PRODUCT SPECIFICATION

SEALED NICKEL METAL HYDRIDE RECHARGEABLE CELLS& BATTERIES

Ni-MH A**A2500mAh 1.2V**

MODEL NO. : NM2500-AA

DATE OF SUBMISSION : **2022/08/31**

Specification Approved	**Prepared By**	
	Drawn By	
	Checked By	
	Approved By	
Customer Approved	**Checked By**	
	Approved By	
	Please sign and return one copy to us.	

1. Scope

This specification governs the performance of the following 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	**Unit**	**Specification**	**Conditions**
Nominal Voltage	**V**	1.2	Unit：cell
Nominal Capacity	**mAh**	2500	Standard charging / discharging
Standard Charge	**mA**	250(0.1C)	Ta =0~45℃（see note）
	hour	16	
Fast Charge	**mA**	750(0.3C)～1250 (0.5C) With charge termination control	-△V=5~10mv/cell Timer cutoff=110% input capacity Temp. cutoff= 40~50℃, Ta= 0~40℃ dT / dt=0.8℃/ min
	hour	2.4 approx.(0.5C)	
Trickle Charge	**mA**	125(0.05C)	Ta =0~45℃（see note）
Discharge Cut-Off Voltage	**V**	1.0	Less than1.0C discharge
Maximum Continuous Discharge Current	**mA**	2500 (1C)	Ta= -10~50℃
Storage Temperature (Percent 40-60 charged state)	℃	-20-45	Less than 30 days
		-20-40	Less than 90 days
		-20-30	Less than 360 days
	%	65±20	Relative humidity
Typical Weight	**g**	30	Approx.

5. Performance

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

Relative humidity :65±20% RH。
Ambient Temperature (Ta) :20±5℃。
***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	Unit	Specification	Conditions	Remarks
Typical Capacity	**mAh**	2500	Standard Charge / Discharge	Up to 3 cycles Allowed
Min Capacity	**mAh**	2400	Standard Charge / Discharge	Up to 3 cycles Allowed
Open Circuit Voltage (OCV)	**V**	≥1.25	Within 1 hr after standard charge	Unit: cell
Internal Impedance (Ri)	**mΩ**	≤35	Upon fully charge (1Khz)	Unit: cell
Rapid Discharge (0.5C)	**min**	≥108	Standard charge, 10min rest before discharge at 0.5C to 1 0V/cell	Up to 3 cycles Allowed
Over discharge Over charge	**N/A**	No leakage nor explosion 不漏液不爆炸	0.1C charge for 48hrs	
Max. Charging Voltage	**V**		1.6V at 250mA charging	
Self discharge retention	**mAh**	≥1500(60%)	**Standard charge, storage 20℃ for 28 days, standard discharge**	
	mAh	≥1500(60%)	**Standard charge, storage 45℃ for7days, standard discharge** 标准 放电至	
IEC Cycles Test	**cycle**	≥300	IEC 61951-2(2017) 7.5.1.2	

Short Circuit	**N/A**	Deformation & leakage may occur but no explosion	After standard charge, short circuit for 1 hr
Vibration Test	**N/A**	△V<0.02V/cell	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 任
Drop Test	**N/A**	△V<0.02V/cell	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。

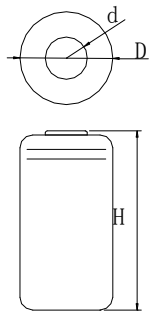
17. Do not mix new batteries in use with semi-used batteries, battery may be over-discharged。

18. Keep away from children. If swallowed, contact a physician at once。

Ni-MH**AA2500mAh 1.2V**

Specifications of single cell

Dimensions (mm)



with tube	
h	
D	14.25±0.25
d	5.4±0.2
H	50.25±0.25

Nominal Voltage： 1.2V

Rated Capacity： 2500 mAh

Minimal Capacity： 2400 mAh

Standard Charge： 250 mA, 16 hrs

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

Continuous Discharge :less than 2500mA

Final Discharge V 30g (Approx)

Service Life： (>300cycles)

(according to IEC discharge characteristics standard)

IEC

Internal Resistance: 35mΩ (Approx)

Ambient Temperature：

Standard charge： 0 ~45℃

Rapid charge： 0 ~40℃

Discharge: -20 ~ 50℃

Store : (65+20% RH)

Less than 30 days : -20 ~45℃

Less than 90 days : -20 ~40℃

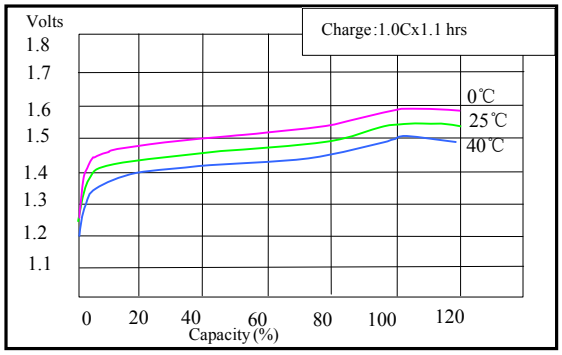
Less than360 days： -20 ~30℃

Note：

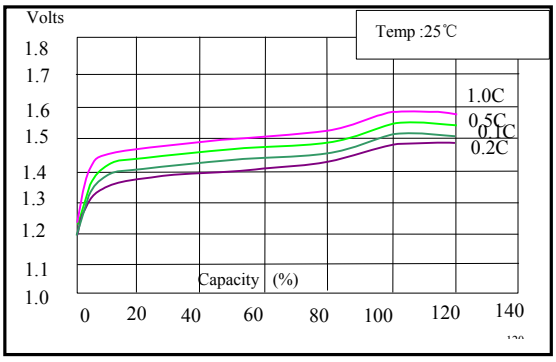
1.After charge at 0.1C for 16hrs and discharge at 0.2C to 1.0V at 25℃）。

2. Control required:

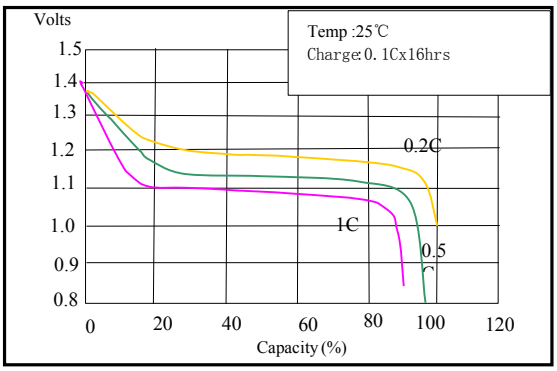
1) - Δ V:0~ 5mV 2) dT/ dt: 0.8℃/ min 3) Tco: 45~ 50℃



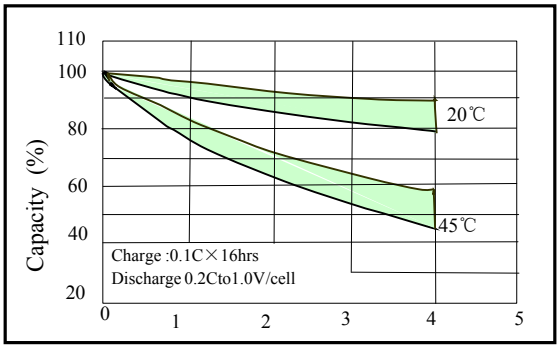
(1.0C Rate Charging Curves)



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



0.2C/0.5C/1C/Rate Discharging Curves



Storage & self discharge Curves