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SPECIFICATION

Type:	Ni-CD Cylindrical Cell
Model No.:	IC-1100C
Prepared:	HML
Approved:	LFX
Date:	Nov 10, 2006



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1. PREFACE

This specification applies to the Intec Nickel Cadmium 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 is applied to IC-1100C Ni-Cd rechargeable battery. It provides the cell performance and characteristics of this battery type.

3. REFERENCE DOCUMENT

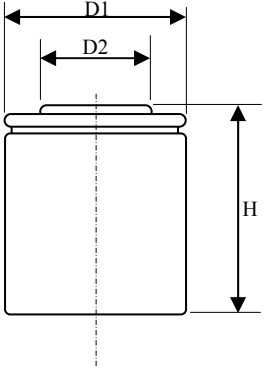
IEC 285-1993 《sealed Ni-Cd cylindrical rechargeable single cells》 .

4. GENERAL ELECTRICAL SPECIFICATION

Item	Specification	Units	Notes
INTEC cell designation	IC-1100C		
Nominal Voltage	1.2	V	At 20°C
IEC Rated capacity	1100	mAh	
Typical impedance	16	mΩ	at 1000 Hz
CHARGE CURRENT			
Standard (16 hours)	110	mA	
Fast (3 – 4 hours)	330	mA	0.3C with proper charge termination
Trickle (after fast charge)	33 - 55	mA	
MAX. DISCHARGE CURRENT			
Continuous	3.3	A	
Pulse (1s)	15	A	-ΔV=10mV Cutoff T. = 50°C
TEMPERATURE RANGE			
standard charge	+10 to +45	°C	
fast charge	+10 to +40	°C	
recommended storage	+5 to +25	°C	
extended storage (short duration)	-20 to +40	°C	Humidity =
in discharge	-20 to +60	°C	65+/-20 %



4. GENERAL MECHANICAL SPECIFICATION

Bare cell drawing(mm)	
	<p>CELL DIMENSIONS (with white PVC Sleeve)</p> <p>H = 29.5 ± 0.5 mm</p> <p>D1 = 25.5 ± 0.5 mm</p> <p>D2 = 10.0 ± 0.5 mm</p> <p>Typical Weight: 45g</p>

5. CAPACITY

5.1 IEC capacity

IEC capacity is defined as follow:

Temperature: 20 ± 5°C;

Charge current: 0.1C=110mA;

Charge duration: 16h;

Rest: 1 to 4h;

Discharge current: 0.2C=220mA;

Discharge end voltage: 1.0V/cell

The discharge continues until the voltage drops to 1.0V/cell and the duration must not less than 300 minutes. 3 Cycles are permitted. Therefore, the IEC capacity is minimum 1100 mAh.

5.2 Available capacity

The following cross table gives the minimum available capacity of IC-1100C under various charge and discharge condition. The temperature is 20 ± 5°C, and the battery is being initially fully charged.

Charge	Normal
Rate	0.1C
Current(mA)	110
Duration(h)	16
Rest after charged(h)	1
Discharge	Nominal Capacity(mAh)
0.2C(220mA)	1150
1.0C(1100mA)	1045
2.0C(2200mA) (cutoff 0.8V)	825

Discharge end voltage: 1.0V/cell.



6. CHARGE

6.1 Permanent charge

This cell can be permanently charged between 0 to 45°C with a constant current of 0.05C.

6.2 Standard charge

0.1C (110mA) for 14 to 16h.

The temperature during charge is 0 to 40°C.

7. CHARGE RETENTION

After 28 day storage at $20 \pm 5^\circ\text{C}$, the cells should retain typically of 70% its rated capacity.

8. STORAGE

Intec recommends storing the battery in a room with the temperature within a range of 5 to 25°C, and relative humidity is $65 \pm 20\%$. An extended storage within -20 to $+40^\circ\text{C}$ temperature range and $65 \pm 20\%$ relative humidity is accepted in short period of time.

9. LIFE DURATION IN PERMANENT CHARGE APPLICATION

Battery life duration depends mainly on battery temperature and overcharge capacity. When the capacity drops down to the 60% of its initial capacity, the battery life is end.

Under the following average operational conditions, the battery life duration is 4 years:

Battery operational temperature: 25°C;

Permanent charge current: 0.05C;

Discharge current: 0.5C; 1 cycles per month.

11. PRECAUTIONS

- A. Do not short-circuit, over-charge or reverse-charge the cell.
- B. Do not solder directly to the batteries.
- C. Do not dispose of in fire and keep away from damage.
- D. Perform standard cell charging and discharging procedure after long term storage.
- E. Keep away from reach of children.

12. REFERENCE

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