



*Great Power Battery Co. Ltd.*

*Excellent Quality, Prompt Delivery and Competitive Price*

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## APPROVAL SHEET

To: \_\_\_\_\_

Model: PH-H-AA1600H

Prepared by: \_\_\_\_\_

Checked by: \_\_\_\_\_

Approved by: \_\_\_\_\_

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# **GREAT POWER BATTERY CO., LTD.**

## **1. Preface**

This specification is suitable for the performance of the **GREAT POWER** Ni-MH rechargeable battery.

## **2. Model**

PH-AA1600H

## **3. Appearance**

There shall be no such defects as deformation,flaw,stain,discoloration or electrolyte leakage.

## **4. Nominal specification**

<b>Description</b>		<b>Specification</b>	
Model		PH-AA1600H	
Size		AA	
Dimensions	Diameter(mm)	14.5+0/-0.5	
	Height(mm)	50.5+0/-1.0	
	Weight(g)	Approx.24g	
Nominal Voltage(V)		1.2	
Nominal capacity(mAh)		1600	
Internal Impedance(m Ω )		≤40	
Discharge Cut-off Voltage		1.0V	
Ambient temperature	Charge	standard	0°C to 40°C
		fast	10°C to 40°C
	Discharge		-10°C to 50°C
	Storage	<1 year	-10°C to 30°C
		<3 months	-10°C to 40°C
		The relative humidity should keep with in $65 \pm 20\%$	

## **5.Characteristics**

Unless otherwise specified, the standard range of atmospheric conditions for test as follows:

Ambient temperature       $20 \pm 5^{\circ}\text{C}$

Relative humidity           $65 \pm 20\%$

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Atmospheric pressure  $960 \pm 100\text{mbar}$

Accuracy of voltmeters and amperometers to be used in testing shall be equal to or better than the grade 0.5.

Test item		Condition		Specification
1. Charge	Standard	Charge at 0.1C for 16 hours		
	Fast	Charge at 1C to $-\Delta V=5\sim 10\text{mV}$		
2. Discharge		At 0.2C to 1.0V		
3. Discharge cut-off voltage				1.0V
4. Capacity (mAh)	Minimun	Standard charge/discharge		1550
	Typical	Standard charge/discharge		1600
5. Internal resistance		After fully charge, rest 1 hour, measured at 1000Hz		$\leq 40\text{m}\Omega$
6. Self-Discharge		The charged battery is stored for 28 days at $20^\circ\text{C} \pm 5^\circ\text{C}$ . And the discharge time is measured at standard discharge		$\geq 180\text{minutes}$
7. High temperature test		Store at $40^\circ\text{C}$ 、 $50^\circ\text{C}$ 、 $60^\circ\text{C}$ for 2 hours then charge/discharge		No leakage
8. Low temperature test		Store at $0^\circ\text{C}$ for 2 hours then charge/discharge		No leakage
9. Short circuit test		Short circuit after fully charge		No explode
10. Drop test		Free fall on the concrete from 1 meter 3 times after fully charged		No leakage No short-circuit
11. Cycle life	Charge	Rest	Discharge	Capacity retention $\geq 60\%$ after 500cycles
1	0.1C for 16h	0	0.25C for 2h20min	
2~48	0.25C for 3h10min	0	0.25C for 2h20min	
49	0.25C for 3h10min	0	0.2C to 1.0V	
50	0.1C for 16h	1~4h	0.2C to 1.0V	

Ni-MH rechargeable cylindrical cell (Data Sheet)

Specification

Nominal Voltage		1.2V	
Dimensions	Diameter	14.5+0/-0.5mm	
	Height	50.5+0/-1.0mm	
	Apx. Weight	24g	
0.2C Discharge Capacity	Typical	1600mAh	
	Minimum	1550mAh	
Typical Internal Impedance		Less than 40mΩ	
Charge	Standard	160mA for 16 hrs	
	Fast	1600mA for about 75min	
Life expectancy		500 cycles	
Operating Temperature	Charge	Standard	0°C to 40°C
		Fast	10°C to 40°C
	Discharge		-10°C to 50°C
	Storage	< 1 year	-10°C to 30°C
< 3 months		-10°C to 40°C	

