



Specification Approval Sheet

Name : Nickel-Metal Hydride Cylindrical Battery

Model : AKYGA HR6-2.5M

SPEC : 1.2V / 2500mAh

Number: HR6-2.5M

Specification Modification Records

Modification Time	Descriptions	Issued Date	Approved By
	Release 1	2026-06-03	

Content

1.Scope:

This specification describes the Product Specification of Nickel-Metal Hydride Cylindrical Battery produced by AKYGA.

Any copies are invalid without our company's approval

1. Scope

This specification governs the performance of the following Akyga Battery Nickel-Metal Hydride cylindrical battery.

2. Product model : Ni-MH AA2500mAh 1.2V

3. External Appearance

The cell / battery shall be free from cracks scars breakage rust discoloration leakage and deformation.

4. Ratings

The data involving the nominal voltage and the approximate weight of the battery pack.

Description	Specification	Conditions
Nominal Voltage	1.2V	Unit: Cell
Rated Capacity	2500mAh	Standard charging / discharging
Standard Charge	250mA (0.1C) 16hour	Ta = 0~40°C
Fast Charge	750mA(0.3C)~1250mA (0.5C) With charge termination control 4.0hour approx.(0.3C) 2.4hour approx.(0.5C)	- $\Delta V=5\text{mv/cell}$ Timer cutoff=110% input capacity Temp. cutoff= 40~50°C, Ta= 0~40°C dT / dt=0.8°C/ min
Trickle Charge	125mA(0.05C)	Ta = 0~50°C
Closed circuit voltage: (C.C.V.)	The C.C.V. shall exceed <u>1.2V</u>	Following a standard charge period, the closed circuit voltage of the cell or battery shall be checked with a <u>0.86Ω</u> load within 1 hour
Open circuit voltage: (O.C.V.)	The O.C.V. shall exceed <u>1.25V</u> <u>1.25V</u> .	Following a standard charge period, the open circuit voltage of the cell or battery shall be checked within 1 hour.
Maximum Continuous Discharge Current	2500mA (1C)	Ta= 10~40°C
Storage Temperature (Percent 40-60 charged state)	-20-55°C	Less than 30 days
	-20-40°C	Less than 90 days
	-20-30°C	Less than 360 days
	65%±20%	Relative humidity
Typical Weight	29.5g	Approx.

5. Performance

Unless otherwise stated, tests should be done within one month of delivery under the following conditions:

Relative humidity : $65 \pm 20\%$ RH.

Ambient Temperature (Ta) : $20 \pm 5^\circ\text{C}$.

***Notes: Standard charge / discharge condition

Charge : 250mA (0.1C) x 16 hrs

Discharge : 500 mA 0.2C to 1.0V/Cell.

***The batteries must be standard discharged before charging

***Battery test vide infra :

Test	Specification	Conditions	Remarks
Typical Capacity	2500mAh	Standard charging / discharging	Up to 3 cycles Allowed
Minimum Capacity	2450mAh	Standard Charge / Discharge	Up to 3 cycles Allowed
Internal Impedance (Ri)	$\leq 45\text{m}\Omega$	Upon fully charge (1Khz)	Unit: Cell
High Drain Discharge	The Capacity is higher than or equal to 108 min.	To discharge by 0.5C to 1.0V within 1 hour after standard charge	Up to 3 cycles Allowed
Over-charge	It shall not be externally deformed and no leakage of electrolyte in liquid form shall be observed.	Following a period of discharge at 0.2CmA down to a terminal voltage of 1.0V, standard charge and then charge for 48hrs at 0.1CmA. The capacity of the cell or battery shall not be less than the rated capacity when discharged at 0.2CmA	
Over-discharge	The cell or battery shall not be externally deformed and no leakage of electrolyte in liquid form shall be observed, and the subsequent capacity shall not be less than 70% of rated capacity	Following a period of discharge at 0.2CmA down to a terminal voltage of 1.0V, combine the cells with a 0.86 Ω load. After stored for a period of 24 hours, standard charged and then discharge at 0.2CmA	
Self discharge retention	$\geq 1875\text{mAh}(75\%)$	Standard charge, storage $20 \pm 2^\circ\text{C}$ for 180 days, standard discharge	

IEC Cycles Test	≥ 400	according to IEC61951-2(2017) discharge characteristics standard
Short Circuit	Deformation & leakage may occur but no explosion	After standard charge, short circuit for 1 hr (lead wire = 2.0mm ² x 20mm)
Vibration Test	No leakage nor explosion	Charge at 0.1C for 14 hrs, then leave for 24 hrs. Check battery before/after vibration. Amplitude : 1.5mm, Vibration : 3000CPM any direction for 60 mins
Drop Test	No leakage nor explosion	Charge at 0.1C for 16 hrs, then leave for 24 hrs. Check battery before / after drop on the wooden board of thickness: 30 mm Height: 50 cm Direction is not specified test for 3 times

6. Configurations, Dimensions And Markings

Please refer to the related drawing.

7. Warranty

One year limited warranty against workmanship and material defect.

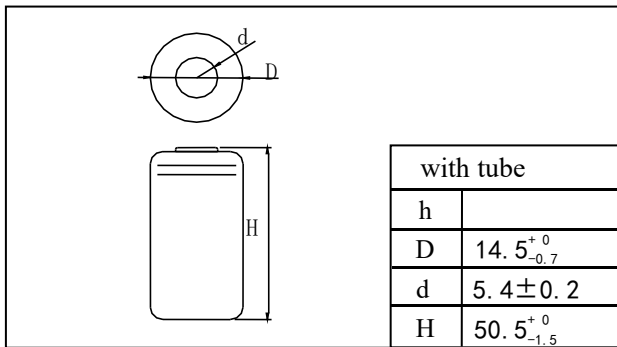
8. Cautions

1. Reverse charging is not acceptable.
2. Charge before use, use the correct charger for Ni-MH batteries.
3. Do not charge / discharge with more than the specified current.
4. Do not short circuit the cell / battery.
5. Do not incinerate or mutilate the cell/battery.
6. Do not solder directly to the cell / battery.
7. The life expectancy may be reduced if the cell / battery is subjected to adverse conditions, like extreme temperature, deep cycling, excessive overcharge /over-discharge.

8. Store the cell / battery in a cool dry place。
9. For charging methods please reference to our technical handbook。
10. When find battery power down during use, please switch off the device to avoid over-discharge。
11. When not using a battery, disconnect it from the device。
12. Well-ventilated place out of direct sunlight。
13. During long term storage, battery should be charged and discharged once every half a year。
14. When the battery is hot please do not touch it and handle it, until it has cooled down。
15. Do not mix Akyga Battery batteries with other battery brands or batteries of a different chemistry such as alkaline and zinc carbon batteries。
16. Do not mix new batteries in use with semi-used batteries, battery may be over-discharged。
17. Do not mix new batteries in use with semi-used batteries, battery may be over-discharged。
18. Keep away from children. If swallowed, contact a physician at once。

Specifications of single cell

Dimensions (mm)



Nominal Voltage : 1.2V

Rated Capacity : 2500 mAh

Minimal Capacity : 2450 mAh

Standard Charge : 250 mA, 16 hrs

Rapid Charge : 1250 mA, 2.4 hrs (control required)

Continuous Discharge : less than 2500mA

Final Discharge Voltage : 1.0V

Weight : 29.5g (Approx)

Service Life : (>400cycles)

(according to IEC discharge characteristics standard)

Internal Resistance : 45mΩ (Approx)

Ambient Temperature :

Standard charge : 0 ~ 40°C

Rapid charge : 10 ~ 40°C

Discharge : -20 ~ 55°C

Store : (65±20% RH)

Less than 30 days : -20 ~ 55°C

Less than 90 days : -20 ~ 40°C

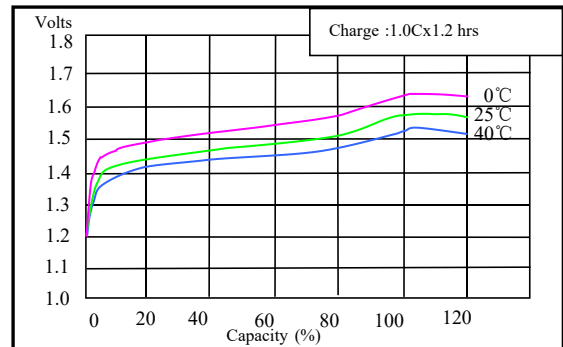
Less than 360 days : -20 ~ 30°C

Note :

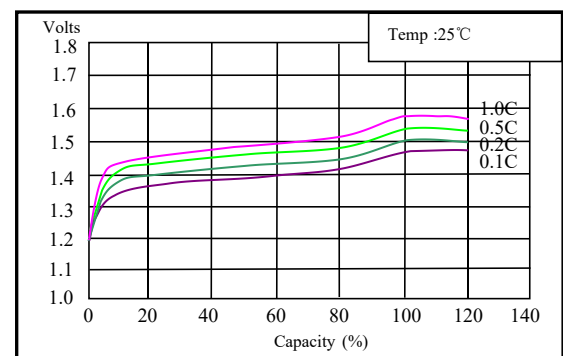
1. After charge at 0.1C for 16hrs and discharge at 0.2C to 1.0V at 25°C)。

2. Control required:

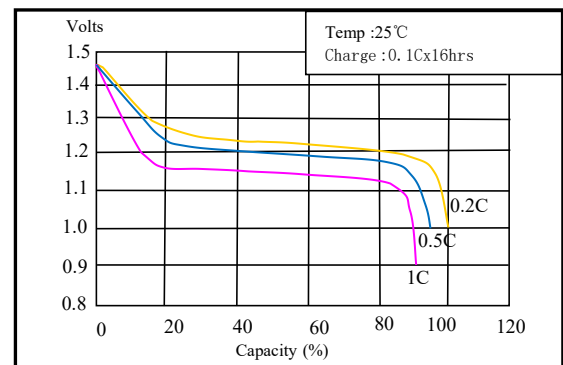
1) - ΔV: 0~ 5mV 2) dT/ dt: 0.8°C/ min 3) Tco: ≤ 65°C



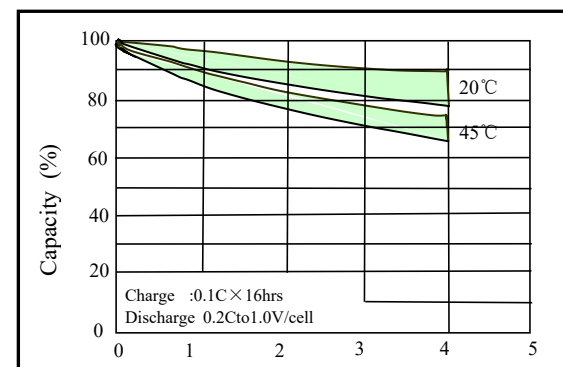
1.0C Rate Charging Curves



0.1C/0.2C/0.5C/1.0C Rate Charging Curves



0.2C/0.5C/1.0C Rate Discharging Curves



Storage & self discharge Curves