



惠州基安比新能源有限公司  
Huizhou Markyn New Energy Co., LTD.

# 锂电池UN38.3测试报告

## Lithium Battery UN38.3 Test Report

### Sample Description

**& Model**      Lithium Polymer Cell GMBT483533

**Applicant**      Huizhou Markyn New Energy Co ! Lt"

**Manufacturer**      Huizhou Markyn New Energy Co ! Lt"



### 1. SAMPLES DESCRIPTION

Sample Description	LiCo Cell	Sample Model	GMBT483533		
Manufacturer	Huizhou Markyn New Energy Co., Ltd.				
Nominal Voltage	3.8V	Rated Capacity	55mAh	Limiting Charge Voltage	4.354V
Charge Current	55mA	Maximum Continuous Current	55mA	End Charge Current	115mA
Cutoff Voltage	3.4V	Maximum Discharge Current	55mA	Resistance	Digital Protection
Cell Number	1PC	Cell Model	GMBT483533	Cell Capacity	55mAh
Manufacturer Code	GMB				
Chemical Composition	LiCoO <sub>2</sub>				
Client Code	1.13.11.1	7-inch Rate	1.13.11.8		

### II REFERENCE METHOD

# Note: National Commission on The Transportation Dangerous Goods Manual Test Criteria  
(, T-, G-+C 1.-11-%/ 5-+men" 1 0 , T-, G-+C 1.-11-%/ 5-+men" 1)

### III TEST ITEM

- |                                |                          |
|--------------------------------|--------------------------|
| 1. High Temperature Simulation | 5. Eternal Short Circuit |
| 1. Thermal Test                | 3. Crush                 |
| 3. Discharge                   | 6.7. Overcharge          |
| 4. Shock                       |                          |

### IV CONCLUSION

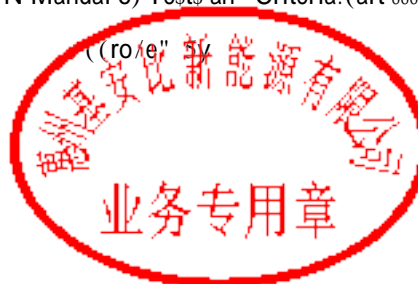
Item	Sample Number	Test Result	Conclusion
High Temperature Simulation	N19N1		P+, ,
Thermal Test			P+, ,
Discharge			P+, ,
Shock			P+, ,
Eternal Short Circuit		#N383	P+, ,
Crush	N119N15		P+, ,
Overcharge	N1.9N1: C59C14		P+, ,

The submitted cell and component cell were in compliance with the #N Manual Test Criteria (art 888.5.5; Section 38.3)

Prepared by <

Checked by <

Issue Date: 1.13.11.8





Notes:

N1~N10,N16~N19:Cells at first cycle in fully charged states;

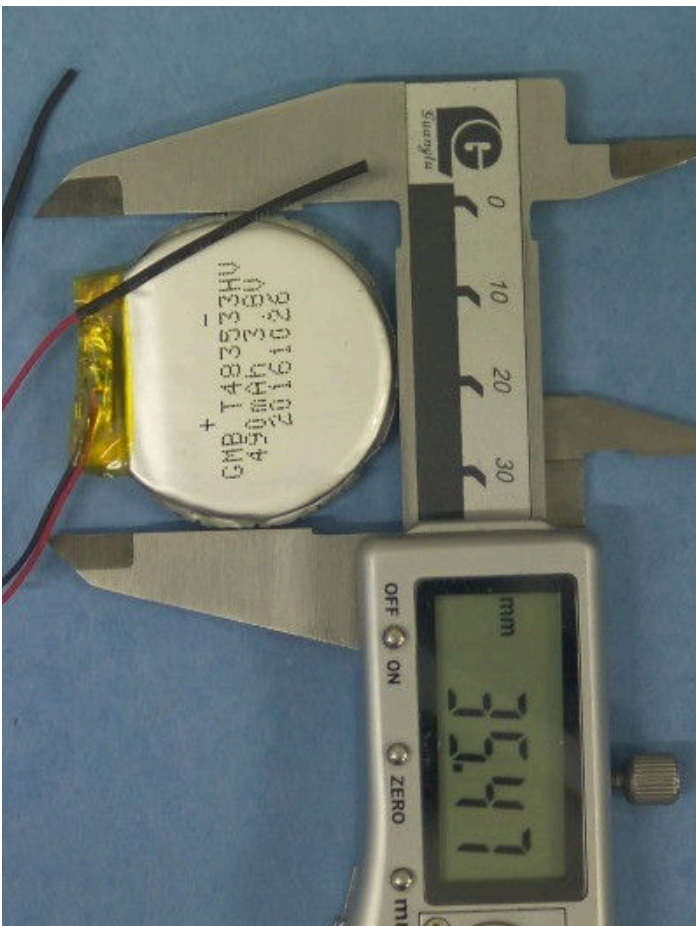
N11~N15:Cells at first cycle at 50% of the design rated capacity;

N20~N29:Cells after 50 cycles in fully discharged states;

C1~C4:Cells after 50 cycles ending in fully charged states;

C5~C14:Cells after 50 cycles ending in fully discharged states;

V、PHOTO OF THE SAMPLE



Authenticate the photo on original report only



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### T.3 Vibration

Cells and batteries are firmly secured to the platform of the vibration machine without distorting the cells in such a manner as to faithfully transmit the vibration. The vibration shall be a sinusoidal waveform with a logarithmic sweep between 7Hz and 200Hz and back to 7Hz traversed in 15 minutes. This cycle shall be repeated 12 times a total of 3 hours for each of three mutually perpendicular mounting positions of the cell .One of the directions of vibration must be perpendicular to the terminal face

The logarithmic frequency sweep shall differ for cells and batteries with a gross mass of not more than 12 kg(cells and small batteries),and for batteries with a gross mass of more than 12 kg(large batteries).

For cells and small batteries from 7Hz a peak acceleration of 1gn is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm(1.6mm total excursion) and the frequency increased until a peak acceleration of 8 gn occurs ( approximately 50 Hz ) .

A peak acceleration of 8 gn is then maintained until the frequency is increased to 200Hz.

For large batteries from 7Hz to a peak acceleration of 1 gn is maintained until 18Hz is reached. The amplitude is then maintained at 0.8mm ( 1.6mm total excursion ) and the frequency increased until a peak acceleration of 2 gn occurs ( approximately 25Hz ) .A peak acceleration of 2 gn is then maintained until the frequency is increased to 200Hz.

Cells and batteries meet this requirement if there is no leakage, no disassembly, no rupture and fire during the test and if the open circuit voltage of each test cell or battery directly after testing in its third perpendicular mounting position is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not application to test cells and batteries at fully discharged states.

### T.4 Shock

Test cells and batteries shall be secured to the testing machine by means of a rigid mount which will support all mounting surfaces of each test battery. Each cell or battery shall be subjected to a half-sine shock of peak acceleration of 150 gn and pulse duration of 6 milliseconds. Each cell or battery shall be subjected to three shocks in the direction followed by three shocks in the negative direction of three mutually perpendicular mounting positions of the cell or battery for a total of 18 shocks.

However ,large cells and large batteries shall be subjected to a half- sine shock of peak acceleration of 50 gn and pulse duration of 11 milliseconds. Each cell or battery is subjected to three shocks in the positive direction followed by three shocks in the negative direction of each of three mutually perpendicular mounting position of the cell for a total of 18 shocks.

Cells and batteries meet this requirement if there no leakage, no venting, no disassembly, no rupture and no fire and if the open circuit voltage of each test or battery after testing is not less than 90% of its voltage immediately prior to this procedure. The requirement relating to voltage is not applicable to test and batteries at fully discharged states.





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3. Vibration

NO.	Pre-test		After test		Mass loss(%)	Voltage loss (%)	Whether leakage, Venting, disassembly, Rupture, fire(Y/N)
	Mass (g)	Voltage (V)	Mass (g)	Voltage (V)			
N1	12.003	3.89	12.003	3.89	0.000	0.000	N
N2	12.201	3.82	12.201	3.80	0.000	0.514	N
N3	12.035	3.85	12.035	3.85	0.000	0.000	N
N4	12.230	3.80	12.230	3.80	0.000	0.000	N
N5	12.102	3.87	12.102	3.87	0.020	0.000	N
N6	12.143	3.90	12.143	3.89	0.000	0.256	N
N7	12.033	3.88	12.033	3.88	0.000	0.000	N
N8	12.053	3.86	12.053	3.86	0.000	0.000	N
N9	12.072	3.90	12.072	3.90	0.000	0.000	N
N10	12.023	3.80	12.023	3.80	0.000	0.000	N

4. Shock

NO.	Pre-test		After test		Mass loss(%)	Voltage loss (%)	Whether leakage, Venting, disassembly, Rupture, fire(Y/N)
	Mass (g)	Voltage (V)	Mass (g)	Voltage (V)			
N1	12.003	3.89	12.003	3.89	0.000	0.000	N
N2	12.201	3.82	12.201	3.80	0.000	0.514	N
N3	12.035	3.85	12.035	3.85	0.000	0.000	N
N4	12.230	3.80	12.230	3.80	0.000	0.000	N
N5	12.102	3.87	12.102	3.87	0.020	0.000	N
N6	12.143	3.90	12.143	3.89	0.000	0.256	N
N7	12.033	3.88	12.033	3.88	0.000	0.000	N
N8	12.053	3.86	12.053	3.86	0.000	0.000	N
N9	12.072	3.90	12.072	3.90	0.000	0.000	N
N10	12.023	3.80	12.023	3.80	0.000	0.000	N



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7. Forced discharge

NO.	Whether disassembly, fire (Y/N)
N20	N
N21	N
N22	N
N23	N
N24	N
N25	N
N26	N
N27	N
N28	N
N29	N
C5	N
C6	N
C7	N
C8	N
C9	N
C10	N
C11	N
C12	N
C13	N
C14	N

\*\*\*\*\*End of report\*\*\*\*\*