Intec Industries Co., Ltd.
Room 2703, Well Tech Centre
9 Pat Tat Street, San Po Kong, Hong Kong
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SPECIFICATION

Type:	Ni-MH Cylindrical Cell
Model No.:	IMX-2400Cs
Prepared:	HML
Approved:	LFX
Date:	Jul 17, 2007

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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. TYPE

This specification applies to the following sealed nickel-metal hydride battery.

Type: IMX-2400Cs
Size: Cs

3. CHARACTERISTICS

★ Nominal voltage: 1.2 V.
★ Nominal capacity: 2400 mAh (0.2C)
★ Standard charge: 240 mA×15h
★ Fast charge: 1200 mA×2.4h (- Δ V= 5 mV)
★ Discharge cut-off voltage: 1.0 V/cell (20°C)
★ Max current of constant discharge: 12 A (20°C, unit cell)
★ Max current of momentary discharge: 24 A (20°C, unit cell)
★ Operating temperature range: (Max relative humidity: 85%)

Standard charge	0 ~ +50°C
Fast charge	10 ~ +45°C
Discharge	-20 ~ +60°C

★ Storage temperature range: (Max relative humidity: 85%)

Within two years	-20 ~ +30°C
Within six months	-20 ~ +40°C
Within one month	-20 ~ +50°C
Within one week	-20 ~ +60°C

4. DIMENSION/WEIGHT

4.1 Dimensions: Φ23.0×43.0 (mm).
4.2 Gross weight: 50 (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)
Environmental temperature: +15 ~ +25°C. Relative humidity: 45%～85%.

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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 15 hours then discharge with 0.2C to the end-voltage 1.0 V/unit, the capacity shall be more than 2400 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 16 mΩ /cell.

5.2.5 SELF-DISCHARGE
The capacity shall be more than 1440mAh after the storage of 28 days for the fully charged battery.

5.2.6 OVER-CHARGE
The battery shall not cause salting, leakage or deformation when charged at 240 mA for 48 hours and the capacity shall be more than 2400 mAh.

5.2.7 OVER DISCHARGE
The battery shall not cause deformation when it is discharged for 24 hours with the external resistance at 0.2Ω.

5.2.8 LIFE-SPAN
The capacity shall be more than 1440 mAh after 500 cycles with the test conditions as follow:

TEST CONDITION

Cycle-th	Charge	Rest	Discharge
1	Charge at 0.1C for 15 hours	None	Discharge at 0.25C for 2.33 h
2 ~ 48	Charge at 0.25C for 3.17 hours	None	Discharge at 0.25C for 2.33 h
49	Charge at 0.25C for 3.17 hours	None	Discharge at 0.25C to 1.0V/unit
50	Charge at 0.1C for 15 hours	1 ~ 4 hours	Discharge at 0.2C 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%.

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.

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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

Discharge at 0.2C to the end voltage 0V, then discharge by force at 1C rate for 60 minutes, and the battery should not explode or break.

6. SUGGESTION & ADVICE

A. The end-voltage is recommended at 1.0±0.1V/cell.

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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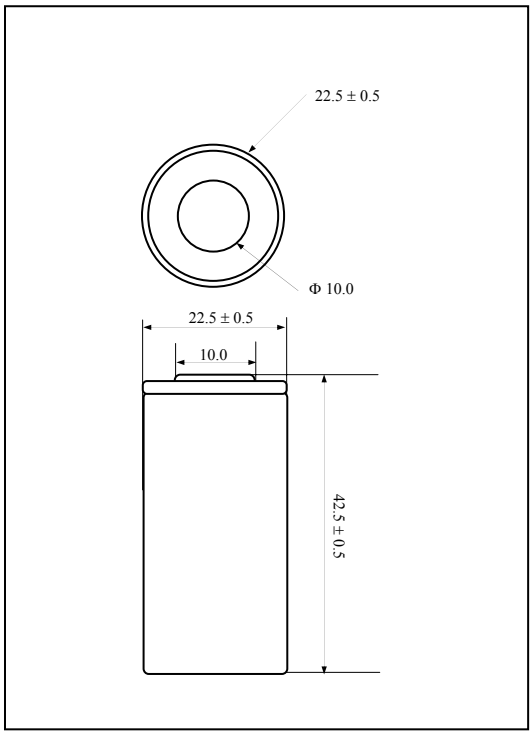
Specifications

Nominal voltage			**1.2V**	
Capacity (mAh)			**C/5**	**C**
	Nominal		**2400**	**2160**
	Typical		**2480**	**2220**
Diameter			**0.89±0.02 in** **22.5±0.5 mm**	
Height			**1.67±0.02 in** **42.5±0.5 mm**	
Weight			**50g**	
Internal impedance at 1000Hz.			**⩽16mΩ** **(After charge)**	
Charge	**Standard**		**240mA×15h**	
	Fast		**1200mA×2.4h**	
Ambient temperature	**Charge**	**Standard**	**0℃ ~ 50℃**	
		Fast	**10℃ ~ 45℃**	
	Discharge		**-20℃ ~ 60℃**	
	Storage		**-20℃ ~ 45℃**	

Note:

1. **Nominal capacity, rated at C/5,20℃.**
2. **Other capacities are for reference.**
3. **Weight and internal impedance are for reference.**



Typical characteristics