maximum charging current recommended by the manufacturer.	N/A			
38.3.4.7	如果厂家推荐的充电电压不超过 18V,本测试的最小充电电压应该是两倍的厂家标定最大充电电压或者是 22V,取其中较小者。如果厂家推荐的充电电压超过 18V,充电电压应该为 1.2 倍的厂家标定最大充电电压。充电电流为厂家推荐的最大充电电流 2 倍。	不适用			
	Requirements/标准要求: No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后7天内,应无解体和无起火现象发生。				
	Result 测试结果				

其他补充:测试结果"N/A"代表不适用

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38.3.4	Procedure/测试步骤	计 9. 强制计由	gian S"	天啊. 主湖	_
Fine Su 7 can Su	Test 8: Forced discharge/测试 8: 强制放电 Each cell shall be forced discharged at ambient temperature by connecting it in series with a 12V D.C power supply at an initial current equal to the maximum discharge current specified the manufacturer The specified discharge current is to be obtained by connecting a resistive load of the appropriate size and rating in series with the test cell, Each cell shall be forced discharged for a time interval(in hours) equal to its rated capacity divided by the initial test current(in ampere). 在 20±5℃的环境温度下,将单个电芯连接在 12V 的直流电源上进行强制放电,此直流电源提供每个电芯初始电流为制造厂指定的最大放电电流,放电时间为额定容量除以初始电流。				
	Requirements/标准要求: No disassembly and no fire during the test and within seven days after the test. 试验样品在试验中和试验后 7 天内,应无解体和无起火现象发生。				
	Result 测试结果	£ WA	天湖 7ian 5a	7ian Sii 天瀬 7ian Su	* (11) 7:00 50
Sample No.	OCV prior to test	Test result	Sample No.	OCV prior to test	Test result
样品编号	试验前电压 (V)	测试结果	样品编号	试验前电压 (V)	测试结果
1500	试验前电压 (V)	测试结果 P	样品编号 31#		测试结果
样品编号	5- VIII	- AM	Tion -	试验前电压 (V)	6
样品编号 21#	2.744	P Su P	31#	试验前电压 (V) 2.754	P
样品编号 21# 22#	2.744	P F	31# 32#	试验前电压 (V) 2.754 2.721	P _{7las}
样品编号 21# 22# 23#	2.744 2.728 2.734	P P	31# 32# 33#	试验前电压 (V) 2.754 2.721 2.734	P P
样品编号 21# 22# 23# 24#	2.744 2.728 2.734 2.729	P P	31# 32# 33# 34#	试验前电压 (V) 2.754 2.721 2.734 2.711	P P P
样品编号 21# 22# 23# 24# 25#	2.744 2.728 2.734 2.729 2.754	P P P	31# 32# 33# 34# 35#	试验前电压 (V) 2.754 2.721 2.734 2.711 2.751	P P P
样品编号 21# 22# 23# 24# 25# 26#	2.744 2.728 2.734 2.729 2.754 2.726	P P P	31# 32# 33# 34# 35# 36#	试验前电压 (V) 2.754 2.721 2.734 2.711 2.751 2.726	P P P P
样品编号 21# 22# 23# 24# 25# 26# 27#	2.744 2.728 2.734 2.729 2.754 2.726 2.717	P P P	31# 32# 33# 34# 35# 36# 37#	试验前电压 (V) 2.754 2.721 2.734 2.711 2.751 2.726 2.731	P P P P

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STATEMENTS

声明

- 1. The test report is invalid without the official stamp of Tiansu. 本报告无检测单位印章无效。
- 2. Nobody is allowed to photocopy or partly photocopy this test report without written permission of Tiansu.

未经本试验室书面同意,不得部分地复制本报告。

- 3. The test report is invalid without the signatures of Ratifier, Reviewer and Testing engineer. 本报告无批准人、审核人及鉴定人签名无效。
- 4. The test report is invalid if altered. 本报告涂改无效。

本报告仅与送检样品有关。

5. Objections to the test report must be submitted to Tiansu within 15 days. 对检测报告若有异议,应于收到报告之日起十五天内向检测单位提出。

6. The test report is valid for the tested samples only.

----报告结束-----