Test Report

No. TSNEC2603578601 Date: 10 Jan 2026 Page 1 of 3

Client Name :

Client Address :

Sample Name : Ni-MH BUTTON BATTERY

Client Ref. Info. : SEE THE ATTACHMENT

The above sample(s) and information were provided by the client.

SGS Job No. : TJP26-003402 - TJ

Date of Sample Received : 26 Dec 2025

Testing Period : 26 Dec 2025 - 02 Jan 2026

Test Requested : Selected test(s) as requested by the client.

Test Method(s) : Please refer to next page(s).

Test Result(s) : Please refer to next page(s).

Result Summary :

Test Requested	Conclusion
Annex I of Regulation (EU) 2023/1542– Heavy Metals Content in batteries and waste batteries	PASS

Signed for and on behalf of
SGS-CSTC Standards Technical Services (Tianjin) Co., Ltd.

Jaccy Liu

Jaccy Liu
Approved Signatory

scan to see the report

16995D9B

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Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	TSN26-035786.001	Silvery battery

Remarks :

(1) 1 mg/kg = 0.0001%
(2) MDL = Method Detection Limit
(3) ND = Not Detected (< MDL)
(4) "-" = Not Regulated

Annex I of Regulation (EU) 2023/1542– Heavy Metals Content in batteries and waste batteries

Test Method : SGS In House Method, analysis was performed by ICP-OES or AAS or Hg-analyzer.

Test Item(s)	Limit	Unit	MDL	*001*
Lead (Pb)	0.0100	% (w/w)	0.0010	ND
Cadmium(Cd)	0.0020	% (w/w)	0.0010	ND
Mercury(Hg)	0.0005	% (w/w)	0.0001	ND
Conclusion				**PASS**

Notes:

Column 1 Designation of the substance or group of substances	Column 2 Conditions of restriction
1. Mercury CAS No 7439-97-6 EC No 231-106-7 and its compounds	Batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0,0005 % of mercury (expressed as mercury metal) by weight
2. Cadmium CAS No 7440-43-9 EC No 231-152-8 and its compounds	Portable batteries, whether or not incorporated into appliances, light means of transport or other vehicles, shall not contain more than 0,002 % of cadmium (expressed as cadmium metal) by weight
3. Lead CAS No 7439-92-1 EC No 231-100-4 and its compounds	1. From 18 August 2024, portable batteries, whether or not incorporated into appliances, shall not contain more than 0,01 % of lead (expressed as lead metal) by weight. 2. The restriction set out in point 1 shall not apply to portable zinc-air button cells until 18 August 2028.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

检验检测专用章 Inspection & Testing Services

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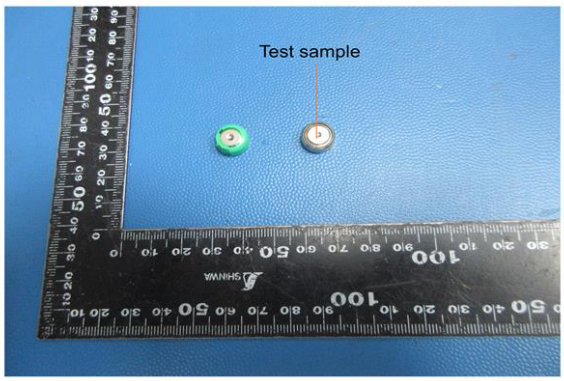
ATTACHMENT
10mAh/20mAh/30mAh/40mAh/50mAh/60mAh/70mAh/80mAh/
100mAh/110mAh/120mAh/160mAh/230mAh/250mAh/280mAh/
300mAh/330mAh/350mAh/400mAh/500mAh/600mAh/650mAh/
700mAh/800mAh/900mAh/1000mAh.etc
（1.2V 2.4V 3.6V 4.8V 6.0V 7.2V 8.4V 9.6V 10.8V 12V）etc

Sample photo:

TSNEC2603578601



TSN26-035786.001

SGS authenticate the photo on original report only

*** End of Report ***

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Technical Report No.: 70.413.24.00277-00-R01

Date: 2026-01-16

Client:

Manufacturer:

Factory:

Test object:	Product:	Sealed Rechargeable Ni-MH Button Cell
	Model:	Ni-MH 40mAh
Test specification:	EN 62133-1:2017	
Purpose of examination:	Testing and evaluation (visual / partial) according to the test specification	
Test result:	The test results show that the presented product is in compliance with the above listed test specifications.	

Any use for advertising purposes must be granted in writing. This technical report may only be quoted in full. This report is the result of a single examination of the object in question. It does not imply a general statement regarding the quality of products from regular production. For further details please see testing and certification regulation, chapter A-3.4.

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1. Description of the test object

1.1 Picture(s)

See photo documentation

1.2 Function

(Use in portable applications)

Manufacturer's specification for intended use:
(According to the user manual)

1.3 Consideration of the foreseeable use

☐ Not applicable
☒ Covered through the applied standard
☐ Covered by the following comment*
☐ Covered by attached risk analysis
*

1.4 Technical Data

The Sealed Rechargeable Ni-MH Button Cell, model Ni-MH 40mAh, is used in portable applications

Additionally, details information of the cell as following

Item	Specification
Product name	Sealed Rechargeable Ni-MH Button Cell
Type/model	Ni-MH 40mAh
Nominal voltage	1.2V d.c.
Rated capacity	40mAh
Charging current declared by manufacturer	4mA
Charge method	Charge for 16hours at 4mA
Discharge Cut-off voltage	1.0V
Dimensions	11.6mm (±0.05mm) x 5.6mm(±0.05mm)
Weight	≤2.0g

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2. Order

2.1 Date of Purchase Order, Customer's Reference

2026-01-08

2.2 Test Sample(s)

- Reception date(s): 2026-01-08
- Location(s) of reception: Shanghai ENE-LAB department
- Condition of test sample(s): Complete

2.3 Testing

- Testing date(s): 2026-01-08 to 2026-01-16
- Location(s) of testing: Name: TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch
  Address: No. 1999, Duhui Road, Shanghai, 201108, P. R. China

2.4 Points of Non-Compliance or Exceptions of the Test Procedure

- None

3. Test Results

"Decision rule according to IEC Guide 115:2023, clause 4.3 was applied."

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3.1 Positive Test Results

4	**Parameter measurement tolerances**		**P**
	Parameter measurement tolerances		P
5	**General safety considerations**		**P**
5.1	General		P
5.2	Insulation and wiring		P
	The insulation resistance between the positive terminal and externally exposed metal surfaces of the battery (excluding electrical contact surfaces) is not less than 5 MΩ		
	Insulation resistance (MΩ) .....:		—
	Internal wiring and insulation are sufficient to withstand maximum anticipated current, voltage and temperature requirements		N/A
	Orientation of wiring maintains adequate creepage and clearance distances between conductors		N/A
	Mechanical integrity of internal connections accommodates reasonably foreseeable misuse		P
5.3	Venting		P
	Battery cases and cells incorporate a pressure relief mechanism or are constructed so that they relieve excessive internal pressure at a value and rate that will preclude rupture, explosion and self-ignition		P
	Encapsulation used to support cells within an outer casing does not cause the battery to overheat during normal operation nor inhibit pressure relief		P
5.4	Temperature, voltage and current management		N/A
	Batteries are designed such that abnormal temperature-rise conditions are prevented		N/A
	Batteries are designed to be within temperature, voltage and current limits specified by the cell manufacturer		N/A

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	Batteries are provided with specifications and charging instructions for equipment manufacturers so that associated chargers are designed to maintain charging within the temperature, voltage and current limits specified		N/A
5.5	Terminal contacts		P
	The size and shape of the terminal contacts ensure that they can carry the maximum anticipated current		P
	External terminal contact surfaces are formed from conductive materials with good mechanical strength and corrosion resistance		P
	Terminal contacts are arranged to minimize the risk of short circuits		P
5.6	Assembly of cells into batteries		N/A
5.6.1	If there is more than one battery housed in a single battery case, cells used in the assembly of each battery have closely matched capacities, be of the same design, be of the same chemistry and be from the same manufacturer		N/A
	Battery has some type of safety device or feature for charging.		N/A
	Manufacturers of cells specify current, voltage and temperature limits so that the battery manufacturer /designer may ensure proper design and assembly		N/A
	Batteries that are designed for the selective discharge of a portion of their series connected cells incorporate circuitry to prevent operation of cells outside the limits specified by the cell manufacturer		N/A
	Protective circuit components are added as appropriate and consideration given to the end-device application		N/A
	When testing a battery, the manufacturer of the battery provides a test report confirming the compliance according to this document		N/A
5.7	Quality plan		P

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	The manufacturer prepares and implements a quality plan that defines procedures for the inspection of materials, components, cells and batteries and which covers the whole process of producing each type of cell or battery		P
6	**Type test and sample size**		**N/A**
	Tests were made with the number of cells or batteries specified in Table 1 using cells or batteries that are not more than six months old		N/A
	Unless noted otherwise in the test methods, testing was conducted in an ambient of 20°C ± 5°C.		N/A
7	**Specific requirements and tests**		**N/A**
7.1	Charging procedure for test purposes		N/A
7.2	Intended use		N/A
7.2.1	Continuous low-rate charging (cells)		N/A
	Results: No fire. No explosion		N/A
7.2.2	Vibration		N/A
	Results: No fire. No explosion. No leakage		N/A
7.2.3	Case stress at high ambient temperature(batteries)		N/A
	Oven temperature (°C)..... :		—
	Results: No physical distortion of the battery case resulting in exposure of internal protective components and cells		N/A
7.2.4	Temperature cycling		N/A
	Results: No fire. No explosion. No leakage.		N/A
7.3	Reasonably foreseeable misuse		N/A
7.3.1	Incorrect installation (cells)		N/A
	The test was carried out using: - Four fully charged cells of the same brand, type, size and age connected in series, with one of them reversed; or		N/A
	- A stabilized dc power supply.		N/A
	Results: No fire. No explosion..... :		N/A

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7.3.2	External short circuit		N/A
	The cells or batteries were tested until one of the following occurred: - 24 hours elapsed; or		N/A
	- The case temperature declined by 20% of the maximum temperature rise		N/A
	Results: No fire. No explosion..... :		N/A
7.3.3	Free fall		N/A
	Results: No fire. No explosion.		N/A
7.3.4	Mechanical shock (crash hazard)		N/A
	Results: No fire. No explosion. No leakage.		N/A
7.3.5	Thermal abuse (cells)		N/A
	Oven temperature (°C)..... :		—
	Results: No fire. No explosion.		N/A
7.3.6	Crushing of cells		N/A
	The crushing force was released upon: - The maximum force of 13 kN ± 0.78 kN has been applied; or		N/A
	- An abrupt voltage drop of one-third of the original voltage has been obtained		N/A
	The cell is prismatic type and a second set of samples was tested, rotated 90° around longitudinal axis compared to the first set		N/A
	Results: No fire. No explosion..... :		N/A
7.3.7	Low pressure (cells)		N/A
	Chamber pressure (kPa)..... :		—
	Results: No fire. No explosion. No leakage.		
7.3.8	Overcharge		N/A
	Results: No fire. No explosion..... :		N/A
7.3.9	Forced discharge		N/A
	Results: No fire. No explosion..... :		N/A
8	**Information for safety**		**P**
8.1	General		P

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	The manufacturer of secondary cells ensures that information is provided about current, voltage and temperature limits of their products.		P
	The manufacturer of batteries ensures that equipment manufacturers and, in the case of direct sales, end-users are provided with information to minimize and mitigate hazards.		N/A
	Systems analyses performed by device manufacturers to ensure that a particular battery design prevents hazards from occurring during use of a product		N/A
	As appropriate, information relating to hazard avoidance resulting from a system analysis is provided to the end user ..... :		N/A
	Guidance is provided in IEC TR 62188 on the design are provided for information in Annex A and Annex B.		N/A
8.2	Small cell and battery safety information		P
	The following warning language is to be provided with the information packaged with the small cells and batteries or equipment using them:		P
	-Keep small cells and batteries which are considered swallowable out of the reach of children.		P
	-Swallowing may lead to burns, perforation of soft tissue, and death. Severe burns can occur within 2h of ingestion.		P
	-In case of ingestion of a cell or battery, seek medical assistance promptly.		P
9	**Marking**		**P**
9.1	Cell marking		P
	Cells marked as specified in the applicable cell standards: IEC 61951-1 or IEC 61951-2.	IEC 61951-2	P
	By agreement between the cell manufacturer and the battery and/or end product manufacturer, component cells used in the manufacture of a battery need not be marked.		N/A
	However, cell marking can be indicated with the battery, the instructions and/or the specifications.		P

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9.2	Battery marking		N/A
	Batteries marked as specified in the applicable cell standards: IEC 61951-1 or IEC 61951-2.		N/A
	Batteries marked with an appropriate caution statement.		N/A
	Terminals have clear polarity marking on the external surface of the battery.		N/A
	Batteries with keyed external connector need not be marked with polarity markings if the design of the external connector prevents reverse polarity connections		N/A
9.3	Caution for ingestion of small cells and batteries		P
	Small cells and batteries determined to be small are including a caution statement regarding the hazards of ingestion in accordance with 8.2.		P
	Small cells and batteries are intended for direct sale in consumer-replaceable applications, caution for ingestion are given on the immediate package.		P
9.4	Other information		P
	Storage and disposal instructions marked on or supplied with the battery.		P
	Recommended charging instructions marked on or supplied with the battery.		P
10	**Packaging**		**P**
	Packaging for button cells are not be small enough to fit within the limits of the ingestion gauge of Figure 2		P
	Annex C for information regarding packaging		P
Annex A (informative)	**Recommendations to equipment manufacturers and battery assemblers**		P
Annex B (informative)	**Recommendations to the end-users**		P
Annex C (informative)	**Packaging**		P

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	TABLE: Critical components information				P
Object/part no.	**Manufacturer/ trademark**	**Type/model**	**Technical data**	**Standard**	**Mark(s) of conformity** [1)]
Cell		Ni-MH 40mAh	1.2V / 40mA	IEC 62133-1: 2017	-
- Electrolyte		-	KOH, LiOH, NaOH	-	-
- Separator	Laizhou Lianyou Jinhao New Material CO., LTD	LHDH30	Polypropylene Thickness: 0.3mm Width: 8.85mm	-	-
-Positive electrode		-	$Ni(OH)_2$, CoO φ: 8.3mm thickness: 1.65±0.01mm	-	-
-Negative electrode		-	hydrogen storage metal φ: 8.3mm thickness: 1.06±0.01mm	-	-
-Can	FOSHAN NANHAI XINGGUANG BATTERY MATERIAL CO,.LTD	-	SPCC φ11.65*5.15mm	-	-
-Outer PVC	NANJING AOFENG CAPACITIVE EQUIPMENT FACTORY	-	PVC 18.5*8.4mm	-	-

Supplementary information:

[1)] Provided evidence ensures the agreed level of compliance. See OD-CB2039.

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4. Test History

N/A

5. Remarks

NO testing was conducted.
Tests in table 1 of EN 62133-1:2017 is not applicable to button cells. But other safety document include label are checked and comply with the requirement of EN 62133-1:2017.

The user manual has been examined according to the minimum requirements described in the product standard. The manufacturer is responsible for the accuracy of further particulars as well as of the composition and layout.

6. Documentation

File	File name	Date
Photo documentation:		2026-01-16

7. Summary

"The test specification is met"

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Tested by: Liang Yaming

Yaming Liang, Project Handler

Approved by: Sun Guoqing

Guoqing Sun, Project Reviewer

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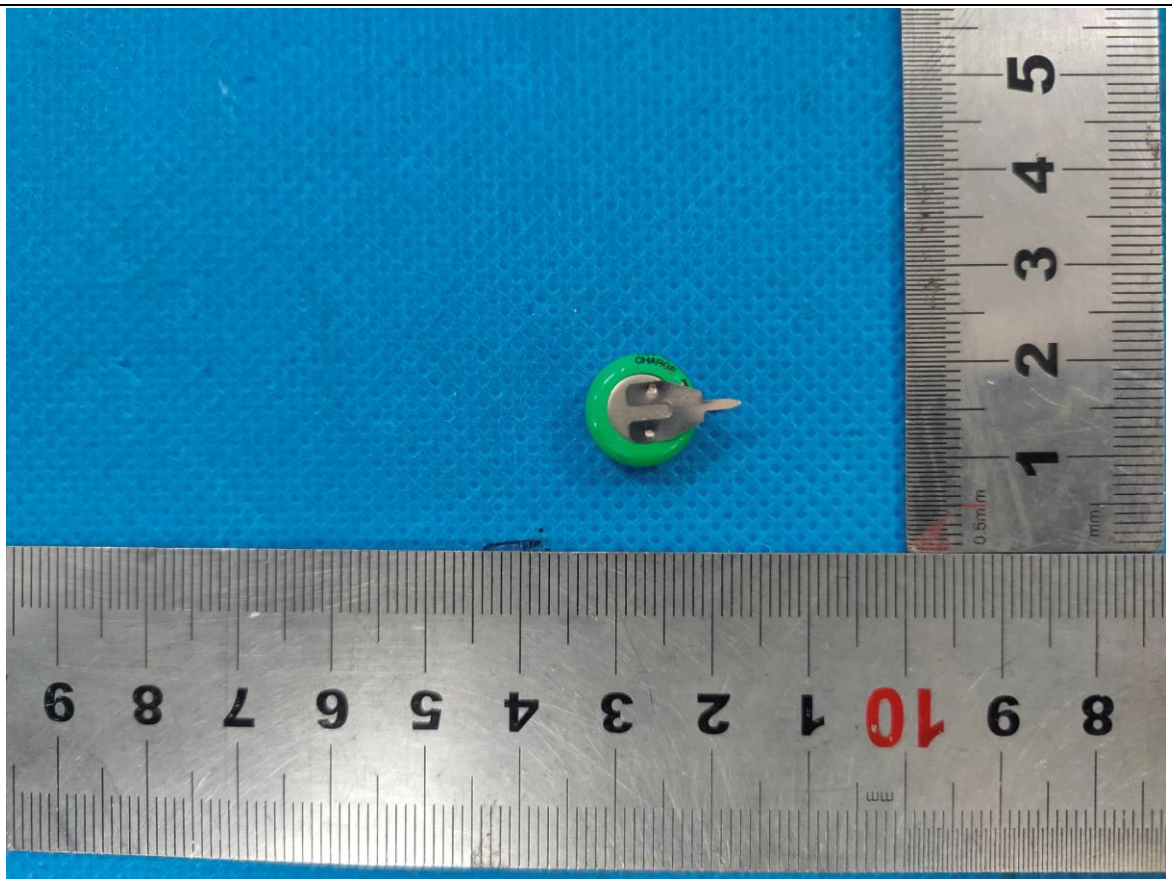
Photo Documentation

Project number: 70.413.24.00277-00-R01
Client: Henan Troily New Energy Technology Co., Ltd.
Type of Product: Sealed Rechargeable Ni-MH Button Cell
Model: Ni-MH 40mAh



Cell overview 1

\+

Ni-MH 40mAh

HB 125/055

YYYY-MM-DD

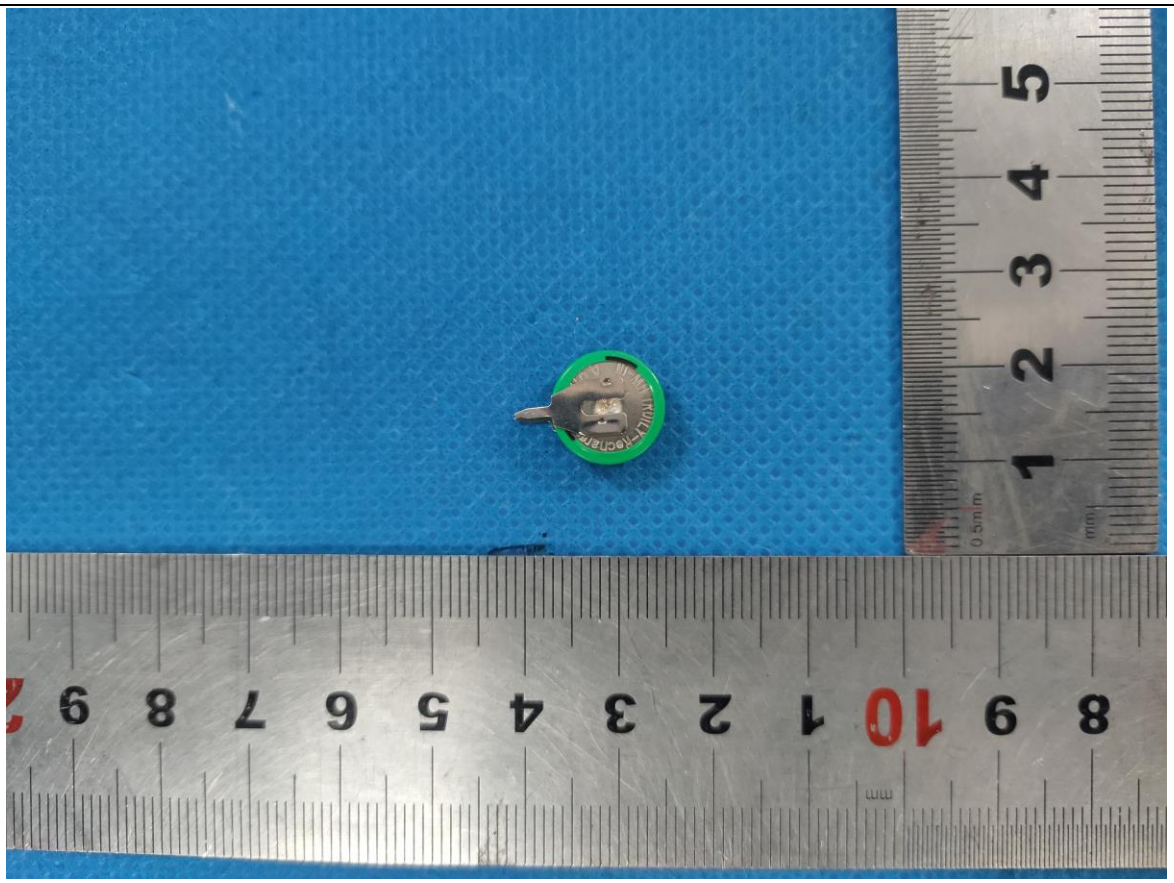
TROILY

\-

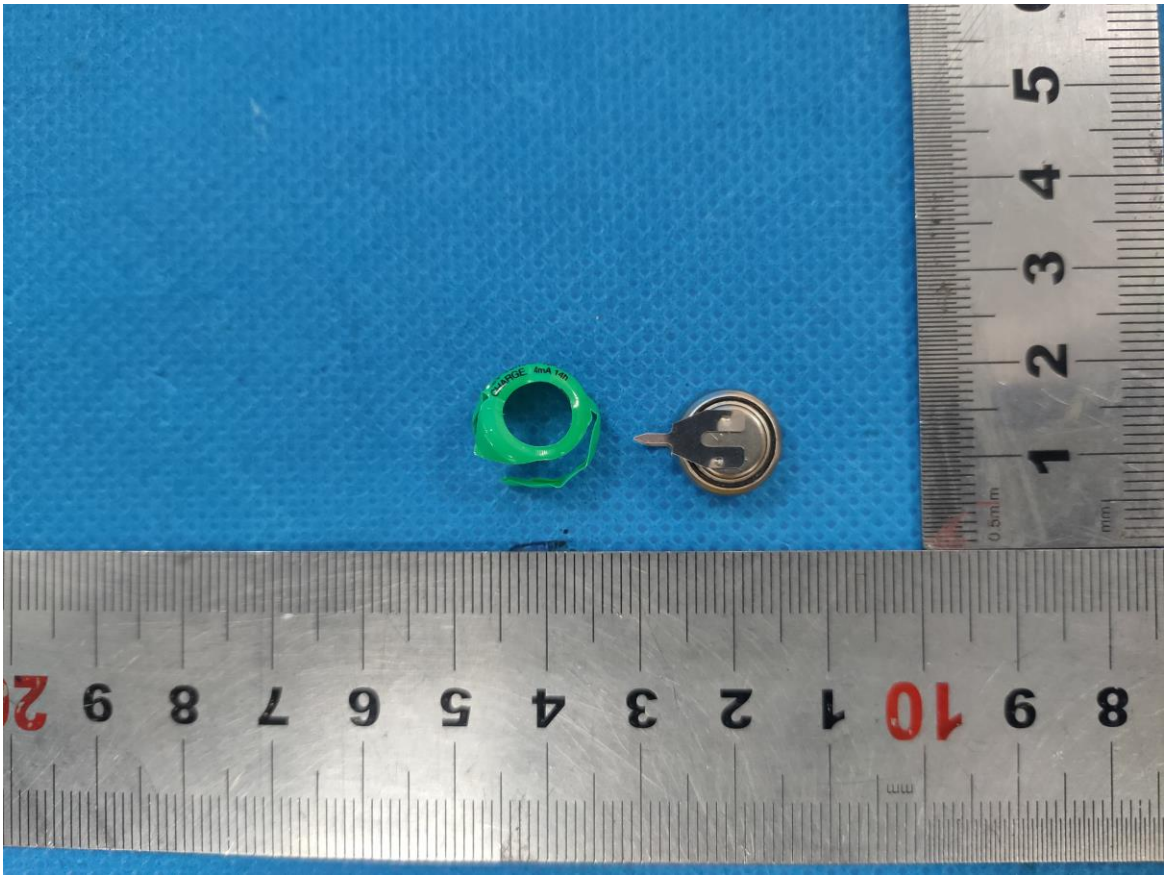
Label artwork of Sealed Rechargeable Ni-MH Button Cell, Model: Ni-MH 40mAh

Photo Documentation

Project number: 70.413.24.00277-00-R01
Client: Henan Troily New Energy Technology Co., Ltd.
Type of Product: Sealed Rechargeable Ni-MH Button Cell
Model: Ni-MH 40mAh



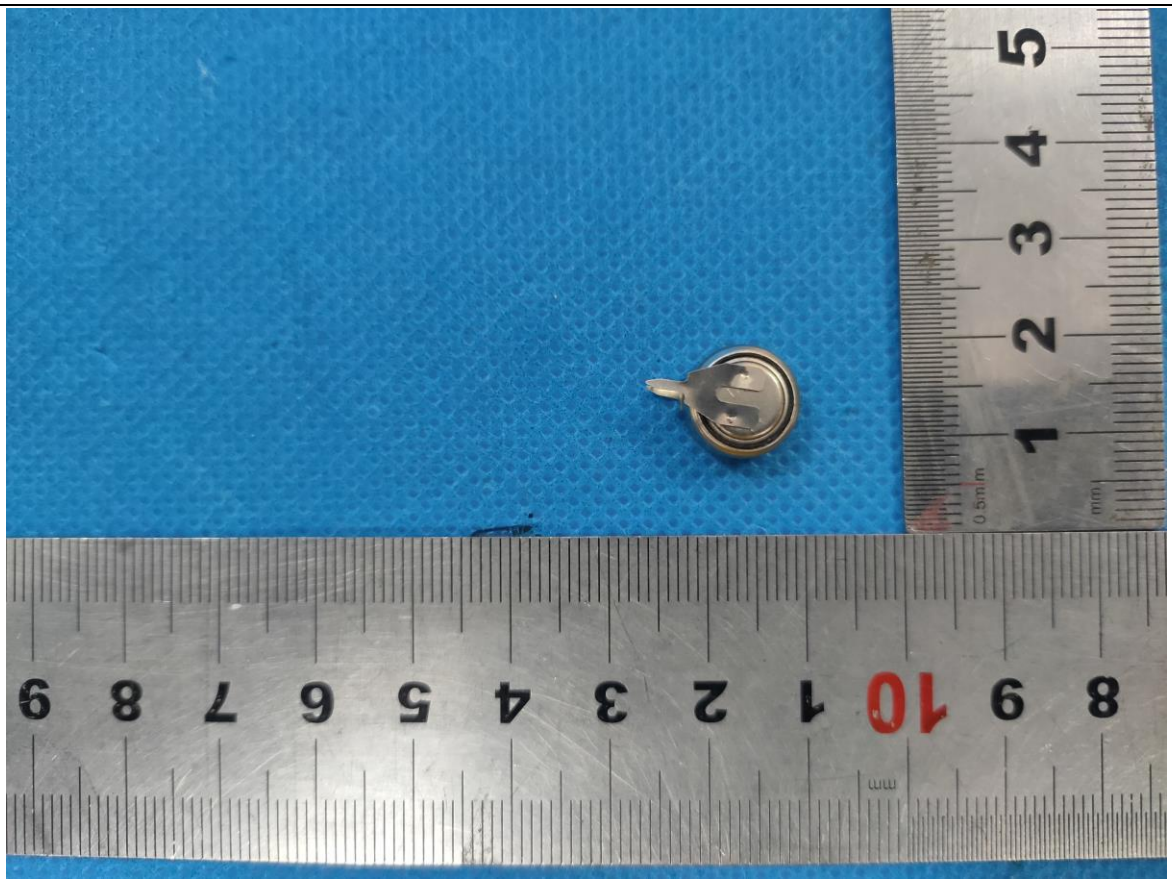
Cell overview 2



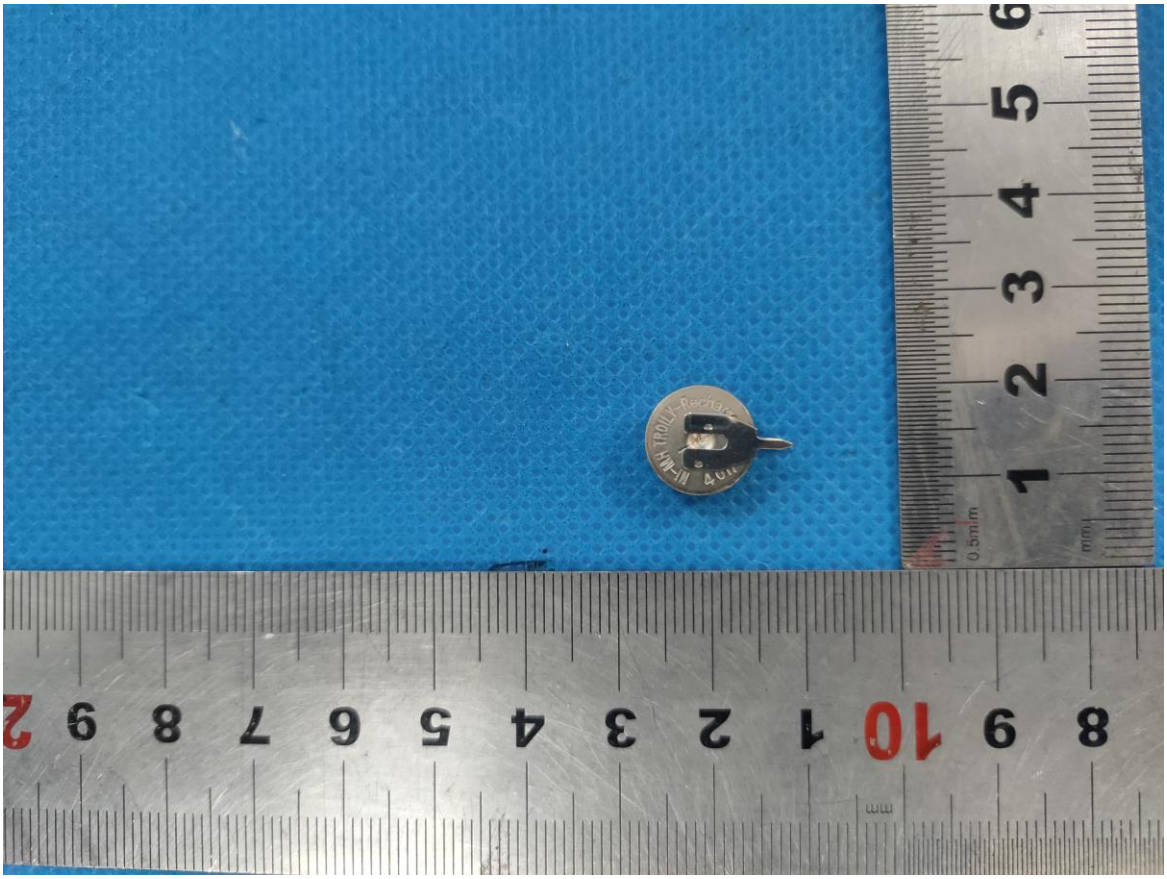
Cell internal overview

Photo Documentation

Project number: 70.413.24.00277-00-R01
Client: Henan Troily New Energy Technology Co., Ltd.
Type of Product: Sealed Rechargeable Ni-MH Button Cell
Model: Ni-MH 40mAh



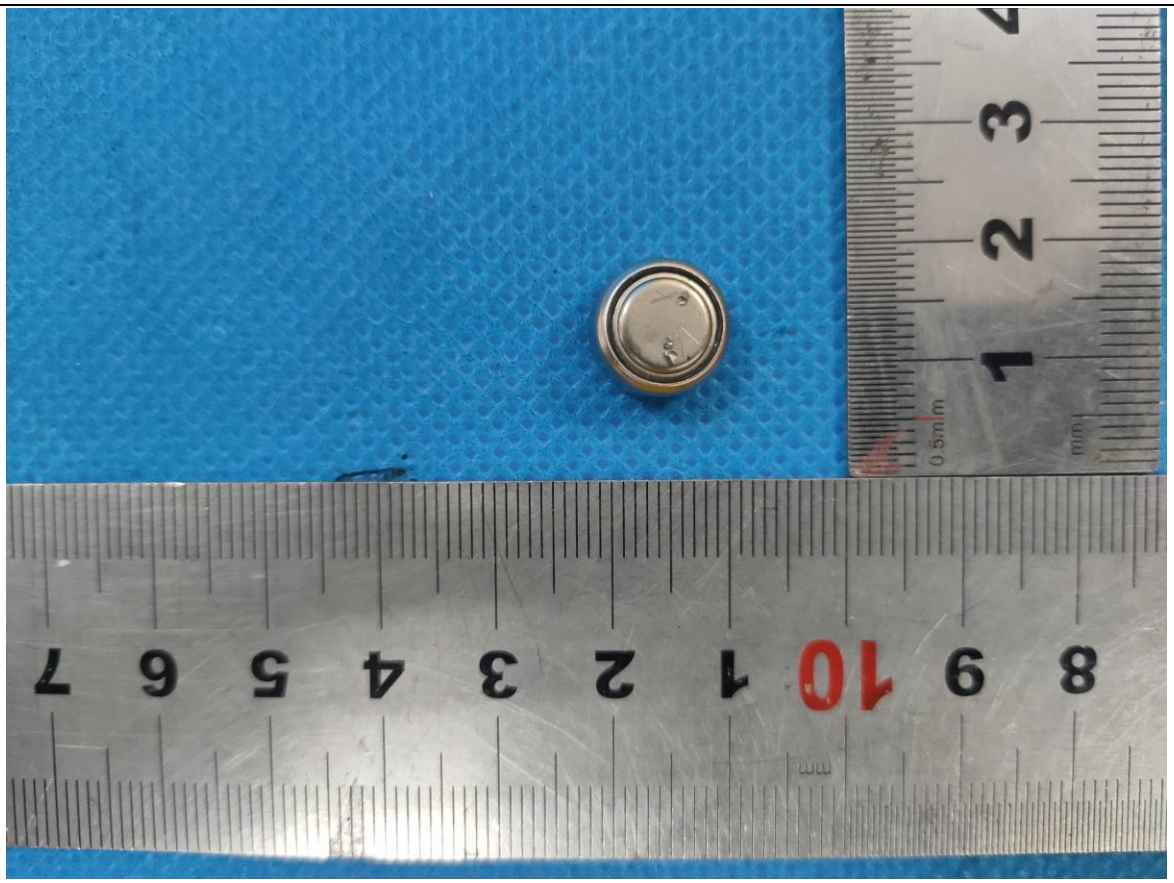
Cell internal view 1



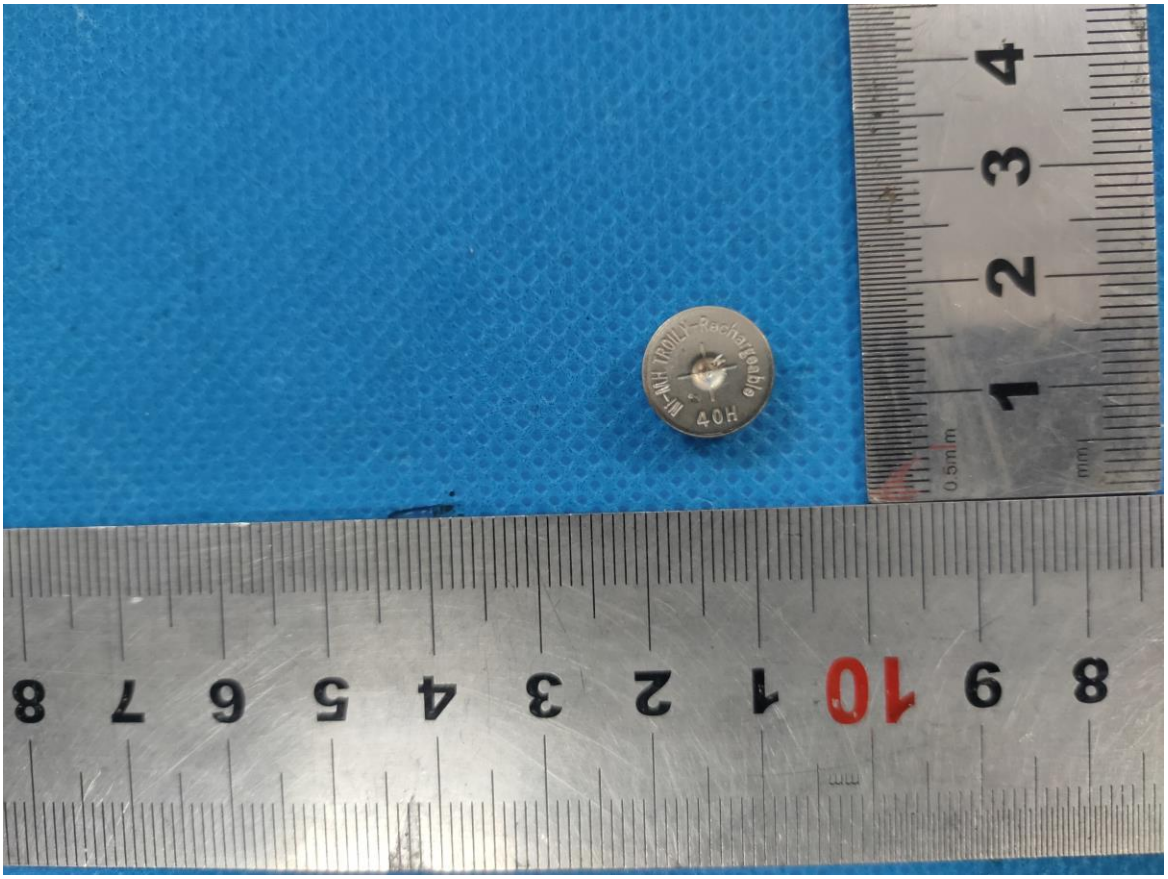
Cell internal view 2

Photo Documentation

Project number: 70.413.24.00277-00-R01
Client: Henan Troily New Energy Technology Co., Ltd.
Type of Product: Sealed Rechargeable Ni-MH Button Cell
Model: Ni-MH 40mAh



Cell internal view 3



Cell internal view 4