

鹼錳幹電池規格書
SPECIFICATIONS
FOR ALKALINE MANGANESE DRY BATTERY

AM1/LR20

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無汞鹼錳電池 Mercury Free Alkaline Manganese Battery AM1

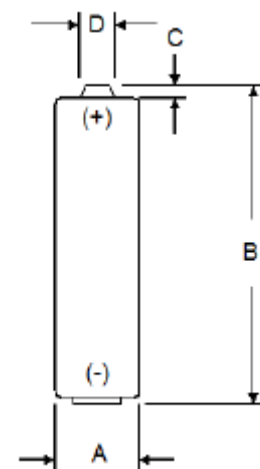
1. 範圍 Scope

該規格書適用於由松柏(廣東)電池工業有限公司提供之“Vinnic”—“銀戰士”商標無汞鹼錳幹電池。

This specification is applicable to the“Vinnic” brand Alkaline Manganese Mercury Free Dry Batteries supplied by **CHUNG PAK BATTERY WORKS, LTD.**

2. 基本信息 Essential Information

型號 Model	IEC/JIS LR20 ANSI 13A, 13AC
電化學體系 Electrochemical System	鋅-二氧化錳 Zinc/ MnO ₂
標稱重量 Nominal Weight	約 About: 129g
標稱電壓 Nominal Voltage	1.5 V
使用溫度 Usage Temperature	0℃~40℃
使用推薦期限 Recommended Life (保存條件 Storage condition 20±2℃, RH55+20/-40%)	5 years
外包裝和標識 Packaging and Mark	塑膠鋁膜 (標識有效期) Plastic label (aluminum jacket) marked with expiry date
重金屬含量 Content of heavy metals	Hg ≤ 1ppm Cd ≤ 20ppm Pb ≤ 40ppm
執行標準 Reference Standard	IEC 60086-2 IEC60086-5 (EU) 2023/1542



	尺寸(mm) Dimension
A	32.3-34.2
B	59.5-61.5
C	1.5 Min.
D	9.5 Max.

3. 電性能 Electrical Characteristics

如無特殊說明，以下所有的測試項目均在標準環境(20±2℃,RH55+20/-40%)下進行。

在測試之前，樣品應在測試環境(20±2℃,RH55+20/-40%)中存放至少8h。

Unless otherwise specified, all of the following tests are carried out under the standard environment (20±2℃,RH55+20/-40%).

Before testing, the sample should be stored in the test environment (20±2℃,RH55+20/-40%) for at least 8h.

3.1 開路電壓、閉路電壓及短路電流 (負載電阻3.9Ω、短路時間0.08s)

Open circuit voltage, Closed circuit voltage and Short-circuit current
(Load resistance 3.9Ω, short-circuit time 0.08s)

	項目 Item	MAD
初始期 Initial	開路電壓OCV	1.60V
	負載電壓CCV	1.50V
	短路電流SCC	12A

備註 Ramark: MAD: 最小平均值 Minimum Average Duration

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3.2 放電性能 Discharge Performance

序號 No.	模擬用電器 Appliances simulating	放電制度 Discharge Pattern	終止電壓 End Voltage	單位 Unit	MAD	水平值 Level value
1	玩具 Toy	2.2Ω-1h/d	0.8V	hour	21.0	22.5
2	手電筒 Portable lighting	2.2Ω-4m/15m,8h/d	0.9V	hour	20.0	22.5
3	可攜式音響 Portable stereo	600mA-2h/d	0.9V	hour	15.5	17.0

備註 Remark:

1)MAD: 最小平均值 Minimum Average Duration (代表電池能達到的最低性能水平)

Represents the battery can achieve the lowest level of performance)

2)水平值 Level value: 代表電池的長期測試水平, 某批次的電池放電結果可能在水平值上下波動。

Represents the long term level of the battery, and the battery discharge results of a lot may above and below the level value.

4. 耐漏液性能 Leakage Resistance

序號 No.	測試項目 Test Item	測試方法 Test Method	樣品數量 Sample Size	標準
1	高溫高濕試驗 High Temperature and humidity Test	將滿足本規格書 3.1 條款的電池在 60±2℃,RH90±5%的環境下儲存一定時間, 取出後於常溫條件放置 4~24h 後檢查。 The battery meet 3.1 of this specification. Store at 60±2℃, RH90±5% for a period of time. Check after store at room temperature for 4~24h.	10 pcs	40 天無漏液 No leakage after store for 40 days

5. 安全性能 Safety Performance

進行本測試項目的電池樣品應該滿足本規格書的3.1條款。同時, 如無特殊說明, 以下所有的測試項目均在標準環境(20±2℃,RH55+20/-40%)下進行。電池的儲存條件均為標準環境((20±2℃, RH55+20/-40%)。在測試之前, 樣品應在測試環境(20±2℃,RH55+20/-40%)中存放至少8h。

The battery sample for test item should meet 3.1 of this specification. Unless otherwise specified, all of the following tests are carried out in the standard environment (20±2℃,RH55+20/-40%).

The storage condition is the standard environment (20±2℃,RH55+20/-40%). Before testing, the sample should be stored in the test environment (20±2℃,RH55+20/-40%) for at least 8h.

序號 No.	測試項目 Test Item	測試方法 Test Method	樣品數量 Sample Size	標準
1	電池部分使用后貯存 Partial use	具體測試方法參考 IEC 60086.5 執行 Specific test method refer to IEC 60086.5	5 pcs	無漏液、無爆炸、無著火 No leakage, No explosion No fire
2	運輸-振動 Transportation-vibration		5 pcs	無漏液、無爆炸、無著火 No leakage, No explosion No fire
3	運輸-冲击 Transportation-shock		5 pcs	無漏液、無爆炸、無著火 No leakage, No explosion No fire

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(续上表 Continued)

序號 No.	測試項目 Test Item	測試方法 Test Method	樣品數量 Sample Size	標準
4	熱循環 Climatic	具體測試方法參考 IEC 60086.5 執行 Specific test method refer to IEC 60086.5	5 pcs	無爆炸、無著火 No explosion, No fire
5	不正確安裝 Incorrect installation		5 組 5 groups	無爆炸、無著火 No explosion, No fire
6	外部短路 External Short-Circuit		5 pcs	無爆炸、無著火 No explosion, No fire
7	過放電 Over discharge		5 組 5 groups	無爆炸、無著火 No explosion, No fire
8	跌落 Free fall		5 pcs	無爆炸、無著火 No explosion, No fire

6. 使用電池安全注意事項 (具體安全存放等事項可參考 IEC60086.5 執行) USAGE GUIDE (Please refer to IEC60086.5 for detailed safety and storage specifications.)

6.1 請按電池及用電器具上標明的極性標誌(“+”和“-”)正確裝入電池；

Insert batteries correctly with regard to the polarities (“+”/“-”) marked on the battery and the electrical appliances;

6.2 請勿將電池短路、充電、加熱、投入火中、強制放電或拆卸破壞；

Do not short-circuit, recharge, heat, disassemble the battery, or dispose of in fire;

6.3 請勿將新舊電池或不同類型、不同牌號的電池混合使用；

Do not mix use old batteries with new ones, or mix use batteries of different types or brands;

6.4 請及時從用電器具中取出電量已經耗盡的電池；

Remove the exhausted battery from the appliances immediately;

6.5 電池應存放在兒童拿不到的地方，無人監督時不要讓兒童更換電池；

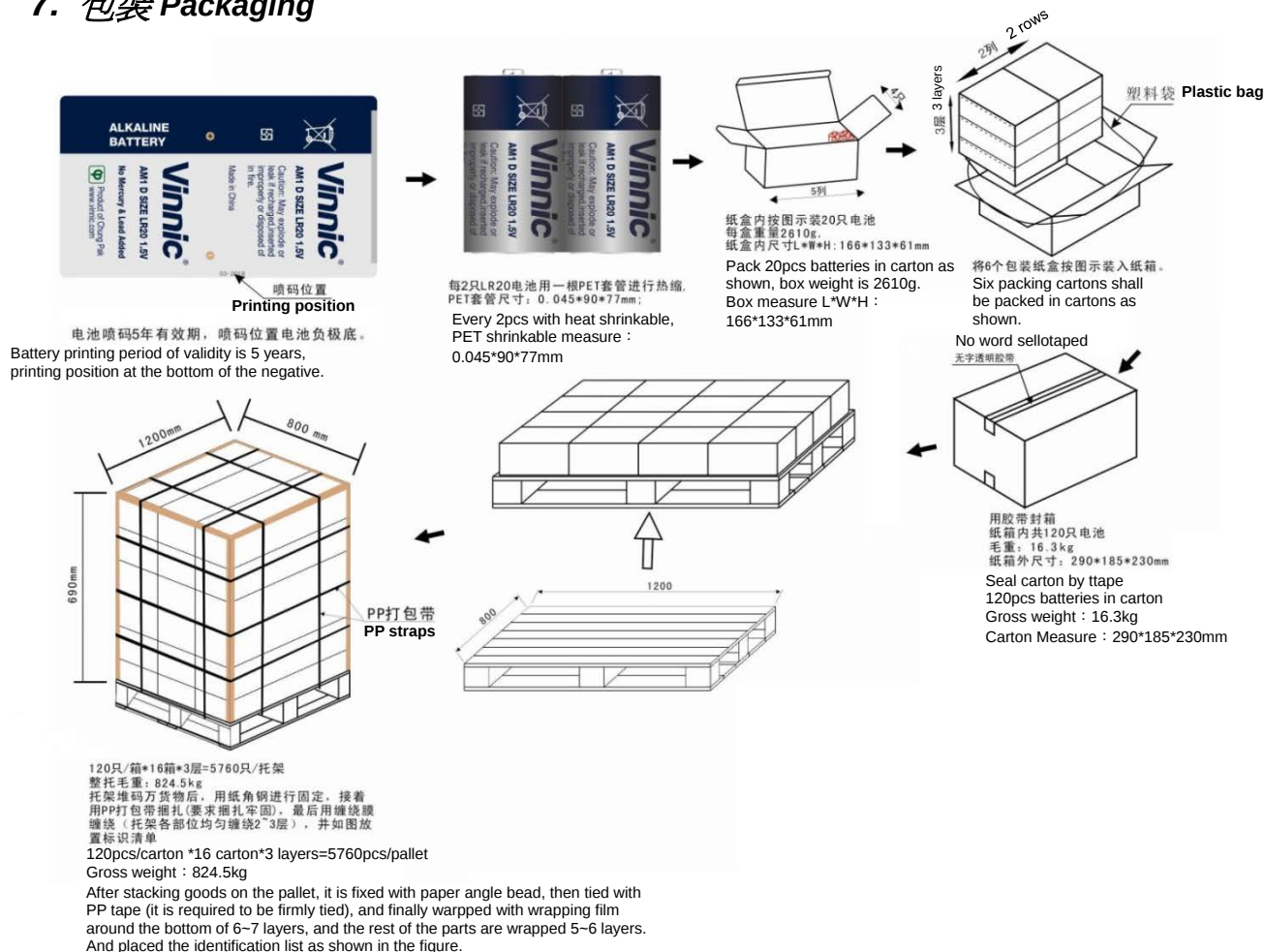
Keep the batteries away from small children; do not let the child remove/ replace batteries without monitoring from adults.

6.6 電池的保存環境在15-25℃之間，不應當超過30℃，並應避免存儲在極端濕度環境下(濕度範圍應控制在RH40%-95%)，光身電池建議貼標後保存。

Storage condition of the batteries shall be: Temperature 15℃~25℃ (no higher than 30 ℃), while extremely damp environment beyond RH: 40%~95% shall be avoided.

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7. 包裝 Packaging



序號 Type	名稱 Name	用量/電池數量 Dosage / Battery Quantity	規格 Specification
1	商標標籤	1 piece/1pc	AM1
2	PET 熱縮套管	1 piece/2pcs	0.045*90*77mm
3	包裝紙盒 Packaging box	1 /20pcs	166*133*61mm
4	包裝紙箱 Packaging carton	1 /120pcs	290*185*230mm
5	BOPP 膠帶 BOPP tape	1.1m/120pcs	/
6	PP 打包帶 PP straps	27m/5760pcs	13.5*1.0mm
7	塑膠袋 Plastic bag	1 /120pcs	/
8	木托架 Wooden pallet	1/5760pcs	1200*800*125mm
9	紙角鋼 Paper angle bead	6 pieces/5760pcs	50*50*700mm
10	紙角鋼 Paper angle bead	2 pieces/5760pcs	50*50*1000mm
11	纏繞膜 Wrapping film	0.6kg/5760pcs	/