



XELLEX BATTERY (HK) LIMITED

SHENZHEN XELLEX BATTERY & POWER SUPPLY TECH. CO., LTD

LR20H-D-AM1

TECHNICAL SPECIFICATIONS

DRAFTED BY: _____

CHECKED BY: _____

APPROVED BY: _____

CLIENT ADMITTED

SIGN :

SHENZHEN XELLEX BATTERY & POWER SUPPLY TECH. CO., LTD

6/F, Jiayu Bldg, Dong'er Xiang 15#,
Gongyuan Road, 22 Industry Zone, Bao'an
District, Shenzhen, PRC.

TEL: 0086-755-27664401 27664402

27664403

FAX: 0086-755-27806777 27664407

Website: www.xellex-battery.com

Email: sales@xellex-battery.com

HONGKONG XELLEX BATTERY CO., LTD

Flat A, 12/F., Wing Sing Commercial Centre,
12-16 Wing Lok Street, Hong Kong

TEL: 00852-28507117

FAX: 00852-25819986

Website: xellex.en.alibaba.com

Email: xellex@xellex-battery.com

The Technical Specifications hereinafter is only applicable to the Hg & Cd Free Alkaline Zinc Manganese Dioxide LR20H D type battery, which was provided by Xellex Battery Co., Ltd. All the practical technical data, which were used to describe Battery Performance involved in the Specifications are obtained from the relevant experiments to the products of Xellex. Rights reserved to take relevant rectifications or modifications to the structure and performance of the products without prior notice.

1.Scope

The Specifications is solely applicable to the “Xellex” Hg & Cd Free Alkaline Zinc Manganese Dioxide Battery---LR20H.

1.1 Designations

Xellex : LR20H IEC :LR20 JIS :AM1
ANSI :13A Other: D

1.2 Reference Document

IEC 60086-1 (2000) --- Primary Batteries - General
IEC 60086-2 (2000) --- Primary Batteries – Specification Sheets

2.Chemical System

Alkaline Electrolyte--- Zinc-Manganese Dioxide Battery (0%Hg and 0%Cd added)

3.Dimensions

Diameter: 32.3 ~ 34.2 mm Height: 60.0 ~ 61.5 mm

4.Nominal Voltage : 1.5 Volts

5.Average Weight : 145 g

6.Nominal Capacity

14000mAh (10Ω discharge 4 Hours per day , Temp. : 20 ± 2 , CDV<Cut-off Discharge Volt> : 0.9 Volts)

7.Electrical Performance

(Conditions :3.9Ω ± 0.5% load resistance, Measuring time 0.3 Seconds, Temperature at 20 ± 2 , Tested within 30 Days after delivery)

	Off-load Voltage (V)	On-load Voltage (V)	*Flush Short Circuit Current(A)	Acceptance Standard
New Battery	1.58	1.45	16	MIL-STD105E,Class II , Double Sampling , AQL=0.4
After 12 Mths Shelf Time at room Temp	1.56	1.40	14	

*The Hair Spring Ampere Meter with ± 0.5% Accuracy (0.5 Level) shall be used.

8.Service Output

(Conditions : Test Temp.20 ± 2 , Relative Humidity: 45%-75% Test within 30 Days after delivery)

Test Standards	Discharge Condition			Average Minimum Discharge Time	
	Discharge Load	Daily Discharge Time	Cut-off Discharge Voltage (V)	New Battery	After 12 Mths Shelf Time at room Temp.
IEC Standard	10Ω	4 Hours	0.9	105hrs	95hrs
	2.2Ω	1 Hour	0.8	19hrs	18hrs
	3.9Ω	1 Hour	0.9	35hrs	33hrs
	2.2Ω	4 Mins/Hours, 8 Hours	0.9	17hrs	16hrs
Reference	2Ω	24 Hours	0.9	12.5hrs	11hrs

Acceptance Criteria : 9 batteries shall be tested for each discharging standard, the Average Discharging Time should be equal to or above the Average Minimum Discharging Time required. Moreover, the total amount of the batteries whose Average Discharging Time is less than 80% of the time required shall not exceed 1, Thus, the ADT of the batteries can be recognized accorded with the requirements

9. Electrolyte Leakage Proof Characteristics

Item	Condition	Period	Characteristics	Acceptance Standard
Over-discharge Characteristics	Temp. : 20 ± 2 Relative Humidity : $65 \pm 15\%RH$	2Ω continuous discharge 48 Hours	There shall be no deformation exceeding the specified dimensions, nor leakage recognized by human eye	N=30,Ac=1,Re=1
Storage Characteristics	Temp. : 45 ± 2 Relative Humidity : < 70%RH	90 Days		N=30,Ac=1,Re=2
High Temperature Characteristics	Temp.: 60 ± 2 Relative Humidity : $90\% \pm 5\%RH$	30 Days		N=30,Ac=1,Re=2

10. Safety Characteristics

Item	Condition	Period	Characteristics	Acceptance Standard
Short Circuit Characteristics	Temp: 20 ± 2 Relative Humidity: $60 \pm 15\%$ Directly connect the Positive & Negative Terminals with a wire	24 Hours	There shall be no explosion of battery	N=9,Ac=0,Re=1
Abusive Characteristics	Temp: 20 ± 2 Relative Humidity: $60 \pm 15\%$ Charge at 400mA		There shall be no explosion of battery	N=9,Ac=0,Re=1
*Abusive Characteristics Reference	*Temp: 20 ± 2 , Connect 4 batteries in series in Battery case, in which, put one of the batteries reversely, then short connect the wire of the battery case until the discharging ended completely		*There shall be no explosion, no leakage, nor obvious deformation.	*N=12,Ac=0,Re=1

11. Marking The following markings will be printed, stamped or impressed on the body of the battery :

- (1) Designation : LR20H D AM1
- (2) Manufacturer's name, abbreviation or brand : XELLEX
- (3) Nominal Voltage : 1.5 V
- (4) Polarity : " + " , " - "
- (5) Warning: Battery may explode or leak if recharged or disposed of in fire.
- (6) Expiry Date(Guarantee Period) :The Date which shows on the labels of the finished product is used to indicate the Quality Assurance Period before it is used.



- (7) Icon :  An Icon which indicates the battery can not be disposed of in the Rubbish Can.

12. Caution for Use

- (1) Since the battery is not manufactured for recharging, there are risks of electrolyte leakage or causing damage to the device if the battery is charged.
- (2) The battery shall be installed with its "+" and "-" in the right position.
- (3) Short-connecting, heating, disposing of into fire and disassembling the battery are prohibited.

13.Shelf Life

After 12 Mths Shelf Time at 20 , the capacity remains at the 90% of the new battery

After 24 Mths Shelf Time at 20 , the capacity remains at the 85% of the new battery

After 36 Mths Shelf Time at 20 , the capacity remains at the 80% of the new battery

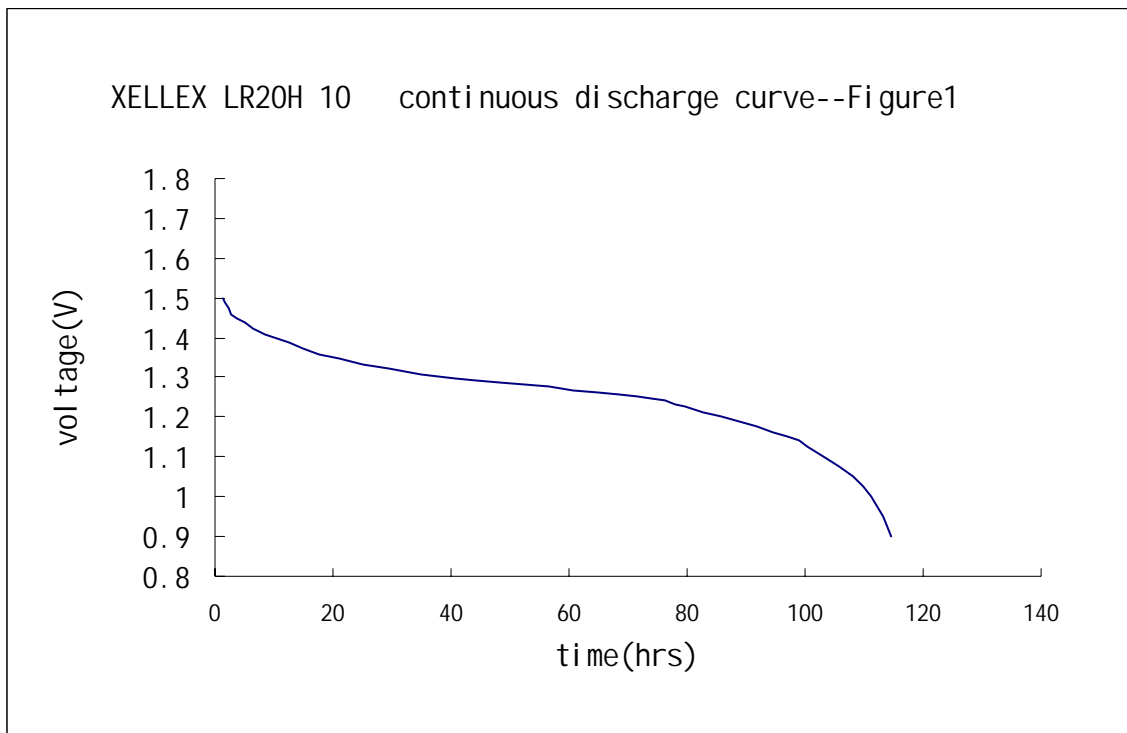
14.Discharging Curves

10 , Contiuous Discharging Curves E.P.V: 0.9V (Figure 1)

3.9 , Contiuous Discharging Curves , E.P.V: 0.9V (Figure2)

2.2 , Contiuous Discharging Curves , E.P.V: 0.8V (Figure 3)

15.Battery Dimensions & Structure (Figure 4)



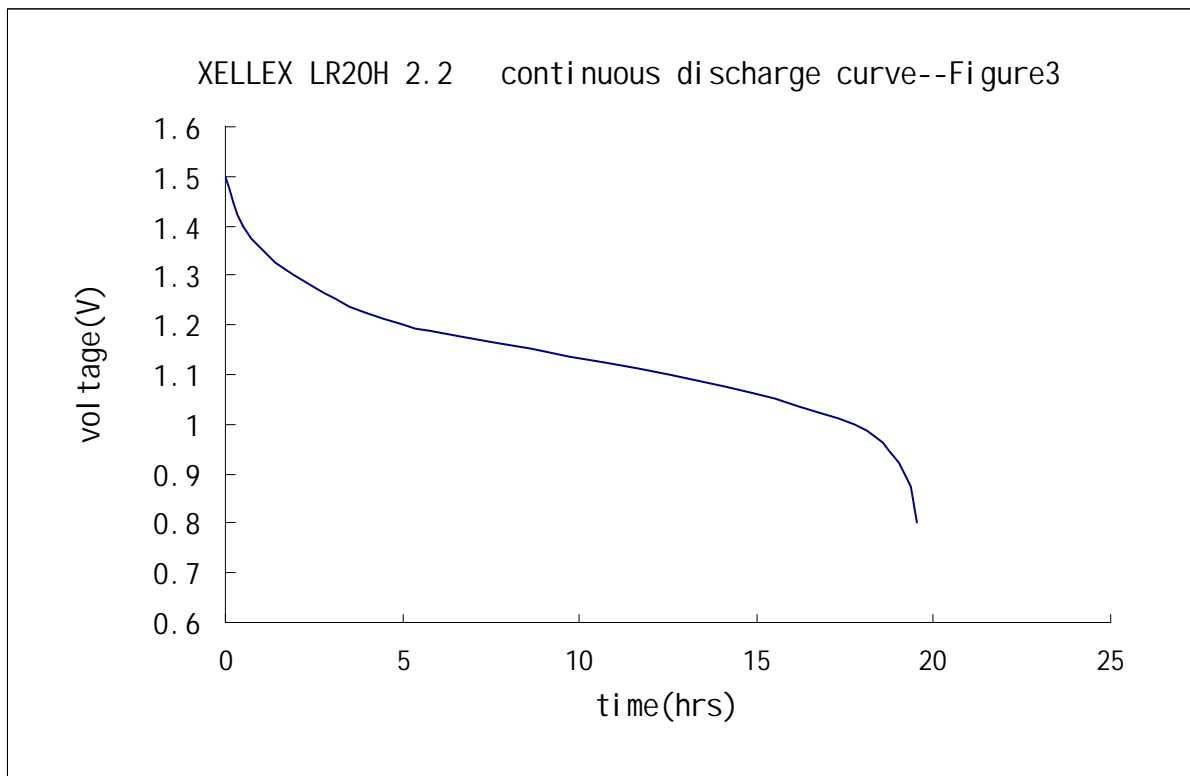
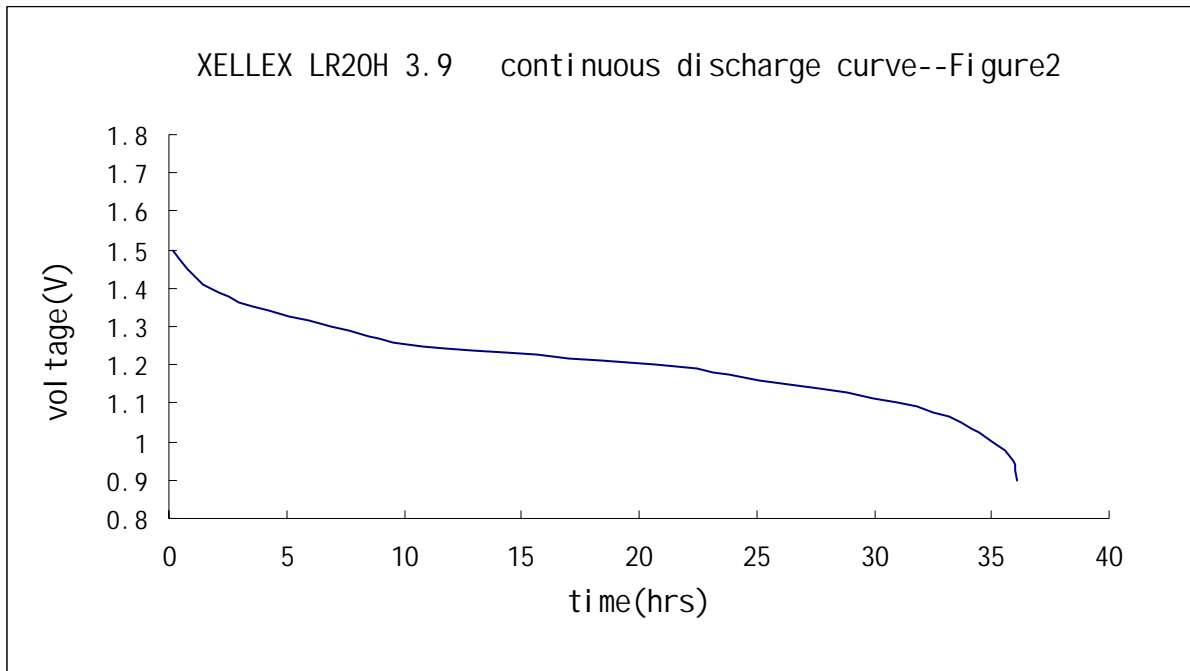
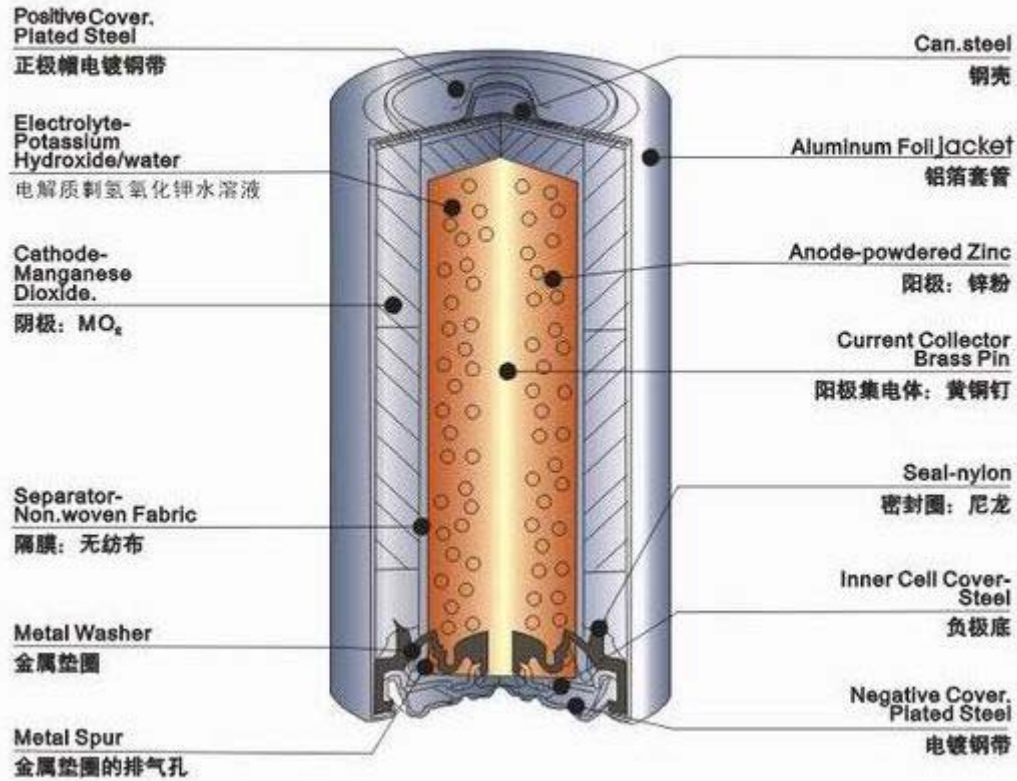


Figure 4:

View Of xellex Alkaline Structure 碱性圆柱型電池結構圖



xellex LR20H 電池尺寸圖

