

## 1. Scope

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

**2. Model:** 1.2V AA2000mAh, standard industrial type, flat top.

## 3. Ratings

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

Description	Unit	Specification	Conditions
Nominal Voltage	V	1.20	Unit: cell
Nominal Capacity	mAh	2000	Standard charging / discharging
Rated Capacity	mAh	1900	Standard charging / discharging
Standard Charge	mA	200 (0.1C)	Ta = 0~45°C (see note)
	hour	16	
Quick Charge	mA	1000(0.5C)With charge termination control	-ΔV=5~8mv/ cell Timer cutoff=120% input capacity Temp. cut off= 45~50°C, Ta= 0~40°C dT / dt=0.5~1.0°C/ min
	minute	140 approx. (0.5C)	
Trickle Charge	mA	100(0.05C)	Ta = 0~+40°C (see note)
Discharge Cut-Off Voltage	V	1.0	Less than 1.0C discharge
Maximum Discharging Current(mA)(continuous)	mA	4000(2C)	Ta= 0~+50°C
Storage Temperature (40-60% charged)	°C	-20~+40	Less than 30 days
		-20~+30	Less than 90 days
		-20~+25	Less than 180 days
	%	65±20RH	Relative humidity
Typical Weight	g	27.5	Approx.

### Battery test information:

Test	Unit	Specification	Conditions	Remarks
Capacity	mAh	≥1900	Standard Charge / Discharge	Up to 3 cycles Allowed
Open Circuit Voltage	V	≥1.35	Within 1 hr after standard charge	Unit: cell
Internal Impedance	mΩ	≤30	Upon fully charge at 1Khz	Unit: cell
Rapid discharge(0.5C)	min	≥114	Standard charge, 30min rest before discharge at 0.5C to 1.0V/cell	Up to 3 cycles Allowed
Over charge test	N/A	No explosion Leakage may occur	Cell is discharged with 0.2C to 1.0V, then 0.1C charged for 48 hours	
Over discharge test	N/A	No explosion	Cell is discharged with 0.2C to 0.00V, then with 1C forced discharged for 1 hour	
Charge Retention(20°C)	mAh	≥1200(60%)	Standard charge, storage for 28 days at 20°C, standard discharge	
	mAh	≥1200(60%)	After standard charged and stored for 7 days at 40±2°C, standard discharged with 0.2C to battery cell 1.0V	
IEC cycle life test	cycle	≥500	IEC 61951-2 7.4.1.1	

**Attention:** The object of abuse test is single cell.

**Append:** IEC61951-2 Endurance in cycles

### Standard Cycling Test:

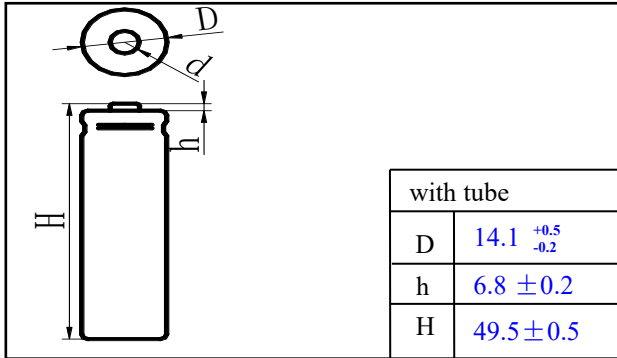
Cycle No.	Charge	Rest	Discharge
1	0.1C × 16hrs	None	0.25C × 2hrs 20mins
2~48	0.25C × 3hrs 10mins	None	0.25C × 2hrs 20mins
49	0.25C × 3hrs 10mins	None	0.25C to 1.00V/cell
50	0.1C × 16hrs	1~4hrs	0.2C to 1.00V/cell

Cycle 1 to 50 shall be repeated until the discharge capacity less than 3hrs

The endurance test is considered complete when two such successive cycles give a discharge duration less than 3 hours. The number of cycles obtained when the test is completed shall be not less than 500 times.

**Specifications of single cell**

**Dimensions (mm)**



**Nominal Voltage: 1.2V**

**Capacity: 2000mAh**

**Minimum Capacity :1900mAh**

**Standard Charge: 200 mA, 16hours**

**Quick Charge: 1000mA, 140mins**

**Continuous Discharge: less than 4000mA**

**Discharge Cut-off Voltage: 1.0V**

**Weight: 27.5g (Approx)**

**Service Life: ≥ 500cycles**

**(According to IEC discharge characteristics standard)**

**Internal Impedance : ≤30mΩ (1KHz)**

**Ambient Temperature:**

**Standard charge: 0 ~+45°C**

**Quick charge: 0 ~+40°C**

**Standard discharge: -20 ~+ 50°C**

**Storage : 65+20% RH**

**Less than 30 days : -20 ~ +40°C**

**Less than 90 days: -20 ~ +30°C**

**Less than180 days: -20 ~+25°C**

**Note :**

**1.After 0.1C charge for 16hrs and discharge at**

**0.2C to 1.0V at 25°C.**

**2. Control required:**

**1) -ΔV:5~8 mV**

**2) dT/ dt: 0.5-1.0°C/ min**

**3) Tco: 40~ 50°C**

**Typical electrical performance**

