



中国认可  
国际互认  
检测  
TESTING  
CNAS L5772

**TEST REPORT**  
**IEC 60086-4**  
**Primary batteries**  
**Part 4: Safety of lithium batteries**

**Report Number** ..... : PTC25042819301B-IE01  
**Date of issue** ..... : 2025-06-04  
**Total number of pages** ..... : 21 pages

**Name of Testing Laboratory preparing the Report** ..... : Precise Testing & Certification (Guangdong) Co., Ltd.

**Applicant's name** ..... : Liyuan Battery Technology (Yichun) Co., Ltd.  
**Address** ..... : No. 166, Food Avenue, Shanggao County Industrial Park, Yichun City, Jiangxi Province

**Test specification:**  
**Standard** ..... : IEC 60086-4: 2019  
**Test procedure** ..... : Type Test  
**Non-standard test method** ..... : N/A

**Test Report Form No.** ..... : IEC60086\_4C  
**Test Report Form(s) Originator** .... : DEKRA  
**Master TRF** ..... : Dated 2019-06-19

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**Test item description** ..... : Lithium ion button cell  
**Trade Mark(s)** ..... : N/A  
**Manufacturer** ..... : Same as applicant  
**Model/Type reference** ..... : CR2450  
**Ratings** ..... : 3.0V, 600mAh





**Responsible Testing Laboratory (as applicable), testing procedure and testing location(s):**

<input checked="" type="checkbox"/>	<b>Testing Laboratory:</b>	Precise Testing & Certification (Guangdong) Co., Ltd.
<b>Testing location/ address.....:</b>		Building 1, No. 6, Tongxin Road, Dongcheng Street, Dongguan, Guangdong, China.
<b>Tested by (name, function, signature).....:</b>		Curly Hu 
<b>Approved by (name, function, signature)....:</b>		Starry Li 



<input type="checkbox"/>	<b>Testing procedure: CTF Stage 1:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name, function, signature).....:</b>		
<b>Approved by (name, function, signature)....:</b>		

<input type="checkbox"/>	<b>Testing procedure: CTF Stage 2:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name + signature) .....</b>		
<b>Witnessed by (name, function, signature) .:</b>		
<b>Approved by (name, function, signature)....:</b>		

<input type="checkbox"/>	<b>Testing procedure: CTF Stage 3:</b>	
<input type="checkbox"/>	<b>Testing procedure: CTF Stage 4:</b>	
<b>Testing location/ address.....:</b>		
<b>Tested by (name, function, signature).....:</b>		
<b>Witnessed by (name, function, signature) .:</b>		
<b>Approved by (name, function, signature)....:</b>		
<b>Supervised by (name, function, signature) :</b>		

**List of Attachments (including a total number of pages in each attachment):****Summary of testing:****Tests performed (name of test and test clause):**

6.4.1 Test A: Altitude;  
6.4.2 Test B: Thermal cycling;  
6.4.3 Test C: Vibration;  
6.4.4 Test D: Shock;  
6.5.1 Test E: External short-circuit;  
6.5.3 Test G: Crush;  
6.5.4 Test H: Forced discharge;  
6.5.5 Test I: Abnormal charging;  
6.5.6 Test J: Free fall;  
6.5.7 Test K: Thermal abuse;  
7.2 Safety precautions (Ingestion gauge).

**Testing location:**

Precise Testing & Certification (Guangdong) Co., Ltd.  
Building 1, No. 6, Tongxin Road, Dongcheng Street,  
Dongguan, Guangdong, China.

**Summary of compliance with National Differences (List of countries addressed):**

The product fulfils the requirements of EN IEC60086-4:2019

**Copy of marking plate:**

**The artwork below may be only a draft. The use of certification marks on a product must be authorized by the respective NCBs that own these marks.**

Lithium ion button cell  
Model: CR2450  
+ Ratings: 3.0V, 600mAh -  
YYYY/MM/DD  
Liyuan Battery Technology (Yichun) Co., Ltd.  
WARNING:  
Do not disassemble, puncture, crush, heat, or burn.

**Remark:**

1. “YYYY” means year for manufacture;  
“MM” means month for manufacture;  
“DD” means day for manufacture.
2. The samples of this model have different silk screen printing and coding, while others are the same.



<b>Test item particulars</b> ..... :	
<b>Classification of installation and use</b> ..... :	To be defined in final product
<b>Supply Connection</b> .....	Electrode Tab
..... :	
<b>Possible test case verdicts:</b>	
- test case does not apply to the test object .....	N/A
- test object does meet the requirement.....	P (Pass)
- test object does not meet the requirement.....	F (Fail)
<b>Testing</b> ..... :	
<b>Date of receipt of test item</b> ..... :	2025-05-08
<b>Date (s) of performance of tests</b> .....	2025-05-08 to 2025-06-03
..... :	
<b>General remarks:</b>	
"(See Enclosure #)" refers to additional information appended to the report. "(See appended table)" refers to a table appended to the report.	
<b>Throughout this report a <input type="checkbox"/> comma / <input checked="" type="checkbox"/> point is used as the decimal separator.</b>	
<b>Name and address of factory (ies)</b> .....	Same as applicant

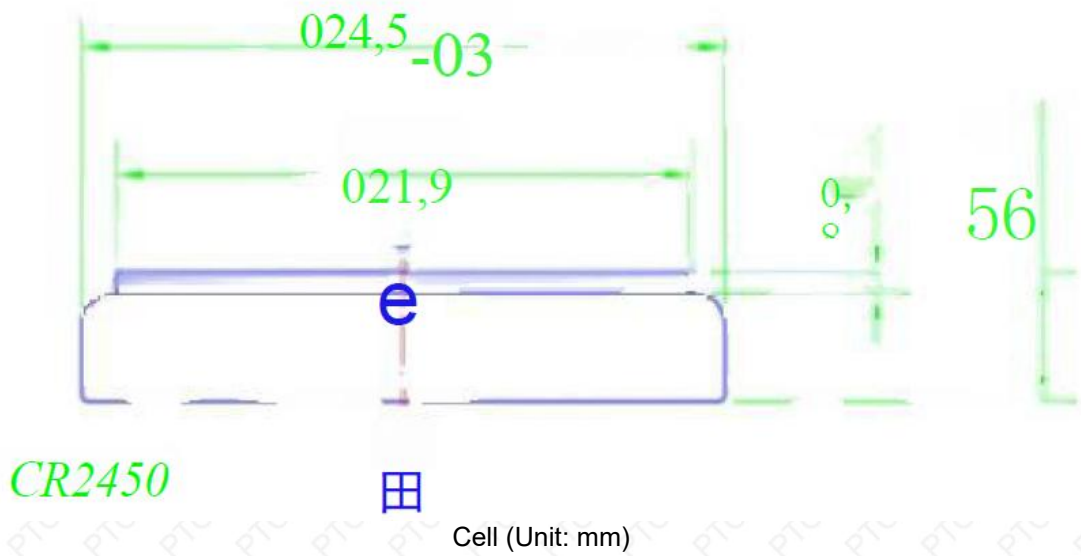
**General product information and other remarks:**

This product is a single primary cell, and has no over-discharge, overcurrent and short-circuits proof circuit.

The main features of the cell are shown as below:

Model	Nominal capacity	Nominal voltage	Maximum Discharge Current	Cut-off Voltage
CR2450	600mAh	3.0V	120mA	2.0V

**Construction Unit (mm):**



**Circuit diagram:**

N/A



IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
<b>4</b>	<b>REQUIREMENTS FOR SAFETY</b>		<b>P</b>
<b>4.1</b>	<b>Design</b>		<b>P</b>
	a) Abnormal temperature rise above the critical value		<b>P</b>
	b) Temperature increases in the battery controlled		<b>P</b>
	c) Lithium cells and batteries designed to relieve excessive internal pressure or to preclude a violent rupture under conditions of transport, intended use and reasonably foreseeable misuse	Venting mechanism exists on the narrow side of the cell.	<b>P</b>
<b>4.2</b>	<b>Quality plan</b>		<b>P</b>
	Manufacturer prepared and implemented a quality plan defining the procedures for the inspection of materials, components, cells and batteries during the course of manufacture, to be applied to the total process of producing a specific type of battery	Complied. Quality plan provided.	<b>P</b>
	Manufactures understood their process capabilities and instituted the necessary process controls as they relate to product safety		<b>P</b>
<b>5</b>	<b>TYPE TESTING AND SAMPLING</b>		<b>P</b>
<b>5.1</b>	<b>Validity of testing</b>		<b>P</b>
<b>5.2</b>	<b>Test samples</b>		<b>P</b>
		(See table 1 in the standard)	<b>P</b>
<b>6</b>	<b>TESTING AND REQUIREMENTS</b>		<b>P</b>
<b>6.1</b>	<b>General</b>		<b>P</b>
6.1.1	Test application matrix	(See table 2 in the standard)	<b>P</b>
	s: cell or single cell battery .....		<b>P</b>
	m: multi cell battery .....		<b>N/A</b>
6.1.3	Ambient temperature (°C).....	20°C ± 5°C.	<b>P</b>
6.1.4	Parameter measurement tolerances		<b>P</b>
6.1.5	Predischarge		<b>P</b>
6.1.6	Additional cells		<b>P</b>
<b>6.2</b>	<b>Evaluation of test criteria</b>		<b>P</b>
6.2.1	Short-circuit		<b>P</b>
6.2.2	Excessive temperature rise		<b>P</b>
6.2.3	Leakage		<b>P</b>
6.2.4	Venting		<b>P</b>
6.2.5	Fire		<b>P</b>
6.2.6	Rupture		<b>P</b>
6.2.7	Explosion		<b>P</b>
<b>6.3</b>	<b>Tests and requirements – Overview</b>		<b>P</b>
		(See table 4 in the standard)	<b>P</b>



IEC 60086-4			
Clause	Requirement + Test	Result - Remark	Verdict
<b>6.4</b>	<b>Tests for intended use</b>		<b>P</b>
6.4.1	Test A: Altitude .....	(See appended table 1)	P
6.4.2	Test B: Thermal cycling .....	(See appended table 1)	P
6.4.3	Test C: Vibration .....	(See appended table 1)	P
6.4.4	Test D: Shock .....	(See appended table 1)	P
<b>6.5</b>	<b>Tests for reasonably foreseeable misuse</b>		<b>P</b>
6.5.1	Test E: External short-circuit.....	(See appended table 1)	P
6.5.2	Test F: Impact .....		N/A
6.5.3	Test G: Crush .....	(See appended table 1)	P
6.5.4	Test H: Forced discharge .....	(See appended table 1)	P
6.5.5	Test I: Abnormal charging .....	(See appended table 1)	P
6.5.6	Test J: Free fall .....	(See appended table 1)	P
6.5.7	Test K: Thermal abuse .....	(See appended table 1)	P
6.5.8	Test L: Incorrect installation .....	(See appended table 1)	P
6.5.9	Test M: Overdischarge .....	(See appended table 1)	P
<b>6.6</b>	<b>Information given in the relevant specification</b>		<b>P</b>
	a) Predischage current or resistive load and end-point voltage specified by the manufacturer .....		P
	b) Method to measure the energy of an explosion, if any.....		P
	c) Shape: prismatic, flexible, coin or cylindrical Diameter: less than 18 mm or not less than 18 mm. ....	Coin Cell.	P
	d) Maximum continuous discharge current specified by the manufacturer for test H.....	120mA as specified by manufacturer applied.	P
	e) Rated capacity specified by the manufacturer for test H .....	600mAh	P
	f) Abnormal charging current declared by the manufacturer for test I .....		P
	g) Normal reverse current declared by the manufacturer which applied to the battery during its operating life.....		P
<b>7</b>	<b>INFORMATION FOR SAFETY</b>		<b>P</b>
<b>7.1</b>	<b>Safety precautions during design of equipment</b>		<b>P</b>
7.1.1	General		P
7.1.2	Charge protection		N/A
7.1.3	Parallel connection		N/A

<b>IEC 60086-4</b>			
Clause	Requirement + Test	Result - Remark	Verdict
<b>7.2</b>	<b>Precautions during handling of batteries</b>	Safety precautions are shown in battery specification and user manual.	P
<b>7.3</b>	<b>Packaging</b>		P
<b>7.4</b>	<b>Handling of battery cartons</b>		P
<b>7.5</b>	<b>Transport</b>		N/A
7.5.1	General		N/A
7.5.2	Air transport		N/A
7.5.3	Sea transport		N/A
7.5.4	Land transport		N/A
<b>7.6</b>	<b>Display and storage</b>		P
<b>7.7</b>	<b>Disposal</b>		P
<b>8</b>	<b>INSTRUCTIONS FOR USE</b>		<b>P</b>
<b>9</b>	<b>MARKING AND PACKAGING</b>		<b>P</b>
<b>9.1</b>	<b>General</b>	See 9.2	P
<b>9.2</b>	<b>Swallowable batteries</b>		P
<b>9.3</b>	<b>Safety pictograms</b>		P
<b>ANNEX A</b>	<b>(INFORMATIVE) GUIDELINES FOR THE ACHIEVEMENT OF SAFETY OF LITHIUM BATTERIES</b>		<b>P</b>
<b>ANNEX B</b>	<b>(INFORMATIVE) GUIDELINES FOR DESIGNERS OF EQUIPMENT USING LITHIUM BATTERIES</b>		<b>P</b>
<b>ANNEX C</b>	<b>(INFORMATIVE) ADDITIONAL INFORMATION ON DISPLAY AND STORAGE</b>		<b>P</b>
<b>ANNEX D</b>	<b>(INFORMATIVE) SAFETY PICTOGRAMS</b>		<b>P</b>
<b>D.1</b>	<b>General</b>		<b>P</b>
<b>D.2</b>	<b>Pictograms</b>		<b>P</b>
<b>D.3</b>	<b>Instruction for use</b>		<b>P</b>
<b>ANNEX E</b>	<b>(NORMATIVE) CHILD RESISTANT PACKAGING OF COIN CELLS</b>		<b>P</b>
<b>E.1</b>	<b>General</b>		P
<b>E.2</b>	<b>Applicability</b>		P
<b>E.3</b>	<b>Packaging tests</b>		P
E.3.1	General		P
E.3.2	Test items		P
E.3.3	Test procedure		P
E.3.4	Criteria		P

**IEC 60086-4**

Clause	Requirement + Test	Result - Remark	Verdict
<b>ANNEX F</b>	<b>(INFORMATIVE) USE OF THE KEEP OUT OF REACH OF CHILDREN SAFETY SIGN</b>		P
<b>F.1</b>	<b>General</b>		P
<b>F.2</b>	<b>Safety sign</b>		P
<b>F.3</b>	<b>Best practices for marking the packaging</b>		P
<b>F.4</b>	<b>Best practices for marking the cell</b>		P

TABLE 1 (clause 6.4.1 – 6.5.9)					P
Tests	Cell / battery type	Discharge state	Number of test sample	Test result	Verdict
A to E	Cells and single cell batteries	Undischarged	10		P
		Fully discharged	10		P
	Multi-cell batteries	Undischarged	4		N/A
		Fully discharged	4		N/A
F	Cells and single cell batteries	Undischarged	5		N/A
		Fully discharged	5		N/A
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
G	Cells and single cell batteries	Undischarged	5		P
		Fully discharged	5		P
	Multi-cell batteries	Undischarged	5 component cells		N/A
		Fully discharged	5 component cells		N/A
H	Cells and single cell batteries	Fully discharged	10		P
	Multi-cell batteries	Fully discharged	10 component cells		N/A
I to K	Cells and single cell batteries	Undischarged	5		P
	Multi-cell batteries	Undischarged	5		N/A
L	Cells and single cell batteries	Undischarged	20		N/A
M	Cells and single cell batteries	50 % predischarged	20		N/A
		75 % predischarged	20		N/A

Supplementary information:

NC: No short-circuit

NE: No explosion

NF: No fire

NL: No leakage

NR: No rupture

NT: No excessive temperature rise

NV: No venting

6.4.1	TABLE: Test A: Altitude (Undischarged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	3.27	6.6113	3.26	6.6112
C2	3.28	6.5575	3.27	6.5574
C3	3.26	6.4368	3.25	6.4366
C4	3.26	6.5757	3.26	6.5755
C5	3.28	6.5171	3.27	6.5170
C6	3.27	6.4975	3.26	6.4974
C7	3.27	6.5261	3.26	6.5259
C8	3.26	6.4887	3.26	6.4886
C9	3.27	6.5232	3.26	6.5231
C10	3.28	6.5325	3.27	6.5324

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.1	TABLE: Test A: Altitude (Fully discharged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	2.32	6.2552	2.31	6.2551
C2	2.34	6.2474	2.33	6.2473
C3	2.33	6.2345	2.32	6.2344
C4	2.32	6.2265	2.31	6.2264
C5	2.32	6.2651	2.32	6.2650
C6	2.32	6.2557	2.32	6.2555
C7	2.31	6.2242	2.30	6.2241
C8	2.30	6.2387	2.29	6.2385
C9	2.31	6.2383	2.30	6.2382
C10	2.32	6.2456	2.31	6.2455

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.2	TABLE: Test B: Thermal cycling (Undischarged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	3.26	6.6112	3.23	6.6109
C2	3.27	6.5574	3.23	6.5572
C3	3.25	6.4366	3.22	6.4363
C4	3.26	6.5755	3.22	6.5752
C5	3.27	6.5170	3.24	6.5156
C6	3.26	6.4974	3.22	6.4972
C7	3.26	6.5259	3.22	6.5255
C8	3.26	6.4886	3.23	6.4883
C9	3.26	6.5231	3.23	6.5228
C10	3.27	6.5324	3.24	6.5321

**Supplementary information:**

- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.2	TABLE: Test B: Thermal cycling (Fully discharged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	2.31	6.2551	2.29	6.2548
C2	2.33	6.2473	2.30	6.2471
C3	2.32	6.2344	2.30	6.2341
C4	2.31	6.2264	2.28	6.2261
C5	2.32	6.2650	2.29	6.2646
C6	2.32	6.2555	2.30	6.2551
C7	2.30	6.2241	2.28	6.2238
C8	2.29	6.2385	2.27	6.2382
C9	2.30	6.2382	2.27	6.2379
C10	2.31	6.2455	2.28	6.2452

**Supplementary information:**

- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.3	TABLE: Test C: Vibration (Undischarged)				P
Cell. No.	Before test		After test		
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)	
C1	3.23	6.6109	3.22	6.6108	
C2	3.23	6.5572	3.23	6.5571	
C3	3.22	6.4363	3.22	6.4362	
C4	3.22	6.5752	3.22	6.5751	
C5	3.24	6.5156	3.23	6.5155	
C6	3.22	6.4972	3.22	6.4972	
C7	3.22	6.5255	3.22	6.5254	
C8	3.23	6.4883	3.22	6.4882	
C9	3.23	6.5228	3.22	6.5226	
C10	3.24	6.5321	3.23	6.5321	

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.3	TABLE: Test C: Vibration (Fully discharged)				P
Cell. No.	Before test		After test		
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)	
C1	2.29	6.2548	2.29	6.2546	
C2	2.30	6.2471	2.30	6.2470	
C3	2.30	6.2341	2.29	6.2340	
C4	2.28	6.2261	2.28	6.2259	
C5	2.29	6.2646	2.29	6.2645	
C6	2.30	6.2551	2.29	6.2550	
C7	2.28	6.2238	2.28	6.2237	
C8	2.27	6.2382	2.27	6.2381	
C9	2.27	6.2379	2.27	6.2378	
C10	2.28	6.2452	2.28	6.2451	

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.4	TABLE: Test D: Shock (Undischarged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	3.22	6.6108	3.22	6.6106
C2	3.23	6.5571	3.22	6.5571
C3	3.22	6.4362	3.22	6.4361
C4	3.22	6.5751	3.21	6.5750
C5	3.23	6.5155	3.23	6.5154
C6	3.22	6.4972	3.22	6.4971
C7	3.22	6.5254	3.22	6.5253
C8	3.22	6.4882	3.22	6.4882
C9	3.22	6.5226	3.21	6.5225
C10	3.23	6.5321	3.22	6.5320

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.4.4	TABLE: Test D: Shock (Fully discharged)			P
Cell. No.	Before test		After test	
	cell voltage (V)	cell weight (g)	cell voltage (V)	cell weight (g)
C1	2.29	6.2546	2.28	6.2544
C2	2.30	6.2470	2.29	6.2470
C3	2.29	6.2340	2.29	6.2339
C4	2.28	6.2259	2.28	6.2258
C5	2.29	6.2645	2.28	6.2643
C6	2.29	6.2550	2.28	6.2548
C7	2.28	6.2237	2.28	6.2236
C8	2.27	6.2381	2.27	6.2380
C9	2.27	6.2378	2.27	6.2377
C10	2.28	6.2451	2.28	6.2450

**Supplementary information:**  
- No leakage, no venting, no short-circuit, no rupture, no explosion and no fire.

6.5.1		TABLE: Test E: External short-circuit (Undischarged)				P
Cell No.	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise $\Delta T$ , (°C)	Results	
C1	55.8	3.22	84	72.4	P	
C2	55.8	3.22	82	68.2	P	
C3	55.8	3.22	82	71.2	P	
C4	55.8	3.21	85	70.5	P	
C5	55.8	3.23	83	72.7	P	
C6	55.8	3.22	84	69.2	P	
C7	55.8	3.22	81	68.4	P	
C8	55.8	3.22	84	73.5	P	
C9	55.8	3.21	84	71.2	P	
C10	55.8	3.22	83	73.5	P	

**Supplementary information:**  
 - No excessive temperature rise (>170°C), no rupture, no explosion and no fire.

6.5.1		TABLE: Test E: External short-circuit (Fully discharged)				P
Cell No.	Ambient, (°C)	OCV at start of test, (Vdc)	Resistance of circuit, (mΩ)	Maximum case temperature rise $\Delta T$ , (°C)	Results	
C1	55.7	2.28	82	64.5	P	
C2	55.7	2.29	84	65.2	P	
C3	55.7	2.29	83	66.7	P	
C4	55.7	2.28	86	65.6	P	
C5	55.7	2.28	83	68.4	P	
C6	55.7	2.28	81	66.2	P	
C7	55.7	2.28	85	64.7	P	
C8	55.7	2.27	84	65.8	P	
C9	55.7	2.27	82	66.4	P	
C10	55.7	2.28	84	69.2	P	

**Supplementary information:**  
 - No excessive temperature rise (>170°C), no rupture, no explosion and no fire.



6.5.3		TABLE: Test G: Crush (Undischarged)			P
Cell No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise $\Delta T$ , (°C)	Results	
C1	23.6	3.28	24.1	P	
C2	23.6	3.29	23.9	P	
C3	23.6	3.29	24.0	P	
C4	23.6	3.29	24.2	P	
C5	23.6	3.30	24.1	P	

**Supplementary information:**  
- No excessive temperature rise (>170°C), no explosion and no fire.

6.5.3		TABLE: Test G: Crush (Fully discharged)			P
Cell No.	Ambient, (°C)	OCV at start of test, (Vdc)	Maximum case temperature rise $\Delta T$ , (°C)	Results	
C1	23.6	2.30	24.1	P	
C2	23.6	2.28	24.2	P	
C3	23.6	2.27	24.1	P	
C4	23.6	2.29	24.0	P	
C5	23.6	2.28	24.1	P	

**Supplementary information:**  
- No excessive temperature rise (>170°C), no explosion and no fire.

6.5.4		TABLE: Test H: Forced discharge (Fully discharged)			P
Cell No.	OCV at start of test, (Vdc)	Max. discharge current, (A)	Test duration, (Hours)	Results	
C1	2.28	0.12	1.5	P	
C2	2.30	0.12	1.5	P	
C3	2.29	0.12	1.5	P	
C4	2.29	0.12	1.5	P	
C5	2.31	0.12	1.5	P	
C6	2.32	0.12	1.5	P	
C7	2.30	0.12	1.5	P	
C8	2.29	0.12	1.5	P	
C9	2.29	0.12	1.5	P	
C10	2.32	0.12	1.5	P	

**Supplementary information:**  
- No explosion and no fire.

6.5.5		TABLE: Test I: Abnormal charging (Undischarged)			P
Cell No.	OCV at start of test, (Vdc)	Max. charge current, (A)	Test duration, (Hours)	Results	
C1	3.29	0.045	33.3	P	
C2	3.29	0.045	33.3	P	
C3	3.28	0.045	33.3	P	
C4	3.28	0.045	33.3	P	
C5	3.27	0.045	33.3	P	
<b>Supplementary information:</b> - No explosion and no fire.					

6.5.6		TABLE: Test J: Free fall (Undischarged)			P
Cell No.	Before test	After test	Test results		
	cell voltage (V)	cell voltage (V)			
C1	3.31	3.30	P		
C2	3.29	3.29	P		
C3	3.28	3.28	P		
C4	3.30	3.30	P		
C5	3.29	3.29	P		
<b>Supplementary information:</b> - No venting, no explosion and no fire.					

6.5.7		TABLE: Test K: Thermal abuse (Undischarged)			P
Cell No.	Before test	After test	Test results		
	cell voltage (V)	cell voltage (V)			
C1	3.30	0.14	P		
C2	3.31	0.10	P		
C3	3.31	0.09	P		
C4	3.30	0.12	P		
C5	3.29	0.15	P		
<b>Supplementary information:</b> - No explosion and no fire.					



6.5.8	Test L: Incorrect installation (Undischarged)				N/A
Cell No.	OCV at start of test, (Vdc)	Resistance of circuit, (m $\Omega$ )	Maximum case temperature rise $\Delta T$ , ( $^{\circ}$ C)	Results	

**Supplementary information:**  
- No explosion and no fire.

6.5.9	Test M: Overdischarge (Undischarged) (50% predischarged)				N/A
Cell No.	Ambient, ( $^{\circ}$ C)	OCV at start of test, (Vdc)	Resistance of circuit, (m $\Omega$ )	Maximum case temperature, ( $^{\circ}$ C)	Results

**Supplementary information**  
- No explosion and no fire.

6.5.9	Test M: Overdischarge (Undischarged) (75% predischarged)				N/A
Cell No.	Ambient, ( $^{\circ}$ C)	OCV at start of test, (Vdc)	Resistance of circuit, (m $\Omega$ )	Maximum case temperature, ( $^{\circ}$ C)	Results

**Supplementary information**  
- No explosion and no fire.

-- End of Report --



# Photo Documentation

Product: Lithium ion button cell

Type Designation: CR2450

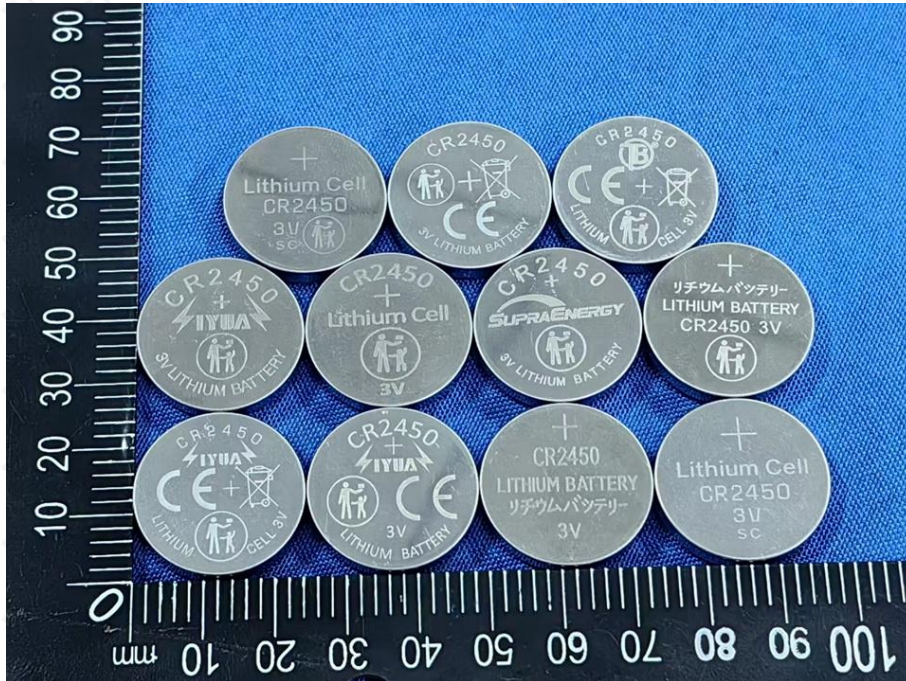


Figure 1 Front view of cell

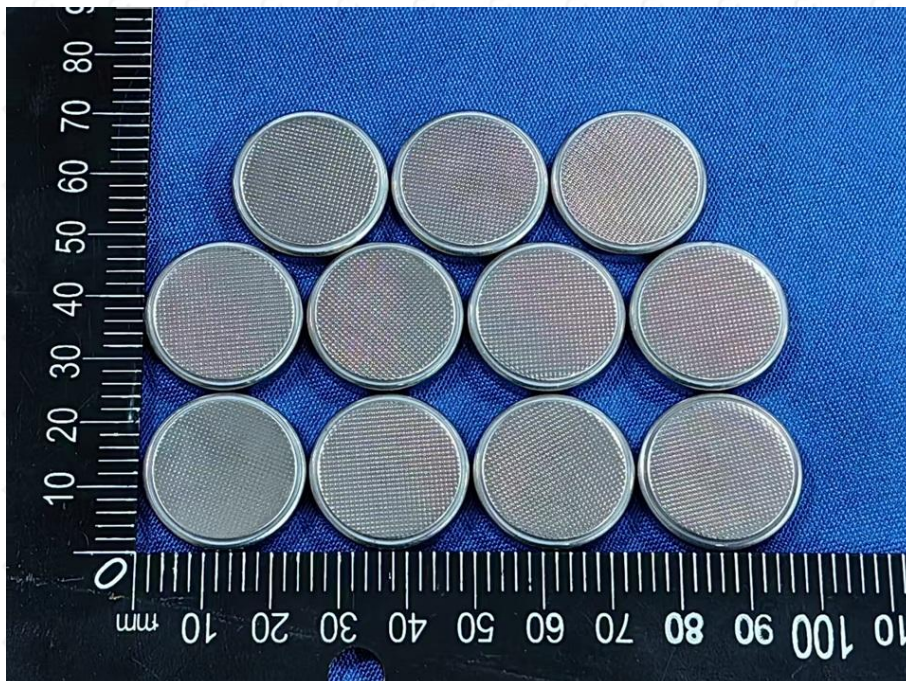


Figure 2 Back view of cell