



***Intec Industries Co., Ltd.***  
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# SPECIFICATION

<b>Type:</b>	Ni-MH Cylindrical Cell
<b>Model No.:</b>	IMH-750AAS
<b>Prepared:</b>	CYL
<b>Approved:</b>	LFX
<b>Date:</b>	5-Jun-2009



## 1. PREFACE

This specification applies to the Intec Nickel-Metal Hydride Cylindrical batteries or battery packs. Intec reserves the right to alter the product design or amend this specification without prior notice.

## 2. SCOPE

This specification applies to nickel metal hydride cylindrical rechargeable single cell.

Type: IMH-750AAS .

Size: 2/3 AA .

## 3. CHARACTERISTICS

- Nominal Voltage : 1.2 V
- Nominal Capacity : 750 mAh
- Standard Charge : 75 mA x 16h
- Quick Charge : 375 mA x 2.1h ( $-\Delta V = 5\text{mV/ cell}$ )
- Trickle Charge : 25 -38 mA x permanent
- Discharge cut-off voltage: 1.0 V/unit (20°C)
- Operating Temperature Range: (Max relative Humidity 85%)
  - Standard charge: 0 ~ +45°C
  - Quick charge : 10 ~ +45°C
  - Trickle charge : 0 ~ +45°C
  - Discharge : - 20 ~ +60°C
- Storage Temperature Range: (Max relative Humidity 85%)
  - 1 years : - 20 ~ +25°C
  - 6 months : - 20 ~ +35°C
  - 1 month : - 20 ~ +45°C
  - 1 week : - 20 ~ +55°C

## 4. DIMENSION / WEIGHT

Dimensions:  $\Phi 14.5^{+0}_{-0.7} \times 28.0 \pm 0.7$  (mm);

Gross weight: 15 (g);

## 5. CELL PERFORMANCE

### 5.1 TEST REQUIREMENTS

The following conditions are for new batteries (within one month after delivery under the test method of 5.2.2).

Environmental Temperature: +15 ~ +25°C; Relative humidity: 45% ~ 85%.



**5.2 TEST METHOD AND PERFORMANCES**

**5.2.1 APPEARANCE**

The battery should be free from stretches, dirt, dents, and rusts.

**5.2.2 CAPACITY**

Charge with 0.1C for 16 hours then discharge with 0.2C to the end-voltage 1.0 V/unit, the capacity shall be more than 750 mAh.

**5.2.3 OPEN-CIRCUIT VOLTAGE**

The open-circuit voltage within one hour after full charge shall be more than 1.25V/unit.

**5.2.4 INTERNAL IMPEDANCE**

Within one hour after full charge, the internal impedance shall be less than 40 mΩ /cell.

**5.2.5 SELF-DISCHARGE**

The capacity shall be more than 450 mAh after the storage of 28 days for the fully charged battery.

**5.2.6 SAFETY DEVICE OPERATION**

The battery shall be no disrupt or burst, but the leakage of electrolyte and the deformation of the battery are allowed when the battery discharged at 0.2C (at 20±5°C) until 0V then discharged at 1C for 2h.

The battery shall be no disrupt or burst, but the leakage of electrolyte and the deformation of the battery are allowed after the battery is charged at 0.1C for 16h and short-circuit the battery for 1h.

**5.2.7 OVERCHARGE**

The battery shall be no leakage, no disrupt, no burst when charged at 0.1C for 48 hours.

**5.2.8 LIFE-SPAN(CUSTOM)**

The capacity shall be more than 450 mAh after 500 cycles with the test conditions as follow:

TEST CONDITION

Cycle-th	Charge	Rest	Discharge
1	Charge at 0.1C for 16 hours	None	Discharge at 0.25C/5 for 2.33 h
2 ~ 48	Charge at 0.25C for 3.2 hours	None	Discharge at 0.25C/5 for 2.33 h
49	Charge at 0.25C for 3.2 hours	None	Discharge at 0.25C/5 to 1.0V/unit
50	Charge at 0.1C for 16 hours	1 ~ 4 hours	Discharge at 0.2C/5 to 1.0V/unit

**5.2.9 STORAGE**

Within 14 days, the battery shall not cause leakage at 30-60°C with the relative humidity at 75%-85%.



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**5.2.10 VIBRATION**

The battery shall not cause damage to its performances when tested with the amplitude at 4 mm (0.158 inch) and the frequency at 1000Hz.

**5.2.11 DROP TEST**

The battery shall keep normal when dropped from a height of 450 mm (17.716 inch) to the wooden board.

**5.2.12 SHORT CIRCUIT**

The fully charged battery shall not explode when shorted directly by wires.

**5.2.13 INCORRECT POLARITY CHARGE**

The battery shall not explode when charged for 1 hour with the polarity being reverse.

**5.2.14 OVER CHARGE II**

The battery shall not explode when charged at 1C for 1 hour.

**6 CAUTION**

- A. The end-voltage is recommended at  $1.0 \pm 0.1V$ /unit.
- B. The battery may go fail when shorted, over-charged or charged with incorrect polarity.
- C. Avoid soldering directly to the battery.
- D. Do not dispose of in fire and keep away from damage.

**7 REFERENCE**

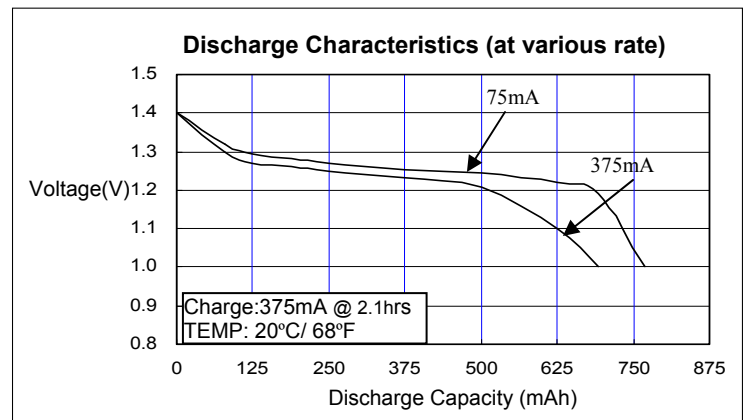
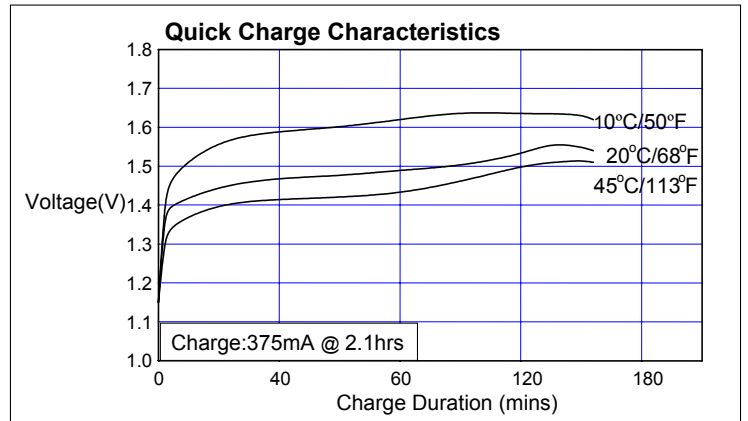
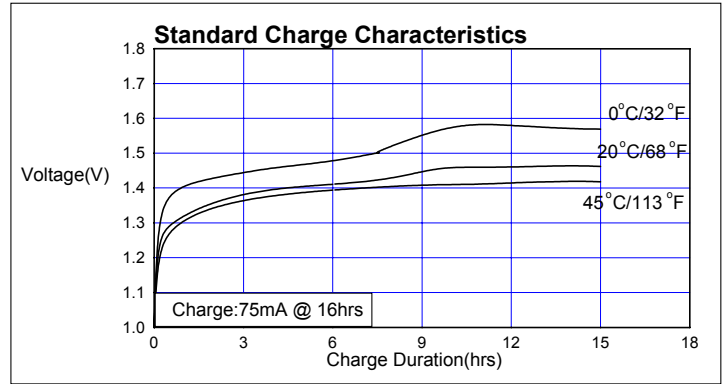
Please refer to Intec's Customer Service if there is any question on using batteries.



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**Specifications**

Nominal voltage		1.2V	
Capacity (mAh)		0.1C	0.5C
	Nominal	750	670
	Typical	770	690
Diameter		0.57 <sup>+0</sup> <sub>-0.028</sub> in 14.5 <sup>+0</sup> <sub>-0.7</sub> mm	
Height		1.10±0.028 in 28.0±0.7 mm	
Weight		15g	
Internal impedance at 1000Hz.		40mΩ (After charge)	
Charge	Standard	75mA×16hrs.	
	Quick	375mA×2.1hrs.	
	Trickle	Max.	38mA
Min.		25mA	
Ambient temperature	Charge	Standard	0°C~45°C 32°F~113°F
		Quick	10°C~45°C 50°F~113°F
	Discharge		-20°C~60°C -4°F~140°F
	Storage		-20°C~55°C -4°F~135°F



**Note:**

1. Nominal capacity, rated at 0.2C, 20°C.
2. Other capacities are for reference.
3. Weight and internal impedance are for reference.

